AS FILED WITH THE SECURITIES AND EXCHANGE COMMISSION ON SEPTEMBER 18, 2002
REGISTRATION STATEMENT NO. 333-

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM S-4
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

L-3 COMMUNICATIONS CORPORATION
(Exact Name of Registrant as Specified in its Charter)
DELAWARE
(State or Other Jurisdiction of Incorporation or Organization)
13-3937436
(I.R.S. Employer Identification Number)
600 THIRD AVENUE
NEW YORK, NEW YORK 10016
(212) 697-1111
(Address, Including Zip Code, and Telephone Number,
Including Area Code, of Registrant's Principal Executive Offices)

SEE TABLE OF ADDITIONAL REGISTRANTS

CHRISTOPHER C. CAMBRIA, ESQ.
600 THIRD AVENUE
NEW YORK, NY 10016
(212) 697-1111
(Name, Address, Including Zip Code, and Telephone Number,
Including Area Code, of Agent For Service)

Copy to:
VINCENT PAGANO, ESQ.
SIMPSON THACHER & BARTLETT
425 LEXINGTON AVENUE
NEW YORK, NEW YORK 10017-3954
(212) 455-2000

APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC: As soon as practicable after this Registration Statement becomes effective.

If the securities being registered on this Form are being offered in connection with the formation of a holding company and there is compliance with General Instruction G, check the following box. [ ]

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. [ ] _____

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. [ ] _____

CALCULATION OF REGISTRATION FEE

TITLE OF EACH CLASS OF SECURITIES TO BE REGISTERED	AMOUNT TO BE REGISTERED	PROPOSED MAXIMUM OFFERING PRICE PER UNIT	PROPOSED MAXIMUM AGGREGATE OFFERING PRICE(1)	AMOUNT OF REGISTRATION FEE
7 5/8% Series B Senior Subordinated Notes due 2012(2)	$750,000,000	100%	$750,000,000	$69,000.00
Guarantees of 7 5/8% Series B Senior Subordinated Notes due 2012	(2)	(2)	(2)	None(2)

(1) Estimated solely for purposes of calculating the registration fee.

(2) No separate consideration will be received for the guarantees. Pursuant to Rule 457(n) of the Securities Act of 1933, as amended, there is no filing fee with respect to the guarantees.

THE REGISTRANTS HEREBY AMEND THIS REGISTRATION STATEMENT ON SUCH DATE OR DATES AS MAY BE NECESSARY TO DELAY ITS EFFECTIVE DATE UNTIL THE REGISTRANTS SHALL FILE A FURTHER AMENDMENT WHICH SPECIFICALLY STATES THAT THIS REGISTRATION STATEMENT SHALL THEREAFTER BECOME EFFECTIVE IN ACCORDANCE WITH SECTION 8(a) OF THE SECURITIES ACT OF 1933, AS AMENDED, OR UNTIL THIS REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE SECURITIES AND EXCHANGE COMMISSION, ACTING PURSUANT TO SAID SECTION 8(a), MAY DETERMINE.

TABLE OF ADDITIONAL REGISTRANTS

EXACT NAME OF REGISTRANT AS SPECIFIED IN ITS CHARTER	STATE OR OTHER JURISDICTION OF INCORPORATION OR ORGANIZATION	IRS EMPLOYER IDENTIFICATION NUMBER	ADDRESS, INCLUDING ZIP CODE, AND TELEPHONE NUMBER, INCLUDING AREA CODE, OF REGISTRANT'S PRINCIPAL EXECUTIVE OFFICES
AMI Instruments, Inc.	Oklahoma	73-1122637	600 Third Avenue New York, NY 10016 (212) 697-1111
Apcom, Inc.	Maryland	52-1291447	600 Third Avenue New York, NY 10016 (212) 697-1111
Celerity Systems Incorporated	California	77-0365380	600 Third Avenue New York, NY 10016 (212) 697-1111
Coleman Research Corporation	Florida	59-2039476	600 Third Avenue New York, NY 10016 (212) 697-1111
EER Systems, Inc.	Virginia	54-1349668	600 Third Avenue New York, NY 10016 (212) 697-1111
Electrodynamics, Inc	Arizona	36-3140903	600 Third Avenue New York, NY 10016 (212) 697-1111
Henschel, Inc.	Delaware	23-2554418	600 Third Avenue New York, NY 10016 (212) 697-1111
Hygienetics Environmental Services, Inc.	Delaware	13-3992505	600 Third Avenue New York, NY 10016 (212) 697-1111
Interstate Electronics Corporation	California	95-1912832	600 Third Avenue New York, NY 10016 (212) 697-1111
KDI Precision Products, Inc.	Delaware	31-0740721	600 Third Avenue New York, NY 10016 (212) 697-1111
L-3 Communications AIS GP Corporation	Delaware	13-4137187	600 Third Avenue New York, NY 10016 (212) 697-1111
L-3 Communications Analytics Corporation	California	54-1035921	600 Third Avenue New York, NY 10016 (212) 697-1111
L-3 Communications Atlantic Science and Technology Corporation	New Jersey	22-2547554	600 Third Avenue New York, NY 10016 (212) 697-1111
L-3 Communications Aydin Corporation	Delaware	23-1686808	600 Third Avenue New York, NY 10016 (212) 697-1111
L-3 Communications ESSCO, Inc.	Delaware	04-2281486	600 Third Avenue New York, NY 10016 (212) 697-1111
L-3 Communications ILEX Systems, Inc.	Delaware	13-3992952	600 Third Avenue New York, NY 10016 (212) 697-1111
L-3 Communications Investments Inc.	Delaware	51-0260723	600 Third Avenue New York, NY 10016 (212) 697-1111
L-3 Communications Security and Detection Systems Corporation Delaware	Delaware	04-3054475	600 Third Avenue New York, NY 10016 (212) 697-1111
L-3 Communications SPD Technologies, Inc.	Delaware	23-2869511	600 Third Avenue New York, NY 10016 (212) 697-1111
L-3 Communications Storm Control Systems, Inc.	California	77-0268547	600 Third Avenue New York, NY 10016 (212) 697-1111
L-3 Communications Integrated Systems L.P.	Delaware	03-0391841	600 Third Avenue New York, NY 10016 (212) 697-1111
MCTI Acquisition Corporation	Maryland	13-4109777	600 Third Avenue New York, NY 10016 (212) 697-1111

EXACT NAME OF REGISTRANT AS SPECIFIED IN ITS CHARTER	STATE OR OTHER JURISDICTION OF INCORPORATION OR ORGANIZATION	IRS EMPLOYER IDENTIFICATION NUMBER	ADDRESS, INCLUDING ZIP CODE, AND TELEPHONE NUMBER, INCLUDING AREA CODE, OF REGISTRANT'S PRINCIPAL EXECUTIVE OFFICES
Microdyne Communications Technologies Incorporated	Maryland	59-3500774	600 Third Avenue New York, NY 10016 (212) 697-1111
Microdyne Corporation	Maryland	52-0856493	600 Third Avenue New York, NY 10016 (212) 697-1111
Microdyne Outsourcing Incorporated	Maryland	33-0797639	600 Third Avenue New York, NY 10016 (212) 697-1111
MPRI, Inc.	Delaware	54-1439937	600 Third Avenue New York, NY 10016 (212) 697-1111
Pac Ord, Inc.	Delaware	23-2523436	600 Third Avenue New York, NY 10016 (212) 697-1111
Power Paragon, Inc.	Delaware	33-0638510	600 Third Avenue New York, NY 10016 (212) 697-1111
Southern California Microwave, Inc.	California	13-0478540	600 Third Avenue New York, NY 10016 (212) 697-1111
SPD Holdings, Inc.	Delaware	23-2977238	600 Third Avenue New York, NY 10016 (212) 697-1111
SPD Electrical Systems, Inc.	Delaware	23-2457758	600 Third Avenue New York, NY 10016 (212) 697-1111
SPD Switchgear, Inc.	Delaware	23-2510039	600 Third Avenue New York, NY 10016 (212) 697-1111

(sidebar start)
THE INFORMATION IN THIS PROSPECTUS IS NOT COMPLETE AND MAY BE CHANGED. WE MAY NOT SELL THESE SECURITIES UNTIL THE REGISTRATION STATEMENT FILED WITH THE SECURITIES AND EXCHANGE COMMISSION IS EFFECTIVE. THIS PROSPECTUS IS NOT AN OFFER TO SELL THESE SECURITIES AND IT IS NOT SOLICITING AN OFFER TO BUY THESE SECURITIES IN ANY STATE WHERE THE OFFER OR SALE IS NOT PERMITTED.
(sidebar end)

SUBJECT TO COMPLETION, DATED SEPTEMBER 18, 2002

PROSPECTUS

$750,000,000

[GRAPHIC OMITTED]L3 COMMUNICATIONS
L-3 COMMUNICATIONS CORPORATION

Offer to Exchange All Outstanding 7 5/8% Senior Subordinated Notes due 2012 for an equal amount of 7 5/8% Series B Senior Subordinated Notes due 2012, which have been registered under the Securities Act of 1933

THE EXCHANGE OFFER

- We will exchange all outstanding notes that are validly tendered and not validly withdrawn for an equal principal amount of exchange notes that are freely tradeable.
- You may withdraw tenders of outstanding notes at any time prior to the expiration of the exchange offer.
- The exchange offer expires at 5:00 p.m., New York City time, on ,2002, unless extended. We do not currently intend to extend the expiration date.
- The exchange of outstanding notes for exchange notes in the exchange offer will not be a taxable event for U.S. federal income tax purposes.
- We will not receive any proceeds from the exchange offer.

THE EXCHANGE NOTES

- The exchange notes are being offered in order to satisfy certain of our obligations under the registration rights agreement entered into in connection with the placement of the outstanding notes.
- The terms of the exchange notes to be issued in the exchange offer are substantially identical to the outstanding notes, except that the exchange notes will be freely tradeable.

RESALES OF EXCHANGE NOTES

- The exchange notes may be sold in the over-the-counter market, in negotiated transactions or through a combination of such methods. We do not plan to list the exchange notes on a national market.

If you are a broker-dealer and you receive exchange notes for your own account, you must acknowledge that you will deliver a prospectus in connection with any resale of such exchange notes. By making such acknowledgment, you will not be deemed to admit that you are an "underwriter" under the Securities Act of 1933. Broker-dealers may use this prospectus in connection with any resale of exchange notes received in exchange for outstanding notes where such outstanding notes were acquired by the broker-dealer as a result of market-making activities or trading activities. We have agreed that, for a period of 180 days after the expiration of the exchange offer or until any broker-dealer has sold all registered notes held by it, we will make this prospectus available to such broker-dealer for use in connection with any such resale. A broker-dealer may not participate in the exchange offer with respect to outstanding notes acquired other than as a result of market-making activities or trading activities. See "Plan of Distribution."

If you are an affiliate of L-3 Communications Corporation or are engaged in, or intend to engage in, or have an agreement or understanding to participate in, a distribution of the exchange notes, you cannot rely on the applicable interpretations of the Securities and Exchange Commission and you must comply with the registration requirements of the Securities Act of 1933 in connection with any resale transaction.

YOU SHOULD CONSIDER CAREFULLY THE RISK FACTORS BEGINNING ON PAGE 15 OF THIS PROSPECTUS BEFORE PARTICIPATING IN THE EXCHANGE OFFER.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this prospectus is September , 2002

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WHERE YOU CAN FIND MORE INFORMATION

We are subject to the informational requirements of the Securities Exchange Act of 1934 and, in accordance therewith, file reports and other information with the SEC. Such reports and other information can be inspected and copied at the Public Reference Section of the SEC located at Room 1024, Judiciary Plaza, 450 Fifth Street, N.W., Washington D.C. 20549 and at a regional public reference facility maintained by the SEC located at Citicorp Center, 500 West Madison Street, Suite 1400, Chicago, Illinois 60661. Copies of such material can be obtained from the Public Reference Section of the SEC at prescribed rates. Such material may also be accessed electronically by means of the SEC's home page on the Internet (http://www.sec.gov).

So long as we are subject to the periodic reporting requirements of the Securities Exchange Act, we are required to furnish the information required to be filed with the SEC to the trustee and the holders of the exchange notes. We have agreed that, even if we are not required under the Securities Exchange Act to furnish such information to the SEC, we will nonetheless continue to furnish information that would be required to be furnished by us by Section 13 of the Securities Exchange Act to the trustee and the holders of the exchange notes as if we were subject to such periodic reporting requirements.

ABOUT THIS PROSPECTUS

As used in this prospectus, (1) "L-3 Holdings" refers to L-3 Communications Holdings, Inc., (2) "L-3 Communications" refers to L-3 Communications Corporation, a wholly-owned operating subsidiary of L-3 Holdings and the issuer of the outstanding notes and the exchange notes, and (3) "Guarantors" refers to our current and future domestic restricted subsidiaries, which are or will be guaranteeing the obligations of L-3 Communications under the outstanding notes and the exchange notes. The obligations of the guarantors are referred to herein as the "guarantees." "L-3," "we," "us" and "our" refer to L-3 Communications and its subsidiaries. "Senior credit facilities" refers to our 364-day revolving credit facility together with our five-year revolving credit facility. Unless the context otherwise requires, "notes" refers to the outstanding notes and the exchange notes.

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PROSPECTUS SUMMARY

This summary highlights selected information contained elsewhere in this prospectus and does not contain all of the information you need to consider. You should read carefully this entire prospectus.

We are a leading merchant supplier of secure communications and intelligence, surveillance and reconnaissance (ISR) systems, training, simulation and support services, aviation products and aircraft modernization, as well as specialized products. Our businesses employ proprietary technologies and capabilities, and we believe our businesses have leading positions in their respective primary markets. Our customers include the U.S. Department of Defense and prime contractors thereof, certain U.S. Government intelligence agencies, major aerospace and defense contractors, foreign governments, commercial customers and certain other U.S. federal, state and local government agencies. For the year ended December 31, 2001, direct and indirect sales to the U.S. Department of Defense provided 64.7% of our sales, and sales to commercial customers, foreign governments and U.S. federal, state and local government agencies other than the U.S. Department of Defense provided 35.3% of our sales. For the year ended December 31, 2001, we had sales of $2,347.4 million, of which U.S. customers accounted for 82.1% and foreign customers accounted for 17.9% and operating income of $275.3 million. For the six months ended June 30, 2002, we had sales of $1,652.0 million and operating income of $169.0 million.

For the twelve months ended June 30, 2002, we had sales of $2,975.9 million and operating income of $336.9 million. For the twelve months ended June 30, 2002, on a pro forma basis for our acquisitions, we would have had sales of $3,881.3 million and operating income of $403.4 million.

At December 31, 2001, we had two reportable segments: Secure Communication Systems and Specialized Products. Effective as of January 1, 2002, primarily as a result of our recent acquisitions, including our acquisition of Aircraft Integration Systems business from Raytheon Company, we began to present our businesses with the following four reportable segments: (1) Secure Communications & ISR; (2) Training, Simulation & Support Services; (3) Aviation Products & Aircraft Modernization; and (4) Specialized Products.

Secure Communications & ISR. This segment provides products and services for the global ISR market, specializing in signals intelligence and communications intelligence systems, which provide the unique ability to collect and analyze unknown electronic signals from command centers, communication nodes and air defense systems for real-time situation awareness and response in real-time to the warfighter. This segment also provides secure, high data rate communications systems for military and other U.S. Government and foreign government reconnaissance and surveillance applications. We believe our systems and products are critical elements of virtually all major communication, command and control, intelligence gathering and space systems. Our systems and products are used to connect a variety of airborne, space, ground and sea-based communication systems and are used in the transmission, processing, recording, monitoring and dissemination functions of these communication systems. The major secure communication programs and systems include:

- secure data links for airborne, satellite, ground and sea-based remote platforms for real time information collection and dissemination to users;
- highly specialized fleet management and support, including procurement, systems integration, sensor development, modifications and maintenance for signals intelligence and ISR special mission aircraft and airborne surveillance systems;
- strategic and tactical signal intelligence systems that detect, collect, identify, analyze and disseminate information;
- secure telephone and network equipment and encryption management; and

- communication systems for surface and undersea vessels and manned space flights.

Training, Simulation & Support Services. This segment provides a full range of services, including:

- services designed to meet customer training requirements for aircrews, navigators, mission operators, gunners and maintenance technicians for virtually any platform, including military fixed and rotary wing aircraft, air vehicles and various ground vehicles;

- communication software support, information services and a wide range of engineering development services and integration support;

- high-end engineering and information support services used for command, control, communications, computers and ISR architectures, as well as for air warfare modeling and simulation tools for applications used by the U.S. Department of Defense and U.S. Government intelligence agencies, including missile and space systems, Unmanned Aerial Vehicles and military aircraft;

- developing and managing extensive programs in the United States and internationally, focusing on teaching, training and education, logistics, strategic planning, organizational design, democracy transition and leadership development; and

- design, prototype development and production of ballistic missile targets for present and future threat scenarios.

Aviation Products & Aircraft Modernization. This segment provides aviation products and aircraft modernization services, including:

- airborne traffic and collision avoidance systems;

- commercial, solid-state, crash-protected cockpit voice recorders and flight data recorders (known as "black boxes") and cruise ship hardened voyage recorders;

- ruggedized displays for military and high-end commercial applications;

- turnkey aviation life cycle management services that integrate custom developed and commercial off-the-shelf products for various military and commercial wide-body and rotary wing aircraft, including heavy maintenance and structural modifications and Head-of-State and commercial interior completions; and

- engineering, modification, maintenance, logistics and upgrades for U.S. Special Operations Command aircraft, vehicles and personal equipment.

Specialized Products. This segment supplies products to military and commercial customers in several niche markets. The products include:

- ocean products, including acoustic undersea warfare products for mine hunting, dipping sonars and anti-submarine and naval power distribution, conditioning, switching and protection equipment for surface and undersea platforms;

- telemetry, instrumentation, space and guidance products including tracking and flight termination;

- premium fuzing products;

- microwave components;

- detection systems for aviation, port and border applications to detect explosives, concealed weapons, contraband and illegal narcotics, inspection of agricultural products and examination of cargo;

- high performance antennas and ground based radomes; and

- training devices and motion simulators which produce advanced virtual reality simulation and high-fidelity representations of cockpits and mission stations for aircraft and land vehicles.

DEVELOPING COMMERCIAL OPPORTUNITIES

Our growth strategy includes identifying and exploiting commercial applications from select products and technologies currently sold to defense customers. We have currently identified two vertical markets where we believe there are significant opportunities to expand our existing commercial sales: Transportation Products and Broadband Wireless Communications Products. We believe that these vertical markets, together with our existing commercial products, provide us with the opportunity for substantial commercial growth in future years.

Within the transportation market, we are offering (1) an explosive detection system for checked baggage at airports, displays and power propulsion systems for rail transportation and power switches for internet service providers, all of which are part of our Specialized Products segment, and (2) cruise ship voyage recorders and an enhanced aviation collision avoidance product that incorporates ground proximity warning, which are part of our Aviation Products & Aircraft Modernization segment.

Within the communications product market, we are offering local fixed wireless access equipment for voice, DSL and internet access, transceivers for LMDS (Local Multipoint Distribution Service) and a broad range of commercial components and digital test equipment for broadband communications providers, which are part of our Secure Communications & ISR and Specialized Products segments.

We have developed the majority of our commercial products employing technology used in our defense businesses. Sales generated from our developing commercial opportunities have not yet been material to us.

THE AIS ACQUISITION

On March 8, 2002, we acquired the Aircraft Integration Systems business (AIS) from Raytheon Company for $1,152.7 million in cash, subject to a purchase price adjustment. The acquisition was financed using cash on hand, borrowings under our senior credit facilities and a $500.0 million senior subordinated interim loan.

AIS is a long-standing, sole-source provider of critical communications intelligence, signals intelligence and unique systems for special customers within the U.S. Government and has become an integral part of the U.S. Military's ISR infrastructure. These systems collect, decode and transmit data, providing the war fighter with real-time battlefield situational awareness. AIS' major customers are increasingly focusing on these methods of intelligence gathering and information distribution, suggesting excellent operating prospects for the foreseeable future. This acquisition provides us with platforms to capitalize on significant pull-through prospects related to the sale of our secure communications and aviation products, including communication links, signal processing, antennas, data recorders, displays and traffic control and collision avoidance systems. AIS has been included in our Secure Communications & ISR and our Aviation Products & Aircraft Modernization reportable segments.

THE DETECTION SYSTEMS BUSINESS ACQUISITION

PerkinElmer's Detection Systems Business. On June 14, 2002, we acquired the detection systems business of PerkinElmer for $100.0 million in cash plus acquisition costs subject to adjustment based on closing date net working capital, as defined. PerkinElmer's detection systems business offers X-ray screening for three major security applications: aviation systems for checked and oversized baggage, break bulk cargo and air freight; port and border applications including pallets, break bulk and air

freight; and facility protection, such as parcels, mail and cargo. PerkinElmer's detection systems have a broad range of systems and technologies, with an installed base of over 16,000 units. PerkinElmer's detection systems business customer base includes major airlines and airports, a number of domestic agencies, such as the U.S. Customs Service, U.S. Marshals Service, U.S. Department of Agriculture and U.S. Department of State, and international authorities throughout Europe, Asia and South America.

OUR STRATEGY

We intend to grow our sales, enhance our profitability and build on our position as a leading merchant supplier of communication systems and products to the major aerospace and defense contractors as well as the U.S. Government. We also intend to leverage our expertise and products into selected new commercial business areas where we can adapt our existing products and technologies. Our strategy to achieve our objectives includes:

EXPAND MERCHANT SUPPLIER RELATIONSHIPS. As an independent merchant supplier, we intend to identify opportunities where we are able to use our strong relationships to increase our business presence and allow customers to reduce their costs.

SUPPORT CUSTOMER REQUIREMENTS. We intend to continue to align our research and development, manufacturing and new business efforts to complement our customers' requirements and provide state-of-the-art products.

ENHANCE OPERATING MARGINS. We intend to continue to enhance our operating performance by reducing overhead expenses, continuing consolidation and increasing productivity.

LEVERAGE TECHNICAL AND MARKET LEADERSHIP POSITIONS. We are applying our technical expertise and capabilities to several closely aligned commercial business markets and applications such as transportation and broadband wireless communications and we expect to continue to explore other similar commercial opportunities.

MAINTAIN DIVERSIFIED BUSINESS MIX. We have a diverse and broad business mix with limited reliance on any particular program, a balance of cost-reimbursable and fixed-price contracts, a significant follow-on business and an attractive customer profile.

CAPITALIZE ON STRATEGIC ACQUISITION OPPORTUNITIES. We intend to enhance our existing product base through internal research and development efforts and selective acquisitions that will add new products in areas that complement our present technologies. Since January 1, 2001, we acquired 16 businesses for an aggregate adjusted purchase price of $1,771.1 million. We regularly evaluate opportunities for future acquisitions. See "Risk Factors -- Our acquisition strategy involves risks, and we may not successfully implement our strategy."

DEBT TENDER OFFER AND REDEMPTION

On July 3, 2002, we completed a tender offer to purchase for cash any and all of our $225.0 million aggregate principal amount of 10 3/8% Senior Subordinated Notes due 2007. As of 5:00 p.m., New York City time, on Wednesday, July 3, 2002, the expiration date of the tender offer, we had accepted tender of notes from holders of $177,195,000 (or approximately 79%) of the $225,000,000 outstanding principal amount of the notes pursuant to the Offer to Purchase, dated June 6, 2002, and the related letter of transmittal.

The tender offer provided that the 10 3/8% Senior Subordinated Notes due 2007 would be purchased at 103.35% of the aggregate principal amount of the notes, plus accrued interest up to the date of purchase. The tender offer also provided that holders of the 10 3/8% Senior Subordinated Notes due 2007 that tendered their notes on or before 5:00 p.m., New York City time, on June 24, 2002 would receive a premium of 2.0% of the aggregate principal amount of the notes. Payment for notes

tendered prior to 5:00 p.m., New York City time, on June 24, 2002, was made on June 28, 2002. Payment for the notes tendered after 5:00 p.m., New York City time, on June 24, 2002 was made on July 5, 2002.

We initiated full redemption of the remaining $47,805,000 of notes that were not tendered by 5:00 p.m., New York City time, on Wednesday, July 3, 2002. All such remaining notes were redeemed on July 25, 2002 at a redemption price of 105.188% of the principal amount thereof, plus accrued and unpaid interest to July 25, 2002.

A portion of the net proceeds from the offering of the outstanding notes were used to finance the tender offer and the subsequent redemption.

We are incorporated in Delaware, and the address of our principal executive offices is 600 Third Avenue, New York, New York 10016. Our telephone number is (212) 697-1111.

SUMMARY OF TERMS OF THE EXCHANGE OFFER

On June 28, 2002, we completed the private offering of the outstanding notes. References to the "notes" in this prospectus are references to both the outstanding notes and the exchange notes. This prospectus is part of a registration statement covering the exchange of the outstanding notes for the exchange notes.

We and the guarantors entered into a registration rights agreement with the initial purchasers in the private offering in which we and the guarantors agreed to deliver to you this prospectus as part of the exchange offer and we agreed to complete the exchange offer within 210 days after the date of original issuance of the outstanding notes. You are entitled to exchange in the exchange offer your outstanding notes for exchange notes which are identical in all material respects to the outstanding notes except:

- the exchange notes have been registered under the Securities Act;
- the exchange notes are not entitled to certain registration rights which are applicable to the outstanding notes under the registration rights agreement; and
- certain contingent interest rate provisions are no longer applicable.

The Exchange Offer.....	We are offering to exchange up to $750,000,000 aggregate principal amount of our 7 5/8% Series B Senior Subordinated Notes due 2012, which we refer to in this prospectus as the exchange notes, for up to $750,000,000 million aggregate principal amount of our 7 5/8% Senior Subordinated Notes due 2012, which we refer to in this prospectus as the outstanding notes. Outstanding notes may be exchanged only in integral multiples of $1,000.
Resale.....	Based on an interpretation by the staff of the SEC set forth in no-action letters issued to third parties, we believe that the exchange notes issued pursuant to the exchange offer in exchange for outstanding notes may be offered for resale, resold and otherwise transferred by you (unless you are an "affiliate" of L-3 Communications Corporation, within the meaning of Rule 405 under the Securities Act) without compliance with the registration and prospectus delivery provisions of the Securities Act, provided that you are acquiring the exchange notes in the ordinary course of your business and that you have not engaged in, do not intend to engage in, and have no arrangement or understanding with any person to participate in, a distribution of the exchange notes. Each participating broker-dealer that receives exchange notes for its own account pursuant to the exchange offer in exchange for outstanding notes that were acquired as a result of market-making or other trading activity must acknowledge that it will deliver a prospectus in connection with any resale of the exchange notes. See "Plan of Distribution." Any holder of outstanding notes who: o is an affiliate of L-3 Communications Corporation; o does not acquire exchange notes in the ordinary course of its business; or

	o tenders in the exchange offer with the intention to participate, or for the purpose of participating, in a distribution of exchange notes; cannot rely on the position of the staff of the SEC enunciated in Exxon Capital Holdings Corporation, Morgan Stanley & Co. Incorporated or similar no-action letters and, in the absence of an exemption therefrom, must comply with the registration and prospectus delivery requirements of the Securities Act in connection with the resale of the exchange notes.
Expiration Date; Withdrawal of Tender.....	The exchange offer will expire at 5:00 p.m., New York City time, on , 2002, or such later date and time to which we extend it (the "expiration date"). We do not currently intend to extend the expiration date. A tender of outstanding notes pursuant to the exchange offer may be withdrawn at any time prior to the expiration date. Any outstanding notes not accepted for exchange for any reason will be returned without expense to the tendering holder promptly after the expiration or termination of the exchange offer.
Certain Conditions to the Exchange Offer.....	The exchange offer is subject to customary conditions, which we may waive. Please read the section captioned "The Exchange Offer -- Certain Conditions to the Exchange Offer" of this prospectus for more information regarding the conditions to the exchange offer.
Procedures for Tendering Outstanding Notes.....	If you wish to accept the exchange offer, you must complete, sign and date the accompanying letter of transmittal, or a facsimile of the letter of transmittal according to the instructions contained in this prospectus and the letter of transmittal. You must also mail or otherwise deliver the letter of transmittal, or a facsimile of the letter of transmittal, together with the outstanding notes and any other required documents, to the exchange agent at the address set forth on the cover page of the letter of transmittal. If you hold outstanding notes through The Depository Trust Company, or DTC, and wish to participate in the exchange offer, you must comply with the Automated Tender Offer Program procedures of DTC, by which you will agree to be bound by the letter of transmittal. By signing, or agreeing to be bound by the letter of transmittal, you will represent to us that, among other things: o any exchange notes that you receive will be acquired in the ordinary course of your business;

- you have no arrangement or understanding with any person or entity to participate in a distribution of the exchange notes;
- if you are a broker-dealer that will receive exchange notes for your own account in exchange for outstanding notes that were acquired as a result of market-making activities, that you will deliver a prospectus, as required by law, in connection with any resale of such exchange notes; and
- you are not an "affiliate," as defined in Rule 405 of the Securities Act, of L-3 or, if you are an affiliate, you will comply with any applicable registration and prospectus delivery requirements of the Securities Act.

Special Procedures for Beneficial Owners..... If you are a beneficial owner of outstanding notes which are registered in the name of a broker, dealer, commercial bank, trust company or other nominee, and you wish to tender such outstanding notes in the exchange offer, you should contact such registered holder promptly and instruct such registered holder to tender on your behalf. If you wish to tender on your own behalf, you must, prior to completing and executing the letter of transmittal and delivering your outstanding notes, either make appropriate arrangements to register ownership of the outstanding notes in your name or obtain a properly completed bond power from the registered holder. The transfer of registered ownership may take considerable time and may not be able to be completed prior to the expiration date.

Guaranteed Delivery Procedures..... If you wish to tender your outstanding notes and your outstanding notes are not immediately available or you cannot deliver your outstanding notes, the letter of transmittal or any other documents required by the letter of transmittal or comply with the applicable procedures under DTC's Automated Tender Offer Program prior to the expiration date, you must tender your outstanding notes according to the guaranteed delivery procedures set forth in this prospectus under "The Exchange Offer -- Guaranteed Delivery Procedures."

Effect on Holders of Outstanding Notes..... As a result of the making of, and upon acceptance for exchange of all validly tendered outstanding notes pursuant to the terms of the exchange offer, we will have fulfilled a covenant contained in the registration rights agreement and, accordingly, there will be no increase in the interest rate on the outstanding notes under the circumstances described in the registration rights agreement. If you are a holder of outstanding notes and you do not tender your outstanding notes in the exchange offer, you will continue to hold such outstanding notes and you will be entitled to all the rights

	and limitations applicable to the outstanding notes in the indenture, except for any rights under the registration rights agreement that by their terms terminate upon the consummation of the exchange offer. To the extent that outstanding notes are tendered and accepted in the exchange offer, the trading market for outstanding notes could be adversely affected.
Consequences of Failure to Exchange.....	All untendered outstanding notes will continue to be subject to the restrictions on transfer provided for in the outstanding notes and in the indenture. In general, the outstanding notes may not be offered or sold, unless registered under the Securities Act, except pursuant to an exemption from, or in a transaction not subject to, the Securities Act and applicable state securities laws. Other than in connection with the exchange offer, we do not currently anticipate that we will register the outstanding notes under the Securities Act.
Certain Income Tax Considerations.....	The exchange of outstanding notes for exchange notes in the exchange offer will not be a taxable event for United States federal income tax purposes. See "Certain United States Federal Income Tax Considerations."
Use of Proceeds.....	We will not receive any cash proceeds from the issuance of exchange notes pursuant to the exchange offer.
Exchange Agent.....	The Bank of New York is the exchange agent for the exchange offer. The address and telephone number of the exchange agent are set forth in the section captioned "The Exchange Offer -- Exchange Agent" of this prospectus.

SUMMARY OF TERMS OF THE EXCHANGE NOTES

Issuer.....	L-3 Communications Corporation
Securities Offered.....	$750,000,000 in aggregate principal amount of 7 5/8% Series B Senior Subordinated Notes due 2012
Maturity.....	June 15, 2012
Interest Payment Dates.....	June 15 and December 15, beginning December 15, 2002. The initial interest payment will include accrued interest from June 28, 2002.
Interest Rate.....	7 5/8% per year
Ranking.....	The outstanding notes are, and the exchange notes will be, unsecured senior subordinated obligations of L-3 Communications Corporation. They rank behind all of our and the guarantors' current and future indebtedness (other than trade payables), except indebtedness that expressly provides that it is on parity with or subordinated in right of payment to these notes and the guarantees. As of June 30, 2002, on a pro forma basis giving effect to the (1) application of the net proceeds of the offering of the outstanding notes as intended, (2) application of the net proceeds of the concurrent offering by L-3 Communications Holdings of 14,000,000 shares of common stock as intended, and (3) exchange of the outstanding notes for the exchange notes, the exchange notes and the related guarantees would: o not have been subordinated to any senior debt (excluding outstanding letters of credit); and o have ranked equally with $1,100.0 million of other senior subordinated debt. In addition, as of June 30, 2002, L-3 Communications Corporation had the ability to borrow up to $577.7 million (after reductions for outstanding letters of credit of $172.3 million) under its senior credit facilities, which if borrowed would be senior debt. See "Description of the Notes--Subordination."
Subsidiary Guarantees.....	The outstanding notes are, and the exchange notes will be, jointly and severally guaranteed on a senior subordinated basis by our current and future domestic restricted subsidiaries as described under "Description of the Notes--Subsidiary Guarantees." The guarantees of the outstanding notes are, and the guarantees of the exchange notes will be, subordinated in right of payment to all existing and future senior debt of the guarantors. The guarantees of the outstanding notes are, and the guarantees of the exchange notes will be, pari passu with

	other senior subordinated indebtedness of the guarantors, including (1) the 8 1/2% Senior Subordinated Notes due 2008 and the 8% Senior Subordinated Notes due 2008, in each case issued by L-3 Communications Corporation and guaranteed by the guarantors and (2) the 5 1/4% Convertible Senior Subordinated Notes due 2009 and the 4% Senior Subordinated Convertible Contingent Debt Securities (CODES) due 2011, in each case issued by L-3 Communications Holdings and guaranteed by L-3 Communications Corporation and the other guarantors. Information regarding the guarantors is included in the notes to the financial statements included elsewhere herein. As of June 30, 2002, we had $1,850.0 million of indebtedness outstanding (excluding $48.1 million of indebtedness relating to our 10 3/8% Senior Subordinated Notes due 2007, which was redeemed with a portion of the net proceeds from the offering of the outstanding notes). In addition, as of June 30, 2002, we had the ability to borrow up to $577.7 million (after reductions for outstanding letters of credit of $172.3 million) under our senior credit facilities, which if borrowed would be senior debt and would be guaranteed on a senior basis by the guarantors. See "Description of the Notes--Subsidiary Guarantees" and "--Subordination of Subsidiary Guarantees."
Sinking Fund.....	None
Optional Redemption.....	On or after June 15, 2007, we may redeem some or all of the notes at the redemption prices set forth under "Description of the Notes--Optional Redemption." Before June 15, 2005, we may redeem up to 35% of the outstanding notes and the exchange notes with the proceeds of certain equity offerings by L-3 Communications Corporation or L-3 Communications Holdings at the redemption prices set forth under "Description of the Notes--Optional Redemption."
Mandatory Offer to Repurchase.....	If we experience specific kinds of changes in control, we must offer to repurchase the outstanding notes and the exchange notes at the prices set forth under "Description of the Notes--Repurchase at Option of Holders."
Use of Proceeds.....	There will be no cash proceeds to us from the exchange offer.
Basic Covenants of Indenture.....	The indenture governing the outstanding notes and the exchange notes, among other things, restricts our ability and the ability of our restricted subsidiaries to: o borrow money;

	o pay dividends on or purchase our stock or our restricted subsidiaries' stock; o make investments; o use assets as security in other transactions; o sell certain assets or merge with or into other companies; and o enter into transactions with affiliates. Certain of our subsidiaries are not subject to the covenants in the indenture. In the event that the notes are assigned a rating of Baa3 or better by Moody's and BBB- or better by S&P and no event of default has occurred and is continuing, certain convenants in the indenture will be suspended. If the ratings should subsequently decline to below Baa3 or BBB-, the suspended covenants will be reinstituted. For more details, see the section "Description of the Notes--Certain Covenants."
Absence of a Public Market for the Exchange Notes.....	The exchange notes generally will be freely transferable but will also be new securities for which there will not initially be a market. Accordingly, we cannot assure you whether a market for the exchange notes will develop or as to the liquidity of any market. We do not intend to apply for a listing of the exchange notes on any securities exchange or automated dealer quotation system. The initial purchasers in the private offering of the outstanding notes have advised us that they currently intend to make a market in the exchange notes. However, they are not obligated to do so, and any market making with respect to the exchange notes may be discontinued without notice.

Unless otherwise stated, all share and per share data with respect to L-3 Communications Holdings' common stock contained in this prospectus reflect a two-for-one stock split declared by L-3 Communications Holdings' board of directors on April 23, 2002.

SUMMARY FINANCIAL DATA

We derived the summary financial data presented below from our financial statements. The financial statement data for the years ended December 31, 2001, 2000 and 1999 are derived from our audited consolidated financial statements included elsewhere in this prospectus. We derived the balance sheet data presented below at December 31, 2001 and 2000 from our audited consolidated financial statements included elsewhere in this prospectus. We derived the balance sheet data at December 31, 1999 from our audited consolidated financial statements not included in this prospectus. We derived the financial statement data for the twelve months ended June 30, 2002 from our unaudited pro forma condensed consolidated financial information included elsewhere in this prospectus. We derived the balance sheet data at June 30, 2002 from our unaudited condensed consolidated financial statements included elsewhere in this prospectus. Our unaudited condensed consolidated financial statements for the six months and twelve months ended June 30, 2002 include, in our opinion, all adjustments consisting of normal recurring adjustments, necessary for a fair presentation of the results for the period.

The pro forma data for the twelve months ended June 30, 2002 were derived from our unaudited pro forma condensed consolidated financial information included elsewhere herein, and gives effect to our material acquisitions, the offering of the outstanding notes and the concurrent offering by L-3 Communications Holdings of 14,000,000 shares of common stock. The pro forma data are presented for illustrative purposes only, and are not indicative of the results or the financial position we would have had if these transactions had been completed on January 1, 2001, nor are such data indicative of results we may expect in the future.

		HISTORICAL			
	PRO FORMA FOR TWELVE MONTHS ENDED JUNE 30, 2002(1)	TWELVE MONTHS ENDED JUNE 30, 2002	YEARS ENDED DECEMBER 31,(2)		
			2001	2000	1999
			(in millions)		
STATEMENT OF OPERATIONS DATA:					
Sales	$ 3,881.3	$ 2,975.9	$ 2,347.4	$ 1,910.1	$ 1,405.5
Operating income	403.4	336.9	275.3	222.7	150.5
Interest expense, net	130.6	96.4	84.5	88.6	55.1
Minority interest	5.6	5.6	4.5	--	--
Provision for income taxes	108.1	86.1	70.8	51.4	36.7
Income from continuing operations	159.1	148.8	115.5	82.7	58.7
Income from continuing operations, as adjusted(3)	177.2	166.9	149.4	112.3	76.2
BALANCE SHEET DATA (AT PERIOD END):					
Cash and cash equivalents		$ 466.1	$ 361.0	$ 32.7	$ 42.8
Working capital		1,224.3	717.8	360.9	255.5
Total assets		4,949.2	3,339.2	2,463.5	1,628.7
Total debt		1,898.1	1,325.0	1,095.0	605.0
Shareholders' equity		2,088.2	1,213.9	692.6	583.2
OTHER DATA:					
Net cash from operating activities		253.1	173.0	113.8	99.0
Net cash (used in) investing activities		(1,599.5)	(424.9)	(608.2)	(284.8)
Net cash from financing activities		1,744.2	580.3	484.3	202.4
Depreciation expense		50.5	40.4	36.2	29.5
Amortization expense		28.3	46.6	38.1	24.2
Cash interest expense(4)		91.3	80.0	87.3	56.7
Capital expenditures		51.7	48.1	33.6	23.5

(1) The table below presents the calculation of certain pro forma financial data for the twelve months ended June 30, 2002, which was derived from our unaudited pro forma condensed consolidated financial information contained elsewhere herein.

	PRO FORMA DATA			
	YEAR ENDED DECEMBER 31, 2001	SIX MONTHS ENDED JUNE 30, 2002	SIX MONTHS ENDED JUNE 30, 2001	TWELVE MONTHS ENDED JUNE 30, 2002
	(IN MILLIONS)			
Sales	$ 3,643.4	$ 1,928.6	$ 1,690.7	$ 3,881.3
Operating income	365.8	177.7	140.1	403.4
Interest expense, net	149.7	59.7	78.8	130.6
Minority interest	4.5	2.7	1.6	5.6
Provision for income taxes	87.3	43.5	22.7	108.1
Income from continuing operations	124.3	71.8	37.0	159.1
Income from continuing operations, as adjusted	158.2	71.8	52.8	177.2

(2) Our results of operations are impacted significantly by our acquisitions, some of which are described elsewhere in this prospectus.

(3) Income from continuing operations, as adjusted excludes goodwill amortization expense, net of any income tax effects, recognized in those periods related to goodwill that is no longer being amortized.

(4) Cash interest expense is defined as total interest expense, less amortization of deferred debt issuance costs included in interest expense.

RATIO OF EARNINGS TO FIXED CHARGES

The ratio of earnings to fixed charges and deficiency of earnings to cover fixed charges presented below should be read together with our consolidated financial statements and related notes and "Management's Discussion and Analysis of Results of Operations and Financial Condition" contained elsewhere in this prospectus. In calculating the ratio of earnings to fixed charges, earnings consist of income (loss) before income taxes and extraordinary items plus fixed charges. Fixed charges consist of interest on indebtedness plus the amortization of deferred debt issuance costs and that portion of lease rental expense representative of the interest element.

	L-3						PREDECESSOR COMPANY
	SIX MONTHS ENDED	YEAR ENDED DECEMBER 31,(2)				NINE MONTHS ENDED	THREE MONTHS ENDED
	JUNE 30, 2002(2)	2001	2000	1999	1998	DECEMBER 31, 1997(2)(3)	MARCH 31, 1997
Ratio of Earnings to Fixed Charges:	2.6x	2.8x	2.3x	2.4x	2.0x	1.7x	--(4)

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(1) Predecessor company refers to the ten initial business units we purchased from Lockheed Martin Corporation in 1997.

(2) Our results of operations are impacted significantly by our acquisitions, some of which are described in this prospectus.

(3) Reflects the acquisition of our predecessor company and the commencement of our operations effective April 1, 1997.

(4) Earnings were insufficient to cover fixed charges by $0.5 million for the three months ended March 31, 1997.

RISK FACTORS

You should carefully consider the following factors and other information contained in this prospectus before deciding to tender outstanding notes in the exchange offer. The risk factors set forth below are generally applicable to the outstanding notes as well as the exchange notes. Any of these risks could materially adversely affect our business, financial condition and results of operations, which could in turn materially adversely affect the price of the notes.

RISKS RELATED TO THE EXCHANGE OFFER

IF YOU CHOOSE NOT TO EXCHANGE YOUR OUTSTANDING NOTES, THE PRESENT TRANSFER RESTRICTIONS WILL REMAIN IN FORCE AND THE MARKET PRICE OF YOUR OUTSTANDING NOTES COULD DECLINE.

If you do not exchange your outstanding notes for exchange notes under the exchange offer, then you will continue to be subject to the transfer restrictions on the outstanding notes as set forth in the offering memorandum distributed in connection with the private offering of the outstanding notes. In general, the outstanding notes may not be offered or sold unless they are registered or exempt from registration under the Securities Act and applicable state securities laws. Except as required by the registration rights agreement, we do not intend to register resales of the outstanding notes under the Securities Act. You should refer to "Prospectus Summary -- Summary of Terms of the Exchange Offer" and "The Exchange Offer" for information about how to tender your outstanding notes.

The tender of outstanding notes under the exchange offer will reduce the principal amount of the outstanding notes outstanding, which may have an adverse effect upon, and increase the volatility of, the market price of the outstanding notes due to reduction in liquidity.

RISKS RELATED TO L-3

OUR SIGNIFICANT LEVEL OF DEBT MAY ADVERSELY AFFECT OUR FINANCIAL AND OPERATING ACTIVITY.

We have incurred substantial indebtedness to finance our acquisitions. As of June 30, 2002, we had $1,850.0 million of outstanding debt, excluding $48.1 million of indebtedness relating to our 103/8% Senior Subordinated Notes due 2007, which was repurchased and redeemed in the third quarter of 2002 and outstanding letters of credit (which aggregated approximately $172.3 million) under our 364-day and five-year revolving credit facilities. In addition, available borrowings under our senior credit facilities after reductions for outstanding letters of credit were $577.7 million as of June 30, 2002. For the six months ended June 30, 2002, our ratio of earnings to fixed charges, adjusted on a pro forma basis to give effect to our acquisitions, related financings, the offering of the outstanding notes and the concurrent offering by L-3 Communications Holdings of 14,000,000 shares of its common stock, would have been 2.7 to 1.0. In the future we may borrow more money, subject to limitations imposed on us by our debt agreements.

Our ability to make scheduled payments of principal and interest on our indebtedness and to refinance our indebtedness depends on our future performance. We do not have complete control over our future performance because it is subject to economic, political, financial, competitive, regulatory and other factors affecting the aerospace and defense industry. It is possible that in the future our business may not generate sufficient cash flow from operations to allow us to service our debt and make necessary capital expenditures. If this situation occurs, we may have to sell assets, restructure debt or obtain additional equity capital. We may not be able to do so or do so without additional expense.

Our level of indebtedness has important consequences to you and your investment in the notes. These consequences may include:

- requiring a substantial portion of our cash flow from operations to be used to pay interest and principal on our debt and therefore be unavailable for other purposes including capital expenditures, research and development and other investments;

- limiting our ability to obtain additional financing for acquisitions or working capital to make investments or other expenditures, which may limit our ability to carry out our acquisition strategy;

- higher interest expenses due to increases in interest rates on our borrowings that have variable interest rates;

- heightening our vulnerability to downturns in our business or in the general economy and restricting us from making acquisitions, introducing new technologies and products or exploiting business opportunities; and

- covenants that limit our ability to borrow additional funds, dispose of assets or pay cash dividends. Failure to comply with such covenants could result in an event of default which, if not cured or waived, could result in the acceleration of our outstanding indebtedness.

Additionally, on December 31, 2001, we had contractual obligations, including outstanding indebtedness, of $1,680.2 million and contingent commitments, including outstanding letters of credit under our senior credit facilities, of $261.1 million. These contractual obligations and contingent commitments are described elsewhere herein.

OUR ACQUISITION STRATEGY INVOLVES RISKS, AND WE MAY NOT SUCCESSFULLY IMPLEMENT OUR STRATEGY.

We seek to acquire companies that complement our business. We may not be able to continue to identify acquisition candidates on commercially reasonable terms or at all. If we make additional acquisitions, we may not realize the benefits anticipated from the acquisitions. Likewise, we may not be able to obtain additional financing for acquisitions. Such additional financing could be restricted by the terms of our debt agreements.

The process of integrating acquired operations, including our recent acquisitions, into our existing operations may result in unforeseen operating difficulties and may require significant financial and managerial resources that would otherwise be available for the ongoing development or expansion of our existing operations. Possible future acquisitions could result in the incurrence of additional debt and related interest expense, contingent liabilities and amortization expenses related to certain purchased intangible assets, all of which could result in an increase to our already significant level of outstanding debt. We consider and execute strategic acquisitions on an ongoing basis and may be evaluating acquisitions or engaged in acquisition negotiations at any given time. We regularly evaluate potential acquisitions and joint venture transactions, and, except as disclosed herein, we have not entered into any agreements with respect to any material transactions.

WE RELY ON SALES TO U.S. GOVERNMENT ENTITIES, AND THE LOSS OF SUCH CONTRACTS WOULD RESULT IN A SIGNIFICANT DECREASE TO OUR REVENUE AND PROFITS.

Our government sales are predominantly derived from contracts with agencies of, and prime contractors to, the U.S. Government. Approximately 64.7%, or $1,519 million, of our sales for the year ended December 31, 2001 were made directly or indirectly to the U.S. Department of Defense. At December 31, 2001, the number of contracts with a value exceeding $1.0 million was approximately 575. Our largest program is a long-term, fixed-priced contract for secure terminal equipment that we sell to the U.S. Armed Services, intelligence and securities agencies that provided approximately 3.9% of our sales for the year ended December 31, 2001. No other program provided more than 3.2% of our sales for the year ended December 31, 2001. The loss of all or a substantial portion of our sales to the U.S. Government would result in a significant decrease to our revenue and profits.

OUR GOVERNMENT CONTRACTS ENTAIL CERTAIN RISKS.

- Government contracts are dependent upon the U.S. defense budget.

The reduction in the U.S. defense budget in the early 1990s caused most defense-related government contractors to experience decreased sales, increased downward pressure on operating

margins and, in certain cases, net losses. Our predecessor company experienced a substantial decline in sales during that period. A significant decline in U.S. military expenditures in the future could result in a material decrease to our sales, earnings and cash flow. The loss or significant reduction in government funding of a large program in which we participate could also result in a material decrease to our future sales, earnings and cash flows and thus limit our ability to satisfy our financial obligations, including those relating to the notes. U.S. Government contracts are also conditioned upon the continuing approval by Congress of the amount of necessary spending. Congress usually appropriates funds for a given program each fiscal year even though contract periods of performance may exceed one year. Consequently, at the beginning of a major program, the contract is usually partially funded, and additional monies are normally committed to the contract only if appropriations are made by Congress for future fiscal years.

- Government contracts contain unfavorable termination provisions and are subject to audit and modification.

Companies engaged primarily in supplying defense-related equipment and services to U.S. Government agencies are subject to certain business risks peculiar to the defense industry. These risks include the ability of the U.S. Government to unilaterally:

- suspend us from receiving new contracts pending resolution of alleged violations of procurement laws or regulations;

- terminate existing contracts;

- reduce the value of existing contracts;

- audit our contract-related costs and fees, including allocated indirect costs; and

- control and potentially prohibit the export of our products.

All of our U.S. Government contracts can be terminated by the U.S. Government either for its convenience or if we default by failing to perform under the contract. Termination for convenience provisions provide only for our recovery of costs incurred or committed, settlement expenses and profit on the work completed prior to termination. Termination for default provisions provide for the contractor to be liable for excess costs incurred by the U.S. Government in procuring undelivered items from another source. Our contracts with foreign governments generally contain similar provisions relating to termination at the convenience of the customer.

The U.S. Government may review our costs and performance on their contracts, as well as our accounting and general business practices. Based on the results of such audits, the U.S. Government may adjust our contract-related costs and fees, including allocated indirect costs. In addition, under U.S. Government purchasing regulations, some of our costs, including most financing costs, amortization of goodwill, portions of research and development costs, and certain marketing expenses may not be reimbursable under U.S. Government contracts. Further, as a U.S. Government contractor, we are subject to investigation, legal action and/or liability that would not apply to a commercial company.

- Government contracts are subject to competitive bidding and we are required to obtain licenses for non-U.S. sales.

We obtain many of our U.S. Government contracts through a competitive bidding process. We may not be able to continue to win competitively awarded contracts. In addition, awarded contracts may not generate sales sufficient to result in our profitability. We are also subject to risks associated with the following:

- the frequent need to bid on programs in advance of the completion of their design, which may result in unforeseen technological difficulties and/or cost overruns;

- the substantial time and effort including the relatively unproductive design and development required to prepare bids and proposals for competitively awarded contracts that may not be awarded to us;

o design complexity and rapid technological obsolescence; and

o the constant need for design improvement.

In addition to these U.S. Government contract risks, we are required to obtain licenses from U.S. Government agencies to export many of our products and systems. Additionally, we are not permitted to export some of our products. Failure to receive required licenses would eliminate our ability to sell our products outside the United States.

OUR FIXED-PRICE AND COST-REIMBURSABLE CONTRACTS MAY COMMIT US TO UNFAVORABLE TERMS.

We provide our products and services primarily through fixed-price or cost-reimbursable contracts. Fixed-price contracts provided 68.3% of our sales for the year ended December 31, 2001. Under a fixed-price contract we agree to perform the scope of work required by the contract for a predetermined contract price. Although a fixed-price contract generally permits us to retain profits if the total actual contract costs are less than the estimated contract costs, we bear the risk that increased or unexpected costs may reduce our profit or cause us to sustain losses on the contract. Therefore, we fully absorb cost overruns on fixed-price contracts and this reduces our profit margin on the contract. Those cost overruns may result in a loss. A further risk associated with fixed-price contracts is the difficulty of estimating sales and costs that are related to performance in accordance with contract specifications and the possibility of obsolescence in connection with long-term procurements. Failure to anticipate technical problems, estimate costs accurately or control costs during performance of a fixed-price contract may reduce our profitability or cause a loss.

Cost-reimbursable contracts provided 31.7% of our sales for the year ended December 31, 2001. On a cost-reimbursable contract we are paid up to predetermined funding levels determined by our customers, our allowable incurred costs and generally a fee representing a profit on those costs, which can be fixed or variable depending on the contract's pricing arrangement. Therefore, unless costs exceed specified funding limitations, on a cost-reimbursable contract we usually do not bear the risks of unexpected cost overruns. However, U.S. Government regulations require that we notify our customer of any cost overruns or underruns on a cost-reimbursable contract on a timely basis. If we incur costs in excess of the funding limitation specified in a cost-reimbusable contract, we may not be able to recover those cost overruns.

We record sales and profits on substantially all of our contracts using percentage-of-completion methods of accounting. As a result, revisions made to our estimates of sales and profits are recorded in the period in which the conditions that require such revisions become known and can be estimated; accordingly, the revisions may have a material impact in any one period. Our provisions for losses for our fixed-price contracts are based on estimates. To the extent our actual contract losses exceed our estimates, our contract loss provisions will not be adequate to cover all actual future losses.

OUR OPERATIONS INVOLVE RAPIDLY EVOLVING PRODUCTS AND TECHNOLOGICAL CHANGE.

The rapid change of technology is a key feature of all of the industries in which our businesses operate, including the commercial communication industry in particular. To succeed in the future, we will need to continue to design, develop, manufacture, assemble, test, market and support new products and enhancements on a timely and cost-effective basis. Historically, our technology has been developed through both customer-funded and internally funded research and development. We may not be able to continue to maintain comparable levels of research and development. In the past we have allocated substantial funds to capital expenditures, programs and other investments. This practice will continue to be required in the future. Even so, we may not be able to successfully identify new opportunities and may not have the needed financial resources to develop new products in a timely or cost-effective manner. At the same time, products and technologies developed by others may render our products and systems obsolete or non-competitive.

WE MAY NOT SUCCESSFULLY IMPLEMENT OUR PLAN TO EXPAND INTO COMMERCIAL MARKETS.

Our revenues have primarily come from business with the U.S. Department of Defense and other U.S. Government agencies. In addition to continuing to pursue these market areas, we will continue

applying our technical capabilities and expertise to related commercial markets. Some of our commercial products, such as airport security equipment, voyage recorders and Prime Wave fixed wireless loop products, have only recently been introduced.

These new commercial products are subject to certain risks and may require us to:

- develop and maintain marketing, sales and customer support capabilities;
- secure sales and customer support capabilities;
- obtain customer and/or regulatory certification;
- respond to rapidly changing technologies including those developed by others that may render our products and systems obsolete or non-competitive; and
- obtain customer acceptance of these products and product performance.

Our efforts to expand our presence in commercial markets require significant resources, including additional working capital and capital expenditures, as well as the use of our management's time. Our ability to sell certain commercial products, particularly our broadband wireless communications products, depends to a significant degree on the efforts of independent distributors or communications service providers and on the financial viability of our existing and target customers for the commercial products. Certain of our existing and target customers are agencies or affiliates of governments of emerging and under-developed countries or private business enterprises operating in those countries. In addition, we have made equity investments in entities that plan to commence operations as communications service providers using some of our commercial products. These distributors and service providers may not be able to market our products or their services successfully and we may not be able to realize a return of investment in them. We also may not be successful in addressing these risks or in developing these commercial business opportunities.

CONSOLIDATION AND INTENSE COMPETITION IN THE INDUSTRIES IN WHICH OUR BUSINESSES OPERATE COULD LIMIT OUR ABILITY TO ATTRACT AND RETAIN CUSTOMERS.

The communications equipment industry and the other industries in which our businesses operate, and the market for defense applications, is highly competitive. The defense industry has experienced substantial consolidation due to declining defense budgets and increasing pressures for cost reductions. We expect that the U.S. Department of Defense's increased use of commercial off-the-shelf products and components in military equipment will continue to encourage new competitors to enter the market. We also expect that competition for original equipment manufacturing business will increase due to the continued emergence of merchant suppliers. Our ability to compete for defense contracts largely depends on the following factors:

- the effectiveness and innovations of our research and development programs;
- our ability to offer better performance than our competitors at a lower cost to the U.S. Government; and
- the readiness of our facilities, equipment and personnel to undertake the programs for which we compete.

In some instances, the U.S. Government directs all work for a particular project to a single supplier, commonly known as a sole-source project. In such cases, other suppliers who may otherwise be able to compete for the programs involved can only do so if the U.S. Government chooses to reopen the particular program to competition. Additionally, many of our competitors are larger than us and have substantially greater financial and other resources than we have.

OUR DEBT AGREEMENTS RESTRICT OUR ABILITY TO FINANCE OUR FUTURE OPERATIONS AND, IF WE ARE UNABLE TO MEET OUR FINANCIAL RATIOS, COULD CAUSE OUR EXISTING DEBT TO BE ACCELERATED.

Our debt agreements contain a number of significant provisions that, among other things, restrict our ability to:

- sell assets;
- incur more indebtedness;
- repay certain indebtedness;
- pay dividends;
- make certain investments or acquisitions;
- repurchase or redeem capital stock;
- engage in mergers or consolidations; and
- engage in certain transactions with subsidiaries and affiliates.

These restrictions could hurt our ability to finance our future operations or capital needs or engage in other business activities that may be in our interest. In addition, some of our debt agreements also require us to maintain compliance with certain financial ratios, including total consolidated earnings before interest, taxes, depreciation and amortization to total consolidated cash interest expense and total consolidated debt to total consolidated earnings before interest, taxes, depreciation and amortization, and to limit our capital expenditures. Our ability to comply with these ratios and limits may be affected by events beyond our control. A breach of any of these agreements or our inability to comply with the required financial ratios or limits could result in a default under those debt agreements. In the event of any such default, the lenders under those debt agreements could elect to:

- declare all outstanding debt, accrued interest and fees to be due and immediately payable;
- require us to apply all of our available cash to repay our outstanding senior debt; and
- prevent us from making debt service payments on our other debt.

If we were unable to repay any of these borrowings when due, the lenders under our senior credit facilities could proceed against their collateral, which consists of a first priority security interest in our outstanding shares of common stock and the capital stock of our material subsidiaries. If the indebtedness under the existing debt agreements were to be accelerated, our assets may not be sufficient to repay such indebtedness in full.

IF WE ARE UNABLE TO ATTRACT AND RETAIN KEY MANAGEMENT AND PERSONNEL, WE MAY BECOME UNABLE TO OPERATE OUR BUSINESS EFFECTIVELY.

Our future success depends to a significant degree upon the continued contributions of our management, including Messrs. Lanza and LaPenta, and our ability to attract and retain other highly qualified management and technical personnel. We do not maintain any key person life insurance policies for members of our management. As of September 1, 2002, Messrs. Lanza and LaPenta beneficially owned, in the aggregate, 10.2% of the outstanding common stock of L-3 Communications Holdings. We have an employment agreement with Mr. Lanza. We face competition for management and technical personnel from other companies and organizations. Failure to attract and retain such personnel would damage our prospects.

ENVIRONMENTAL LAWS AND REGULATION MAY SUBJECT US TO SIGNIFICANT LIABILITY.

Our operations are subject to various U.S. federal, state and local as well as certain foreign environmental laws and regulations within the countries in which we operate relating to the discharge, storage, treatment, handling, disposal and remediation of certain materials, substances and wastes used in our operations.

New laws and regulations, stricter enforcement of existing laws and regulations, the discovery of previously unknown contamination or the imposition of new clean-up requirements may require us to incur a significant amount of additional costs in the future and could decrease the amount of free cash flow available to us for other purposes, including capital expenditures, research and development and other investments.

TERMINATION OF OUR BACKLOG OF ORDERS COULD NEGATIVELY IMPACT OUR SALES.

We currently have a backlog of orders, primarily under contracts with the U.S. Government. The U.S. Government may unilaterally modify or terminate these contracts. Accordingly, most of our backlog could be modified or terminated by the U.S. Government. Therefore, existing backlog may not result in sales. Further, any margin we record on sales from any contract included in backlog may not be profitable.

OUR PENSION PLAN LIABILITIES MAY RESULT IN SIGNIFICANT EXPENSES.

We have assumed certain liabilities relating to defined benefit pension plans for present and former employees and retirees of certain businesses which we acquired. Prior to our formation, Lockheed Martin received a letter from the Pension Benefit Guaranty Corporation (the "PBGC") which requested information regarding the transfer of these pension plans and indicated that the PBGC believed certain of these pension plans were underfunded using its actuarial assumptions. These assumptions resulted in a larger liability for accrued benefits than the assumptions used for financial reporting under Statement of Financial Accounting Standards No. 87.

With respect to these plans, Lockheed Martin entered into an agreement with us and the PBGC dated as of April 30, 1997. Under that agreement, Lockheed Martin agreed, upon the occurrence of certain circumstances, either to:

- assume sponsorship of the subject plans; or

- provide another form of financial support.

If Lockheed Martin did assume sponsorship of these plans, it would be primarily liable for the costs associated with funding these plans or any costs associated with the termination of them, but we would be required to reimburse Lockheed Martin for its obligations. Should Lockheed Martin assume sponsorship of the subject plans, or if these plans were terminated, the impact of any increased pension expenses or funding requirements could reduce the amount of free cash flow available to us.

RISKS RELATED TO THE NOTES

WE CANNOT ASSURE YOU THAT AN ACTIVE TRADING MARKET WILL DEVELOP FOR THE EXCHANGE NOTES, WHICH MAY REDUCE THEIR MARKET PRICE.

We are offering the exchange notes to the holders of the outstanding notes. The outstanding notes were offered and sold in June 2002 to a small number of institutional investors and are eligible for trading in the Private Offerings, Resale and Trading through Automatic Linkages (PORTAL) Market.

We do not intend to apply for a listing of the exchange notes on a securities exchange or on any automated dealer quotation system. There is currently no established market for the exchange notes and we cannot assure you as to the liquidity of markets that may develop for the exchange notes, your ability to sell the exchange notes or the price at which you would be able to sell the exchange notes. If such markets were to exist, the exchange notes could trade at prices that may be lower than their principal amount or purchase price depending on many factors, including prevailing interest rates and the markets for similar securities. The initial purchasers have advised us that they currently intend to make a market with respect to the exchange notes. However, the initial purchasers are not obligated to do so, and any market making with respect to the exchange notes may be discontinued at any time without notice. In addition, such market making activity may be limited during the pendency of the exchange offer or the effectiveness of a shelf registration statement in lieu thereof.

The liquidity of, and trading market for, the exchange notes also may be adversely affected by general declines in the market for similar securities. Such a decline may adversely affect such liquidity and trading markets independent of our financial performance and prospects.

THE NOTES ARE SUBORDINATED TO ALL OUR EXISTING AND FUTURE SENIOR INDEBTEDNESS, WHICH MAY INHIBIT OUR ABILITY TO REPAY YOU.

The notes are contractually subordinated in right of payment to our existing and future senior indebtedness. As of June 30, 2002, we had no outstanding senior debt, and had the ability to borrow up to $577.7 million (after reductions for outstanding letters of credit of $172.3 million) under our senior credit facilities, which if borrowed would be senior debt.

Any incurrence of additional indebtedness may materially adversely impact our ability to service our debt, including the notes. Due to the subordination provisions of our senior indebtedness, in the event of our insolvency, funds that would otherwise be used to pay the holders of the notes will be used to pay the holders of senior indebtedness to the extent necessary to pay the senior indebtedness in full. As a result of these payments, general creditors may recover less, ratably, than the holders of senior indebtedness and the general creditors may recover more, ratably, than the holders of the notes or other subordinated indebtedness. In addition, the holders of senior indebtedness may, under certain circumstances, restrict or prohibit us from making payments on the notes.

THE TERMS OF OUR INDEBTEDNESS COULD RESTRICT OUR FLEXIBILITY AND LIMIT OUR ABILITY TO SATISFY OBLIGATIONS UNDER THE NOTES.

We are subject to operational and financial covenants and other restrictions contained in the bank loan documents evidencing our senior indebtedness and the indentures evidencing our senior subordinated notes. These covenants could limit our operational flexibility and restrict our ability to borrow additional funds, if necessary, to finance operations and to make principal and interest payments on the notes. Additionally, failure to comply with these operational and financial covenants could result in an event of default under the terms of this indebtedness which, if not cured or waived, could result in this indebtedness becoming due and payable. The effect of these covenants, or our failure to comply with them, could have a material adverse effect on our ability to operate our business, finance our operations and make principal and interest payments on our outstanding indebtedness, including the notes.

OUR ABILITY TO REPURCHASE NOTES WITH CASH UPON A CHANGE OF CONTROL MAY BE LIMITED.

In specific circumstances involving a change of control, you may require us to repurchase some or all of your notes. We cannot assure you that we will have sufficient financial resources at such time or would be able to arrange financing to pay the repurchase price of the notes in cash. Our ability to repurchase the notes in such event may be limited by law, by our indentures, by the terms of other agreements relating to our senior indebtedness and by such indebtedness and agreements as may be entered into, replaced, supplemented or amended from time to time. We may be required to refinance our senior indebtedness in order to make such payments. We may not have the financial ability to repurchase the notes in cash if payment for our senior indebtedness is accelerated.

THE GUARANTEES MAY BE UNENFORCEABLE DUE TO FRAUDULENT CONVEYANCE STATUTES, AND ACCORDINGLY, YOU COULD HAVE NO CLAIM AGAINST THE GUARANTORS.

Although laws differ among various jurisdictions, a court could, under fraudulent conveyance laws, further subordinate or avoid the guarantees if it found that the guarantees were incurred with actual intent to hinder, delay or defraud creditors, or the guarantor did not receive fair consideration or reasonably equivalent value for the guarantees and that the guarantor was any of the following:

- insolvent or rendered insolvent because of the guarantees;
- engaged in a business or transaction for which its remaining assets constituted unreasonably small capital; or
- intended to incur, or believed that it would incur, debts beyond its ability to pay at maturity.

If a court voided a guaranty by one or more of our subsidiaries as the result of a fraudulent conveyance, or held it unenforceable for any other reason, holders of the notes would cease to have a

claim against the subsidiary based on the guaranty and would solely be creditors of L-3 Communications Corporation and any guarantor whose guarantee was not similarly held unenforceable.

NOT ALL OF OUR SUBSIDIARIES ARE GUARANTORS, AND YOUR CLAIMS WILL BE SUBORDINATED TO ALL OF THE CREDITORS OF THE NON-GUARANTOR SUBSIDIARIES.

Many, but not all, of our direct and indirect subsidiaries will guarantee the notes. In the event of a bankruptcy, liquidation or reorganization of any of the non-guarantor subsidiaries, holders of their indebtedness and their trade creditors will generally be entitled to payment of their claims from the assets of those non-guarantor subsidiaries before any assets of the non-guarantor subsidiaries are made available for distribution to us. As of June 30, 2002, assuming the exchange of the outstanding notes for the exchange notes was completed prior to such date, the exchange notes would have been effectively junior to $98.7 million of indebtedness and other liabilities (including trade payables) of these non-guarantor subsidiaries. The non-guarantor subsidiaries generated 8.0% of our sales, generated earnings of $14.4 million and cash from operating activities of $1.0 million for the six months ended June 30, 2002. The non-guarantor subsidiaries held 13.5% of our consolidated assets as of June 30, 2002.

THE GUARANTEES WILL BE SUBORDINATED TO THE SENIOR DEBT OF THE GUARANTORS.

The guarantees are subordinated to all existing and future senior debt of the guarantors, which shall consist of all of the indebtedness and other liabilities of the guarantors designated as senior, including guarantees of borrowings under the senior credit facilities. The guarantees issued in connection with the offering of the outstanding notes and the exchange of the exchange notes will be pari passu with the guarantees of the senior subordinated notes sold by L-3 Communications Corporation in May 1998 and December 1998, and with the guarantees, including the guarantee by L-3 Communications Corporation, of the 5 1/4% Convertible Senior Subordinated Notes due 2009 sold by L-3 Communications Holdings in November 2000 and of the 4% Senior Subordinated Convertible Contingent Notes due 2011 sold by L-3 Communications Holdings in October 2001. As of June 30, 2002, we had no senior debt outstanding under our senior credit facilities, all of which has been guaranteed by our subsidiaries. As of June 30, 2002, L-3 Communications Corporation had the ability to borrow up to $577.7 million (after reduction for outstanding letters of credit of $172.3 million) under its senior credit facilities, which if borrowed would be senior debt. Any right of L-3 Communications Corporation to receive the assets of any of its subsidiaries upon their liquidation or reorganization (and the consequent right of the holders of the notes to participate in those assets) will be subject to the claims of that subsidiary's creditors, including trade creditors. To the extent that L-3 Communications Corporation is recognized as a creditor of that subsidiary, L-3 Communications Corporation may have such claim, but it would still be subordinate to any security interests in the assets of that subsidiary and any indebtedness and other liabilities of that subsidiary senior to that held by L-3 Communications Corporation.

THIS PROSPECTUS CONTAINS FORWARD LOOKING STATEMENTS, WHICH MAY NOT BE CORRECT.

Certain of the matters discussed concerning our operations, economic performance and financial condition, including in particular, the likelihood of our success in developing and expanding our business and the realization of sales from backlog, include forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act. Statements that are predictive in nature, that depend upon or refer to future events or conditions or that include words such as "expects," "anticipates," "intends," "plans," "believes," "estimates" and similar expressions are forward-looking statements. Although we believe that these statements are based upon reasonable assumptions, we can give no assurance that their goals will be achieved.

FORWARD-LOOKING STATEMENTS

Our disclosure and analysis in this prospectus contain some forward-looking statements. Certain of the matters discussed concerning our operations, cash flows, financial position, economic performance and financial condition, including, in particular, the likelihood of our success in developing and expanding our business and the realization of sales from backlog include forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act") and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act").

Statements that are predictive in nature, that depend upon or refer to future events or conditions or that include words such as "expects," "anticipates," "intends," "plans," "believes," "estimates" and similar expressions are forward-looking statements. Although we believe that these statements are based upon reasonable assumptions, including projections of orders, sales, operating margins, earnings, cash flows, research and development costs, working capital, capital expenditures and other projections, they are subject to several risks and uncertainties, and therefore, we can give no assurance that these statements will be achieved.

Our forward-looking statements will also be influenced by factors such as:

- our dependence on the defense industry and the business risks peculiar to that industry, including changing priorities or reductions in the U.S. Government defense budget;
- our reliance on contracts with a limited number of agencies of, or contractors to, the U.S. Government and the possibility of termination of government contracts by unilateral government action or for failure to perform;
- our ability to obtain future government contracts on a timely basis;
- the availability of government funding and changes in customer requirements for our products and services;
- our significant amount of debt and the restrictions contained in our debt agreements;
- collective bargaining agreements and labor disputes;
- economic conditions, competitive environment, international business and political conditions, timing of international awards and contracts;
- our extensive use of fixed-price contracts as compared to cost-reimbursable contracts;
- our ability to identify future acquisition candidates or to integrate acquired operations;
- the rapid change of technology and high level of competition in the communications equipment industry;
- our introduction of new products into commercial markets or our investments in commercial products or companies;
- pension, environmental or legal matters or proceedings and various other market, competition and industry factors, many of which are beyond our control; and
- the fair values of assets including goodwill and other intangibles of our business can be impaired or reduced by the other factors discussed above.

You are cautioned that our forward-looking statements are not guarantees of future performance and the actual results or developments may differ materially from the expectations expressed in the forward-looking statements.

As for the forward-looking statements that relate to future financial results and other projections, actual results will be different due to the inherent uncertainty of estimates, forecasts and projections and may be better or worse than projected. Given these uncertainties, you should not place any reliance on these forward-looking statements. These forward-looking statements also represent our

estimates and assumptions only as of the date that they were made. We expressly disclaim a duty to provide updates to these forward-looking statements, and the estimates and assumptions associated with them, after the date of this prospectus to reflect events or changes in circumstances or changes in expectations or the occurrence of anticipated events.

We undertake no obligation to publicly update any forward-looking statement, whether as a result of new information, future events or otherwise. You are advised however, to consult any additional disclosures we make in our Form 10-K, Form 10-Q and Form 8-K reports to the Securities and Exchange Commission. Also note that we provide a cautionary discussion of risk and uncertainties under the caption "Risk Factors" in this prospectus. These are factors that we think could cause our actual results to differ materially from expected results. Other factors besides those listed here could also adversely affect us. This discussion is provided as permitted by the Private Securities Litigation Reform Act of 1995.

USE OF PROCEEDS

We will not receive any cash proceeds from the issuance of the exchange notes. In consideration for issuing the exchange notes as contemplated in this prospectus, we will receive in exchange a like principal amount of outstanding notes, the terms of which are identical in all material respects to the exchange notes. The outstanding notes surrendered in exchange for the exchange notes will be retired and canceled and cannot be reissued. Accordingly, issuance of the exchange notes will not result in any change in our capitalization.

We received net proceeds of approximately $731.8 million from the offering of the outstanding notes, after deducting the discounts, commissions and estimated expenses payable by us. Concurrently with that offering, L-3 Communications Holdings consummated a common stock offering from which it received net proceeds of approximately $767.6 million, after deducting related discounts, commissions and estimated expenses.

The net proceeds from the offering of the outstanding notes and the concurrent sale of common stock were used to (1) repay the $500.0 million of indebtedness outstanding under our senior subordinated interim loan agreement, (2) repay $151.0 million of indebtedness outstanding under our 364-day revolving credit facility and $200.0 million of indebtedness outstanding under our five-year revolving credit facility, (3) repurchase and redeem the $225.0 million 10 3/8% Senior Subordinated Notes due 2007 for approximately $237.4 million and (4) increase our cash and cash equivalents, which will be used for general corporate purposes, including acquisitions. The 364-day revolving facility matures on February 25, 2003 and the five-year revolving credit facility matures on May 15, 2006. Amounts paid under each of our revolving credit facilities are available (subject to compliance with covenants) to be reborrowed by us from time to time for, among other reasons, general corporate purposes including potential acquisitions.

CAPITALIZATION

The following table sets forth our capitalization as of June 30, 2002.

	AS OF JUNE 30, 2002 (in millions)
Cash and cash equivalents	$ 466.1
Long-term debt:	
Senior credit facilities(1)	$ --
10 3/8% Senior Subordinated Notes due 2007(2)	48.1
8 1/2% Senior Subordinated Notes due 2008	180.0
8% Senior Subordinated Notes due 2008	200.0
7 5/8% Senior Subordinated Notes due 2012	750.0
5 1/4% Convertible Senior Subordinated Notes due 2009(3)	300.0
4% Senior Subordinated Convertible Contingent Debt Securities due 2011(4)	420.0
Total debt	$ 1,898.1
Minority interest	$ 71.8
Shareholders' equity:	
Common stock	$ 1,755.1
Retained earnings	362.6
Unearned compensation	(4.5)
Accumulated other comprehensive loss	(25.0)
Total shareholders' equity	$ 2,088.2
Total capitalization	$ 4,058.1

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(1) As of June 30, 2002, our availability under the senior credit facilities at any given time was $750.0 million (subject to compliance with covenants), less the amount of outstanding borrowings and outstanding letters of credit (which amounted to $172.3 million for outstanding letters of credit and no outstanding borrowings at June 30, 2002).

(2) In July of 2002, L-3 redeemed $48.1 million of 103/8% Senior Subordinated Notes due 2007 with a portion of the net proceeds from the offering of the outstanding notes, which were included in cash and cash equivalents at June 30, 2002.

(3) The 5 1/4% Convertible Senior Subordinated Notes due June 1, 2009 were issued by L-3 Communications Holdings in November 2000. The 5 1/4% Convertible Senior Subordinated Notes are, subject to adjustment, convertible into 7,361,964 shares of common stock of L-3 Communications Holdings and are unconditionally guaranteed, on an unsecured senior subordinated basis, jointly and severally by L-3 Communications Corporation and substantially all of L-3 Communications Corporation's domestic restricted subsidiaries.

(4) The 4% Senior Subordinated Convertible Contingent Debt Securities (CODES) due September 15, 2011 were issued by L-3 Communications Holdings in October 2001. The CODES are, subject to adjustment, convertible into 7,804,878 shares of common stock of L-3 Communications Holdings and are unconditionally guaranteed, on an unsecured senior subordinated basis, jointly and severally by L-3 Communications Corporation and substantially all of L-3 Communications Corporation's domestic restricted subsidiaries.

UNAUDITED PRO FORMA CONDENSED CONSOLIDATED FINANCIAL INFORMATION

The following unaudited pro forma condensed consolidated statements of operations ("pro forma statement of operations") data gives effect to the following transactions as if they had occurred on January 1, 2001: (1) our acquisition of AIS, which was completed on March 8, 2002, our acquisition of the detection systems business of PerkinElmer, which was completed on June 14, 2002 and the acquisitions of KDI Precision Products, Inc., EER Systems, Inc., Spar Aerospace Limited, Emergent Government Services Group, Bulova Technologies, and SY Technology, Inc., which we completed during the year ended December 31, 2001, and their related financings (collectively, the "Acquisitions"), (2) the offering of the outstanding notes and the concurrent sale of common stock by L-3 Communications Holdings, Inc. (collectively, the "Offerings") and (3) the application of the net proceeds of those offerings to repay $500.0 million of indebtedness outstanding under our senior subordinated interim loan agreement incurred in connection with our acquisition of AIS, repay the $445.6 million of indebtedness outstanding under our senior credit facilities, to repurchase and redeem our 10 3/8% Senior Subordinated Notes due 2007 for approximately $237.4 million and increase our cash and cash equivalents, which will be used for general corporate purposes, including potential acquisitions. All of the Acquisitions described above are included in our consolidated balance sheet as of June 30, 2002, and therefore, an unaudited pro forma condensed consolidated balance sheet is not provided.

The pro forma statements of operations do not include an extraordinary pre-tax charge of $16.2 million ($9.9 million after-tax) related to the repurchase and redemption of our $225.0 million 10 3/8% Senior Subordinated Notes due 2007. The extraordinary charge includes the call premium of 5.188% or approximately $11.7 million and fees and other expenses of approximately $4.5 million, including the write-off of unamortized deferred debt issue costs relating to the $225.0 million 10 3/8% Senior Subordinated Notes due 2007. The extraordinary charge is not included in the pro forma statements of operations because it is not a component of income (loss) from continuing operations.

The pro forma adjustments related to our Acquisitions are based on preliminary purchase prices and purchase price allocations. Actual adjustments will be based on final purchase prices, audited historical net assets for the Acquisitions, and final appraisals and other analyses of fair values of contracts in process, inventories, estimated costs in excess of billings to complete contracts in process, identifiable intangibles, pension and postretirement benefit obligations and deferred tax assets and liabilities, which will be completed after we obtain and review all of the data required for the acquired assets and liabilities and complete our valuations of them. Differences between the preliminary and final purchase price allocations could have a material impact on our results of operations and financial position. The unaudited pro forma condensed consolidated statement of operations does not reflect any cost savings that we believe would have resulted had the Acquisitions occurred on January 1, 2001.

The unaudited pro forma condensed consolidated financial information should be read in conjunction with (1) our unaudited condensed consolidated financial statements for the six months ended June 30, 2002 and 2001, and our audited consolidated financial statements for the year ended December 31, 2001 included elsewhere in this prospectus; and (2) the audited combined financial statements of AIS for the year ended December 31, 2001 included elsewhere in this prospectus. The other historical statement of operations data for the Acquisitions are based on unaudited financial statement data not included herein. The unaudited pro forma condensed consolidated financial information may not be indicative of the results of operations that actually would have occurred had the Acquisitions, the offering of the outstanding notes and the concurrent sale of common stock by L-3 Communications Holdings been completed on January 1, 2001 or the results of our operations that may be obtained in the future.

UNAUDITED PRO FORMA CONDENSED CONSOLIDATED STATEMENT OF OPERATIONS
FOR THE SIX MONTHS ENDED JUNE 30, 2002
(IN MILLIONS)

	L-3 AS REPORTED	ACQUISITION HISTORICAL(1)(2)	PRO FORMA ADJUSTMENTS FOR OUR ACQUISITIONS	PRO FORMA FOR OUR ACQUISITIONS	ADJUSTMENTS FOR THE OFFERINGS	PRO FORMA FOR OUR ACQUISITIONS AND THE OFFERINGS
Sales	$ 1,652.0	$ 276.6	$ --	$ 1,928.6	$ --	$ 1,928.6
Costs and expenses	1,483.0	267.9	--	1,750.9	--	1,750.9
Operating income	169.0	8.7	--	177.7	--	177.7
Interest and other income (expense)	0.8	--	(1.5)(3)	(0.7)	--	(0.7)
Interest expense	57.7	--	8.1 (4)	65.8	(6.8)(5)	59.0
Minority interest	2.7	--	--	2.7	--	2.7
Income (loss) before income taxes and extraordinary item	109.4	8.7	(9.6)	108.5	6.8	115.3
Provision (benefit) for income taxes(6)	38.6	6.0	(3.8)	40.8	2.7	43.5
Income (loss) from continuing operations	$ 70.8	$ 2.7	$ (5.8)	$ 67.7	$ 4.1	$ 71.8

See notes to Unaudited Pro Forma Condensed Consolidated Financial Statements

UNAUDITED PRO FORMA CONDENSED CONSOLIDATED STATEMENT OF OPERATIONS
FOR THE SIX MONTHS ENDED JUNE 30, 2001
(IN MILLIONS)

	L-3 AS REPORTED	ACQUISITIONS HISTORICAL(1)(7)	PRO FORMA ADJUSTMENTS FOR OUR ACQUISITIONS	PRO FORMA FOR OUR ACQUISITIONS	ADJUSTMENTS FOR THE OFFERINGS	PRO FORMA FOR OUR ACQUISITIONS AND THE OFFERINGS
Sales	$ 1,023.5	$ 667.2	$ --	$ 1,690.7	$ --	$ 1,690.7
Costs and expenses	916.1	649.3	(14.8)(8)	1,550.6	--	1,550.6
Operating income	107.4	17.9	14.8	140.1	--	140.1
Interest and other income (expense)	1.4	(5.9)	(1.4)(3)	(5.9)	--	(5.9)
Interest expense	46.4	0.4	46.1 (4)	92.9	(20.0) (5)	72.9
Minority interest	1.6	--	--	1.6	--	1.6
Income (loss) before income taxes	60.8	11.6	(32.7)	39.7	20.0	59.7
Provision (benefit) for income taxes(6)	23.3	5.3	(13.9)	14.7	8.0	22.7
Income (loss) from continuing operations	37.5	6.3	(18.8)	25.0	12.0	37.0
Goodwill amortization expense, net of tax	15.8	--	--	15.8	--	15.8
Income (loss) from continuing operations, as adjusted	$ 53.3	$ 6.3	$ (18.8)	$ 40.8	$ 12.0(9)	$ 52.8

See notes to Unaudited Pro Forma Condensed Consolidated Financial Statements

UNAUDITED PRO FORMA CONDENSED CONSOLIDATED STATEMENT OF OPERATIONS
YEAR ENDED DECEMBER 31, 2001
(IN MILLIONS)

	L-3 AS REPORTED	ACQUISITIONS HISTORICAL(1)(10)	PRO FORMA ADJUSTMENTS FOR OUR ACQUISITIONS	PRO FORMA FOR OUR ACQUISITIONS	ADJUSTMENTS FOR THE OFFERINGS	PRO FORMA FOR OUR ACQUISITIONS AND THE OFFERINGS
Sales	$ 2,347.4	$ 1,296.0	$ --	$ 3,643.4	$ --	$ 3,643.4
Costs and expenses	2,072.1	1,235.5	(30.0)(8)	3,277.6	--	3,277.6
Operating income	275.3	60.5	30.0	365.8	--	365.8
Interest and other income (expense)	1.8	(11.3)	(3.8)(3)	(13.3)	--	(13.3)
Interest expense	86.3	0.5	82.0 (4)	168.8	(32.4)(5)	136.4
Minority interest	4.5	--	--	4.5	--	4.5
Income (loss) before income taxes	186.3	48.7	(55.8)	179.2	32.4	211.6
Provision (benefit) for income taxes(6)	70.8	24.7	(21.2)	74.3	13.0	87.3
Income (loss) from continuing operations	115.5	24.0	(34.6)	104.9	19.4	124.3
Goodwill amortization expense, net of tax	33.9	--	--	33.9	--	33.9
Income (loss) from continuing operations, as adjusted	$ 149.4	$ 24.0	$ (34.6)	$ 138.8	$ 19.4(9)	$ 158.2

See notes to Unaudited Pro Forma Condensed Consolidated Financial Statements

NOTES TO UNAUDITED PRO FORMA CONDENSED
CONSOLIDATED FINANCIAL STATEMENTS

1. On March 8, 2002, we acquired AIS for $1,152.7 million in cash which includes $1,130.0 million for the original contract purchase price, $4.0 million for estimated acquisition costs and an increase to the contract purchase price of $18.7 million related to additional assets contributed by Raytheon to AIS. The purchase price is subject to adjustment based on the AIS closing date net tangible book value, as defined. The AIS acquisition was financed using cash on hand as well as available borrowings under our senior credit facilities and a $500.0 million senior subordinated interim loan. On June 14, 2002, we acquired the detection systems business of PerkinElmer ("PKI") for $100.0 million in cash plus acquisition costs, subject to adjustment based on closing date net working capital, as defined. During the year ended December 31, 2001, we also made the following acquisitions:

   - in May 2001, all the outstanding common stock of KDI Precision Products, Inc. ("KDI") for $79.4 million in cash including acquisition costs.

   - in May 2001, all the outstanding common stock of EER Systems, Inc. ("EER") for $119.5 million in cash including acquisition costs, and subject to an additional purchase price not to exceed $5.0 million which is contingent upon the financial performance of EER for the year ending December 31, 2002.

   - in November and December 2001, 70.3% of the outstanding common stock of Spar Aerospace Limited ("Spar") for $105.1 million in cash including acquisition costs. We acquired and paid for the remaining outstanding common stock of Spar in January 2002 for $43.6 million.

   - in November 2001, all the outstanding common stock of Emergent Government Services Group ("EMG") for $39.8 million, subject to adjustment based on closing date net working capital. Following the acquisition, we changed Emergent Government Services Group's name to L-3 Communications Analytics.

   - in December 2001, the net assets of Bulova Technologies for $49.5 million, subject to adjustment based on closing date net assets. Following the acquisition, we changed Bulova Technologies name to BT Fuze Products ("BT Fuze").

   - in December 2001, the net assets of SY Technology Inc. ("SY") for $49.8 million, subject to adjustment based on closing date net assets, and additional purchase price not to exceed $3.0 million, which is contingent upon the financial performance of SY for the years ending December 31, 2002 and 2003.

   The aggregate purchase price of these acquisitions, including acquisition costs, is $1,739.4 million.

2. The pro forma statement of operations for the six months ended June 30, 2002 includes the following unaudited historical financial data for our Acquisitions.

	AIS(a)	PKI(b)	ACQUISITIONS
	(IN MILLIONS)		
Sales	$ 213.4	$ 63.2	$ 276.6
Costs and expenses	209.1	58.8	267.9
Operating income	4.3	4.4	8.7
Interest and other income	--	--	--
Interest expense	--	--	--
Income before income taxes and extraordinary item	4.3	4.4	8.7
Income tax provision	2.4	3.6	6.0
Income from continuing operations	$ 1.9	$ 0.8	$ 2.7

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(a) Represents historical results of operations for the two-month period ended February 28, 2002.

(b) Represents historical results of operations for the period from January 1, 2002 to June 14, 2002.

3. Our historical interest income has been eliminated because the cash and cash equivalents which earned the interest income were obtained from the net proceeds from the CODES (as defined below) offering and the May 2001 Common Stock Offering (as defined below) that were assumed entirely to be used to finance the Acqusitions. Such eliminations amounted to $1.5 million for the six months ended June 30, 2002, $1.4 million for the six months ended June 30, 2001 and $3.8 million for the year ended December 31, 2001.

4. The aggregate purchase prices, including acquisition costs, for the Acquisitions of $1,739.4 million were assumed to be financed at January 1, 2001 using (1) borrowings under our senior credit facilities of $445.6 million, (2) borrowings of $500.0 million under the senior subordinated interim loan, (3) cash on hand of $32.7 million, (4) the net proceeds from the sale of $420.0 million of 4% Senior Subordinated Convertible Contingent Debt Securities due September 15, 2011 ("CODES") in October and November of 2001, which amounted to $407.5 million, and (5) the net proceeds from L-3 Holdings' public offering of 9,150,000 shares of its common stock in May 2001 (the "May 2001 Common Stock Offering") which amounted to $353.6 million. The borrowings under the senior credit facilities and the senior subordinated interim loan that we made to finance the AIS acquisition were included in our historical results of operations effective March 1, 2002.

The adjustments to our historical interest expense for the six months ended June 30, 2002 and 2001 and the year ended December 31, 2001 to give effect to the financing of the Acquisitions are presented below.

	SIX MONTHS ENDED JUNE 30,		YEAR ENDED DECEMBER 31,
	2002	2001	2001
	(IN MILLIONS)		
Interest on borrowings under the senior credit facilities (on $445.6 million) for the periods prior to March 1, 2002(a)	$ 3.6	$ 15.8	$ 29.3
Interest on senior subordinated interim loan (on $500.0 million) for the periods prior to March 1, 2002(a)	4.5	21.6	38.0
Interest on the CODES offering for the periods prior to October 31, 2001 (4% on $420.0 million for 10 months).	--	8.4	14.0
Amortization of deferred debt issue costs incurred on the CODES for periods prior to October 31, 2001	--	0.7	1.2
Eliminate historical interest expense for the KDI and SY Technology acquisitions	--	(0.4)	(0.5)
Total pro forma adjustments to interest expense	$ 8.1	$ 46.1	$ 82.0

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(a) The adjustments to pro forma interest for the pro forma adjustments for borrowings under the senior credit facilities and senior subordinated interim loan are based on the average prevailing interest rates that we would have paid on those borrowings for the periods presented had such borrowings been outstanding at the beginning of each of the periods presented. The average prevailing interest rates on the senior credit facilities would have been 4.86% for the six months ended June 30, 2002, 7.11% for the six months ended June 30, 2001 and 6.57% for the year ended December 31, 2001. The average prevailing interest rates on the senior subordinated interim loan would have been 5.36% for the six months ended June 30, 2002, 8.65% for the six months ended June 30, 2001, and 7.59% for the year ended December 31, 2001.

5. Assuming the offering of the outstanding notes and the concurrent sale of common stock by L-3 Communications Holdings of 14,000,000 million shares were completed on January 1, 2001, the net aggregate proceeds from the Offerings of $1,499.4 million, after deductions for underwriting commissions and discounts and other offering expenses totaling $43.0 million, would have been applied to repay all of the borrowings under the senior subordinated interim loan of $500.0 million, repurchase and redeem our 10 3/8% Senior Subordinated Notes due 2007, repay $445.6 million of borrowings outstanding under the senior credit facilities and $316.4 million would have been invested in cash and cash equivalents. Total interest expense after the pro forma adjustments for our Acquisitions but prior to the Offerings amounted to $65.8 million for the six months ended June 30, 2002, $92.9 million for the six months ended June 30, 2001, and $168.8 million for the year ended December 31, 2001. As a result of the Offerings, total pro forma interest expense would have decreased by $6.8 million for the six months ended June 30, 2002, $20.0 million for the six months ended June 30, 2001 and $32.4 million for the year ended December 31, 2001. The details of the changes to interest expense are described in the table below.

	SIX MONTHS ENDED JUNE 30,		YEAR ENDED
	2002	2001	DECEMBER 31, 2001
		(IN MILLIONS)	
Estimated interest on $750.0 million 7 5/8% Senior Subordinated Notes offered hereby	$ 28.6	$ 28.6	$ 57.2
Amortization of deferred debt issue costs incurred on $750.0 million Senior Subordinated Notes offered hereby	0.9	0.9	1.8
Eliminate interest on the senior subordinated interim loan(a)	(13.4)	(21.6)	(38.0)
Eliminate interest on $225.0 million 10 3/8% Senior Subordinated Notes due 2007	(11.7)	(11.7)	(23.3)
Eliminate amortization of deferred debt issue costs incurred on $225.0 million 10 3/8% Senior Subordinated Notes due 2007	(0.4)	(0.4)	(0.8)
Eliminate interest on borrowings under the senior credit facilities (on $445.6 million)(a)	(10.8)	(15.8)	(29.3)
Total adjustments to pro forma interest expense	$ (6.8)	$ (20.0)	$ (32.4)

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(a) The adjustments to pro forma interest expense for the pro forma adjustments for borrowings under the senior credit facilities and senior subordinated interim loan are based on the average prevailing interest rates that we would have paid on those borrowings for the periods presented had such borrowings been outstanding at the beginning of each of the periods presented. The average prevailing interest rates on the senior credit facilities would have been 4.86% for the six months ended June 30, 2002, 7.11% for the six months ended June 30, 2001 and 6.57% for the year ended December 31, 2001. The average prevailing interest rates on the senior subordinated interim loan would have been 5.36% for the six months ended June 30, 2002, 8.65% for the six months ended June 30, 2001, and 7.59% for the year ended December 31, 2001.

The pro forma statements of operations do not reflect interest income on the $316.4 million pro forma cash balance at January 1, 2001 that we would have had after the Offerings.

6. The pro forma adjustments for our Acquisitions and Offerings were all tax-effected, as appropriate, using an estimated statutory (federal and state) tax rate of 40.0%. The pro forma adjustments also include an income tax (benefit) provision (($0.8) million for the six months ended June 30, 2001 and $1.1 million for the year ended December 31, 2001) to record the aggregate income tax expense for the historical results of operations of KDI, EER, BT Fuze and

SY to the statutory income tax rate of 40.0% that they would have incurred had we acquired them on January 1, 2001, but did not because they were not subject to income tax prior to their acquisition by us.

7. The pro forma statement of operations for the six months ended June 30, 2001 includes the following unaudited historical financial data for our Acquisitions.

	KDI(a)	EER(a)	SPAR	EMG	BT FUZE	SY TECHNOLOGY	AIS
			(IN MILLIONS)				
Sales	$ 16.2	$ 49.3	$ 48.1	$ 33.0	$ 13.4	$ 30.6	$ 435.5
Costs and expenses	16.6	47.4	41.5	30.4	13.7	27.9	428.2
Operating income (loss)	(0.4)	1.9	6.6	2.6	(0.3)	2.7	7.3
Interest and other income (expense)	(1.6)(b)	(4.0)(c)	0.5	--	--	--	(0.7)
Interest expense	0.3	--	--	--	--	0.1	--
Income (loss) before income taxes	(2.3)	(2.1)	7.1	2.6	(0.3)	2.6	6.6
Income tax provision (benefit)	--	--	2.7	--	--	--	3.6
Income (loss) from continuing operations	$ (2.3)	$ (2.1)	$ 4.4	$ 2.6	$ (0.3)	$ 2.6	$ 3.0

	PKI	ACQUISITIONS
Sales	$ 41.1	$ 667.2
Costs and expenses	43.6	649.3
Operating income (loss)	(2.5)	17.9
Interest and other income (expense)	(0.1)	(5.9)
Interest expense	--	0.4
Income (loss) before income taxes	(2.6)	11.6
Income tax provision (benefit)	(1.0)	5.3
Income (loss) from continuing operations	$ (1.6)	$ 6.3

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(a) Represents historical results of operations for the four-month period ended April 30, 2001.

(b) Includes a charge to write-down excess inventory of $1.7 million.

(c) Includes a charge of $4.2 million of investment banking fees and other non-recurring charges.

8. Adjustments to costs and expenses relating to the Acquisitions are presented in the table below:

	SIX MONTHS ENDED JUNE 30, 2001	YEAR ENDED DECEMBER 31, 2001
	(IN MILLIONS)	
Eliminate historical goodwill amortization for AIS, EMG, Spar and PKI(a)	$ (15.5)	$ (30.7)
Increase to goodwill amortization for KDI and EER for higher goodwill recorded by L-3 than their historical amounts of goodwill(a)	0.7	0.7
Total pro forma adjustments to costs and expenses	$ (14.8)	$ (30.0)

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(a) In accordance with Statement of Financial Accounting Standards ("SFAS") No. 142, no goodwill amortization expenses would have been recorded by us in 2001 for the acquisitions of EMG, Spar, BT Fuze, SY, AIS and PKI because these acquisitions were completed after June 30, 2001. Additionally, in accordance with SFAS No. 142, effective January 1,

2002 goodwill amortization is no longer being recorded for any of the Acquisitions.

The assets and liabilities recorded in connection with the purchase price allocations for the Acquisitions are all based upon preliminary estimates of fair values for contracts in process, estimated costs in excess of billings to complete contracts in process, inventories, identifiable intangibles and deferred taxes. Actual adjustments will be based on the final purchase prices and final appraisals and other analyses of fair values which are in process. With the exception of the AIS acquisition, we do not expect the differences between the preliminary and final purchase

price allocations for the acquisitions to be material. Material differences between the preliminary and final purchase price allocations for the AIS acquisition could result from the valuation of contracts in process, estimated costs in excess of billings to complete contracts in process, identifiable intangibles, deferred income taxes and pension and postretirement benefits and other items. A review of the contracts in process and identifiable intangible assets included in the AIS acquisition is being performed. All of the data required to prepare this review and the related valuations is not currently available and at this time it is not practicable to reasonably estimate these valuations. In addition, no adjustment has been made to contracts in process which will be valued at their estimated contract prices less the estimated costs to complete and an allowance for a normal profit on the effort to complete such contracts. Although the final purchase price allocation for the contracts in process, estimated costs in excess of billings to complete contracts in process, deferred taxes and pension and postretirement benefits of AIS could materially affect the amount of goodwill recorded for AIS, such final purchase price allocations are not expected to have a material effect on our results of operations. Furthermore, any allocation of purchase price to identifiable intangible assets with finite lives will result in additional amortization expense and a reduction to the estimated goodwill for AIS. For example, an allocation of $50.0 million to identifiable intangible assets with a 10 year life would result in an increase of $5.0 million per annum to costs and expenses and a decrease of $3.0 million per annum to income from continuing operations.

9. The pro forma adjustments for the Offerings for the six months ended June 30, 2001 and the year ended December 31, 2001 do not include an extraordinary charge of $16.2 million ($9.9 million after-tax) related to the repurchase and redemption of our $225.0 million 10 3/8% Senior Subordinated Notes due 2007. The extraordinary charge includes the call premium of 5.188% or approximately $11.7 million and fees and other expenses of approximately $4.5 million, including the write-off of the unamortized deferred debt issue costs on the $225.0 million 10 3/8% Senior Subordinated Notes due 2007. The extraordinary charge is not included in the pro forma adjustments because it is not a component of income (loss) from continuing operations.

10. The pro forma statement of operations for the year ended December 31, 2001 includes the following unaudited historical financial data for our Acquisitions.

	KDI(a)	EER(a)	SPAR(b)
	(IN MILLIONS)		
Sales	$ 16.2	$ 49.3	$ 76.9
Costs and expenses	16.6	47.4	67.8
Operating income (loss)	(0.4)	1.9	9.1
Interest and other income (expense)	(1.6)(d)	(4.0)(e)	(0.4)(f)
Interest expense	0.3	--	--
Income (loss) before income taxes	(2.3)	(2.1)	8.7
Income tax provision (benefit)	--	--	3.3
Income (loss) from continuing operations	$ (2.3)	$ (2.1)	$ 5.4

	EMG(b)	BT FUZE(c)	SY TECHNOLOGY(c)	AIS	PKI	ACQUISITIONS
	(IN MILLIONS)					
Sales	$ 52.2	$ 34.7	$ 62.0	$ 918.6	$ 86.1	$ 1,296.0
Costs and expenses	49.1	32.8	56.5	876.7	88.6	1,235.5
Operating income (loss)	3.1	1.9	5.5	41.9	(2.5)	60.5
Interest and other income (expense)	(3.8)(g)	--	--	(1.4)	(0.1)	(11.3)
Interest expense	--	--	0.2	--	--	0.5
Income (loss) before income taxes	(0.7)	1.9	5.3	40.5	(2.6)	48.7
Income tax provision (benefit)	0.3	--	--	22.1	(1.0)	24.7
Income (loss) from continuing operations	$ (1.0)	$ 1.9	$ 5.3	$ 18.4	$ (1.6)	$ 24.0

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(a) Represents historical results of operations for the four-month period ended April 30, 2001.

(b) Represents historical results of operations for the ten-month period

ended October 31, 2001.

(c) Represents historical results of operations for the eleven-month period ended November 30, 2001.

(d) Includes a charge to write-down excess inventory of $1.7 million.

(e) Includes a charge of $4.2 million for investment banking fees and other non-recurring charges.

(f) Includes a $1.4 million restructuring charge.

(g) Includes a $3.8 million restructuring charge.

The historical results of operations for KDI, EER, BT Fuze and SY do not include a provision for income taxes because they each were either an S Corporation or a Limited Liability Company and the income taxes on their income were paid by their individual stockholders rather than the entities.

SELECTED FINANCIAL INFORMATION

We derived the selected financial data presented below as of December 31, 2001 and 2000 and for each of the three years ended December 31, 2001 from our audited consolidated financial statements included elsewhere herein. We derived the selected financial data presented below as of June 30, 2002 and for the six months ended June 30, 2002 and June 30, 2001 from our unaudited consolidated financial statements included elsewhere herein. We derived the selected financial data presented below as of December 31, 1999, 1998 and 1997 and for the nine months ended December 31, 1997 from our audited consolidated financial statements not included herein. We derived the selected financial data presented below for the three months ended March 31, 1997 from the audited combined financial statements of our predecessor company not included herein. You should read the selected financial data together with our "Management's Discussion and Analysis of Results of Operations and Financial Condition" and our audited consolidated financial statements.

	SIX MONTHS ENDED JUNE 30,		YEAR ENDED DECEMBER 31,			
	2002	2001	2001(1)	2000(1)	1999(1)	1998(1)
	(in millions, except per share data)					
STATEMENT OF OPERATIONS DATA:						
Sales	$ 1,652.0	$ 1,023.5	$ 2,347.4	$ 1,910.1	$ 1,405.5	$ 1,037.0
Operating income	169.0	107.4	275.3	222.7	150.5	100.3
Interest expense, net	56.9	45.0	84.5	88.6	55.1	46.9
Minority interest	2.7	1.6	4.5	--	--	--
Provision (benefit) for income taxes	38.6	23.3	70.8	51.4	36.7	20.9
Income from continuing operations	70.8	37.5	115.5	82.7	58.7	32.6
Income from continuing operations, as adjusted(5)	$ 70.8	$ 53.3	$ 149.4	$ 112.3	$ 76.2	$ 43.7
BALANCE SHEET DATA (AT PERIOD END):						
Working capital	$ 1,224.3	$ 456.2	$ 714.3	$ 360.9	$ 255.5	$ 157.8
Total assets	4,949.2	2,728.1	3,335.4	2,463.5	1,628.7	1,285.4
Total debt	1,898.1	905.0	1,315.3	1,095.0	605.0	605.0
Shareholders' equity	2,088.2	1,131.4	1,213.9	692.6	583.2	300.0

	PREDECESSOR COMPANY(3)	
	NINE MONTHS ENDED DECEMBER 31, 1997(2)	THREE MONTHS ENDED MARCH 31, 1997
	(in millions, except per share data)	
STATEMENT OF OPERATIONS DATA:		
Sales	$ 546.5	$ 158.9
Operating income	51.5 (4)	7.9
Interest expense, net	28.5	8.4
Minority interest	--	--
Provision (benefit) for income taxes	10.7	(0.2)
Income from continuing operations	12.3 (4)	(0.3)
Income from continuing operations, as adjusted(5)	$ 16.7	(0.3)
BALANCE SHEET DATA (AT PERIOD END):		
Working capital	$ 143.2	--
Total assets	697.0	--
Total debt	392.0	--
Shareholders' equity	113.7	--

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(1) Our results of operations are impacted significantly by our acquisitions, some of which are described elsewhere herein.

(2) Reflects the acquisition of our predecessor company and the commencement of our operations effective April 1, 1997.

(3) The Predecessor Company refers to the ten initial business units we purchased from Lockheed Martin Corporation in 1997.

(4) Includes a nonrecurring, noncash compensation charge of $4.4 million ($0.22 per share) related to our initial capitalization, which we recorded effective April 1, 1997.

(5) Represents income from continuing operations, adjusted to exclude goodwill amortization expense, net of any income tax effects, recognized in those years related to goodwill that is no longer amortized.

OVERVIEW

We are a leading merchant supplier of secure communications and intelligence, surveillance and reconnaissance (ISR) systems, training, simulation and support services, aviation products and aircraft modernization, as well as specialized products. Our customers include the DoD, prime contractors to the DoD, certain U.S. Government intelligence agencies, major aerospace and defense contractors, foreign governments, commercial customers and certain other U.S. federal, state and local government agencies. As a result of our recently completed acquisitions, including our acquisitions of Aircraft Integration Systems, a division of Raytheon Company, on March 8, 2002, and Spar, Analytics, BT Fuze and SY Technologies in November and December of 2001 and their effect on our operations, effective January 1, 2002, we began to present our businesses in the following four reportable segments: (1) Secure Communications & ISR; (2) Training, Simulation & Support Services; (3) Aviation Products & Aircraft Modernization; and (4) Specialized Products. Prior to December 31, 2001, we had two reportable segments: Secure Communications Systems and Specialized Products.

Our Secure Communications & ISR segment provides products and services for the global ISR market as well as secure, high data rate communications systems for military and other U.S. Government reconnaissance and surveillance applications. We believe our systems and products are critical elements of virtually all major communication, command and control, intelligence gathering and space systems. Our systems and products are used to connect a variety of airborne, space, ground and sea-based communication systems and are used in transmission, processing, recording, monitoring and dissemination functions of these communication systems. Our Training, Simulation & Support Services segment produces training systems, programs and related support services, and provides a wide range of engineering development and integration support, a full range of teaching, training, logistic and communication software support services and custom ballistic targets. Our Aviation Products & Aircraft Modernization segment provides TCAS products, cockpit voice, flight data and cruise ship hardened voyage recorders, displays and specialized aircraft modernization, upgrade and maintenance services. Our Specialized Products segment provides ocean products, telemetry, instrumentation, space and guidance products, premium fuzing products, detection systems, training devices and microwave components.

In recent years, domestic and worldwide political and economic developments have significantly affected the markets for defense systems, products and services. Two events in 2001 had a dramatic impact on the domestic and international political and economic landscape. They impacted L-3 and the defense industry generally. First, the events of September 11 created uncertainty and exposed vulnerabilities in security and the overall defense of our homeland. Second, in the conclusions of the U.S. Quadrennial Defense Review (QDR) that was completed in 2001, there was a fundamental and philosophical shift in focus from a "threat-based" model to one that emphasizes the capabilities needed to defeat a full spectrum of adversaries. Transforming the nation's defense posture to a capabilities-based approach involves creating the ability for a more flexible response, with greater force mobility, stronger space capabilities, missile defense, improved and network-centric communications, intelligence and information systems security and an increased emphasis on homeland defense.

The current U.S. defense budget and the proposed U.S. defense budgets for fiscal years 2003 through 2006 have each been increased by approximately 20% over their previous budgets for those same years with increased focus on command, control, communications, intelligence, surveillance and reconnaissance (C3ISR), precision-guided weapons, unmanned aerial vehicles (UAVs), communications networks and missile defense. We believe we are well positioned to benefit from increased spending in those areas. In addition, increased emphasis on homeland defense may increase demand for our capabilities in areas such as airport security systems, information security, crisis management, preparedness and prevention services, and civilian security operations. While there is no assurance that the proposed increased DoD budget levels will be approved by Congress, after over a

decade of downward trends, the current outlook is one of increased spending, which we believe should positively affect our future sales and could potentially favorably affect our future operating profits because of increased sale volumes.

All of our domestic government contracts and subcontracts are subject to audit and various cost controls, and include standard provisions for termination for the convenience of the U.S. Government. Multiyear U.S. Government contracts and related orders are subject to cancellation if funds for contract performance for any subsequent year become unavailable. Foreign government contracts generally include comparable provisions relating to termination for the convenience of the relevant foreign government.

ACQUISITIONS

The table below summarizes the material acquisitions that we have completed during the year ended December 31, 2001 and the six-month period ended June 30, 2002.

ACQUIRED COMPANY	DATE ACQUIRED	PURCHASE PRICE(1)
KDI Precision Products	May 4, 2001	$ 78.9
EER Systems	May 31, 2001	$ 119.4(2)
Spar Aerospace Limited	November 23, 2001	$ 146.8(3)
Emergent Government Services Group	November 30, 2001	$ 39.7(4)
BT Fuze Products	December 19, 2001	$ 49.5(5)
SY Technology	December 31, 2001	$ 58.5(6)
Aircraft Integration Systems	March 8, 2002	$1,148.7(5)(7)
Detection Systems	June 14, 2002	$ 100.0(5)

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(1) Purchase price represents the contractual consideration for the acquired business, excluding adjustments for net cash acquired and acquisition costs.

(2) Excludes additional purchase price, not to exceed $5.0 million, which is contingent upon the financial performance of EER for the year ending December 31, 2002.

(3) Includes $43.6 million for the remaining 29.7% of the outstanding common stock of Spar that we acquired and paid for in January 2002.

(4) Following the acquisition we changed Emergent Government Services Group's name to L-3 Communications Analytics.

(5) Purchase price is subject to adjustment based on actual closing date net assets or net working capital of the acquired business.

(6) Excludes additional purchase price, not to exceed $3.0 million, which is contingent upon the financial performance of SY for the years ending December 31, 2002 and 2003.

(7) Includes $18.7 million related to additional assets contributed by Raytheon Company to AIS. Following the acquisition, we changed AIS's name to L-3 Integrated Systems ("IS").

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Additionally, we purchased other businesses during 2002 and 2001, which individually and in the aggregate were not material to our consolidated results of operations, financial position or cash flows in the year acquired.

All of our acquisitions have been accounted for as purchase business combinations and are included in our consolidated results of operations from their respective effective dates.

We regularly evaluate potential acquisitions and joint venture transactions, but we have not entered into any agreements with respect to any material transactions at this time.

CRITICAL ACCOUNTING POLICIES

Our significant accounting policies are described in Note 2 to the consolidated financial statements. The preparation of financial statements in conformity with accounting principles generally

accepted in the United States of America requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of sales and costs and expenses during the reporting period. The most significant of these estimates and assumptions relate to contract estimates of sales and estimated costs to complete contracts in process, estimates of market values for inventories reported at lower of cost or market, estimates of pension and postretirement benefit obligations, recoverability of recorded amounts of fixed assets and goodwill, income taxes, including the valuations of deferred tax assets, litigation and environmental obligations. Actual results could differ from these estimates. We believe the following critical accounting policies contain the more significant judgements and estimates used in the preparation of our financial statements.

Revenue Recognition on Contracts and Contract Estimates. The substantial majority of our direct and indirect sales to the U.S. Government and certain of our sales to foreign governments and commercial customers are made pursuant to written contractual arrangements or "contracts" to design, develop, manufacture and or modify complex products, and to the specifications of the buyers (customers) or to provide services related to the performance of such contracts. These contracts are within the scope of the American Institute of Certified Public Accountants Statement of Position 81-1 Accounting for Performance of Construction-Type and Certain Production-Type Contracts ("SOP 81-1"), and sales and profits on them are recognized using percentage-of-completion methods of accounting. Sales and profits on fixed-price production contracts whose units are produced and delivered in a continuous or sequential process are recorded as units are delivered based on their selling prices (the "units-of-delivery" method). Sales and profits on other fixed-price contracts are recorded based on the ratio of total actual incurred costs to date to the total estimated costs for each contract (the "cost-to-cost method"). Sales and fees on cost-reimbursable contracts are recognized as costs are incurred. Amounts representing contract change orders or claims are included in sales only when they can be reliably estimated and their realization is reasonably assured. Under the percentage-of-completion methods of accounting, a single estimated total profit margin is used to recognize profit for each contract over its entire period of performance which can exceed one year. The impact of revisions in profit estimates are recognized on a cumulative catch-up basis in the period in which the revisions are made. Provisions for anticipated losses on contracts are recorded in the period in which they become evident. The revisions in contract estimates, if significant, can materially affect our results of operations and cash flows, as well as our valuations of Contracts in Process.

Accounting for the sales and profit on a contract requires estimates of (1) the contract value or total contract revenue, (2) the total costs at completion, which is equal to the sum of the actual incurred costs to date on the contract and the estimated costs to complete the contract's scope of work and (3) the measurement of progress towards completion. The estimated profit or loss on a contract is equal to the difference between the total contract value and the estimated total cost at completion. Under the units-of-delivery percentage of completion method, sales on a contract are recorded as the units are delivered during the period at an amount equal to the contractual selling price of those units. Under the cost-to-cost percentage of completion method, sales on a contract are recorded at amounts equal to the ratio of cumulative costs incurred to date to total estimated costs at completion multiplied by the contract value, less the cumulative sales recognized in prior periods. The profit recorded on a contract under both the units-of-delivery method and cost-to-cost method is equal to the estimated total profit margin for the contract stated as a percentage of contract revenue multiplied by the sales recorded on the contract during the period. Adjustments to original estimates for a contract's revenues, estimated costs at completion and estimated total profit are often required as work progresses under a contract, as experience is gained and as more information is obtained, even though the scope of work required under the contract may not change, or if contract modifications occur. Sales on a cost-reimbursable contract are recorded as costs are incurred at an amount equal to the costs incurred plus the fee (profit) on the contract which is determined according to the contract's fee arrangement.

For the year ended December 31, 2001: (1) sales recognized using the units-of-delivery percentage of completion method accounted for 17.9% of total sales, (2) sales recognized using the cost-to-cost

percentage of completion method accounted for 36.8% of total sales, and (3) sales on cost-reimbursable contracts, which are recognized as costs are incurred, accounted for 26.4% of total sales. The remaining 18.9% of sales for the year ended December 31, 2001 pertain to sales on arrangements that are not within the scope of SOP 81-1, which are recorded when products are delivered and services are performed.

Valuation of Deferred Tax Assets and Liabilities. At December 31, 2001, we had net deferred tax assets of $160.8 million, including $32.5 million for net operating loss carryforwards and $31.9 million for tax credit carryforwards which are subject to various limitations and will expire if unused within their respective carryforward periods. Deferred taxes are determined separately for each of our tax-paying entities in each tax jurisdiction. Future realization of deferred tax assets ultimately depends on the existence of sufficient taxable income of the appropriate character (for example, ordinary income or capital gain) within the carryback and carryforward periods available under the tax law. Based on our estimates of the amounts and timing of future taxable income, we believe that we will realize our recorded deferred tax assets. A change in the ability of our operations to continue to generate future taxable income could affect our ability to realize the future tax deductions underlying our net deferred tax assets, and require us to provide a valuation allowance against our net deferred tax assets. Such changes, if significant, could have a material impact in our effective tax rate, results of operations and financial position in any given period.

RESULTS OF OPERATIONS

The following information should be read in conjunction with our unaudited condensed consolidated financial statements and our consolidated financial statements and the accompanying notes included herein. See Note 3 in both our unaudited condensed consolidated financial statements and our consolidated financial statements for a discussion of our acquisitions, including pro forma sales, net income and diluted earnings per share data.

THREE MONTHS ENDED JUNE 30, 2002 COMPARED WITH THREE MONTHS ENDED JUNE 30, 2001

The tables below provide our selected statement of operations data for the three-month period ended June 30, 2002, which we refer to as the 2002 Second Quarter, and the three-month period ended June 30, 2001, which we refer to as the 2001 Second Quarter.

	THREE MONTHS ENDED JUNE 30,	
	2002	2001
	(in millions)	
Sales(1):		
Secure Communications & ISR	$ 278.2	$ 88.9
Training, Simulation & Support Services	197.2	151.7
Aviation Products & Aircraft Modernization	203.5	70.8
Specialized Products	276.3	250.2
Total	$ 955.2	$ 561.6
Operating income:		
Secure Communications & ISR	$ 29.7	$ 4.8 (2)
Training, Simulation & Support Services	22.3	19.4 (2)
Aviation Products & Aircraft Modernization	32.2	24.9 (2)
Specialized Products	13.5	11.4 (2)
Total	$ 97.7	$ 60.5 (2)

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(1) Sales are after intersegment eliminations. See Note 10 to the Unaudited Condensed Consolidated Financial Statements.

(2) Operating income for the three months ended June 30, 2001, includes goodwill amortization expense of $0.9 million for Secure Communications and ISR, $1.7 million for Training, Simulation & Support Services, $2.0 million for Aviation Products & Aircraft Modernization, and $6.0 million for Specialized Products, which aggregated $10.6 million for all of L-3. In accordance with SFAS No. 142, after December 31, 2001, goodwill is not amortized to expense.

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Consolidated sales increased $393.6 million to $955.2 million in the 2002 Second Quarter from sales of $561.6 million for the 2001 Second Quarter. Sales to the U.S. Government, foreign governments and other customers that are made pursuant to written contractual arrangements or "contracts" for products and/or services according to the specifications of the customer are within the scope of SOP 81-1, Accounting for Performance of Construction--type and certain Production-type contracts, and are presented on the statement of operations under the caption "Contracts, primarily long-term U.S. Government." Sales from "Contracts, primarily long-term U.S. Government", increased $408.3 million to $862.1 million in the 2002 Second Quarter from $453.8 million in the 2001 Second Quarter. The KDI, EER, Spar, Analytics, SY, BT Fuze, and IS acquisitions contributed $343.7 million of the increase in sales. The remaining increase was primarily attributable to volume increases of (1) $60.2 million for secure telephone equipment (STE) and secure data links, (2) $15.7 million for explosive detection systems, (3) $5.5 million for guidance products, and (4) $3.9 million for displays. These increases were partially offset by declines of (1) $4.8 million on naval power equipment, (2) $9.1 million for acoustic undersea warfare products, and (3) $6.8 million principally for simulation and support services. Sales arrangements that are not within the scope of SOP 81-1 are recognized in accordance with the SEC's SAB No. 101, Revenue Recognition in Financial Statements, and are presented on the statement of operations under the caption "Commercial, primarily products." Sales from "Commercial, primarily products" decreased $14.7 million to $93.1 million in the 2002 Second Quarter from $107.8 million in the 2001 Second Quarter. The decline was principally caused by lower volume of $15.8 million on commercial aviation products and $6.8 million on telemetry, space, microwave and other communications products. These decreases were partially offset by sales from the Detection Systems acquired business of $7.9 million.

Consolidated costs and expenses increased $356.4 million to $857.5 million in the 2002 Second Quarter from $501.1 million in the 2001 Second Quarter primarily as a result of the increase in sales. Costs and expenses for "Contracts, primarily long-term U.S. Government" increased $351.4 million to $759.7 million in the 2002 Second Quarter from $408.3 million in the 2001 Second Quarter primarily as a result of the increase in sales. Costs and expenses for "Commercial, primarily products" increased $5.0 million to $97.8 million in the 2002 Second Quarter from $92.8 million in the 2001 Second Quarter primarily due to higher expenses for the Prime Wave business.

Consolidated operating income increased by $37.2 million to $97.7 million for the 2002 Second Quarter from $60.5 million for the 2001 Second Quarter primarily because of higher sales, which were partially offset by lower operating margins. Consolidated operating income as a percentage of sales ("operating margin") declined by 0.6 percentage points to 10.2% from 10.8% in the 2001 Second Quarter. The impact of not amortizing goodwill to expense beginning on January 1, 2002 in accordance with SFAS No. 142 increased operating margin by 1.1 percentage points. The remaining decline in consolidated operating margin of 1.7 percentage points was attributable to lower margins for the Training, Simulation & Support Services, Aviation Products & Aircraft Modernization and Specialized Products segments, which were partially offset by higher margins for the Secure Communications & ISR segment. The changes in the operating margins of the segments are discussed below. Additionally, in the 2002 Second Quarter a loss of $3.0 million was recorded for the settlement of certain litigations assumed as part of the acquisition of Aydin Corporation in April 1999, because the settlement amounts exceeded the original estimates of the acquired litigation liabilities. This loss was partially offset by a foreign currency related net gain of $1.9 million in the 2002 Second Quarter. Operating income for "Contracts, primarily long-term U.S. Government" increased $56.9 million to $102.4 million in the 2002 Second Quarter from $45.5 million in the 2001 Second Quarter. Operating margin for "Contracts, primarily long-term U.S. Government" increased 1.9 percentage points to 11.9% in the 2002 Second Quarter from 10.0% in the 2001 Second Quarter, and the increase was principally due to the impact of not amortizing goodwill to expense in accordance with SFAS No. 142. Operating income for "Commercial, primarily products" declined $19.7 million to a loss of $4.7 million in the 2002 Second Quarter from operating income of $15.0 million in the 2001 Second Quarter. Operating margin for "Commercial, primarily products" declined 18.9 percentage points to a negative 5.0% in the 2002 Second Quarter from 13.9% in the 2001 Second Quarter. The decline was principally attributable to lower margins on commercial aviation products, microwave, space and broadband

communication products because of volume declines in sales, as well as continued marketing, selling and development expenses for the Prime Wave business, which were partially offset by not amortizing goodwill to expense in accordance with SFAS No. 142.

Interest expense increased $9.6 million to $31.6 million for the 2002 Second Quarter from $22.0 million for the 2001 Second Quarter, because of the higher outstanding debt principally related to the borrowings incurred to finance the IS acquisition, which was partially offset by savings of $3.7 million from the interest rate swap agreements we entered into in July 2001 and November 2001, as well as lower interest rates on our variable rate borrowings.

Interest and other income (expense) decreased $1.2 million to a $0.2 million expense from the 2001 Second Quarter to the 2002 Second Quarter. The 2001 Second Quarter included a net gain of $0.6 million related to a gain on the sale of a 30% interest in the ACSS business offset by the write-down of the carrying value of an investment in the common stock of a telecommunications company because the decline in value was determined to be other than temporary. Additionally, losses on an equity method investment increased.

The income tax provision for the 2002 Second Quarter is based on the estimated effective income tax rate for 2002 of 35.3%, compared with the effective tax rate of 38.3% for the 2001 Second Quarter. The decrease in the effective income tax rate is primarily attributable to the exclusion of goodwill amortization expense that is non-deductible for income tax purposes from the annual estimated effective income tax rate calculation as a result of goodwill not being amortized beginning on January 1, 2002 in accordance with SFAS No. 142.

Basic earnings per share ("EPS") of L-3 Communications Holdings before extraordinary items increased $0.21 to $0.52 for the 2002 Second Quarter from $0.31 for the 2001 Second Quarter, and diluted EPS before extraordinary items increased $0.19 to $0.49 from $0.30 for the 2001 Second Quarter. The impact of not amortizing goodwill to expense beginning on January 1, 2002 in accordance with SFAS No. 142 increased both basic EPS before extraordinary items and diluted EPS before extraordinary items each by $0.11. Excluding the impact of not amortizing goodwill to expense, basic EPS before extraordinary items grew 23.8% and diluted EPS before extraordinary items grew 19.5%. Basic EPS was $0.40 and diluted EPS was $0.38 after an extraordinary loss of $9.9 million, net of income taxes, on the early extinquishment of debt arising from the retirement of our $225.0 million of 103/8% senior subordinated notes. Diluted weighted-average common shares outstanding increased 16.3% principally reflecting the dilutive effect of the convertible notes.

The 2002 Second Quarter diluted EPS computation did not include the effect of the 7.8 million shares of L-3 Communications Holdings common stock that are issuable upon conversion of the CODES (See Notes 5 and 7 to the unaudited condensed consolidated financial statements) because the conditions for their conversion were not satisfied. However, if the CODES had been convertible for the 2002 Second Quarter, reported diluted EPS would not have changed.

SECURE COMMUNICATIONS & ISR

Sales for the Secure Communications & ISR segment increased $189.3 million or 212.9% to $278.2 million in the 2002 Second Quarter from $88.9 million for the 2001 Second Quarter. The increase was principally attributed to $126.6 million from the IS-Tactical Reconnaissance Systems (TRS) and Airborne Surveillance & Control (ASC) acquired businesses and $62.7 million of increased volume principally on STE, secure data links and military communications products, which was attributable to greater demand for secure communications from the DoD and U.S. Government intelligence agencies. Additionally, the increase in STE volume of $21.0 million was partially related to lower volume in the 2001 Second Quarter arising from software development enhancements on STE made in 2001 which caused production and delivery delays in 2001.

Operating income increased by $24.9 million to $29.7 million in the 2002 Second Quarter because of higher sales and operating margin. Operating margin improved by 5.3 percentage points to 10.7% from 5.4%. The impact of not amortizing goodwill to expense beginning on January 1, 2002 in accordance with SFAS No. 142 increased operating margin by 0.4 percentage points. Increased volume

and cost improvements on STE accounted for 1.9 percentage points of the increase. A provision to increase the allowance for doubtful accounts by $3.0 million for certain commercial receivables decreased operating margin by 1.1 percentage points. The remaining increase in operating margins was principally attributable to margins from the IS-TRS and ASC acquired businesses, which were higher then the Secure Communications & ISR segment operating margins for the 2001 Second Quarter. Additionally, the Prime Wave business continued to generate losses in the 2002 Second Quarter because of lower sales volume as well as continued marketing, selling and development expenses. We expect margins for the segment to improve in the second half of 2002 because of expected volume increases and additional cost improvements on DoD business, as well as lower losses for the Prime Wave business arising from anticipated increases in sales.

TRAINING, SIMULATION & SUPPORT SERVICES

Sales for the Training, Simulation & Support Services segment increased $45.5 million or 30.0% to $197.2 million for the 2002 Second Quarter from $151.7 million for the 2001 Second Quarter. The EER, SY and Analytics acquired businesses contributed $50.7 million to sales. The remaining net decrease of $5.2 million was principally attributable to lower sales on a ballistic missile target services contract which is approaching its scheduled completion.

Operating income increased by $2.9 million to $22.3 million in the 2002 Second Quarter because of higher sales, which were partially offset by lower operating margins. Operating margin declined by 1.5 percentage points to 11.3% for the 2002 Second Quarter from 12.8% for the 2001 Second Quarter. The impact of not amortizing goodwill to expense beginning on January 1, 2002 in accordance with SFAS No. 142 increased operating margin by 0.9 percentage points. This increase was offset by a decline in operating margin of 2.4 percentage points, which was principally attributable to the expected lower margins for the SY and Analytics acquired businesses, as well as lower margins on training services in the current period compared to the prior period as a result of profit improvements on certain contracts during 2001. We do not expect margins for the segment to change significantly during the second half of 2002.

AVIATION PRODUCTS & AIRCRAFT MODERNIZATION

Sales for the Aviation Products & Aircraft Modernization segment increased $132.7 million or 187.4% to $203.5 million for the 2002 Second Quarter from $70.8 million for the 2001 First Quarter. The IS-Aircraft Modification & Maintenance (AMM) and Spar acquired businesses contributed $143.2 million to sales. The remaining decline in sales of $10.5 million was principally attributable to lower volume of $15.8 million on traffic collision and avoidance systems (TCAS) and aviation recorders used primarily for commercial applications, that were partially offset by an increase in volume for displays used in military applications. The decline in sales of commercial aviation products was caused by a decline in orders and customer-deferred delivery schedules stemming from the continued downturn in the commercial aircraft industry that began in 2001. We expect the sales volume for all of 2002 on commercial aviation products to be lower than 2001 volumes; however, the amount of the declines are expected to be smaller during the second half of 2002 than they were in the 2002 First Half when compared to the same periods in the prior year.

Operating income increased by $7.3 million to $32.2 million for the 2002 Second Quarter from $24.9 million for the 2001 Second Quarter because of higher sales, which were partially offset by lower operating margins. Operating margin declined by 19.3 percentage points to 15.9% for the 2002 Second Quarter from 35.2% for the 2001 Second Quarter. The impact of not amortizing goodwill to expense beginning on January 1, 2002 in accordance with SFAS No. 142 increased operating margin by 1.0 percentage points. Lower volumes on TCAS and aviation recorders which generated lower gross margin contributions, as well as increased development expenses for a terrain awareness warning system and a commercial displays product-line which are planned to be introduced later this year reduced operating margin by 5.7 percentage points. The remaining decrease in operating margin of 14.6 percentage points was principally attributable to margins from the IS-AMM and Spar acquired businesses, which were lower than the Aviation Products & Aircraft Modernization segment operating

margins for the 2001 Second Quarter. Operating margins benefited from a foreign currency gain recorded from the Spar acquisition. We expect the operating margins on commercial aviation products to increase during the second half of 2002 arising from expected increases in volumes.

SPECIALIZED PRODUCTS

Sales for the Specialized Products segment increased $26.1 million or 10.4% to $276.3 million in the 2002 Second Quarter from $250.2 million for the 2001 Second Quarter. The increase was principally related to the acquisitions of KDI, BT Fuze and Detection Systems, which accounted for $31.1 million in sales, and higher volume of $5.5 million for guidance products and $15.7 million for explosive detection systems. The increase in volume for explosive detection systems was substantially all from a contract with the Transportation Security Administration (TSA) of the U.S. Department of Transportation that was awarded to us in April 2002. The initial contract value for the TSA award is $162 million and includes full-funding for 100 units of our examiner 3DX(TM) 6000 explosive detection systems and long-lead funding for an additional 200 systems plus production ramp-up funding. The contract value for this TSA award is expected to be about $250 million if all of these additional units are fully funded. This increase was partially offset by a decrease in sales that was principally attributable to lower volume of (1) $4.8 million on naval power equipment arising from lower shipments caused by production capacity diverted to fixing quality control problems and the related rework activities, (2) $9.1 million for acoustic undersea warfare products arising from the timing of shipments, and (3) $12.3 million principally on telemetry and space products and microwave components arising from continued softness and declining demand in the space, broadband and wireless commercial communications markets. We expect our sales of explosive detection systems to increase substantially in the second half of 2002 as we increase our production for the TSA contract. Additionally, we expect to return to normal production levels for naval power equipment in the second half of 2002, and anticipate an increase in volume for space, broadband and wireless communications products.

Operating income increased by $2.1 million to $13.5 million for the 2002 Second Quarter from $11.4 million for the 2001 Second Quarter primarily because of higher sales. Operating margin increased by 0.3 percentage points to 4.9% for the 2002 Second Quarter from 4.6% for the 2001 Second Quarter. The impact of not amortizing goodwill to expense beginning on January 1, 2002 in accordance with SFAS No. 142 increased operating margin by 2.2 percentage points. Higher margins from the KDI and BT Fuze acquired businesses related to new contracts entering production caused an increase in operating margin of 1.5 percentage points. A loss of $3.0 million recorded in June 2002 for the settlement of certain litigations assumed as part of the acquisition of Aydin Corporation in April 1999 caused a decline in operating margin of 1.1 percentage points. The remaining decline was principally attributable to lower margins resulting from lower shipments and rework efforts for naval power equipment and lower volume on microwave components and acoustic undersea warfare products. We expect the operating margin for Specialized Products to improve in the second half of 2002 arising from expected volume increases for explosive detection systems, naval power equipment, telemetry and space products and microwave components.

SIX MONTHS ENDED JUNE 30, 2002 COMPARED WITH SIX MONTHS ENDED JUNE 30, 2001

The tables below provide our selected statement of operations data for the six-month period ended June 30, 2002, which we refer to as the 2002 First Half, and the six-month period ended June 30, 2001, which we refer to as the 2001 First Half.

	SIX MONTHS ENDED JUNE 30,	
	2002	2001
	(in millions)	
Sales(1):		
Secure Communications & ISR	$ 435.6	$ 171.6
Training, Simulation & Support Services	392.0	268.7
Aviation Products & Aircraft Modernization	310.8	131.4
Specialized Products	513.6	451.8
Total	$ 1,652.0	$ 1,023.5
Operating income:		
Secure Communications & ISR	$ 46.1	$ 11.1 (2)
Training, Simulation & Support Services	43.8	28.6 (2)
Aviation Products & Aircraft Modernization	49.7	47.6 (2)
Specialized Products	29.4	20.1 (2)
Total	$ 169.0	$ 107.4 (2)

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(1) Sales are after intersegment eliminations. See Note 10 to the Unaudited Condensed Consolidated Financial Statements.

(2) Operating income for the six months ended June 30, 2001, includes goodwill amortization expense $1.9 million for Secure Communications and ISR, $3.0 million for Training, Simulation & Support Services, $3.9 million for Aviation Products & Aircraft Modernization, and $11.7 million for Specialized Products, which aggregated $20.5 million for all of L-3. In accordance with SFAS No. 142, after December 31, 2001, goodwill is not amortized to expense.

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Consolidated sales increased $628.5 million to $1,652.0 million for the 2002 First Half from $1,023.5 million for the 2001 First Half. Sales from "Contracts, primarily long-term U.S. Government" increased $653.4 million to $1,478.5 million for the 2002 First Half from $825.1 million for the 2001 First Half. The KDI, EER, Spar, Analytics, SY, BT Fuze, and IS acquired businesses contributed $544.9 million of the increase in sales. The remaining increase was primarily attributable to volume increases of (1) $96.6 million on STE, secure data links and military communications products, (2) $15.5 million for explosive detection systems, (3) $14.8 million on guidance products, and (4) $5.2 million for displays. These sales increases were partially offset by declines of (1) $18.4 million on naval power equipment and (2) $5.2 million principally for acoustic undersea warfare products. Sales from "Commercial, primarily products" decreased $24.9 million to $173.5 million in the 2002 First Half from $198.4 million in the 2001 First Half. The decline was principally caused by lower volume of $28.7 million on commercial aviation products and $4.1 million on telemetry, space, microwave and other communications products. These decreases were partially offset by sales from the Detection Systems acquired business of $7.9 million.

Consolidated costs and expenses increased $566.9 million to $1,483.0 million in the 2002 First Half from $916.1 million in the 2001 First Half, primarily as a result of the increase in sales. Costs and expenses for "Contracts, primarily long-term U.S. Government" increased $558.6 million to $1,304.7 million in the 2002 First Half from $746.1 million in the 2001 First Half primarily as a result of the increase in sales. Costs and expenses for "Commercial, primarily products" increased $8.3 million to $178.3 million in the 2002 First Half from $170.0 million in the 2001 First Half primarily due to higher expenses for the Prime Wave business.

Consolidated operating income increased by $61.6 million to $169.0 million in the 2002 First Half from $107.4 for the 2001 First Half primarily because of higher sales. Consolidated operating margin declined by 0.3 percentage points to 10.2% from 10.5% in the 2001 First Half. The impact of not amortizing goodwill to expense beginning on January 1, 2002 in accordance with SFAS No. 142 increased operating margin by 1.2 percentage points. The remaining decline in operating margin of 1.5 percentage points was due to declines in the Training, Simulation & Support Services, Aviation Products & Aircraft Modernization and the Specialized Products segments, which were partially offset

by increases in the Secure Communications & ISR segment. The changes in the operating margins of the segments are discussed below. Additionally, a loss of $3.0 million was recorded in June 2002 for the settlement of certain litigations assumed as part of a prior acquisition. This loss was partially offset by a foreign currency related net gain of $1.9 million. Operating income for "Contracts, primarily long-term U.S Government increased $94.8 million to $173.8 million in the 2002 First Half from $79.0 million in the 2001 First Half. Operating margin for "Contracts, primarily long-term U.S. Government increased 2.2 percentage points to 11.8% in the 2002 First Half from 9.6% in the 2001 First Half, and the increase was principally due to the impact of not amortizing goodwill to expense in accordance with SFAS No. 142. Operating income for "Commercial, primarily products" declined $33.2 million to a loss of $4.8 million in the 2002 First Half from operating income of $28.4 million in the 2001 First Half. Operating margin for "Commercial, primarily products" declined 17.1 percentage points to a negative 2.8% in the 2002 First Half from 14.3% in the 2001 First Half. The decline was principally attributable to lower margins on commercial aviation products, microwave, space and broadband communication products because of volume declines in sales, as well as continued marketing, selling and development expenses for the Prime Wave business, which were partially offset by not amortizing goodwill to expense in accordance with SFAS No. 142.

Interest expense increased $11.3 million to $57.7 million in the 2002 First Half from $46.4 for the 2001 First Half, because of the higher outstanding debt, partially offset by savings of $6.6 million from the interest rate swap agreements we entered into in 2001 and lower interest rates on our variable rate borrowings.

Interest and other income decreased $0.7 million to $0.8 million for the 2002 First Half from $1.5 million for the 2001 First Half, principally because the 2001 First Half included a net gain of $0.6 million. The net gain relates to a gain on the sale of a 30% interest in the ACSS business offset by the write-down of the carrying value of an investment in the common stock of a telecommunications company because the decline in value was determined to be other than temporary.

The income tax provision for the 2002 First Half is based on our estimated effective income tax rate for 2002 of 35.3%, compared with the effective tax rate of 38.3% for the 2001 First Half, as discussed above in the 2002 Second Quarter discussion.

Basic EPS of L-3 Communications Holdings before extraordinary items increased $0.37 to $0.89 in the 2002 First Half from $0.52 in the 2001 First Half, and diluted EPS increased $0.34 to $0.84 in the 2002 First Half from $0.50 in the 2001 First Half. The impact of not amortizing goodwill to expense beginning on January 1, 2002 in accordance with SFAS No. 142 increased basic EPS before extraordinary items by $0.23 and diluted EPS before extraordinary items by $0.21. Excluding the impact of not amortizing goodwill to expense, basic EPS before extraordinary items grew 18.7% and diluted EPS before extraordinary items grew 18.3%. Basic EPS was $0.77 and diluted EPS was $0.73 after an extraordinary loss of $9.9 million, net of taxes, on the early extinquishment of debt arising from the retirement of our $225.0 million of 10 3/8% senior subordinated notes. Diluted weighted-average common shares outstanding increased 20.5% principally reflecting the dilutive effect of the convertible notes and the sale of 9.2 million shares of our common stock in May 2001.

The 2002 First Half diluted EPS computation did not include the effect of the 7.8 million shares of L-3 Communications Holdings common stock that are issuable upon conversion of the CODES (See Notes 5 and 7 to the unaudited condensed consolidated financial statements) because the conditions for their conversion were not satisfied. However, if the CODES had been convertible for the 2002 First Half, reported diluted EPS would have not changed.

SECURE COMMUNICATIONS & ISR

Sales for the Secure Communications & ISR segment increased $264.0 million or 153.8% to $435.6 million for the 2002 First Half from $171.6 million for the 2001 First Half. The increase was principally attributed to $165.0 million from the IS-TRS and ASC acquired businesses and $99.0 million of increased volume principally on STE, secure data links and military communications

products, which was attributable to greater demand for secure communications from the DoD and U.S. Government intelligence agencies. Additionally, the increase in STE volume of $41.6 million was partially related to lower volume in the 2001 First Half arising from software development enhancements on STE made in 2001 which caused production and delivery delays in 2001.

Operating income increased by $35.0 million to $46.1 million in the 2002 First Half from $11.1 million for the 2001 First Half, because of higher sales and operating margin. Operating margin improved by 4.1 percentage points to 10.6% in the 2002 First Half compared to 6.5% in the 2001 First Half. The impact of not amortizing goodwill to expense beginning on January 1, 2002 in accordance with SFAS No. 142 increased operating margin by 0.4 percentage points. Increased volume and cost improvements on STE accounted for 3.1 percentage points of the increase. A provision to increase the allowance for doubtful accounts by $3.0 million for certain commercial customers decreased operating margin by 0.7 percentage points. The remaining increase in operating margins was principally attributable to margins from the ISTRS and ASC acquired businesses, which were higher than the Secure Communications & ISR segment operating margins for the 2001 First Half. Additionally, the Prime Wave business continued to generate losses in the 2002 Second Half because of low sales volume as well as higher marketing, selling and development expenses.

TRAINING, SIMULATION & SUPPORT SERVICES

Sales for the Training, Simulation & Support Services segment increased $123.3 million or 45.9% to $392.0 million for the 2002 First Half from $268.7 million for the 2001 First Half. The EER, SY and Analytics acquired businesses contributed $115.8 million of the increase in sales. The remaining net increase of $7.5 million was principally attributable to volume increases at our training and simulation business attributable to new contracts competitively awarded during 2001, that were partially offset by lower sales on a ballistic missiles target services contract which is approaching its scheduled completion.

Operating income increased by $15.2 million to $43.8 million in the 2002 First Half from $28.6 million for the 2001 First Half, principally because of higher sales and operating margin. Operating margin increased by 0.6 percentage points to 11.2% in the 2002 First Half compared to 10.6% in the 2001 First Half. The impact of not amortizing goodwill to expense beginning on January 1, 2002 in accordance with SFAS No. 142 increased operating margin by 0.8 percentage points. The remaining decrease in operating margin of 0.2 percentage points was principally attributable to slightly lower margins from the acquired businesses, as well as lower margins on training services in the current period compared to the prior period as a result of profit improvements on certain contracts during 2001.

AVIATION PRODUCTS & AIRCRAFT MODERNIZATION

Sales for the Aviation Products & Aircraft Modernization segment increased $179.4 million or 136.5% to $310.8 million for the 2002 First Half from $131.4 million for the 2001 First Half. The IS-AMM and Spar acquired businesses contributed $201.7 million to sales. The remaining decline in sales of $22.3 million was principally attributable to lower volume of $28.7 million on TCAS and aviation recorders used primarily for commercial applications, that were partially offset by an increase in volume for displays used in military applications. The decline in sales of commercial aviation products was due to reduced demand and customer-deferred delivery schedules stemming from the continued downturn in the commercial aircraft industry that began in 2001.

Operating income increased by $2.1 million to $49.7 million for the 2002 First Half from $47.6 million for the 2001 First Half, because of higher sales, which were largely offset by lower operating margins. Operating margin declined by 20.2 percentage points to 16.0% for the 2002 First Half from 36.2% for the 2001 First Half. The impact of not amortizing goodwill to expense beginning on January 1, 2002 in accordance with SFAS No. 142 increased operating margin by 1.3 percentage points. Lower volumes on TCAS and aviation recorders which generated lower gross margin contributions, as well as increased development expenses for a terrain awareness warning system and

a commercial displays product-line which are planned to be introduced later this year reduced operating margin by 7.6 percentage points. The remaining decrease in operating margins of 13.9 percentage points was principally attributable to margins from the IS-AMM and Spar acquired businesses, which were lower than the Aviation Products & Aircraft Modernization segment operating margins for the 2001 First Half.

SPECIALIZED PRODUCTS

Sales for the Specialized Products segment increased $61.8 million or 13.7% to $513.6 million for the 2002 First Half from $451.8 million for the 2001 First Half. The increase was principally related to the acquisitions of KDI, BT Fuze and Detection Systems, which accounted for $70.3 million in sales and higher volume of $14.8 million for guidance products and $15.5 million for explosive detection systems. This increase was partially offset by a decrease in sales that was principally attributable to lower volume of (1) $18.4 million on naval power equipment arising from lower shipments caused by production capacity diverted to fixing quality control problems, (2) $4.4 million for acoustic undersea warfare products arising from the timing of shipments, and (3) $16.0 million on telemetry and space products and microwave components arising from continued softness and declining demand in the space, broadband and wireless commercial communications markets.

Operating income increased by $9.3 million to $29.4 million in the 2002 First Half from $20.1 million for the 2001 First Half, because of higher sales and operating margin. Operating margin improved by 1.2 percentage points to 5.7% in the 2002 First Half compared to 4.5% in the 2001 First Half. The impact of not amortizing goodwill to expense beginning on January 1, 2002 in accordance with SFAS No. 142 increased operating margin by 2.3 percentage points. Higher margins from the KDI and BT Fuze acquired businesses related to new contracts entering production caused an increase in operating margin of 1.6 percentage points. A loss of $3.0 million recorded in June 2002 for the settlement of certain litigations assumed as part of the acquisition of Aydin caused a decline in operating margin of 0.6 percentage points. The remaining decline was principally attributable to lower shipments and rework efforts for naval power equipment.

YEAR ENDED DECEMBER 31, 2001 COMPARED WITH YEAR ENDED DECEMBER 31, 2000

The tables below provide our selected statement of operations data for the years ended December 31, 2001 and 2000.

SEGMENT OPERATING DATA

	YEAR ENDED DECEMBER 31,	
	2001	2000
	(in millions)	
Sales(1):		
Secure Communications & ISR	$ 450.5	$ 393.0
Training, Simulation & Support Services	596.8	283.4
Aviation Products & Aircraft Modernization	263.3	209.1
Specialized Products	1,036.8	1,024.6
Total	$ 2,347.4	$ 1,910.1
Operating income:		
Secure Communications & ISR	$ 32.0	$ 54.1
Training, Simulation & Support Services	65.7	23.5
Aviation Products & Aircraft Modernization	85.6	66.9
Specialized Products	92.0	78.2
Total	$ 275.3	$ 222.7

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(1) Sales are after intersegment eliminations. See Note 16 to the consolidated financial statements.

Sales increased $437.3 million to $2,347.4 million in 2001 compared with 2000. Sales to the U.S. Government, foreign governments and other customers that are made pursuant to written contractual arrangements or "contracts" for products and or services according to the specifications of the customer are within the scope of SOP 81-1 and are presented on the statement of operations under the caption "Contracts, primarily long-term U.S. Government." Sales from "Contracts, primarily long-term U.S. Government", increased $367.2 million to $1,903.7 million in 2001 from $1,536.5 million in 2000. The MPRI, Coleman, KDI, and EER acquisitions contributed $335.6 million of the sales increase in 2001. The remaining sales increase in 2001 was primarily attributable to volume increases of (1) $66.0 million on secure telephone equipment and secure data links, (2) $21.2 million on training devices and services, (3) $16.2 million on acoustic undersea warfare products and (4) $4.4 million on airport security systems. These sales increases were partially offset by declines of $56.7 million on naval power equipment arising from lower shipments caused by production quality control problems and customer-directed reductions in delivery requirements, and volume declines of $19.5 million primarily on telemetry and space products related to the continued decline in the telemetry, space and broadband markets. Sales arrangements that are not within the scope of SOP 81-1 are recognized in accordance with the SEC's SAB No. 101 and are presented on the statement of operations under the caption "Commercial, primarily products." Sales from "Commercial, primarily products", increased $70.1 million to $443.7 million in 2001 from $373.6 million in 2000. The increase in 2001 was primarily attributable to volume increases of (1) $53.1 million on aviation products, (2) $20.8 million in microwave components and (3) $13.5 million from fixed wireless access products. These sales increases were partially offset by declines $17.3 million primarily on telemetry and space products related to the continued decline in the commercial telemetry, space and broadband communications markets.

The total increase in costs and expenses of $384.7 million to $2,072.1 million in 2001 from $1,687.4 million in 2000 is consistent with the increases in sales. In 2001, costs and expenses were $1,674.4 million for "Contracts, primarily long-term U.S. Government" and $397.7 million for "Commercial, primarily products."

The liabilities and expenses for our pension plans are based on several actuarial assumptions including discount rates and expected returns on plan assets. Current market conditions including changes in interest rates and actual returns on plan assets are considered when selecting these assumptions. During 2001, these assumptions were not realized, which when combined with previous experience resulted in an aggregate unrecognized actuarial loss of $69.7 million at December 31, 2001. This actuarial loss combined with the reduction in the discount rate and the decline in the pension assets (before transfers of assets from acquisitions) is expected to increase our pension expense, which is included in our cost and expenses, by about $14.0 million for 2002 before the impact from the acquisition of AIS. Future actuarial gains would reduce or eliminate this unrecognized actuarial loss and future actuarial losses would increase it.

Operating income increased because of higher sales by $52.6 million to $275.3 million in 2001 compared with 2000. Operating income as a percentage of sales ("operating margin") remained unchanged at 11.7%. Operating margins improved at our Training, Simulation & Support Services segment, our Aviation Products & Aircraft Modernization segment and our Specialized Products segment. These margin improvements were offset by a margin decline at our Secure Communications & ISR segment. The change in operating margin for each of our segments is discussed below.

Interest expense decreased $6.6 million to $86.4 million in 2001 because of lower interest rates, changes in the components and levels of our debt, and savings of $4.1 million from the interest rate swap agreements we entered into in July 2001 and November 2001. The interest rate swap agreements exchange the fixed interest rate of 8% on our $200.0 million Senior Subordinated Notes due 2008 and the fixed interest rate of 81/2% on our $180.0 million Senior Subordinated Notes due 2008 to variable interest rates determined using the six month LIBOR rate. See "--Liquidity and Capital Resources."

Interest and other income decreased $2.6 million to $1.8 million. Interest and other income for 2001 includes a net pre-tax gain of $0.6 million ($0.01 per diluted share), consisting of an after-tax gain

of $4.3 million from the sale of a 30% interest in ACSS to Thales Avionics and an after-tax charge of $3.9 million to write-down the carrying amount of an investment in common stock of a telecommunications company because the decline of its value was determined to be other than temporary. Also included in interest and other income for 2001 is a pre-tax charge of $0.5 million to account for the increase, in accordance with the Financial Accounting Standards Board's ("FASB") SFAS No. 133, Accounting for Derivative Instruments and Hedging Activities, in the fair value assigned to the embedded derivatives in the $420.0 million 4% Senior Subordinated Convertible Contingent Debt Securities due 2011 ("CODES"), L-3 Communications Holdings sold in the fourth quarter of 2001 (See "--Liquidity and Capital Resources"), and a pre-tax loss of $0.8 million from an equity method investment. Interest and other income for 2000 includes a net pre-tax gain of $2.5 million ($0.02 per diluted share), consisting of an after-tax gain of $9.2 million from the sale of our interests in certain businesses and an after-tax charge of $7.6 million on the write-down in the carrying amount of an investment in a telecommunications venture that is no longer a going concern, the carrying amount of an investment in a telecommunications equipment provider that was determined to be permanently impaired and a related intangible asset. Excluding these net gains from both 2001 and 2000, diluted EPS increased 25.9% to $1.46 in 2001 from $1.16 in 2000.

The income tax provision for 2001 is based on an effective income tax rate for 2001 of 38.0% which declined slightly from the effective tax rate of 38.3% for 2000.

L-3 Communications Holdings' EPS grew 24.2% to $1.54 in 2001 and diluted EPS grew 24.6% to $1.47 in 2001. Diluted weighted-average common shares outstanding increased 22.2% in 2001, primarily because of the sale of common stock in May 2001, and the dilutive effect of the Convertible Notes (as defined below) sold by L-3 Communications Holdings in the fourth quarter of 2000. See "--Liquidity and Capital Resources."

SECURE COMMUNICATIONS & ISR

Sales within our Secure Communications & ISR segment increased $57.5 million or 14.6% to $450.5 million in 2001 compared with 2000. The increase in sales was attributed to increased sales of $46.4 million from secure telephone equipment arising from an increase in demand for secure communications, and $13.6 million from Prime Wave fixed wireless access products related to a contract for a customer in Argentina. The remaining net decrease in sales was principally attributable to a decline in communication subsystems for the International Space Station partially offset by higher volume for secure data links.

Operating income decreased by $22.1 million to $32.0 million in 2001 from $54.1 million in 2000 because of lower operating margins that were partially offset by higher operating income from higher sales. Operating margin declined 6.7 percentage points from 13.8% in 2000 to 7.1% in 2001. Negative contract margins and increased SG&A and development expenditures and bad debt provisions associated with our Prime Wave business reduced operating margin by 3.7 percentage points. Volume declines and cost overruns related to design and manufacturing problems on certain signal collection and processing equipment reduced operating margin by 1.7 percentage points. The remaining decline in operating margin was principally attributable to lower volumes on certain military communication systems programs caused by contract deliveries that were completed or approaching completion in 2001. The declines were partially offset by higher operating margins on secure telephone equipment attributable to increased volumes and cost improvements.

TRAINING, SIMULATION & SUPPORT SERVICES

Sales within our Training, Simulation & Support Services segment increased $313.4 million or 110.6% to $596.8 million in 2001 compared with 2000. The Coleman, MPRI, and EER acquisitions contributed $277.0 million of the increase in sales. The remaining increase in sales was attributable to various training, simulation and communications software support services.

Operating income increased by $42.2 million to $65.7 million in 2001 because of higher sales and operating margins. Operating margin increased 2.7 percentage points from 8.3% in 2000 to 11.0% in

2001. Volume increases and cost improvements from the Link Training Services business increased operating margin by 1.6 percentage points. The remaining increase was principally attributable to higher margins from acquired businesses.

AVIATION PRODUCTS & AIRCRAFT MODERNIZATION

Sales within our Aviation Products & Aircraft Modernization segment increased $54.2 million or 25.9% to $263.3 million in 2001 compared with 2000. Volume increased $44.9 million on TCAS products and was attributable to increased customer demand and the timing of the TCAS acquisition completed in April 2000. Volume also increased by $8.2 million for aviation recorders because of commercial customer retrofit deliveries. The remaining increase was primarily attributable to the Spar Aerospace business acquired in November 2001 offset by volume declines of $8.7 million for displays sold to military customers related to the timing of contractual shipments. We expect sales of aviation products to decline by approximately 20% in 2002 from 2001 because of the downturn in the commercial aircraft industry that began this year.

Operating income increased by $18.7 million to $85.6 million in 2001 from $66.9 million in 2000 primarily because of higher sales. Operating margin increased 0.5 percentage points from 32.0% in 2000 to 32.5% in 2001. Operating margin increased by 5.2 percentage points because of higher volume of TCAS products with higher gross margin contributions. Lower margins on display products related to volume declines reduced operating margin by 3.3 percentage points. Lower margins from the Spar Aerospace acquired business, which we expected, caused the remaining change in the operating margin.

SPECIALIZED PRODUCTS

Sales within our Specialized Products segment increased $12.2 million or 1.2% to $1,036.8 million in 2001 compared with 2000. The increase in sales was principally attributable to the KDI acquired business and increases in volume for microwave components and acoustic undersea warfare products, partially offset by decreases in sales of telemetry and space products and naval power equipment. We expect sales of our telemetry and space products for 2002 to remain essentially unchanged as compared to 2001, due to continued softness in the space and broadband commercial communications markets.

Operating income increased by $13.8 million in 2001 to $92.0 million because of higher operating margin. Operating margin increased 1.3 percentage points to 8.9% in 2001 from 7.6% in 2000. Reductions in contract costs related to favorable performance on the AVCATT contract, arising from engineering design changes, material sourcing changes and unit price reductions on several parts in the contract bill of materials that occurred during 2001 increased operating margin by 1.3 percentage points. Cost improvements from increased volume and product sales mix on microwave components resulted in an increase of 1.0 percentage points. Higher margins from fuzing products resulted in an increase of 0.7 percentage points. The remaining increase in operating margin was primarily attributable to overhead cost reductions and other cost improvements for training devices, volume increases for explosive detection systems and reduced losses on voice and data communication products. These improvements in operating margin were partially offset by continued unfavorable performance on certain contracts and lower production levels for naval power equipment which caused a decrease of 3.2 percentage points in operating margin.

YEAR ENDED DECEMBER 31, 2000 COMPARED WITH YEAR ENDED DECEMBER 31, 1999

The tables below provide our selected statement of operations data for the years ended December 31, 2000 and 1999.

SEGMENT OPERATING DATA

	YEAR ENDED DECEMBER 31,	
	2000	1999
	(in millions)	
Sales(1):		
Secure Communications & ISR	$ 393.0	$ 435.3
Training, Simulation & Support Services	283.4	91.7
Aviation Products & Aircraft Modernization	209.1	119.4
Specialized Products	1,024.6	759.1
Total	$ 1,910.1	$ 1,405.5
Operating income:		
Secure Communications & ISR	$ 54.1	$ 37.7
Training, Simulation & Support Services	23.5	6.8
Aviation Products & Aircraft Modernization	66.9	27.8
Specialized Products	78.2	78.2
Total	$ 222.7	$ 150.5

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(1) Sales are after intersegment eliminations. See Note 16 to the consolidated financial statements.

Sales increased $504.6 million to $1,910.1 million in 2000 compared with 1999. Our sales from "Contracts, primarily long-term U.S. Government", increased $403.8 million to $1,536.5 million in 2000 from $1,132.7 million in 1999. The TDTS, MPRI and Space and Navigation Systems acquisitions contributed $367.8 million of the increase in sales. The remaining increase in sales during 2000 was principally attributable to volume increases of (1) $25.1 million on display products, (2) $17.7 million on communications software support services, (3) $15.2 million on acoustic undersea warfare products, (4) $6.6 million on airport security systems, and (5) $9.4 million on secure telephone equipment. These sales increases were partially offset by declines on certain secure date links programs and $17.1 million in sales on naval power equipment. Sales from "Commercial, primarily products", increased $100.8 million to $373.6 million in 2000 from $272.8 million in 1999. The TCAS acquired business contributed $61.3 million of the increase in sales. The remaining increase in sales during 2000 was principally attributable to volume increases on microwave components, aviation recorders and fixed wireless access products.

The total increase in costs and expenses of $432.4 million to $1,687.4 million in 2000 from $1,255.0 million in 1999 is consistent with the increases in sales. In 2000, costs and expenses were $1,343.4 million for "Contracts, primarily long-term U.S. Government" and $344.0 million for "Commercial, primarily products."

Operating income increased $72.2 million to $222.7 million in 2000. Operating margin improved to 11.7% from 10.7%, which was attributable to improvements in our Secure Communications & ISR segment, our Training, Simulation & Support Services segment and our Aviation Products & Aircraft Modernization segment, which was partially offset by a decline in our Specialized Products segment, the details of which are described below.

Interest expense increased $32.4 million to $93.0 million in 2000 principally because of the higher average outstanding debt during 2000. Interest and other income decreased $1.1 million to $4.4 million. Interest and other income for 2000 includes a net pre-tax gain of $2.5 million ($0.02 per diluted share), consisting of an after-tax gain of $9.2 million from the sale of our interests in certain businesses and an after-tax charge of $7.6 million on the write-down in the carrying amount of an investment in a telecommunications venture that is no longer a going concern, the carrying amount of an investment in a telecommunications equipment provider that was determined to be permanently impaired and a related intangible asset. Excluding the net gain, L-3 Communications Holdings' diluted EPS was $1.16, an increase of 31.8% in 2000 compared with 1999.

The income tax provision for 2000 is based on an effective income tax rate for 2000 of 38.3% which declined slightly from the effective tax rate of 38.5% for 1999.

L-3 Communications Holdings' basic EPS grew 36.3% to $1.24 in 2000 and diluted EPS grew 34.1% to $1.18 in 2000. Basic weighted-average common shares outstanding increased 3.9% in 2000, and diluted weighted-average common shares outstanding increased 4.3% in 2000, primarily because of common stock issued by L-3 Communications Holdings for exercises of employee stock options.

SECURE COMMUNICATIONS & ISR

Sales within our Secure Communications & ISR segment decreased $42.3 million to $393.0 million in 2000 compared with 1999. We attribute the decrease in sales principally to less support required on the U-2 and Guardrail programs, as well as completion of the primary development contract on the communications subsystems for the International Space Station. These declines in sales were partially offset by increased sales of secure telephone equipment, secure data links and Prime Wave fixed access wireless products.

Operating income increased by $16.4 million to $54.1 million because of higher operating margin. Operating margin improved 5.1 percentage points from 8.7% in 1999 to 13.8% in 2000. Cost improvements on secure data links and military communication systems accounted for 4.3 percentage points of the increase. Our divestiture in March 2000 of the Network Security Systems business accounted for another 1.9 percentage points of the increase in operating margin. Operating margin decreased by 1.5 percentage points because of higher marketing and development costs for our Prime Wave business. The remaining net operating margin increase was attributable to our other products.

TRAINING, SIMULATION & SUPPORT SERVICES

Sales within our Training, Simulation & Support Services segment increased $191.7 million or 209.1% to $283.4 million in 2000 compared with 1999. The Training Services and MPRI acquisitions contributed $159.6 million of the increase in sales. The remaining increase of $32.1 million in sales during 2000 was principally attributable to increased sales of communication software support services.

Operating income increased by $16.7 million to $23.5 million in 2000 because of higher sales and operating margin. Operating margin increased 0.9 percentage points from 7.4% in 1999 to 8.3% in 2000. The increase in operating margin was principally attributable to higher margins from the acquired businesses.

AVIATION PRODUCTS & AIRCRAFT MODERNIZATION

Sales within our Aviation Products & Aircraft Modernization segment increased $89.7 million or 75.1% to $209.1 million in 2000 compared with 1999. The TCAS acquisition contributed $61.3 million of the increase in sales. The remaining net increase of $28.4 million in sales during 2000 was principally attributable to increased sales of aviation recorders and display products.

Operating income increased by $39.1 million to $66.9 million in 2001 because of higher sales and operating margin. Operating margin increased 8.7 percentage points from 23.3% in 1999 to 32.0% in 2000. Higher operating margin from the TCAS acquired business accounted for 3.7 percentage points of the increase and the remaining increase of 5.0 percentage points was principally attributable to increased volume and cost improvements in aviation recorders and display products.

SPECIALIZED PRODUCTS

Sales within our Specialized Products segment increased $265.5 million or 35.0% to $1,024.6 million in 2000 compared with 1999. The Training Devices and Space & Navigation Systems acquisitions contributed $208.2 million of the increase in sales. The remaining net increase of $57.3 million in sales during 2000 was principally attributable to volume increases on acoustic undersea warfare products and microwave components. These increases in sales were partially offset by decreased shipments of naval power equipment in 2000 compared with 1999 principally due to the slippage of certain sales into 2001 which were previously anticipated to occur in 2000. Sales of our telemetry products were essentially unchanged in 2000 compared with 1999 due to continued softness in the space and broadband commercial communications markets.

Operating income remained unchanged at $78.2 million, despite higher sales due to lower operating margin. Operating margin declined 2.7 percentage points to 7.6% in 2000 from 10.3% in 1999. Lower shipments on our naval power equipment resulted in a 2.7 percentage point decrease in operating margin. Reduced volumes and a change in the sales mix to lower margin products in telemetry and space products and microwave components resulted in a 2.2 percentage point decrease. These decreases were partially offset by higher margins at our acquired businesses, which resulted in a 2.0 percentage point increase, and by increased volume and cost improvements in acoustic undersea warfare products, which resulted in a 1.1 percentage point increase. The remaining net operating margin decrease was attributable to our other businesses.

LIQUIDITY AND CAPITAL RESOURCES

At December 31, 2001, the senior credit facilities were comprised of a $400.0 million five-year revolving credit facility maturing on May 15, 2006 and a $200.0 million 364-day revolving facility maturing on May 15, 2002 under which at the maturity date we may (1) at our request and subject to approval of the lenders, extend the maturity date, in whole or in part, for an additional 364-day period, or (2) at our election, convert the outstanding principal amount thereunder into a term loan which would be repayable in a single payment two years from the conversion date or, if earlier, May 15, 2006. On February 26, 2002, the lenders approved a $150.0 million increase in the amount of our senior credit facilities. The five-year revolving credit facility increased by $100.0 million to $500.0 million. The 364-day revolving credit facility increased by $50.0 million to $250.0 million. Additionally, the maturity date of the 364-day revolving credit facility was extended to February 25, 2003.

At June 30, 2002, available borrowings under our senior credit facilities were $577.7 million after reductions for outstanding letters of credit of $172.3 million. There were no outstanding borrowings at June 30, 2002.

The senior credit facilities, Senior Subordinated Notes (as defined below), Convertible Notes and CODES agreements contain financial covenants and other restrictive covenants which remain in effect so long as any amount is owed or any commitment to lend exists thereunder. We and L-3 Holdings, as applicable, are in compliance with those covenants in all material respects. The borrowings under the senior credit facilities are unconditionally guaranteed by L-3 Holdings and by substantially all of the material domestic subsidiaries of L-3 Communications on a senior basis. The payments of principal and premium, if any, and interest on the Senior Subordinated Notes are unconditionally guaranteed, on an unsecured senior subordinated basis, jointly and severally, by all of L-3 Communications' direct and indirect restricted subsidiaries other than its foreign subsidiaries. The guarantees of the Senior Subordinated Notes are junior to the guarantees of the senior credit facilities and rank pari passu with the guarantees of the Convertible Notes and the CODES. The Convertible Notes and CODES are unconditionally guaranteed, on an unsecured senior subordinated basis, jointly and severally, by L-3 Communications and all of its direct and indirect restricted subsidiaries other than its foreign subsidiaries. These guarantees rank junior to the guarantees of the senior credit facilities and rank pari passu with each other and the guarantees of the Senior Subordinated Notes. See "Description of Other Indebtedness."

Based upon our current level of operations, we believe that our cash from operating activities, together with available borrowings under the senior credit facilities, will be adequate to meet our anticipated requirements for working capital, capital expenditures, commitments, research and development expenditures, contingent purchase prices, program and other discretionary investments, and interest payments for the foreseeable future. There can be no assurance, however, that our business will continue to generate cash flow at current levels, or that currently anticipated improvements will be achieved. If we are unable to generate sufficient cash flow from operations to service our debt, we may be required to sell assets, reduce capital expenditures, refinance all or a portion of our existing debt or obtain additional financing. Our ability to make scheduled principal payments or to pay interest on or to refinance our indebtedness depends on our future performance and financial results, which, to a certain extent, are subject to general conditions in or affecting the defense industry and to general economic, political, financial, competitive, legislative and regulatory

factors beyond our control. There can be no assurance that sufficient funds will be available to enable us to service our indebtedness, or make necessary capital expenditures and to make discretionary investments. See "Risk Factors."

BALANCE SHEET

Contracts in process increased $502.4 million from December 31, 2001 to June 30, 2002. The increase included $398.4 million related to acquired businesses and $104.0 million principally from:

- increases of $54.9 million in billed receivables due to higher sales from aircraft modifications, secure data links, displays, explosive detection systems and ocean products;

- increases of $24.9 million in inventoried contract costs, primarily for explosive detection systems for the TSA contract, secure data links, ocean products, and telemetry products;

- increases of $22.9 million in unbilled contract receivables, net of unliquidated progress payments, due to increases on training devices and motion simulators, fuzing products and secure communications products partially offset by higher billings for aircraft modifications, display systems and training, simulation and support services; and

- increases of $1.3 million in inventories at lower of cost or market primarily for aviation products.

Included in contracts in process at June 30, 2002, are net billed receivables of $12.8 million and net inventories of $28.1 million related to our Prime Wave business. At December 31, 2001, we had $15.8 million of net billed receivables and $30.2 million of net inventories related to our Prime Wave business.

The increase in property, plant and equipment (PP&E) during the 2002 First Half was principally related to the acquisition of IS. The percentage of depreciation expense to average gross PP&E declined to 6.5% for the 2002 First Half from 7.8% for the 2001 First Half. The decline was attributable to (1) the impact from current acquisitions, for which the balance sheet reflects all of the PP&E of the acquired businesses, but the statement of operations only includes depreciation expense from the date of acquisition rather than for the entire period, and (2) fully depreciated PP&E in certain of our operations which are still being used despite having carrying values of zero (after accumulated depreciation) and which are not derecognized from the balance sheet until they are retired or otherwise disposed.

Goodwill increased $766.5 million to $2,474.2 million at June 30, 2002 from $1,707.7 million at December 31, 2001. The increase was principally due to the IS and Detection Systems acquisitions as well as net purchase price increases based on the closing date balance sheets for acquisitions completed prior to January 1, 2002.

The increases in accounts payable, accrued employment costs, accrued expenses and pension and postretirement liabilities were primarily due to the timing of payments as well as the acquisitions of IS and Detection Systems. The decrease in other current liabilities is primarily attributable to the payment in January 2002 of $43.6 million for the remaining outstanding common stock of Spar that was not tendered to L-3 as of December 31, 2001.

STATEMENT OF CASH FLOWS

SIX MONTHS ENDED JUNE 30, 2002 COMPARED WITH SIX MONTHS ENDED JUNE 30, 2001

The following table provides cash flow data:

	SIX MONTHS ENDED JUNE 30,	
	2002	2001
	(in millions)	
Net cash from operating activities	$ 112.8	$ 32.7
Net cash used in investing activities	(1,338.8)	(164.2)
Net cash from financing activities	1,331.1	167.2
Net increase in cash	$ 105.1	$ 35.7

OPERATING ACTIVITIES

During the 2002 First Half, we generated $112.8 million of cash from our operating activities, an increase of $80.1 million over the $32.7 million generated during the 2001 First Half. Earnings adjusted for non-cash items and deferred income taxes increased $40.0 million to $150.1 million in the 2002 First Half from $110.1 million in the 2001 First Half. Deferred income taxes for the 2002 First Half compared with the 2001 First Half increased primarily because of larger estimated tax deductions arising from our recently completed acquisitions, including our acquisition of IS. We expect our deferred income taxes to be higher in 2002 than they were in 2001. During the 2002 First Half, our working capital and operating assets and liabilities increased $37.3 million compared with an increase of $77.4 million in the 2001 First Half. Our cash flows from operating activities during the 2002 First Half reflect increases in inventories, billed receivables and unbilled contract receivables as described above.

The use of cash arising from the decrease in customer advances was a result of deliveries on contracts for acoustic undersea warfare products. Customer advances are generally used to finance contracts with foreign customers, and the timing of their receipts and liquidations, which are based on the timing of contract awards specific contract terms, has no effect on reported revenues and profits.

The change in other current liabilities was due to uses of cash relating to performance on certain contracts in process, for which estimated costs exceed the estimated billings. The uses of cash declined in the 2002 First Half compared to the 2001 First Half.

The timing of payments to vendors, as well as the timing of payments to employees for salaries and wages, was a source of cash reflected in the change in accounts payable and accrued expenses.

The source of cash from the change in pension and postretirement benefits was due to pension and postretirement expenses for the 2002 First Half exceeding related cash contributions and funding. We expect to contribute $8.0 million to our pension plan for the remainder of 2002.

The source of cash generated from the change in other liabilities was primarily attributable to the long-term portion of the deferred gain recorded in connection with unwinding the interest rate swap agreements on $200.0 million of 8% Senior Subordinated Notes due 2008. See Financing Activities below.

INVESTING ACTIVITIES

During the 2002 First Half, we invested $1,316.1 million to acquire businesses, including (1) our acquisitions of IS and Detection Systems, (2) the payment of $43.6 million for the remaining outstanding common stock of Spar which were not tendered to L-3 at December 31, 2001 and (3) acquisition costs and net purchase price increases based on the closing date balance sheets for certain acquisitions completed prior to January 1, 2002. During the 2001 First Half we invested $211.0 million to acquire businesses. The IS acquisition was financed using approximately $229.0 million of cash on hand, borrowings under our senior credit facilities of $420.0 million and a $500.0 million senior subordinated bridge loan. We used a portion of the proceeds from the sale in

June 2002 of $750.0 million of senior subordinated notes and 14.0 million shares of common stock to repay borrowings under the senior credit facilities and the senior subordinated interim loan as discussed below in Financing Activities.

We make capital expenditures for the improvement of manufacturing facilities and equipment. We expect that capital expenditures for the full year of 2002 will be between $75.0 million and $80.0 million.

FINANCING ACTIVITIES

In June 2002, L-3 Communications sold $750.0 million of 7 5/8% Senior Subordinated Notes due June 15, 2012 (the "June 2002 Notes") with interest payable semi-annually on June 15 and December 15 of each year commencing December 15, 2002. The net proceeds from that offering amounted to $732.8 million.

On June 28, 2002, L-3 Communications Holdings sold 14.0 million shares of its common stock in a public offering for $56.60 per share. Upon closing, L-3 Communications Holdings received net proceeds of $768.4 million after deducting discounts, commissions and estimated expenses.

The net proceeds from these offerings were used to (1) repay $500.0 million borrowed on March 8, 2002, under our senior subordinated interim loan facility, (2) repay the indebtedness outstanding under our senior credit facilities, (3) repurchase and redeem the 10 3/8% Senior Subordinated Notes due 2007 and (4) increase cash and cash equivalents.

On June 6, 2002 we commenced a tender offer to purchase any and all of our $225.0 million aggregate principal amount of 10 3/8% Senior Subordinated Notes due 2007. The tender offer expired on July 3, 2002. On June 25, 2002 we sent a notice of redemption for all of our $225.0 million aggregate principal amount of 10 3/8% Senior Subordinated Notes due 2007 that remained outstanding after the expiration of the tender offer. Upon sending the notice, the remaining notes became due and payable at the redemption price as of July 25, 2002. At June 30, 2002, we had purchased for cash $176.9 million of these notes plus premiums, fees and other transaction costs of $9.5 million and accrued interest. The remaining principal amount of these notes of $48.1 million was purchased and redeemed in July 2002 plus premiums, fees and other transaction costs of $3.0 million and accrued interest. In connection with the extinguishment of these notes, we recorded a pre-tax extraordinary loss of $16.2 million ($9.9 million after-tax), including premiums, fees and other transaction costs of $12.5 million and $3.7 million to write-off the remaining balance of debt issue costs relating to these notes.

In June 2002, we unwound the interest rate swap agreements on $200.0 million of our 8% Senior Subordinated Notes due 2008 and received cash of $8.7 million. We recorded a reduction in interest expense for the six months ended June 30, 2002 of $3.4 million, which represented the value of the interest savings that was earned prior to the unwinding of these swap agreements. The remaining $5.2 million was recorded as a deferred gain and will be amortized as a reduction of interest expense over the remaining life of the $200.0 million of 8% Senior Subordinated Notes due 2008 at an amount of $0.2 million per quarter, or $0.9 million annually.

In June 2002, we entered into interest rate swap agreements on $200.0 million of our 7 5/8% Senior Subordinated Notes due 2012. These swap agreements exchange the fixed interest rate for a variable interest rate on $200.0 million of the $750.0 million principal amount outstanding. Under these swap agreements, we will pay or receive the difference between the fixed interest rate of 7 5/8% on the senior subordinated notes and a variable interest rate determined two business days prior to the beginning of the interest period equal to (1) the six month LIBOR rate, plus (2) an average of 215.25 basis points. The difference to be paid or received on these swap agreements as interest rates change is recorded as an adjustment to interest expense. The swap agreements are accounted for as fair value hedges.

For every basis point (0.01%) that the six month LIBOR interest rate is greater than 5.47%, we will incur an additional $20,000 of interest expense above the fixed coupon rate on $200.0 million of our 75/8% Senior Subordinated Notes due 2012 calculated on a per annum basis until maturity.

Conversely, for every basis point that the six month LIBOR interest rate is less than 5.47%, we will recognize $20,000 of interest income on $200.0 million of our 7 5/8% Senior Subordinated Notes due 2012 calculated on a per annum basis until maturity.

On April 23, 2002, L-3 Communications Holdings announced that its Board of Directors had authorized a two-for-one stock split on all shares of our common stock. The stock split entitled all shareholders of record at the close of business on May 6, 2002 to receive one additional share of our common stock for every share held on that date. The additional shares were distributed to shareholders in the form of a stock dividend on May 20, 2002. Upon completion of the stock spilt, we had approximately 80 million shares of common stock outstanding. Additionally, all of our historical as reported EPS data has been restated to give effect to the stock split.

YEAR ENDED DECEMBER 31, 2001 COMPARED WITH YEARS ENDED DECEMBER 31, 2000 AND 1999

The following table provides cash flow statement data:

	YEARS ENDED DECEMBER 31,		
	2001	2000	1999
	(in millions)		
Net cash from operating activities	$ 173.0	$ 113.8	$ 99.0
Net cash used in investing activities	(424.9)	(608.2)	(284.8)
Net cash from financing activities	580.3	484.3	202.4

OPERATING ACTIVITIES

During 2001, we generated $173.0 million of cash from our operating activities, an increase of $59.2 million from the $113.8 million generated during 2000. Earnings adjusted for non-cash items and deferred income taxes increased $83.2 million to $283.5 million in 2001 from $200.3 million in 2000. During 2001, our working capital and operating assets and liabilities increased $110.5 million compared with an increase of $86.5 million in 2000.

In 2001, we used cash for increases in inventories, receivables and negative operating margins related to our Prime Wave business and naval power equipment products, as well as for incurred contract costs in excess of billings for the continued effort on the AVCATT contract. These uses of cash were partially offset by a settlement of certain items related to a services agreement and lower income tax payments related to an increase in tax deductions for temporary differences between the tax basis and financial reporting amounts for inventoried costs, income recognition on contracts in process, and long-lived assets including goodwill and other intangibles. We expect the amount of our deferred income tax provision for 2002, excluding any additional income tax benefits arising from the acquisition of AIS, to be consistent with that for 2001.

During 2000, we generated $113.8 million of cash from our operating activities, an increase of $14.8 million from the $99.0 million generated during 1999. Earnings adjusted for non-cash items and deferred taxes increased $48.5 million to $200.3 million in 2000 from $151.8 million in 1999. During 2000, our working capital and operating assets and liabilities increased $86.5 million compared with an increase of $52.8 million in 1999. Our cash flows from operating activities during 2000 include uses of cash relating to performance on certain contracts in process including the AVCATT contract that were assumed in the TDTS acquisition for which the estimated costs exceed the estimated billings to complete these contracts.

INVESTING ACTIVITIES

In 2001, we invested $446.9 million to acquire businesses, compared with $599.6 million in 2000 and $272.2 million in 1999.

We make capital expenditures for the improvement of manufacturing facilities and equipment. We expect that our capital expenditures for the year ending December 31, 2002 will be between $75 million and $80 million, including Aircraft Integration Systems, compared with $48.1 million for

the year ended December 31, 2001. The anticipated increase is principally due to capital expenditures for our acquired businesses. Dispositions of property, plant and equipment for 2000 includes net proceeds of $13.3 million related to a facility located in Hauppauge, NY which we sold and leased back in December 2000.

On May 31, 2001, we sold a 30% interest in ACSS to Thales Avionics for $75.2 million in cash. In 2000, we sold our interests in two businesses for net cash proceeds of $19.6 million, which are included in other investing activities.

On January 14, 2002, we agreed to acquire AIS for $1.13 billion in cash plus acquisition costs. The acquisition was completed on March 8, 2002. The acquisition was financed using cash on hand, borrowings under our senior credit facilities and a $500 million senior subordinated interim loan.

FINANCING ACTIVITIES

DEBT. In the fourth quarter of 2001, L-3 Holdings sold $420.0 million of 4% Senior Subordinated Convertible Contingent Debt Securities due 2011 ("CODES"). The net proceeds from that offering amounted to approximately $407.5 million after underwriting discounts and commissions and other offering expenses. Interest is payable semi-annually on March 15 and September 15 of each year commencing March 15, 2002. The CODES are convertible into L-3 Holdings' common stock at a conversion price of $53.81 per share (7,804,878 shares) under any of the following circumstances: (1) during any Conversion Period (defined below) if the closing sales price of the common stock of L-3 Holdings is more than 120% of the conversion price ($64.58) for at least 20 trading days in the 30 consecutive trading-day period ending on the first day of the respective Conversion Period, (2) during the five business day period following any 10 consecutive trading-day period in which the average of the trading prices for the CODES was less than 105% of the conversion value, (3) if the credit ratings assigned to the CODES by either Moody's or Standard & Poor's are below certain specified ratings, (4) if they have been called for redemption by L-3 Holdings, or (5) upon the occurrence of certain specified corporate transactions. A Conversion Period is the period from and including the thirtieth trading day in a fiscal quarter to, but not including, the thirtieth trading day of the immediately following fiscal quarter. There are four Conversion Periods in each fiscal year. Additionally, holders of the CODES have a right to receive contingent interest payments, not to exceed a per annum rate of 0.5% of the outstanding principal amount of the CODES, which will be paid on the CODES during any six-month period following a six-month period in which the average trading price of the CODES is above 120% of the principal amount of the CODES. The contingent interest payment provision as well as the ability of the holders of the CODES to exercise the conversion features as a result of changes in the credit ratings assigned to the CODES have been accounted for as embedded derivatives.

In the fourth quarter of 2000, L-3 Holdings sold $300.0 million of 5 1/4% Convertible Senior Subordinated Notes due 2009 (the "Convertible Notes"). The net proceeds from that offering amounted to $290.5 million after underwriting discounts and commissions and other offering expenses, and were used to repay revolver borrowings outstanding under our senior credit facilities. The Convertible Notes may be converted at any time into L-3 Holdings' common stock at a conversion price of $40.75 per share (7,361,964 shares).

In April 1997, May 1998 and December 1998, L-3 Communications sold $225.0 million of 10 3/8% Senior Subordinated Notes due 2007, $180.0 million of 8 1/2% Senior Subordinated Notes due 2008, and $200.0 million of 8% Senior Subordinated Notes due 2008 (collectively, the "Senior Subordinated Notes"), whose aggregate net proceeds amounted to $576.0 million after underwriting discounts and commissions and other offering expenses. We used the net proceeds of the offering of the outstanding notes to repurchase and redeem all of the outstanding 10 3/8% Senior Subordinated Notes due 2007. See "Use of Proceeds."

In November 2001, we entered into interest rate swap agreements on our $180.0 million of 8 1/2% Senior Subordinated Notes due 2008. These swap agreements exchange our fixed interest rate for a variable interest rate on the entire principal amount. Under these swap agreements, we will pay or

receive the difference between the fixed interest rate of 8 1/2% on the senior subordinated notes and a variable interest rate, set in arrears, determined two business days prior to the interest payment date of the related senior subordinated notes equal to (1) the six month LIBOR rate plus (2) an average of 350.8 basis points. In July 2001, we entered into interest rate swap agreements on our $200.0 million of 8% Senior Subordinated Notes due 2008. These swap agreements exchange our fixed interest rate for a variable interest rate on the entire principal amount. Under these swap agreements, we will pay or receive the difference between the fixed interest rate of 8% on the senior subordinated notes and a variable interest rate, set in arrears, determined two business days prior to the interest payment date of the related senior subordinated notes equal to (1) the six month LIBOR rate plus (2) an average of 192 basis points. The difference to be paid or received on these swap agreements is recorded as an adjustment to interest expense. The swap agreements are accounted for as fair value hedges.

EARNINGS BEFORE INTEREST, TAXES, DEPRECIATION AND AMORTIZATION (EBITDA)

Our EBITDA was $362.3 million for 2001, $297.0 million for 2000 and $204.2 million for 1999. We define EBITDA as operating income plus depreciation expense and amortization expense. Other than our amount of debt and interest expense, EBITDA is the major component in the calculation of the debt ratio and interest coverage ratio which are part of the financial covenants for our debt. The debt ratio is defined as the ratio of consolidated total debt to consolidated EBITDA. The interest coverage ratio is equal to the ratio of consolidated EBITDA to consolidated cash interest expense. The higher our EBITDA is on a relative basis to our outstanding debt, the lower our debt ratio will be. A lower debt ratio indicates a higher borrowing capacity. Similarly, an increase in our EBITDA on a relative basis to consolidated cash interest expense, results in a higher interest coverage ratio, which indicates a greater capacity to service debt.

EBITDA is presented as additional information because we believe it to be a useful indicator of an entity's debt capacity and its ability to service its debt. EBITDA is not a substitute for operating income, net income or cash flows from operating activities as determined in accordance with generally accepted accounting principles in the United States of America. EBITDA is not a complete net cash flow measure because EBITDA is a financial performance measurement that does not include reductions for cash payments for an entity's obligation to service its debt, fund its working capital and capital expenditures and pay its income taxes. Rather, EBITDA is one potential indicator of an entity's ability to fund these cash requirements. EBITDA as we defined it may differ from similarly named measures used by other entities and, consequently could be misleading unless all entities calculate and define EBITDA in the same manner. EBITDA is also not a complete measure of an entity's profitability because it does not include costs and expenses for depreciation and amortization, interest and income taxes.

CONTRACTUAL OBLIGATIONS AND CONTINGENT COMMITMENTS

The tables below present our contractual obligations and contingent commitments as of December 31, 2001.

		YEARS ENDING DECEMBER 31,			
CONTRACTUAL OBLIGATIONS:	TOTAL	2002	2003	2004	2005 AND THEREAFTER
		(in millions)			
Principal amount of long-term debt	$ 1,325.0	$ --	$ --	$ --	$ 1,325.0
Non-cancelable operating leases	350.5	61.9	49.3	33.1	206.2
Capital leases	4.7	1.7	1.4	0.9	0.7
Total	$ 1,680.2	$ 63.6	$ 50.7	$ 34.0	$ 1,531.9

CONTINGENT COMMITMENTS:	TOTAL	YEARS ENDING DECEMBER 31, 2002	2003	2004	2005 AND THEREAFTER
		(in millions)			
Outstanding letters of credit under our senior credit facilities	$ 102.4	$ 86.5	$ 10.6	$ 3.6	$ 1.7
Other outstanding letters of credit	20.0	12.5	7.3	--	0.2
Construction agency agreement	43.5	43.5	--	--	--
Simulator systems operating leases	89.2	--	4.2	5.2	79.8
Guarantees of affiliate debt	1.0	1.0	--	--	--
Capital contributions for limited partnership investments	5.0	5.0	--	--	--
Total	$ 261.1	$ 148.5	$ 22.1	$ 8.8	$ 81.7

EQUITY. On May 2, 2001, L-3 Communications Holdings sold 9.2 million shares of its common stock in a public offering for $40.00 per share. In addition, as part of the transaction, other selling stockholders including affiliates of Lehman Brothers Inc. sold 4.7 million secondary shares. Upon closing, we received net proceeds of $353.6 million, which we used to repay borrowings outstanding under our senior credit facilities, pay for the KDI and EER acquisitions and to increase cash and cash equivalents.

On February 4, 1999, L-3 Communications Holdings sold 10.0 million shares of its common stock in a public offering for $21.00 per share which generated net proceeds of $201.6 million. In addition, as part of the same transaction, 13.0 million shares of L-3 Holdings common stock were sold by Lehman Brothers Capital Partners III, L.P. and its affiliates ("the Lehman Partnership") and Lockheed Martin in a secondary public offering. In October 1999, Lockheed Martin sold its remaining L-3 Holdings common stock. In December 1999, the Lehman Partnership distributed approximately 7.6 million shares of its shares of common stock of L-3 Holdings to its partners. On December 31, 2001, the Lehman Partnership owned approximately 4.4% of the outstanding common stock of L-3 Holdings.

DERIVATIVE FINANCIAL INSTRUMENTS

Included in our derivative financial instruments are interest rate swap agreements, caps, floors, foreign currency forward contracts and the embedded derivatives related to the issuance of the CODES. All of our derivative financial instruments that are sensitive to market risk are entered into for purposes other than trading.

EMBEDDED DERIVATIVES. The contingent interest payment and contingent conversion features of the CODES are embedded derivatives which were bifurcated from the CODES, and a portion of the net proceeds received from the CODES equal to their aggregate fair value of $2.5 million was ascribed to the embedded derivatives as required by SFAS No. 133. The subsequent changes in the fair values of the embedded derivatives are recorded in the statement of operations. Their fair values at June 30, 2002 were $3.2 million.

INTEREST RATE RISK. Our financial instruments that are sensitive to changes in interest rates include borrowings under the senior credit facilities and interest rate swap agreements, all of which are denominated in U.S. dollars. The interest rates on the Senior Subordinated Notes, Convertible Notes and CODES are fixed-rate and are not affected by changes in interest rates.

In 2001, we entered into interest rate swap agreements on $380.0 million of our senior subordinated notes to convert their fixed interest rates to variable rates and to take advantage of the current low interest rate environment. In 2002, we unwound $200.0 million of these interest rate swap agreements and entered into new swap agreements on $200.0 million of our senior subordinated notes. These swap agreements are described above. For every basis point (0.01%) that the six month LIBOR interest rate is greater than 4.99%, we will incur an additional $18,000 of interest expense above the fixed interest rate on $180.0 million of senior subordinated notes calculated on a per annum basis until maturity. For every basis point that the six month LIBOR interest rate is greater than 5.47%, we will

incur an additional $20,000 of interest expense above the fixed interest rate on $200.0 million of senior subordinated notes calculated on a per annum basis until maturity. Conversely, for every basis point that the six month LIBOR interest rate is less than 4.99%, we will recognize $18,000 of interest income on $180.0 million of senior subordinated notes calculated on a per annum basis until maturity. For every basis point that the six month LIBOR interest rate is less than 5.47%, we will recognize $20,000 of interest income on $200.0 million of senior subordinated notes calculated on a per annum basis until maturity. The six month LIBOR rate at June 30, 2002 was 1.96%.

We attempt to manage exposure to counterparty credit risk by entering into interest rate agreements only with major financial institutions that are expected to perform fully under the terms of such agreements. Cash payments between us and the counterparties are made at the end of each quarter on the caps and floors and on the interest payment dates of the senior subordinated notes on the interest rate swap agreements. Such payments are recorded as adjustments to interest expense. Additional data on our debt obligations, our applicable borrowing spreads included in the interest rates we pay on borrowings under the senior credit facilities and interest rate agreements are provided in "Description of Other Indebtedness" and Notes 7 and 8 to our consolidated financial statements.

The table below presents significant contract terms and fair values as of June 30, 2002 for our interest rate agreements.

	INTEREST RATE SWAP AGREEMENTS (in millions)	
Notional amount	$ 200.0	$ 180.0
Interest rate	7 5/8%	8 1/2%
Reference rate	6 month LIBOR	6 month LIBOR
Designated maturity	Semi-Annual	Semi-Annual
Expiration date	June 15, 2012	May 15, 2008
Fair value	$(--)	$(3.3)

FOREIGN CURRENCY EXCHANGE RISK. We conduct some of our operations outside the U.S. in functional currencies other than the U.S. dollar. Additionally, some of our U.S. operations have contracts with foreign customers denominated in foreign currencies. To mitigate the risk associated with certain of these contracts denominated in foreign currency we have entered into foreign currency forward contracts. At June 30, 2002, the notional value of foreign currency forward contracts was $7.3 million and the fair value of these contracts was $(0.3) million. We account for these contracts as cash flow hedges.

EQUITY PRICE RISK. Our investments in common equities are subject to equity price risk. The fair values of our investments are based on quoted market prices, as available, and on historical cost for investments which it is not practicable to estimate fair value. Both the carrying values and estimated fair values of such instruments amounted to $16.5 million at the end of 2001.

BACKLOG AND ORDERS

We define funded backlog as the value of contract awards received from the U.S. Government, which the U.S. Government has appropriated funds, plus the value of contract awards and orders received from customers other than the U.S. Government which have yet to be recognized as sales. Our funded backlog as of December 31, 2001 was $1,719.3 million and as of December 31, 2000 was $1,354.0 million. We expect to record as sales approximately 69.7% of our December 31, 2001 funded backlog during 2002. However, there can be no assurance that our funded backlog will become sales in any particular period, if at all. Our funded orders were $2,456.1 million for 2001, $2,013.7 million for 2000 and $1,423.1 million for 1999.

Our funded backlog does not include the full value of our contract awards including those pertaining to multi-year, cost-plus reimbursable contracts, which are generally funded on an annual basis. Funded backlog also excludes the sales value of unexercised contract options that may be exercised by customers under existing contracts and the sales value of purchase orders that may be issued under indefinite quantity contracts or basic ordering agreements.

RESEARCH AND DEVELOPMENT

Company-sponsored research and development costs including bid and proposal costs were $107.5 million for 2001, $101.9 million for 2000 and $76.1 million for 1999. Customer-funded research and development costs were $319.4 million for 2001, $299.3 million for 2000 and $226.3 million for 1999.

CONTINGENCIES

We are engaged in providing products and services under contracts with the U.S. Government and to a lesser degree, under foreign government contracts, some of which are funded by the U.S. Government. All such contracts are subject to extensive legal and regulatory requirements, and, periodically, agencies of the U.S. Government investigate whether such contracts were and are being conducted in accordance with these requirements. Under government procurement regulations, an indictment by a federal grand jury could result in the suspension for a period of time from eligibility for awards of new government contracts. A conviction could result in debarment from contracting with the federal government for a specified term. Additionally, in the event that U.S. Government expenditures for products and services of the type we manufacture and provide are reduced, and not offset by greater commercial sales or other new programs or products, or acquisitions, there may be a reduction in the volume of contracts or subcontracts awarded to us.

We continually assess our obligations with respect to applicable environmental protection laws. While it is difficult to determine the timing and ultimate cost to be incurred in order to comply with these laws, based upon available internal and external assessments, with respect to those environmental loss contingencies of which we are aware, we believe that even without considering potential insurance recoveries, if any, there are no environmental loss contingencies that, individually or in the aggregate, would be material to our consolidated financial position, results of operations or cash flows. Also, we have been periodically subject to litigation, claims or assessments and various contingent liabilities incidental to our business. We accrue for these contingencies when it is probable that a liability has been incurred and the amount of the loss can be reasonably estimated.

With respect to those investigative actions, items of litigation, claims or assessments of which we are aware, we are of the opinion that the probability is remote that, after taking into account certain provisions that have been made with respect to these matters, the ultimate resolution of any such investigative actions, items of litigation, claims or assessments will have a material adverse effect on our consolidated financial position, results of operations or cash flows.

On August 6, 2002, Aviation Communication & Surveillance Systems, LLC (ACSS), a subsidiary of L-3 Communications Corporation, was sued by Honeywell International, Inc. and Honeywell Intellectual Properties, Inc. for alleged infringement of patents that relate to terrain awareness avionics. The lawsuit was filed in the Unites States District Court for the District of Delaware. We had previously investigated the Honeywell patents and believe that it has valid defenses to Honeywell's claim. In addition, ACSS has been indemnified to a certain extent by Thales Avionics, which has provided to ACSS the alleged infringing technology. In the opinion of management, the ultimate disposition of Honeywell's pending claim will not result in a material liability to us.

RECENTLY ISSUED AND PROPOSED ACCOUNTING STANDARDS

In July 2001, the Financial Accounting Standards Board ("FASB") issued Statement of Financial Accounting Standards ("SFAS") No. 142, Goodwill and Other Intangible Assets, which supersedes Accounting Principles Board ("APB") Opinion No. 17, Intangible Assets. SFAS No. 142 revised the standards for accounting for goodwill and other intangible assets. SFAS No. 142 requires that goodwill and indefinite lived identifiable intangible assets no longer be amortized, but be tested for impairment at least annually based on their estimated fair values. The provisions of SFAS No. 142 became effective on January 1, 2002, and require full implementation of the impairment measurement provisions by December 31, 2002. Effective January 1, 2002, we are not recording goodwill amortization expense. Based on the estimated fair values of our reporting units using a discounted cash flows valuation, the goodwill for certain space and broadband commercial communications businesses included in the Specialized Products segment may be impaired. The aggregate amount of

goodwill recorded for these businesses is approximately $21.0 million, net of related income taxes. We expect to complete the valuation of the assets and liabilities for these businesses and to determine the amount of the goodwill impairment in the second half of 2002. Any resulting impairment would be a non-cash charge, recorded effective January 1, 2002, as a cumulative effect of a change in accounting principle in accordance with the adoption provisions of SFAS No. 142.

In August of 2001, the FASB issued SFAS No. 143, Accounting for Asset Retirement Obligations. SFAS No. 143 applies to legal obligations associated with the retirement of tangible long-lived assets that result from the acquisition, construction, development or normal operation of a long-lived asset, except for certain obligations of lessees. This statement does not apply to obligations that arise solely from a plan to dispose of a long-lived asset. SFAS No. 143 requires that estimated asset retirement costs be measured at their fair values and recognized as assets and depreciated over the useful life of the related asset. Similarly, liabilities for the present value of asset retirement obligations are to be recognized and accreted as interest expense each year to their estimated future value until the asset is retired. These provisions will be applied to existing asset retirement obligations as of the adoption date as a cumulative effect of a change in accounting principle. SFAS No. 143 is effective for our fiscal years beginning January 1, 2003. SFAS No. 143 is not expected to have a material effect on our consolidated results of operations and financial position.

In October of 2001, the FASB issued SFAS No. 144, Accounting for the Impairment or Disposal of Long-Lived Assets. SFAS No. 144 addresses financial accounting and reporting for the impairment or disposal of long-lived assets. This statement supersedes SFAS No. 121, Accounting for the Impairment of Long-lived Assets and for Long-lived Assets to Be Disposed Of, and the accounting and reporting provisions of APB Opinion No. 30, Reporting the Results of Operations--Reporting the Effects of Disposal of a Segment of a Business, and Extraordinary, Unusual and Infrequently Occurring Events and Transactions (APB No. 30), for the disposal of a segment of a business (as previously defined in that Opinion). SFAS No. 144 expands the scope of accounting for disposals to include all components of an entity, including reportable segments and operating segments, reporting units, subsidiaries and certain asset groups. It requires the gain or loss on disposal to be measured as the difference between (1) the fair value less the costs to sell and (2) the carrying value of the component, and such gain or loss cannot include the estimated future operating losses of the component, which were included in the gain or loss determination under APB No. 30. SFAS No. 144 also amends Accounting Research Bulletin No. 51, Consolidated Financial Statements, to eliminate the exception to consolidate a subsidiary for which control is likely to be temporary. The provisions of SFAS No. 144 became effective on January 1, 2002, SFAS No. 144 did not have a material effect on our consolidated results of operations and financial position.

In May 2002, the FASB issued SFAS No. 145, Rescission of SFAS Nos. 4, 44 and 64, Amendment of SFAS No. 13, and Technical Corrections as of April 2002. SFAS No. 145 rescinds SFAS No. 4, Reporting Gains and Losses from Extinguishment of Debt, and SFAS No. 64, Extinguishments of Debt Made to Satisfy Sinking-Fund Requirements. Under the provisions of SFAS No. 145, gains and losses from extinguishment of debt can only be classified as extraordinary items if they meet the criteria in APB Opinion No. 30. The provisions of this Statement related to the rescission of SFAS No. 4 shall be applied in fiscal years beginning after May 15, 2002. Earlier application is permitted. This statement also amends SFAS No. 13, Accounting for Leases, to eliminate an inconsistency between the accounting for sale-leaseback transactions and certain lease modifications that have economic effects that are similar and is effective for transactions occurring after May 15, 2002. This Statement also amends other existing authoritative pronouncements to make various technical corrections, clarify meanings, or describe their applicability under changed conditions and are effective for financial statements issued on or after May 15, 2002. SFAS No. 145 is not expected to have a material effect on our consolidated results of operations, financial position or cash flows.

In July of 2002, the FASB issued SFAS No. 146, "Accounting for Costs Associated with Exit or Disposal Activities". SFAS No. 146 replaces EITF No. 94-3 "Liability Recognition for Certain Employee Termination Benefits and Other Costs to Exit an Activity (including Certain Costs Incurred in a Restructuring)." SFAS No. 146 requires companies to recognize costs associated with exit or disposal

activities when they are incurred rather than at the date of a commitment to an exit or disposal plan as was required by EITF No. 94-3. Examples of costs covered by SFAS No. 146 include lease termination costs and certain employee severance costs that are associated with a restructuring, discontinued operation, plant closing, or other exit or disposal activity. SFAS No. 146 is to be applied to exit or disposal activities initiated after December 31, 2002. SFAS No. 146 is not expected to have a material effect on our consolidated results of operations and financial position.

INFLATION

The effect of inflation on our sales and earnings has not been significant. Although a majority of our sales are made under long-term contracts, the selling prices of such contracts, established for deliveries in the future, generally reflect estimated costs to be incurred in these future periods. In addition, some contracts provide for price adjustments through escalation clauses.

OVERVIEW

We are a leading merchant supplier of secure communications and intelligence, surveillance and reconnaissance (ISR) systems, training, simulation and support services, aviation products and aircraft modernization, as well as specialized products. Our businesses employ proprietary technologies and capabilities, and we believe our businesses have leading positions in their respective primary markets. Our customers include the U.S. Department of Defense ("DoD") and prime contractors thereof, certain U.S. Government intelligence agencies, major aerospace and defense contractors, foreign governments, commercial customers and certain other U.S. federal, state and local government agencies. For the year ended December 31, 2001, direct and indirect sales to the DoD provided 64.7% of our sales, and sales to commercial customers, foreign governments and U.S. federal, state and local government agencies other than the DoD provided 35.3% of our sales. For the year ended December 31, 2001, we had sales of $2,347.4 million, of which U.S. customers accounted for 82.1% and foreign customers accounted for 17.9%, and operating income of $275.3 million. At December 31, 2001, we had two reportable segments: Secure Communication Systems and Specialized Products. Effective as of January 1, 2002, primarily as a result of our recent acquisitions, including our acquisition of Aircraft Integration Systems business from Raytheon Company on March 8, 2002, we began to present our businesses with the following four reportable segments: (1) Secure Communications & ISR; (2) Training, Simulation & Support Services; (3) Aviation Products & Aircraft Modernization; and (4) Specialized Products. The descriptions of our reportable segments below include the products and services provided by our Aircraft Integration Systems business. Financial information on our reportable segments is included in Management's Discussion and Analysis of Result of Operations and Financial Condition and in Note 16 of our consolidated financial statements, each included elsewhere herein.

Secure Communications & ISR

This segment provides products and services for the global ISR market, specializing in signals intelligence and communications intelligence systems, which provide the unique ability to collect and analyze unknown electronic signals from command centers, communication nodes and air defense systems for real-time situation awareness and response in real-time to the warfighter. This segment also provides secure, high data rate communications systems for military and other U.S. Government and foreign government reconnaissance and surveillance applications. We believe our systems and products are critical elements of virtually all major communication, command and control, intelligence gathering and space systems. Our systems and products are used to connect a variety of airborne, space, ground and sea-based communication systems and are used in the transmission, processing, recording, monitoring and dissemination functions of these communication systems. The major secure communication programs and systems include:

- secure data links for airborne, satellite, ground and sea-based remote platforms for real time information collection and dissemination to users;
- highly specialized fleet management and support including procurement, systems integration, sensor development, modifications and maintenance for signals intelligence and ISR special mission aircraft and airborne surveillance systems;
- strategic and tactical signal intelligence systems that detect, collect, identify, analyze and disseminate information;
- secure telephone and network equipment and encryption management; and
- communication systems for surface and undersea vessels and manned space flights.

Training, Simulation & Support Services. This segment provides a full range of services, including:

- services designed to meet customer training requirements for aircrews, navigators, mission operators, gunners and maintenance technicians for virtually any platform, including military fixed and rotary wing aircraft, air vehicles and various ground vehicles;
- communication software support, information services and a wide range of engineering development services and integration support;
- high-end engineering and information support services used for command, control, communications and ISR architectures, as well as for air warfare modeling and simulation tools for applications used by the DoD and U.S. Government intelligence agencies, including missile and space systems, Unmanned Aerial Vehicles (UAVs) and military aircraft;
- developing and managing extensive programs in the United States and internationally, focusing on teaching, training and education, logistics, strategic planning, organizational design, democracy transition and leadership development; and
- design, prototype development and production of ballistic missile targets for present and future threat scenarios.

Aviation Products & Aircraft Modernization. This segment provides aviation products and aircraft modernization services including:

- airborne traffic and collision avoidance systems (TCAS);
- commercial, solid-state, crash-protected cockpit voice recorders and flight data recorders (known as "black boxes") and cruise ship hardened voyage recorders;
- ruggedized displays for military and high-end commercial applications;
- turnkey aviation life cycle management services that integrate custom developed and commercial off-the-shelf products for various military and commercial wide-body and rotary wing aircraft, including heavy maintenance and structural modifications and Head-of-State and commercial interior completions; and
- engineering, modification, maintenance, logistics and upgrade for U.S. Special Operations Command aircraft, vehicles and personal equipment.

Specialized Products. This segment supplies products to military and commercial customers in several niche markets. The products include:

- ocean products, including acoustic undersea warfare products for mine hunting, dipping sonars and anti-submarine and naval power distribution, conditioning, switching and protection equipment for surface and undersea platforms;
- telemetry, instrumentation, space and guidance products including tracking and flight termination;
- premium fuzing products;
- microwave components;
- explosive detection systems for checked baggage at airports;
- high performance antennas and ground based radomes; and
- training devices and motion simulators which produce advanced virtual reality simulation and high-fidelity representations of cockpits and mission stations for aircraft and land vehicles.

DEVELOPING COMMERCIAL OPPORTUNITIES

Our growth strategy includes identifying and exploiting commercial applications from select products and technologies currently sold to defense customers. We have currently identified two

vertical markets where we believe there are significant opportunities to expand our existing commercial sales: Transportation Products and Broadband Wireless Communications Products. We believe that these vertical markets, together with our existing commercial products, provide us with the opportunity for substantial commercial growth in future years.

Within the transportation market, we are offering (1) an explosives detection system for checked baggage at airports, displays and power propulsion systems for rail transporation and power switches for internet service providers, all of which are part of our Specialized Products segment, and (2) cruise ship voyage recorders and an enhanced aviation collision avoidance product that incorporates ground proximity warning which are part of our Aviation Products & Aircraft Modernization segment.

Within the communications product market, we are offering local fixed wireless access equipment for voice, DSL and internet access, transceivers for LMDS (Local Multipoint Distribution Service) and a broad range of commercial components and digital test equipment for broadband communications providers, which are part of our Secure Communications & ISR and Specialized Products segments.

We have developed the majority of our commercial products employing technology used in our defense businesses. Sales generated from our developing commercial opportunities have not yet been material to us.

INDUSTRY OVERVIEW

The U.S. defense industry has undergone significant changes precipitated by ongoing U.S. federal budget pressures and adjustments in political roles and missions to reflect changing strategic and tactical threats. From the mid-1980s to the late 1990s, the U.S. defense budget experienced a decline in real dollars. This trend was reversed by an increase in defense spending in 1999, followed by current dollar increases in fiscal 2000, 2001 and 2002 with an anticipated increase in fiscal 2003 to $379.0 billion. In addition, the DoD philosophy has focused on its transformation strategy that balances modernization and recapitalization (or upgrading existing platforms) while enhancing readiness and joint operations which include digital command and control communications capabilities by incorporating advanced electronics to improve performance, reduce operating costs, and extend the life expectancy of its existing and future platforms. As a result, defense budget program allocations continue to favor advanced information technologies related to command, control and communications, (C(3)), intelligence, surveillance and reconnaissance (ISR). In addition, the DoD's emphasis on system interoperability, force multipliers and providing battlefield commanders with real-time data is increasing the electronic content of nearly all major military procurement and research programs. As a result, it is expected that the DoD's budget for communications and defense electronics will continue to grow.

The U.S. defense industry has also undergone dramatic consolidation resulting in the emergence of five dominant prime system contractors: The Boeing Company, Lockheed Martin Corporation, Northrop Grumman Corporation, Raytheon Company and General Dynamics Corporation. We believe that one outcome of this consolidation is that the DoD wants to ensure that continued vertical integration does not further diminish the fragmented, yet critical DoD vendor base. Additionally, we believe it has become uneconomical for the prime contractors to design, develop and manufacture numerous essential products, components and subsystems for their own use. We believe this situation has and will continue to create opportunities for merchant suppliers such as L-3. As the prime contractors continue to evaluate their core competencies and competitive positions, focusing their resources on larger programs and platforms, we expect the prime contractors to continue to exit non-strategic business areas and procure these needed elements on more favorable terms from independent, commercially oriented merchant suppliers. Examples of this trend include recent divestitures of certain non-core defense-related businesses by several of the prime contractors.

The focus on cost reduction by the prime contractors and DoD is also driving increased use of commercial off-the-shelf products for upgrades of existing systems and in new systems. We believe the prime contractors will continue to be under pressure to reduce their costs and will increasingly seek to focus their resources and capabilities on major platforms and systems, turning to commercially

oriented "best of breed" merchant suppliers to produce subsystems, components and products. We believe successful merchant suppliers will continue to use their resources to complement and support, rather than compete with, the prime contractors. We anticipate that the relationships between the major prime contractors and their primary suppliers will continue to evolve in a fashion similar to those employed in the automotive and commercial aircraft industries. We expect that these relationships will be defined by critical partnerships encompassing increasingly greater outsourcing of non-core products and systems by the prime contractors to their key merchant suppliers and increasing supplier participation in the development of future programs. We believe early involvement in the upgrading of existing systems and the design and engineering of new systems incorporating these outsourced products will provide merchant suppliers, including us, with a competitive advantage in securing new business and provide the prime contractors with significant cost reduction opportunities through coordination of the design, development and manufacturing processes.

BUSINESS STRATEGY

We intend to grow our sales, enhance our profitability and build on our position as a leading merchant supplier of communication systems and products to the major contractors in the aerospace and defense industry as well as the U.S. Government. We also intend to leverage our expertise and products into selected new commercial business areas where we can adapt our existing products and technologies. Our strategy to achieve our objectives includes:

EXPAND MERCHANT SUPPLIER RELATIONSHIPS. We have developed strong relationships with the DoD, several other U.S. Government agencies and all of the major U.S. defense prime contractors, enabling us to identify new business opportunities and anticipate customer needs. As an independent merchant supplier, we anticipate that our growth will be driven by expanding our share of existing programs and by participating in new programs. We identify opportunities where we are able to use our strong relationships to increase our business presence and allow customers to reduce their costs. We also expect to benefit from increased outsourcing by prime contractors who in the past may have limited their purchases to captive suppliers and who are now expected to view our capabilities on a more favorable basis due to our status as an independent company, which positions us to be a merchant supplier to multiple bidders on prime contract bids.

SUPPORT CUSTOMER REQUIREMENTS. A significant portion of our sales is derived from strategic, long-term programs and from programs for which we have been the incumbent supplier, and in many cases acted as the sole provider over many years. Our customer satisfaction and excellent performance record are evidenced by our performance-based award fees exceeding an average of 90% of the available award fees since our inception in April 1997. We believe that prime contractors will increasingly award long-term, outsourcing contracts to the best-of-breed merchant suppliers they believe to be most capable on the basis of quality, responsiveness, design, engineering and program management support as well as cost. We intend to continue to align our research and development, manufacturing and new business efforts to complement our customers' requirements and provide state-of-the-art products.

ENHANCE OPERATING MARGINS. We have a history of improving the operating performance of the businesses we acquire through the reduction of corporate administrative expenses and facilities costs, increasing sales, improving contract bidding and proposals controls and practices and increasing competitive contract award win rates. We have a tradition of enhancing operating margins, primarily due to efficient management and elimination of significant corporate expense allocations. We intend to continue to enhance our operating performance by reducing overhead expenses, continuing consolidation and increasing productivity.

LEVERAGE TECHNICAL AND MARKET LEADERSHIP POSITIONS. We have developed strong, proprietary technical capabilities that have enabled us to capture the number one or number two market position in most of our key business areas, including secure, high data rate communications systems, solid state aviation recorders, telemetry, instrumentation and space products, advanced antenna products and high performance microwave components. We continue to invest in company-sponsored independent research and development, including bid and proposal costs, in addition to making substantial

investments in our technical and manufacturing resources. Further, we have a highly skilled workforce, including approximately 7,600 engineers. We are applying our technical expertise and capabilities to several closely aligned commercial business markets and applications such as transportation and broadband wireless communications and we expect to continue to explore other similar commercial opportunities.

MAINTAIN DIVERSIFIED BUSINESS MIX. We have a diverse and broad business mix with limited reliance on any particular program, a balance of cost-reimbursable and fixed-price contracts, a significant follow-on business and an attractive customer profile. Our largest program represented 3.9% of our sales for the year ended December 31, 2001 and is a long term, firm-fixed price contract for intelligence agencies and the DoD. No other program represented more than 3.2% of sales for the year ended December 31, 2001. Furthermore, 31.7% of our sales for the same period were from cost-reimbursable contracts, and 68.3% were from fixed-price contracts, providing us with a mix of predictable profitability (cost-reimbursable) and higher margin (fixed-price) business. We also enjoy a mix of defense and non-defense business, with direct and indirect sales to the DoD accounting for 64.7%, and sales to commercial customers, foreign governments and U.S. federal, state and local government agencies other than the DoD accounting for 35.3% of our sales for the year ended December 31, 2001. We intend to leverage this business profile to expand our merchant supplier business base.

CAPITALIZE ON STRATEGIC ACQUISITION OPPORTUNITIES. Recent U.S. defense industry consolidation has dramatically reduced the number of traditional middle-tier aerospace and defense companies, which are smaller than the five dominant prime system contractors and larger than the many smaller publicly and privately owned companies, as well as non-core aerospace and defense businesses of the prime contractors. We intend to enhance our existing product base through internal research and development efforts and selective acquisitions that will add new products in areas that complement our present technologies. We intend to continue acquiring potential targets with the following criteria:

- significant market position(s) in their business area(s);
- product offerings which complement and/or extend our product offerings; and
- positive future growth and earnings prospects.

Since January 1, 2001, we acquired sixteen businesses for an aggregate adjusted purchase price of $1,771.1 million, twelve of which were acquired for an aggregate adjusted purchase price of $516.4 million during 2001. For certain of these acquisitions, the purchase price may be subject to further adjustment based on actual closing date net assets or net working capital of the acquired business and the post-acquisition financial performance of the acquired business. The table below summarizes our primary acquisitions completed since January 1, 2001.

SELECTED RECENT ACQUISITIONS

BUSINESS NAME	DATE ACQUIRED	ACQUIRED FROM	PRICE ($ MN)	BUSINESS DESCRIPTION
Detection Systems	June 14, 2002	PerkinElmer	$ 100.0	Manufactures a range of detection and imaging products used to detect explosives, concealed weapons, contraband and illegal narcotics, inspection of agricultural products and examination of cargo.
Aircraft Integration Systems	March 8, 2002	Raytheon Company	1,148.7	Provides products and services for the global Intelligence, Surveillance and Reconnaissance (ISR) market, specializing in signals intelligence (SIGINT) and communications intelligence (COMINT) systems, which provide the unique ability to collect, decode and analyze electronic signals from command centers, communication nodes and air defense for real-time communication and response to the warfighter. Also provides complete aircraft and mission system engineering integration, test and support capability.
SY Technology	December 31, 2001	SY Technology, Inc.	58.5	Specializes in air warfare simulation; command, control, communications, computers and intelligence architectures; and missile defense and space systems technologies.
BT Fuze Products	December 19, 2001	Bulova Technologies	49.5	Produces military fuzes that prevent the inadvertent firing and detonation of weapons during handling.
Government Services Group (renamed L-3 Communications Analytics)	November 30, 2001	Emergent Technologies	39.7	Provides high-end engineering and information services to the U.S. Air Force, Army, Navy and intelligence agencies.
Spar Aerospace Limited	November 23, 2001	Spar Stockholders	146.8	Provides turnkey aviation life cycle management services for wide body and rotary wing aircraft. Also providing value-added engineering and modernization for selected military and commercial aviation programs.
EER Systems	May 31, 2001	EER Systems Stockholders	119.4	Provides a wide range of engineering development and integration support to the DoD, Federal civilian agencies, state and local governments and commercial customers.
KDI Precision Products	May 4, 2001	KDI Precision Stockholders	78.9	Produces military fuzes that prevent the inadvertent firing and detonation of weapons during handling.

PRODUCTS AND SERVICES

SECURE COMMUNICATIONS & ISR

The systems and products, selected applications and selected platforms or end users of our Secure Communications & ISR segment at December 31, 2001 are summarized in the table below.

SYSTEMS/PRODUCTS	SELECTED APPLICATIONS	SELECTED PLATFORMS/END USERS
High Data Rate Communications		
o Wideband data links and ground terminals	o High performance, wideband secure communication links for relaying of intelligence and reconnaissance information	o Manned and unmanned aircraft, naval ships, terminals and satellites
Satellite Communication Terminals		
o Ground-based satellite communication terminals and payloads	o Interoperable, transportable ground terminals	o Remote personnel provided with communication links to distant forces
Space Communication and Satellite Control		
o Satellite communication and tracking system	o On-board satellite external communications, video systems, solid state recorders and ground support equipment	o International Space Station, Space Shuttle and various satellites
o Satellite command and control sustainment and support	o Software integration, test and maintenance support satellite control network and engineering support for satellite launch system	o U.S. Air Force Satellite Control Network and rocket launch system
Military Communications		
o Shipboard communications systems	o Internal and external communications (radio room)	o Naval vessels
Information Security Systems		
o STE (Secure Terminal Equipment)	o Secure and non-secure voice, data and video communication for office and battlefield utilizing ISDN and ATM commercial network technologies	o U.S. Armed services, intelligence and security agencies

We are an established leader in the development, construction and installation of communication systems for high performance intelligence collection, imagery processing and ground, air, sea and satellite communications for the DoD and other U.S. Government agencies. We provide secure, high data rate, real-time communication systems for surveillance, reconnaissance and other intelligence collection systems. We also design, develop, produce and integrate communication systems and support equipment for space, ground and naval applications, as well as provide communication software support services to military and related government intelligence markets. Product lines of the Secure Communications & ISR business include high data rate communications links, satellite communications terminals, naval vessel communication systems, space communications and satellite control systems, signal intelligence information processing systems, information security systems, tactical battlefield sensor systems and commercial communication systems.

High Data Rate Communications

We are a technology leader in high data rate, covert, jam-resistant microwave communications used in military and other national agency reconnaissance and surveillance applications. Our product line covers a full range of tactical and strategic secure point-to-point and relay data transmission systems, products and support services that conform to military and intelligence specifications. Our systems and products are capable of providing battlefield commanders with real-time, secure surveillance and targeting information and were used extensively by U.S. armed forces in the Persian Gulf War and during operations in Bosnia, Kosovo and Afghanistan.

Our current family of strategic and tactical data links or CDL (Common Data Link) systems are considered DoD standards for data link hardware. Our primary focus is spread spectrum secure communication links technology, which involves transmitting a data signal with a high-rate noise signal making it difficult to detect by others, and then re-capturing the signal and removing the noise. Our data links are capable of providing information at over 300 megabytes per second and use point-to-point and point-to-multipoint architectures.

We provide these secure high bandwidth products to the U.S. Air Force, the U.S. Navy, the U.S. Army and various U.S. Government agencies, many through long-term programs. The scope of these programs include air-to-ground, air-to-air, ground-to-air and satellite communications such as the U-2 Support Program, GUARDRAIL, ASTOR and major UAV (unmanned aerial vehicle) programs, such as Predator, Global Hawk and Fire Scout.

We remain the industry leader in the mobile airborne satellite terminal product market, delivering mobile satellite communication services to many airborne platforms. These services provide real time connectivity between the battlefield and non-local exploiters of ISR data.

Satellite Communication Terminals

We provide ground-to-satellite, high availability, real-time global communications capability through a family of transportable field terminals used to communicate with commercial, military and international satellites. These terminals provide remote personnel with constant and effective communication capability and provide communications links to distant forces. Our TSS (TriBand SATCOM Subsystem) employs a 6.25 meter tactical dish with a single point feed that provides C, Ku and X band communication to support the U.S. Army. We also offer an 11.3 meter antenna satellite terminal which is transportable on two C-130 aircraft. The SHF PTS (Portable Terminal System) is a lightweight (28 pounds), portable terminal, which communicates through DSCS, NATO or SKYNET satellites and brings connectivity to small military tactical units and mobile command posts.

We provide System Engineering and Software/Life-cycle support to the Air Force Satellite control network as well as the Eastern and Western Test Rangers. These contracts were recently won and last well beyond 2010.

Space Communications and Satellite Control

We produced and are delivering three communication subsystems for the ISS (International Space Station). These systems will control all ISS radio frequency communications and external video activities. We also provide solid-state recorders and memory units for data capture, storage, transfer and retrieval for space applications. Our standard NASA tape recorder has completed over five million hours of service without a mission failure. Our recorders are on National Oceanic & Atmospheric Administration weather satellites, the Earth Observing Satellite, AM spacecraft and Landsat-7 Earth-monitoring spacecraft. We have extended this technology to our Strategic Tactical Airborne Recorder (S/TAR (Trade Mark)) which was selected for the New Shared Reconnaissance Port (SHARD) Program. We also provide space and satellite system simulation, satellite operations and computer system training, depot support, network engineering, resource scheduling, launch system engineering, support, software integration and test through cost-plus contracts with the U.S. Air Force.

Military Communications

We provide integrated, computer controlled switching systems for the interior and exterior voice and data needs of naval vessels. Our products include the MarCom Integrated Voice Communication Systems for Aegis class destroyers and for the LPD amphibious ship class. We produced the MarCom Baseband Switch for Los Angeles class submarines. Our MarCom secure digital switching system provides an integrated approach to the specialized voice and data communications needs of shipboard environment for internal and external communications, command and control and air traffic control. Along with the Keyswitch Integrated Terminals, MarCom provides automated switching of radio/cryptocircuits, which results in significant timesavings. We also offer on-board, high data rate

communications systems, which provide a data link for carrier battle groups, which are interoperable with the U.S. Air Force's Surveillance/reconnaissance terminals. We supply the "communications on the move" capability needed for the digital battlefield by packaging advanced communications into the U.S. Army's Interim Brigade Combat Team Commander's Vehicle.

Information Security Systems

We believe we are a leader in the development of secure communications equipment for both military and commercial applications. We are producing the next generation digital, ISDN-compatible STE (secure telephone equipment). STE provides clearer voice and thirteen-times faster data/fax transmission capabilities than the previous generation secure telecommunications equipment. STE also supports secure conference calls and secure video teleconferencing. STE uses a CryptoCard security system which consists of a small, portable, cryptographic module holding the algorithms, keys and personalized credentials to identify its user for secure communications access. We also provide the workstation component of the U.S. Government's EKMS (Electronic Key Management System), the next generation of information security systems. EKMS is the government's system to replace current "paper" encryption keys used to secure government communications with "electronic" encryption keys. The component we provide produces and distributes the electronic keys. We also develop specialized strategic and tactical signal intelligence systems to detect, acquire, collect, and process information derived from electronic sources. These systems are used by classified customers for intelligence gathering and require high-speed digital signal processing and high-density custom hardware designs.

TRAINING, SIMULATION & SUPPORT SERVICES

The products and services, selected applications and selected platforms or end users of our Training, Simulation & Support Services segment at December 31, 2001 are summarized in the table below.

PRODUCTS/SERVICES	SELECTED APPLICATIONS	SELECTED PLATFORMS/END USERS
Training and Simulation		
o Battlefield and Weapon Simulation	o Missile system modeling and simulation	o U.S. Army Missile Command
	o Design and manufacture custom ballistic missile targets that are ground launched and air launched for threat replication targets	o U.S. Army Missile Command
o Training	o Training for soldiers on complex command and control systems	o DoD
	o Training and logistics services and training device support	o DoD and foreign governments
o Human Patient Simulators	o Medical training	o Medical schools, nursing schools, and DoD
Engineering Development and Integration Support		
o System Support	o C(3)ISR (Command, Control, Communications, Intelligence, Surveillance and Reconnaissance), modeling and simulation	o U.S. Armed services, intelligence and security agencies, Ballistic Missile Defense Organization, NASA and other U.S. Government agencies
o Communication software support services	o Value-added, critical software support for C(3)I (Command, Control, Communication and Intelligence) systems and other engineering and technical services	o DoD, FAA and NASA

Training and Simulation

We believe we are a leading provider of training, simulation and support services to the U.S. and foreign military agencies.

Our products and services are designed to meet customer training requirements for aircrews, navigators, mission operators, gunners and maintenance technicians for virtually any platform, including military fixed and rotary wing aircraft, air vehicles and various ground vehicles. As one of the leading suppliers of training services, we believe we are able to leverage our unique full-service capabilities to develop fully-integrated, innovative solutions for training systems, propose and provide program upgrades and modifications, as well as provide hands-on, best-in-class training operations in accordance with virtually any customer requirement in a timely manner. In addition, we are developing, demonstrating, evaluating and transitioning training technologies and methods for use by warfighters at the US Air Force's Fighter Training Research Division.

We also design and develop prototypes of ballistic missile targets for present and future threat scenarios. We provide high-fidelity custom targets to the DoD that are complementary to the U.S. Government's growing focus and priority on national missile defense and space programs. We are the only provider of Ballistic Missile targets that have successfully launched a Ballistic Missile Target from an Air Force Cargo Aircraft.

We also develop and manage extensive programs in the United States and internationally focusing on training and education, strategic planning, organizational design, democracy transition and leadership development. To provide these services, we utilize a pool of experienced former armed service, law enforcement and other national security professionals. In the United States, our personnel

are instructors in the U.S. Army's Force Management School and other schools and courses and are also involved in recruiting for the U.S. Army. In addition, we own a one-third interest in Medical Education Technologies, Inc., which has developed and is producing human patient simulators for sale to medical teaching and training institutions and the DoD.

Engineering Development and Integration Support

We are a premier provider of numerous air campaign modeling and simulation tools for applications, such as Thunder, Storm and Brawler, for the U.S. Air Force Studies and Analysis Agency and of space science research for NASA. We also provide high-end systems support for the HAWK and PATRIOT missile systems, Unmanned Aerial Vehicles (UAVs), the Cooperative Engagement Capacity (CEC) Program, and the F/A-18.

Our products and services specialize in communication systems, training and simulation equipment and a broad range of hardware and software for the U.S. Army, Air Force and Navy, the Federal Aviation Administration and the Ballistic Missile Defense Organization (BMDO). As one of the leading suppliers of high-end engineering and information support, we believe we are able to provide value-added C4ISR engineering support, wargames simulation and modeling of battlefield communications.

Our Ilex Systems business provides systems and software engineering products and services for military applications. We specialize in the innovative application of state-of-the-art software technology and software development methodologies to produce comprehensive real-time solutions satisfying our customers' systems and software needs. We specialize in providing engineering services to the U.S. Army military intelligence community including the Communications-Electronics Command (CECOM) Software Engineering Center, for the development and maintenance of Intelligence, Electronic Warfare, Fusion and Sensor systems and software.

AVIATION PRODUCTS & AIRCRAFT MODERNIZATION

The systems and products, selected applications and selected platforms or end users of our Aviation Products & Aircraft Modernization segment at December 31, 2001, are summarized in the table below.

SYSTEM/PRODUCTS	SELECTED APPLICATIONS	SELECTED PLATFORMS/END USERS
Aviation Products		
o Solid state crash protected cockpit voice and flight data recorders	o Voice recorders continuously record most recent 30-120 minutes of voice and sounds from cockpit and aircraft intercommunications. Flight data recorders record the last 25 hours of flight parameters	o Business and commercial aircraft and certain military transport aircraft; sold to both aircraft manufacturers and airlines under the Fairchild brand name
o TCAS (Traffic Alert and Collision Avoidance System)	o Reduce the potential for midair aircraft collisions by providing visual and audible warnings and maneuvering instructions to pilots	o Commercial, business, regional and military transport aircraft
Display Products		
o Cockpit and mission displays and controls	o High performance, ruggedized flat panel and cathode ray tube displays and processors	o Military aircraft including surveillance, fighters and bombers, attack helicopters, transport aircraft and land vehicles
Aircraft Modernization		
o High end aviation product modernization services	o Turnkey aviation life cycle management services	o Various military and commercial wide body and rotary wing aircraft

Aviation and Maritime Recorders

We manufacture commercial, solid-state, crash-protected recorders, commonly known as black boxes, under the Fairchild brand name for the aviation and maritime industries, and have delivered nearly 55,000 flight recorders to aircraft manufacturers and airlines around the world. We believe we are the leading manufacturer of commercial cockpit voice recorders and flight data recorders. The hardened voyage recorder, launched from our state-of-the-art aviation technology, and expanded to include cutting edge internet communication protocols, has taken an early leadership position within the maritime industry. We offer three types of recorders:

- the cockpit voice recorder, which records the last 30 to 120 minutes of crew conversation and ambient sounds from the cockpit;
- the flight data recorder, which records the last 25 hours of aircraft flight parameters such as speed, altitude, acceleration and thrust from each engine and direction of the flight in its final moments; and
- the hardened voyage recorder, which stores and protects 12 hours of voice, radar, radio and shipboard performance data on solid state memory.

Recorders are highly ruggedized instruments, designed to absorb the shock equivalent to that of an object traveling at 268 knots stopping in 18 inches, fire resistant to 1,100 degrees centigrade and pressure resistant to 20,000 feet undersea for 30 days. Our recorders are mandated and regulated by various worldwide agencies for use in commercial airlines and a large portion of business aviation aircraft. In addition, our aviation recorders are certified and approved for installation at the world's

leading aircraft original equipment manufacturers ("OEM's"), while our maritime recorders are an integral component to a mandated recording system for numerous vessels that travel on international waters. The U.S. military has recently required the installation of black boxes in military transport aircraft. We believe this development will provide us with new opportunities for expansion into the military market.

We have completed development of a combined voice and data recorder and are developing an enhanced recorder that monitors engine and other aircraft parameters for use in maintenance and safety applications.

Traffic Alert and Collision Avoidance Systems (TCAS)

TCAS is an avionics safety system that was developed to reduce the potential for mid-air collisions. The system is designed to operate independently from the air traffic control ("ATC") system to provide a complementary supplement to the existing ATC system. TCAS operates by transmitting interrogations that elicit replies from transponders in nearby aircraft. The system tracks aircraft within certain range and altitude bands to determine whether they have the potential to become a collision threat.

There are two levels of TCAS protection currently in operation: TCAS I and TCAS II. In the United States, passenger aircraft with 10 to 30 seats must be equipped with a TCAS I system. The TCAS II system is required for passenger aircraft with more than 30 seats. These aircraft, as well as aircraft used in all-cargo operations, must also be equipped with transponders, either Mode S or Mode C. The transponder provides altitude and airplane identification to TCAS-equipped aircraft as well as to the ATC system.

If the TCAS I system calculates that an aircraft may be a threat, it provides the pilot with a visual and audible traffic advisory. The advisory information provides the intruder aircraft's range and relative altitude/bearing. In addition to traffic advisories, a TCAS II system will provide the pilot a resolution advisory ("RA"). This resolution advisory recommends a vertical maneuver to provide separation from the intruder aircraft.

TCAS systems have proven to be very effective, with many documented successful RA's. TCAS II has been in worldwide operation in many aircraft types since 1990. Today, over 16,000 airline, corporate and military aircraft are equipped with TCAS II-type systems, logging over 100 million hours of operation. The number of reported near mid-air collisions in the U.S. has decreased significantly since 1989, a period during which both passenger and cargo air traffic has increased substantially.

Display Products

We design, develop and manufacture ruggedized displays for military and high-end commercial applications. Our current product line includes a family of high performance display processing systems, which use either a cathode ray tube or active matrix liquid crystal display. Our displays are used in numerous airborne, ship-board and ground based platforms and are designed to survive in military and harsh environments.

Aircraft Modernization

We are a leading global provider of turnkey aviation life cycle management services, providing value-added engineering and upgrades for selected military and commercial aviation programs, component repair and overhaul and support services. Our major programs include high-end aviation product modernization and services on the C-130 for a number of military organizations around the world, including the Canadian Department of National Defense, U.S. Coast Guard, Mexican Air Force, Royal Malaysian Air Force and Royal Australian Air Force. We also provide avionics maintenance, repair and overhaul for the Sikorsky S-61/H-3 Sea King helicopter for a number of military organizations including the Canadian military, the U.S. Navy and the Brazilian Air Force. We are also a full service provider for the Boeing 727 and 737 to a number of airlines, including Canada's WestJet.

SPECIALIZED PRODUCTS

The products, selected applications and selected platforms or end users of our Specialized Products segment at December 31, 2001 are summarized in the table below.

PRODUCTS	SELECTED APPLICATIONS	SELECTED PLATFORMS/END USERS
Ocean Products		
o Airborne dipping sonars	o Submarine detection and localization	o Various military helicopters
o Submarine and surface ship towed arrays	o Submarine and surface ship detection and localization	o U.S. Navy and foreign navies
o Naval and commercial power delivery and switching products	o Switching, distribution and protection, as well as frequency and voltage conversion	o All naval combatants: submarines, surface ships and aircraft carriers
o Commercial transfer switches, uninterruptible power supplies and power products	o Production and maintenance of systems and high-speed switches for power interruption prevention	o Federal Aviation Administration, internet service providers, financial institutions and rail transportation
Telemetry, Instrumentation and Space Products		
o Aircraft, missile and satellite telemetry and instrumentation systems	o Real-time data acquisition, measurement, processing, simulation, distribution, display and storage for flight testing	o Aircraft, missiles and satellites
o Global satellite communications systems	o Satellite transmission of voice, video and data	o Rural telephony or private networks, direct to home uplinks, satellite news gathering and wideband applications
Guidance Products		
o GPS (Global Positioning Systems) receivers	o Location tracking	o Guided projectiles and precision munitions
o Navigation systems and subsystems, gyroscopes, reaction wheels, star sensor	o Space navigation	o Hubble Space Telescope, Delta IV launch vehicle and satellites
Premium Fuzing Products		
o Fuzing products	o Munitions and electronic and electro-mechanical safety and arming devices (ESADs)	o Various DoD and foreign military customers
Microwave Components		
o Passive components, switches and wireless assemblies	o Radio transmission, switching and conditioning, antenna and base station testing and monitoring, broad-band and narrow-band applications (PCS, cellular, SMR and paging infrastructure)	o DoD, telephony service providers and original equipment manufacturers
o Safety products	o Radio frequency monitoring and measurement for safety	o Monitor cellular base station and industrial radio frequency emissions
o Satellite and wireless components (channel amplifiers, transceivers, converters, filters and multiplexers)	o Satellite transponder control, channel and frequency separation	o Communications satellites and wireless communications equipment

PRODUCTS	SELECTED APPLICATIONS	SELECTED PLATFORMS/END USERS
o Amplifiers and amplifier based components (amplifiers, up/down converters and Ka assemblies)	o Automated test equipment, military electronic warfare, ground and space communications	o DoD and commercial satellite operators
Antenna Products		
o Ultra-wide frequency and advanced radar antennas and rotary joints	o Surveillance and radar detection	o Military aircraft including surveillance, fighters and bombers, attack helicopters and transport
o Precision antennas serving major military and commercial frequencies, including Ka band	o Antennas for high frequency, millimeter satellite communications	o Various military and commercial customers including scientific astronomers
Training Devices and Motion Simulators		
o Military Aircraft Flight Simulators	o Training for pilots, navigators, flight engineers, gunners and operators	o Military fixed and rotary winged aircraft and ground vehicles
Security Systems		
o Explosives detection systems	o Rapid scanning of passenger checked baggage	o Airports

Ocean Products

We are one of the world's leading suppliers of acoustic undersea warfare systems. Our experience spans a wide range of platforms, including helicopters, submarines and surface ships. Our products include towed array sonar, hull mounted sonar, airborne dipping sonar and ocean mapping sonar for navies around the world.

We are also a leading provider of state-of-the-art power electronics systems and electrical power delivery systems and subsystems. We provide communications and control systems for the military and commercial customers. We offer the following:

- o military power propulsion, distribution and conversion equipment and components which focus on motor drives switching, distribution and protection, providing engineering design and development, manufacturing and overhaul and repair services; and

- o ship control and interior communications equipment.

We have been able to apply our static transfer switch technology, which we developed for the U.S. military, to commercial applications. Our commercial customers for static transfer switches are primarily financial institutions and internet service providers, including American Express, AOL-Time Warner, AT&T, Charles Schwab and the Federal Aviation Administration. In addition, we provide electrical products for rail transportation and utilities businesses.

Telemetry, Instrumentation and Space Products

We are a leader in the development and marketing of component products and systems used in telemetry and instrumentation for airborne applications such as satellites, aircraft, UAVs, launch vehicles, guided missiles, projectiles and targets. Telemetry involves the collection of data for various equipment performance parameters and is required when the object under test is moving too quickly or is of too great a distance to use a direct connection. Telemetry products measure, process, receive and collect thousands of parameters of a platform's operation including heat, vibration, stress and operational performance and transmits this data to the ground.

Additionally, our satellite telemetry equipment transmits data necessary for ground processing. These applications demand high reliability of components because of the high cost of satellite repair

and the need for uninterrupted service. Telemetry products also provide the data used to terminate the flight of missiles and rockets under errant conditions and/or at the end of a mission. These telemetry and command/control products are currently used for a variety of missile and satellite programs.

We offer value-added solutions that provide our customers with complex product integration and comprehensive support. We focus on the following niches within the satellite ground segment equipment market: telephony, video broadcasting and multimedia. Our customers include foreign communications companies, domestic and international prime communications infrastructure contractors, telecommunications or satellite service providers, broadcasters and media-related companies. We also provide space products for advanced guidance and control systems including gyroscopes, controlled momentum devices and star sensors. These products are used on satellites, launch vehicles, the Hubble Telescope, the Space Shuttle and the International Space Station.

Guidance Products

We provide airborne equipment and data link systems that gather critical information and then process, format and transmit the data to the ground from communications satellites, spacecraft, aircraft and missiles. These products are available in both commercial off-the-shelf and custom configurations and include software and software engineering services. Primary customers include many of the major defense contractors who manufacture aircraft, missiles, warheads, launch vehicles and munitions. Our ground station instrumentation receives, encrypts and/or decrypts the serial stream of combined data in real-time as it is received from the airborne platform. We are a leader in digital GPS (Global Positioning System) receiver technology for high performance military applications. These GPS receivers are currently in use on aircraft, cruise missiles and precision guided bombs and provide highly accurate positioning and navigational information. Additionally, we provide navigation systems for high performance weapon pointing and positioning systems for programs such as MLRS (Multiple Launch Rocket System) and MFCS (Mortar Fire Control System).

Premium Fuzing Products

We are a leading provider of premium fuzing products, including proximity fuzes, electronic and electro-mechanical safety and arming devices (ESADs) and self-destruct/sub-munition grenade fuzes. ESADs prevent the inadvertent firing and detonation of guided missiles during handling, flight operations and the initial phases of launch. Our proximity fuzes are used in smart munitions. All are considered to be critical safety and arming products. Additionally, during missile flight the ESAD independently analyzes flight conditions and determines safe separation distance after a missile launch.

Microwave Components

We are premier worldwide supplier of commercial off-the-shelf and custom, high performance RF (radio frequency) microwave components, assemblies and instruments supplying the wireless communications, industrial and military markets. We are also a leading provider of state-of-the-art space-qualified commercial satellite and strategic military RF products and millimeter amplifier based products. We sell many of these components under the well-recognized Narda brand name through a comprehensive catalog of standard, stocked hardware. We also sell our products through a direct sales force and an extensive network of market representatives. Specific catalog offerings include wireless products, Electro-mechanical switches, power dividers and hybrids, couplers/detectors, attenuators, terminations and phase shifters, isolators and circulators, adapters, control products, sources, mixers, waveguide components, RF safety products, power meters/monitors and custom passive products. Passive components are generally purchased in both narrow and broadband frequency configurations by wireless equipment manufacturers, wireless service providers and military equipment suppliers. Commercial applications include cellular and PCS base station automated test equipment, and equipment for the paging industry. Military applications include electronic surveillance and countermeasure systems.

Our space-qualified and wireless components separate various signals and direct them to sections of the satellites' payload. Our main satellite products are channel amplifiers and linearizers, payload products, transponders and antennas. Channel amplifiers amplify the weak signals received from earth stations, and then drive the power amplifier tubes that broadcast the signal back to earth. Linearizers, used either in conjunction with a channel amplifier or by themselves, pre-distort a signal to be transmitted back to earth before it enters a traveling wave tube for amplification. This pre-distortion is exactly the opposite of the distortion created at peak power by the traveling wave tube and, consequently, has a cancellation effect that keeps the signal linear over a much larger power band of the tube. The traveling wave tube and area covered by the satellite is significantly increased.

Narda is the world's largest supplier of non-ionizing radiation safety detection equipment. These devices are used to quantify and alarm of exposure to excessive RF radiation. This equipment is used by wireless tower operators and the military to protect personnel, and insure compliance to various published standards. We design and manufacture both broad and narrow band amplifiers and amplifier-based products in the microwave and millimeter wave frequencies. We use these amplifiers in defense and communications applications. These devices can be narrow band for communication needs or broadband for electronic warfare.

We offer standard packaged amplifiers for use in various test equipment and system applications. We design and manufacture millimeter range (at least 20 to 38GHz) amplifier products for use in emerging communication applications such as back haul radios, LMDS (Local Multipoint Distribution Service) and ground terminals for LEO satellites. Narda filters are sold to some of the world's leading service providers and base station OEM's. Robust demand continues for Narda filters due to ongoing system upgrades by service providers for 2.5G and 3.0G applications geared toward providing higher data rate capabilities for the commercial cellular and PCS marketplace.

We also design, manufacture and market solid state, broadband wireless communications infrastructure equipment, subsystems and modules used to provide point-to-Multipoint ("PMP") and point-to-point ("PTP") terrestrial and satellite-based distribution services in frequency bands from 24 to 38 Gigahertz. Our products include solid-state power amplifiers, hub transmitters, active repeaters, cell-to-cell relays, Internet access systems and other millimeter wave-based modules and subsystems. These products are used in various applications, such as broadband communications, local loop services and Ka-band satellite communications.

Antenna Products

We produce high performance antennas under the Randtron brand name which are designed for:

- surveillance of high-resolution, ultra-wide frequency bands;
- detection of low radar cross-section targets and low radar cross-section installations;
- severe environmental applications; and
- polarization diversity.

Our primary product is a sophisticated 24-foot diameter antenna used on all E-2C surveillance aircraft. This airborne antenna is a rotating aerodynamic radome containing a UHF surveillance radar antenna, an IFF antenna, and forward and aft auxiliary antennas. Production is planned beyond 2001 for the E-2C, P-3 and C-130 AEW aircraft. We have been funded to begin the development of the next generation for this antenna. We also produce broadband antennas for a variety of tactical aircraft, as well as rotary joints for the AWAC antenna. We have delivered over 2,000 sets of antennas for aircraft and have a backlog of orders through 2004.

We are a leading supplier of ground based radomes used for air traffic control, weather radar, defense and scientific purposes. These radomes enclose an antenna system as a protective shield against the environment and are intended to enhance the performance of an antenna system.

Training Devices and Motion Simulators

Our training devices and motion simulators business designs, develops and manufacturers advanced virtual reality simulation and high-fidelity representations of cockpits and mission stations

for aircraft and land vehicles. We have developed flight simulators for most of the U.S. military aircraft in active operation. We have numerous proprietary technologies and fully-developed systems integration capabilities that provide competitive advantages. Our proprietary software is used for visual display systems, high-fidelity system models, database production, digital radar land mass image simulation and creation of synthetic environments. We are also a leader in developing training systems which allow multiple trainees at multiple sites to engage in networked group, unit and task force training and combat simulations.

DEVELOPING COMMERCIAL OPPORTUNITIES

Part of our growth strategy is to identify commercial applications for select products and technologies currently sold to defense customers. We have initially identified two vertical markets where we believe there are significant opportunities to expand our products: transportation and broadband wireless communications.

Transportation. Our products, designed to meet strict government quality and reliability standards, are easily adapted to the commercial transportation marketplace. Our aircraft voice recorders, designed to meet FAA requirements, have been successfully marketed to the cruise ship, marine shipping and railroad industries. Similarly, our state-of-the-art power propulsion products, originally designed for the U.S. Navy, meet the needs of commuter railroads, including Philadelphia's regional rail system and New York City's Metropolitan Transportation Authority. Our explosives detection system, the eXaminer 3DX(TM) 6000, enables the rapid scanning of passenger checked baggage at airports using state-of-the-art technology. The new Transportation Security Administration (TSA), of the Department of Transportation, created as a result of the Aviation and Transportation Security Act enacted by Congress on January 3, 2002, has expressed requirements for as many as 500 examiner units. In April 2002, we received an order from the TSA that included funding for 100 examiner units and long-lead material funding for an additional 200 examiner units.

Communications. The wireless communications technology we developed for our military customers also meets the needs of a growing commercial marketplace for technologically advanced communications products. Some of the products we have developed or are developing to exploit this market include wireless loop products, transceivers, LMDS, compression products, remote sensing internet networks, microwave links and products for microwave base stations. Our Prime Wave fixed wireless loop products are an example of our expanding involvement in the commercial communications industry. Using synchronous CDMA technology that supports terrestrial, space, fixed and mobile communications, we produce wireless loop equipment for use in areas that do not have an adequate telecommunications infrastructure, including emerging market countries and customers in rural areas.

In the expanding broadband wireless commercial communications market, we also have developed a broad assortment of other products including transponders, payloads, uplinks- downlinks, fly-away SATCOM terminals, telemetry tracking and control and test equipment and waveform generators.

These new commercial products are subject to certain risks and may require us to:

- develop and maintain marketing, sales and customer support capabilities;
- secure sales and customer support capabilities;
- obtain customer and/or regulatory certification;
- respond to rapidly changing technologies including those developed by others that may render our products and systems obsolete or non-competitive; and
- obtain customer acceptance of these products and product performance.

Our efforts to expand our presence in commercial markets require significant resources, including additional working capital and capital expenditures, as well as the use of our management's time. Our ability to sell certain commercial products, particularly our broadband wireless communications

products, depends to a significant degree on the efforts of independent distributors or communications service providers and on the financial viability of our existing and target customers for the commercial products. Certain of our existing and target customers are agencies or affiliates of governments of emerging and under-developed countries or private business enterprises operating in those countries. In addition, we have made equity investments in entities that plan to commence operations as communications service providers using some of our commercial products. We can give no assurance that these distributors or service providers will be able to market our products or their services successfully or that we will be able to realize a return of investment in them. We also cannot assure you that we will be successful in addressing these risks or in developing these commercial business opportunities.

MAJOR CUSTOMERS

For the year ended December 31, 2001, direct and indirect sales to the DoD provided 64.7% of our sales, and sales to commercial, foreign governments and U.S. federal, state and local government agencies other than the DoD provided 35.3% of our sales.

Our U.S. Government sales are predominantly derived from contracts with agencies of, and prime contractors to, the U.S. Government. Various U.S. Government agencies and contracting entities exercise independent and individual purchasing decisions, subject to annual appropriations by the U.S. Congress. As of December 31, 2001, we had approximately 575 contracts each with a value exceeding $1.0 million. For the year ended December 31, 2001, sales of our five largest programs amounted to $249.7 million or 10.6% of our sales.

RESEARCH AND DEVELOPMENT

We conduct research and development activities that consist of projects involving basic research, applied research, development, and systems and other concept studies. We employ scientific, engineering and other personnel to improve our existing product lines and develop new products and technologies. As of December 31, 2001, we employed approximately 7,600 engineers, a substantial portion of whom hold advanced degrees. For the year ended December 31, 2001, we incurred $319.4 million on research and development costs for customer-funded contracts and spent $107.5 million on company-sponsored research and development projects, including bid and proposal costs.

COMPETITION

We encounter intense competition in all of our businesses. We believe that we are a significant supplier of many of the products that we manufacture and services we provide in our defense and government businesses, as well as in our commercial businesses.

Defense and Government Business

Our ability to compete for defense contracts depends on a variety of factors, including:

- the effectiveness and innovation of our research and development programs;
- our ability to offer better program performance than our competitors at a lower cost; and
- the availability of our facilities, equipment and personnel to undertake the programs for which we compete.

In some instances, we are the incumbent supplier or have been the sole provider for many years for certain programs. We refer to such contracts as "sole-source" contracts. In such cases, there may be other suppliers who have the capability to compete for the programs involved, but they can only enter or reenter the market if the customer chooses to reopen the particular program to competition. Sole-source contracts accounted for approximately 62.4% and competitive contracts accounted for approximately 37.6% of our total sales for the year ended December 31, 2001. The majority of our sales are derived from contracts with the U.S. Government and its prime contractors, which are principally awarded on the basis of negotiations or competitive bids.

We believe that the U.S. defense industry structure contains three tiers of defense contractors. The first tier is dominated by five prime system contractors: The Boeing Company, Lockheed Martin Corporation, Northrop Grumman Corporation, Raytheon Company and General Dynamics Corporation, all of whom compete for major platform programs. The second tier defense contractors are smaller products and niche subsystems contractors and are comprised of traditional aerospace and defense companies, as well as, the non-core aerospace and defense sectors of certain industrial conglomerates and include L-3, Honeywell Inc., Rockwell Collins Inc., Harris Corporation, TRW Inc., ITT Industries, Inc., Alliant Techsystems Inc., United Technologies Corporation, and United Defense Industries Inc. The third tier, which represents the vendor base and supply chain for niche products, is comprised of numerous smaller publicly and privately owned aerospace and defense contractors.

We believe we are the aerospace and defense "merchant supplier" with the broadest and most diverse product portfolio. We supply our products to all of the five prime system contractors and in some cases directly to the end customer. We primarily compete with third tier contractors and certain of the second tier contractors and to a lesser extent with the prime system contractors in certain niche areas. Some of the second tier contractors are larger than we are and have greater resources than we have available to us. We are larger than all of the third tier contractors and believe we have greater resources than all of them. We believe that most of our businesses enjoy the number one or number two competitive position in their respective market niches. We believe that the primary competitive factors for our businesses are: technology, quality, cost, market position and past performance. In addition, our ability to compete for non "sole source" contracts often requires us to "team" with one or more of the prime system contractors that bids and competes for major platform programs. Furthermore, our ability to "team" with a prime system contractor is often dependent upon the outcome of a competitive process.

We believe that we will continue to be a successful participant in the business areas in which we compete, based upon the quality and cost competitiveness of our products and services.

Commercial Activities

Our commercial activities have become an increasingly significant portion of our business mix, and comprised 22.6% of our total sales for the year ended December 31, 2001. Our ability to compete for commercial business depends on a variety of factors, including:

- Pricing;
- Product features and performance;
- Reliability, scalability and compatibility;
- Customer relationships, service and support; and
- Brand recognition.

In these markets, we compete with various companies, several of which are listed below.

- Agilent Technologies, Inc.;
- ViaSat, Inc.;
- Honeywell Inc.;
- Globecomm Systems, Inc.;
- Smiths Industries; and
- Airspan Networks, Inc.

We believe that our sales in these business areas will continue to grow as a percentage of our total sales, even though several of our competitors may have greater resources and technologies than we have available to us.

PATENTS AND LICENSES

We do not believe that our patents, trademarks and licenses are material to our operations. Furthermore, our U.S. Government contracts generally permit us to use patents owned by others. Similar provisions in U.S. Government contracts awarded to other companies make it impossible for us to prevent the use of our patents in most domestic work performed by other companies for the U.S. Government.

RAW MATERIALS

In manufacturing our products, we use our own production capabilities as well as a diverse base of third party suppliers and sub-contractors. Although aspects of certain of our businesses require relatively scarce raw materials, we have not experienced difficulty in our ability to procure raw materials, components, sub-assemblies and other supplies required in our manufacturing processes.

CONTRACTS

A significant portion of our sales are derived from strategic, long-term programs and from sole-source contracts. Approximately 62.4% of our sales for the year ended December 31, 2001 were generated from sole-source contracts. Our customer satisfaction and performance record are evidenced by our receipt of performance-based award fees exceeding 91% of the available award fees on average during the year ended December 31, 2001. We believe that our customers will award long-term, sole-source, outsourcing contracts to the most capable merchant supplier in terms of quality, responsiveness, design, engineering and program management support as well as cost. As a consequence of our strong competitive position, for the year ended December 31, 2001, we won contract awards in excess of 50% on new competitive contracts that we bid on, and in excess of 90% on the contracts we rebid for which we were the incumbent supplier.

We have a diverse business mix with limited reliance on any single program, a balance of cost-plus and fixed price contracts, a significant sole-source follow-on business and an attractive customer profile. For the year ended December 31, 2001, 31.7% of our sales were generated from cost-reimbursable contracts and 68.3% from fixed-price contracts, providing us with a sales mix of predictable profitability (cost-reimbursable) and higher profit margin (fixed-price) business.

Generally, contracts are either fixed-price or cost-reimbursable. Under a fixed-price contract we agree to perform the scope of work required by the contract for a predetermined contract price. Although a fixed-price contract generally permits us to retain profits if the total actual contract costs are less than the estimated contract costs, we bear the risk that increased or unexpected costs may reduce our profit or cause us to sustain losses on the contract. Conversely, on a cost-reimbursable contract we are paid up to predetermined funding levels determined by our customers, our allowable incurred costs and generally a fee representing a profit on those costs, which can be fixed or variable depending on the contract's pricing arrangement. Therefore, on a cost-reimbursable contract we do not bear the risks of unexpected cost overruns. Generally, a fixed-price contract offers higher profit margins than a cost-reimbursable contract which is commensurate with the greater levels of risk assumed on a fixed-price contract.

Most of our U.S. Government business is subject to unique procurement and administrative rules based on both laws and regulations, including various profit and cost controls, allocations of costs to contracts and non-reimbursement of unallowable costs such as lobbying expenses and interest expenses. Our contract administration and cost accounting policies and practices are subject to oversight by government inspectors, technical specialists and auditors.

Certain of our sales are under foreign military sales agreements directly between the U.S. Government and foreign governments. In such cases, because we serve only as the supplier, we do not have unilateral control over the terms of the agreements. These contracts are subject to extensive legal and regulatory requirements and, from time to time, agencies of the U.S. Government investigate whether our operations are being conducted in accordance with these laws and regulations.

Investigations could result in administrative, civil, or criminal liabilities, including repayments, disallowance of certain costs, or fines and penalties.

Certain of our sales are direct commercial sales to foreign governments. These sales are subject to U.S. Government approval and licensing under the Arms Export Control Act. Legal restrictions on sales of sensitive U.S. technology also limit the extent to which we can sell our products to foreign governments or private parties.

U.S. Government contracts are, by their terms, subject to termination by the U.S. Government either for its convenience or default by the contractor if the contractor fails to perform the contracts' scope of work. Upon termination other than for a contractor's default, the contractor will normally be entitled to reimbursement for allowable costs and an allowance for profit. Foreign defense contracts generally contain comparable provisions permitting termination at the convenience of the government. To date, none of our significant fixed price contracts have been terminated.

Companies supplying defense-related equipment to the U.S Government are subject to certain additional business risks peculiar to the U.S. defense industry. Among these risks are the ability of the U.S. Government to unilaterally suspend a company from new contracts pending resolution of alleged violations of procurement laws or regulations. In addition, U.S. Government contracts are conditioned upon the continuing availability of Congressional appropriations. Congress usually appropriates funds for a given program on a September 30 fiscal year basis, even though contract performance may take years. Consequently, at the outset of a major program, the contract is usually partially funded, and additional monies are normally committed to the contract by the procuring agency only as appropriations are made by Congress for future fiscal years.

As is common in the U.S. defense industry, we are subject to business risks, including changes in the U.S. Government's procurement policies (such as greater emphasis on competitive procurement), governmental appropriations, national defense policies or regulations, service modernization plans, and availability of funds. A reduction in expenditures by the U.S. Government for products and services of the type we manufacture and provide, lower margins resulting from increasingly competitive procurement policies, a reduction in the volume of contracts or subcontracts awarded to us or if we incur substantial contract cost overruns could materially adversely affect our business.

PROPERTIES

The table below sets forth information with respect to our significant facilities and properties as of December 31, 2001.

LOCATION	OWNED	LEASED
	(THOUSANDS OF SQUARE FEET)	
L-3 Corporate Offices, New York, NY	--	35.4
L-3 Washington Operations, Arlington, VA	--	6.3
SECURE COMMUNICATION SYSTEMS:		
Camden, NJ	--	575.0
Binghamton, NY	--	428.0
Arlington, TX	82.0	182.6
Grand Prairie, TX	--	125.0
Salt Lake City, UT	--	487.5
Orlando, FL	--	193.6
SPECIALIZED PRODUCTS:		
Phoenix, AZ	--	90.0
Anaheim, CA	--	474.2
Folsom, CA	--	59.4
Menlo Park, CA	--	97.5
San Diego, CA	196.0	87.1
Sylmar, CA	--	253.0
Ocala, FL	111.7	--
Sarasota, FL	--	143.7
Alpharetta, GA	93.0	--
Concord, MA	--	60.0
Newburyport, MA	--	82.5
Teterboro, NJ	--	250.0
Hauppauge, NY	90.0	150.0
Cincinnati, OH	222.6	--
Lancaster, PA	--	146.8
Newton, PA	80.0	--
Philadelphia, PA	--	231.9
Alberta, Canada	163.0	107.9
Ontario, Canada	--	73.8
Quebec, Canada	165.2	54.9
Kiel, Germany	--	67.2
Leer, Germany	32.2	33.2

In total, at December 31, 2001, we owned approximately 1.4 million square feet and leased approximately 5.7 million square feet of manufacturing facilities and properties.

LEGAL PROCEEDINGS

From time to time we are involved in legal proceedings arising in the ordinary course of our business. We believe that we are adequately reserved for these liabilities and that there is no litigation pending that could have a material adverse effect on our consolidated results of operations, financial condition or cash flows.

On August 6, 2002, Aviation Communication & Surveillance Systems, LLC (ACSS), a subsidiary of L-3 Communications Corporation, was sued by Honeywell International, Inc. and Honeywell Intellectual Properties, Inc. for alleged infringement of patents that relate to terrain awareness avionics. The lawsuit was filed in the Unites States District Court for the District of Delaware. We had previously investigated the Honeywell patents and believe that it has valid defenses to

Honeywell's claim. In addition, ACSS has been indemnified to a certain extent by Thales Avionics, which has provided to ACSS the alleged infringing technology. In the opinion of management, the ultimate disposition of Honeywell's pending claim will not result in a material liability to us.

ENVIRONMENTAL MATTERS

Our operations are subject to various federal, state and local environmental laws and regulations relating to the discharge, storage, treatment, handling, disposal and remediation of certain materials, substances and wastes used in our operations. We continually assess our obligations and compliance with respect to these requirements. We have also assessed the risk of environmental contamination on various manufacturing facilities of our acquired businesses and, where appropriate, have obtained indemnification, either from the sellers of those acquired businesses or through pollution liability insurance. We believe that our current operations are in substantial compliance with all existing applicable environmental laws and permits. We believe our current expenditures will allow us to continue to be in compliance with applicable environmental laws and regulations. While it is difficult to determine the timing and ultimate cost to be incurred in order to comply with these laws, based upon available internal and external assessments, with respect to those environmental loss contingencies of which we are aware, we believe that even without considering potential insurance recoveries, if any, there are no environmental loss contingencies that, individually or in the aggregate, would be material to our consolidated results of operations.

Despite our current level of compliance, new laws and regulations, stricter enforcement of existing laws and regulations, the discovery of previously unknown contamination or the imposition of new clean-up requirements may require us to incur costs in the future that could have a negative effect on our financial condition or results of operations.

PENSION PLANS

In connection with our acquisition of the predecessor company, we assumed certain liabilities relating to defined benefit pension plans for present and former employees and retirees of certain businesses which were transferred from Lockheed Martin to us. Prior to the consummation of our acquisition of the predecessor company, Lockheed Martin received a letter from the Pension Benefit Guaranty Corporation (the "PBGC") which requested information regarding the transfer of such pension plans and indicated that the PBGC believed certain of such pension plans were underfunded using the PBGC's actuarial assumptions. The PBGC assumptions result in a larger liability for accrued benefits than the assumptions used for financial reporting under Statement of Financial Accounting Standards No. 87. The PBGC underfunding is related to the Communication Systems -- West and Aviation Recorders pension plans (the "Subject Plans").

With respect to the Subject Plans, Lockheed Martin entered into an agreement (the "Lockheed Martin Commitment") among Lockheed Martin, L-3 Communications and the PBGC dated as of April 30, 1997. The material terms and conditions of the Lockheed Martin Commitment include a commitment by Lockheed Martin to the PBGC to, under certain circumstances, assume sponsorship of the Subject Plans or provide another form of financial support for the Subject Plans. The Lockheed Martin Commitment will continue with respect to any Subject Plan until such time as such Subject Plan is no longer underfunded on a PBGC basis for two consecutive years or, at any time after May 31, 2002, if we achieve investment grade credit ratings. Pursuant to the Lockheed Martin Commitment, the PBGC agreed that it would take no further action in connection with our acquisition of the predecessor company.

Upon the occurrence of certain events, Lockheed Martin, at its option, has the right to decide whether to cause us to transfer sponsorship of any or all of the Subject Plans to Lockheed Martin, even if the PBGC has not sought to terminate the Subject Plans. Such a triggering event occurred in 1998, but reversed in 1999, relating to a decrease in the PBGC-mandated discount rate in 1998 that had resulted in an increase in the underlying liability. We notified Lockheed Martin of the 1998 triggering event, and in February 1999, Lockheed Martin informed us that it had no present intention

to exercise its right to cause us to transfer sponsorship of the Subject Plans. If Lockheed Martin did assume sponsorship of these plans, it would be primarily liable for the costs associated with funding the Subject Plans or any costs associated with the termination of the Subject Plans, but we would be required to reimburse Lockheed Martin for these costs. To date, there has been no impact on pension expense and funding requirements resulting from this arrangement. In the event Lockheed Martin assumes sponsorship of the Subject Plans we would be required to reimburse Lockheed Martin for all amounts that it contributes to, or costs it incurs with respect to, the Subject Plans. For the year ended December 31, 2001, no pension contributions were required to be made by us to the Subject Plans. For subsequent years, our funding requirements will depend upon prevailing interest rates, return on plan assets and underlying actuarial assumptions.

We have performed our obligations under the letter agreement with Lockheed Martin and the Lockheed Martin Commitment and have not received any communications from the PBGC concerning actions which the PBGC contemplates taking in respect of the Subject Plans.

EMPLOYEES

As of December 31, 2001, we employed approximately 18,000 full-time and part-time employees, the majority of whom are located in the United States. Of these employees, approximately 11.1% are covered by 35 separate collective bargaining agreements with various labor unions. We have a continuing need for skilled and professional personnel to meet contract schedules and obtain new and ongoing orders for our products. We believe that relations with our employees are good.

As of September 13, 2002 the Lehman Partnership owned 2.4% of our common stock; and prior to their sale of our common stock pursuant to Rule 144 on September 17, 2001, the Lehman Partnership beneficially owned more than five percent of our common stock.

STOCKHOLDERS AGREEMENT

In connection with L-3 Holdings' incorporation, L-3 Holdings, Lehman Bothers Capital Partners III, L.P. and certain of its affiliates, Messrs. Lanza and LaPenta and Lockheed Martin entered into a Stockholders Agreement, which terminated upon the completion of L-3 Holdings' initial public offering and upon the sale of L-3 Holdings' common stock to less than 10% of L-3 Holdings outstanding common stock, except for the term relating to:

- registration rights; and
- the standstill agreement by Lockheed Martin.

Pursuant to the Stockholders Agreement, at this time Messrs. Lanza and LaPenta and the Lehman Partnership have the right, subject to certain conditions, to require L-3 Holdings to register their shares of L-3 Holdings' common stock under the Securities Act of 1933. The Lehman Partnership has four demand rights and each of Messrs. Lanza and LaPenta has one demand registration right. Lockheed Martin sold all of its shares of L-3 Holdings' common stock in 1999. In addition, the Stockholders Agreement also provides some existing stockholders with piggyback registration rights. The Stockholders Agreement provides, among other things, that L-3 Holdings will pay expenses incurred in connection with:

- up to three demand registrations requested by the Lehman Partnership and the two demand registration requested by each of Messrs. Lanza and LaPenta; and
- any registration in which those parties participate through piggyback registration rights granted under the agreement.

The Lehman Partnership sold 4.0 million of their shares of L-3 Holdings' common stock through the exercise of their piggyback registration rights in L-3 Holdings' February 1999 common stock offering.

TRANSACTION WITH AFFILIATES

One provision of the Stockholders Agreement which expired after the Lehman Partnership no longer owned 10% of L-3 Holdings' common stock, gave Lehman Brothers Inc. the exclusive right to provide investment banking services to L-3 Holdings, other than in connection with cash acquisitions undertaken, through April 2002.

Over the past three years, Lehman Brothers Inc. has entered into various transactions with L-3 Holdings and its subsidiaries. As required by the Stockholders Agreement, all fees paid in connection with such transactions and services were mutually agreed upon and, in our opinion, based on similar transactions and practices in the investment banking industry. We believe that all of these transactions were entered into on terms and conditions at least as favorable to us as they would have been had we entered into these transactions with other investment banks.

CAPITAL MARKET SERVICE

In May 1998, Lehman Brothers Inc. acted as one of several initial purchasers and placement agents of $180.0 million of 8 1/2% Senior Subordinated Notes due 2008 issued by us. In May 1998, Lehman Brothers Inc. acted as lead underwriter of L-3 Holdings' common stock sold in L-3 Holdings' initial public offering. Lehman Brothers Inc. also acted as one of several initial purchasers and placement agents of $200.0 million of 8% Senior Subordinated Notes due 2008 issued by us in December 1998. In February 1999, Lehman Brothers Inc. acted as lead underwriter of the 10.0 million

shares L-3 Holdings sold in a follow-on public offering. Additionally, as part of that transaction, the Lehman Partnership sold 13.0 million shares of their shares of L-3 Holdings' common stock in a secondary public offering. In November and December 2000, Lehman Brothers Inc. was the sole initial purchaser of $300.0 million of our 5.25% Convertible Senior Subordinated Notes due 2009. In May 2001, Lehman Brothers Inc. acted as lead underwriter in L-3 Holdings' sale of 9.15 million shares of L-3 Holdings' common stock. In addition, the Lehman partnership sold 4.35 million shares of their shares of L-3 Holdings' common stock as part of that transaction. In October 2001, Lehman Brothers Inc. acted as one of several initial purchasers of $420.0 million of our 4% Senior Subordinated Convertible Contingent Debt Securities due 2011. In each of these financing transactions, Lehman Brothers Inc. received customary fees, underwriting discounts and commissions.

In addition, Lehman Brothers Inc. acted as joint book running manager and joint book running initial purchaser of our offering of the outstanding notes and sole book-running manager and sole lead underwriter of the concurrent offering by L-3 Holdings of 14,000,000 shares of its common stock.

MERGERS AND ACQUISITIONS ADVISORY SERVICES

In January 1999, Lehman Brothers Inc. acted as our advisor in connection with the acquisition of Microdyne Corporation. In April 1999, Lehman Brothers Inc. acted as our advisor in connection with the acquisition of Aydin Corporation. In 2002, Lehman Brothers Inc. acted as our advisor in connection with the acquisition of all of the assets of Aircraft Integration Systems, a division of Raytheon Company. For these services, Lehman Brothers Inc. received customary fees.

SENIOR CREDIT FACILITIES

In May 1998, Lehman Brothers Inc. acted as joint lead arranger and joint book manager and Lehman Commercial Paper Inc., an affiliate of Lehman Brothers Inc., acted as documentation agent, syndicate agent and lender in connection with two of L-3 Communications' senior credit facilities. In connection with those transactions both Lehman Brothers Inc. and Lehman Commercial Paper Inc. received customary fees and interest. In connection with L-3 Communications' $250 million 364-day revolving senior credit facility entered into in April 2000, Lehman Brothers Inc. acted as joint lead arranger and joint book manager and Lehman Commercial Paper Inc. acted as documentation agent, syndicate agent and lender. L-3 Communications entered into its senior credit facilities after arms-length negotiations and on the same terms with all of the other parties thereunder. During the twelve-month period ended December 31, 2001 Lehman Brothers Inc. and Lehman Commercial Paper Inc. received interest payments and fees under these senior credit facilities totaling approximately $0.8 million.

In connection with the acquisition of AIS, Lehman Brothers Inc. acted as joint book running manager and joint lead arranger and Lehman Commercial Paper Inc. acted as administrative agent with respect to our senior subordinated interim loan facility entered into in March 2002. In connection with those transactions both Lehman Brothers Inc. and Lehman Commercial Paper Inc. received customary fees and interest.

DIRECTORS AND EXECUTIVE OFFICERS

The following table provides information concerning the directors and executive officers of L-3 Communications as of September 1, 2002:

NAME	AGE	POSITION
Frank C. Lanza	70	Chairman, Chief Executive Officer and Director
Robert V. LaPenta	57	President, Chief Financial Officer and Director
Michael T. Strianese	47	Senior Vice President, Finance
Christopher C. Cambria	44	Senior Vice President, General Counsel and Secretary
Jimmie V. Adams	66	Vice President -- Washington D.C. Operations
David T. Butler III	46	Vice President -- Planning
Ralph G. D'Ambrosio	34	Vice President -- Controller
Joseph S. Paresi	47	Vice President -- Product Development
Robert W. RisCassi	66	Vice President -- Washington D.C. Operations
Charles J. Schafer	55	Vice President -- Business Operations
Stephen M. Souza	49	Vice President -- Treasurer
Dr. Jill J. Wittels	53	Vice President -- Business Development
Thomas A. Corcoran(1)	58	Director
Robert B. Millard(2)	51	Director
John E. Montague(2)	47	Director
John M. Shalikashvili(1)	66	Director
Arthur L. Simon(1)	70	Director
Alan H. Washkowitz(2)	62	Director

(1) Member of the Audit Committee.

(2) Member of the Compensation Committee.

Frank C. Lanza, Chairman and Chief Executive Officer and Director since April 1997. From April 1996, when Loral Corporation was acquired by Lockheed Martin Corporation, until April 1997, Mr. Lanza was Executive Vice President of Lockheed Martin, a member of Lockheed Martin's Executive Council and Board of Directors and President and Chief Operating Officer of Lockheed Martin's command, control, communications and intelligence ("C3I") and Systems Integration Sector, which comprised many of the businesses Lockheed Martin acquired from Loral. Prior to the April 1996 acquisition of Loral, Mr. Lanza was President and Chief Operating Officer of Loral, a position he held since 1981. He joined Loral in 1972 as President of its largest division, Electronic Systems. His earlier experience was with Dalmo Victor and Philco Western Development Laboratory.

Robert V. LaPenta, President and Chief Financial Officer and Director since April 1997. From April 1996, when Loral was acquired by Lockheed Martin, until April 1997, Mr. LaPenta was a Vice President of Lockheed Martin and was Vice President and Chief Financial Officer of Lockheed Martin's C3I and Systems Integration Sector. Prior to the April 1996 acquisition of Loral, he was Loral's Senior Vice President and Controller, a position he held since 1981. He joined Loral in 1972 and was named Vice President and Controller of its largest division in 1974. He became Corporate Controller in 1978 and was named Vice President in 1979. Mr. LaPenta is on the Board of Trustees of Iona College, the Board of Trustees of The American College of Greece and the Board of Directors of Core Software Technologies.

Michael T. Strianese, Senior Vice President--Finance. Mr. Strianese became a Senior Vice President in March 2001. He joined us in April 1997 as Vice President--Finance and Controller and was our Controller until July 2000. From April 1996, when Loral was acquired by Lockheed Martin, until April 1997, Mr. Strianese was Vice President and Controller of Lockheed Martin's C3I and

Systems Integration Sector. From 1991 to the April 1996 acquisition of Loral, he was Director of Special Projects at Loral. Mr. Strianese is a Certified Public Accountant.

Christopher C. Cambria, Senior Vice President--Secretary and General Counsel. Mr. Cambria became a Senior Vice President in March 2001. He joined us in June 1997 as Vice President--General Counsel and Secretary. From 1994 until joining us, Mr. Cambria was an associate with Fried, Frank, Harris, Shriver & Jacobson. From 1986 until 1993, he was an associate with Cravath, Swaine & Moore.

Jimmie V. Adams, Vice President--Washington, D.C. Operations. General Jimmie V. Adams (U.S.A.F.-ret.) joined us in May 1997. From April 1996 until April 1997, he was Vice President of Lockheed Martin's Washington Operations for the C3I and Systems Integration Sector. Prior to the April 1996 acquisition of Loral, he had held the same position at Loral since 1993. Before joining Loral in 1993, he was Commander in Chief, Pacific Air Forces, Hickam Air Force Base, Hawaii, capping a 35-year career with the U.S. Air Force. He was also Deputy Chief of Staff for plans and operation for U.S. Air Force headquarters and Vice Commander of Headquarters Tactical Air Command and Vice Commander in Chief of the U.S. Air Forces Atlantic at Langley Air Force Base. He is a command pilot with more than 141 combat missions.

David T. Butler III, Vice President--Planning. Mr. Butler became a Vice President in December 2000. He joined us in 1997 as our corporate Director of Planning and Strategic Development. Prior to joining us, he was the Controller for Lockheed Martin Fairchild Systems from 1996 to 1997. Prior to the acquisition of Loral, Mr. Butler was Controller of Loral Fairchild Systems from 1992 to 1996. From 1981 to 1992 Mr. Butler held a number of financial positions with Loral Electronic Systems.

Ralph G. D'Ambrosio, Vice President and Controller. Mr. D'Ambrosio became Vice President in 2001 and Controller in August 2000. He joined us in August 1997, and until July 2000 was our Assistant Controller. Prior to joining us, he was a senior manager at Coopers & Lybrand L.L.P., where he held a number of positions since 1989. Mr. D'Ambrosio is a Certified Public Accountant.

Joseph S. Paresi, Vice President--Product Development and President of the Security Systems Division. Mr. Paresi joined us in April 1997. From April 1996 until April 1997, Mr. Paresi was Corporate Director of Technology for Lockheed Martin's C3I and System Integration Sector. Prior to the April 1996 acquisition of Loral, Mr. Paresi was Corporate Director of Technology for Loral, a position he held since 1993. From 1978 to 1993, Mr. Paresi was a Systems Engineer, Director of Marketing and Director of International Programs at Loral Electronic Systems.

Robert W. Riscassi, Vice President--Washington, D.C. Operations. General Robert W. RisCassi (U.S. Army-ret.) joined us in April 1997. From April 1996 until April 1997, he was Vice President of Land Systems for Lockheed Martin's C(3) I and Systems Integration Sector. Prior to the April 1996 acquisition of Loral, he had held the same position for Loral since 1993. He joined Loral in 1993 after retiring as U.S. Army Commander in Chief, United Nations Command/Korea. His 35-year military career included posts as Army Vice Chief of Staff; Director, Joint Staff, Joint Chiefs of Staff; Deputy Chief of Staff for Operations and Plans; and Commander of the Combined Arms Center. General RisCassi is currently a director of Alliant Techsystems Inc.

Charles J. Schafer, Vice President--Business Operations and President of the Products Group. Mr. Schafer was appointed President of the Products Group in September 1999. He joined us in August 1998 as Vice President--Business Operations. Prior to August 1998, he was President of Lockheed Martin's Tactical Defense Systems Division, a position he also held at Loral since September 1994. Prior to the April 1996 acquisition of Loral, Mr. Schafer held various executive positions with Loral, which he joined in 1984.

Stephen M. Souza, Vice President and Treasurer. Mr. Souza joined us in August 2001. Prior to joining us he was the Treasurer of ASARCO Inc. from 1999 to August 2001 and assistant treasurer from 1992 to 1999.

Jill H. Wittels, Vice President--Business Development. Ms. Wittels joined us in March 2001. From July 1998 to February 2001 she was president and general manager of BAE Systems' Information and Electronic Warfare Systems/Infrared and Imaging Systems division and its predecessor company. From January 1997 to July 1998, Ms. Wittels was Vice President -- Business Development and Operations for IR Focalplane Products at Lockheed Martin. Ms. Wittels is on the Board of Overseers for the Department of Energy's Fermi National Accelerator Lab.

Thomas A. Corcoran, Director since July 1997. Member of the audit committee. Since March 2001, Mr. Corcoran has been the President and Chief Executive Officer of Gemini Air Cargo. Mr. Corcoran is also president of Corcoran Enterprises, a private management consulting firm. Mr. Corcoran was the President and Chief Executive Officer of Allegheny Teledyne Incorporated from October 1999 to December 2000. From October 1998 to September 1999, he was President and Chief Operating Officer of the Space & Strategic Missiles Sector of Lockheed Martin Corporation. From March 1995 to September 1998 he was the President and Chief Operating Officer of the Electronic Systems Sector of Lockheed Martin Corporation. From 1993 to 1995, Mr. Corcoran was President of the Electronics Group of Martin Marietta Corporation. Prior to that he worked for General Electric for 26 years and from 1983 to 1993 he held various management positions with GE Aerospace and was a company officer from 1990 to 1993. Mr. Corcoran is a member of the Board of Trustees of Worcester Polytechnic Institute, the Board of Trustees of Stevens Institute of Technology and the Board of Directors of REMEC Corporation.

Robert B. Millard, Director since April 1997. Chairman of the compensation committee. Mr. Millard is a Managing Director of Lehman Brothers Inc., head of Lehman Brothers' Principal Trading & Investments Group and principal of the Merchant Banking Group. Mr. Millard joined Kuhn Loeb & Co. in 1976 and became a Managing Director of Lehman Brothers Inc. in 1983. Mr. Millard is a director of GulfMark International, Kirch Media GmbH and Weatherford International, Inc.

John E. Montague, Director since April 1997. Member of the compensation committee. Mr. Montague has been Vice President, Financial Strategies of Lockhead Martin Corporation since August 2001. From September 1998 to August 2001, he was Vice President and Chief Financial Officer of Lockheed Martin Global Telecommunications, Inc., a wholly owned subsidiary of Lockheed Martin. He served as Vice President, Financial Strategies at Lockheed Martin responsible for mergers, acquisitions and divestiture activities and shareholder value strategies from March 1995 until September 1998. Previously, he was Vice President, Corporate Development and Investor Relations at Martin Marietta Corporation from 1991 to 1995. From 1988 to 1991, he was Director of Corporate Development at Martin Marietta Corporation, which he joined in 1977 as a member of the engineering staff. Mr. Montague is a director of Rational Software Corporation.

John M. Shalikashvili, Director since August 1998. Chairman of the audit committee. General Shalikashvili (U.S. Army-ret.) is an independent consultant and a Visiting Professor at Stanford University. General Shalikashvili was the senior officer of the United States military and principal military advisor to the President of the United States, the Secretary of Defense and National Security Council by serving as the thirteenth Chairman of the Joint Chiefs of Staff, Department of Defense, for two terms from 1993 to 1997. Prior to his tenure as Chairman of the Joint Chiefs of Staff, he served as the Commander in Chief of all United States forces in Europe and as NATO's tenth Supreme Allied Commander, Europe (SACEUR). He has also served in a variety of command and staff positions in the continental United States, Alaska, Belgium, Germany, Italy, Korea, Turkey and Vietnam. General Shalikashvili is a director of The Boeing Company, United Defense Industries Inc., and Frank Russell Trust Company.

Arthur L. Simon, Director since April 2000. Member of the audit committee. Mr. Simon is an independent consultant. Before his retirement, Mr. Simon was a partner at Coopers & Lybrand L.L.P., Certified Public Accountants, from 1968 to 1994. He is a director of Loral Space & Communications, Inc.

Alan H. Washkowitz, Director since April 1997. Member of the compensation committee. Mr. Washkowitz is a Managing Director of Lehman Brothers Inc. and head of the Merchant Banking Group, and is responsible for the oversight of Lehman Brothers Inc. Merchant Banking Portfolio Partnership L.P. Mr. Washkowitz joined Lehman Brothers Inc. in 1978 when Kuhn Loeb & Co. was acquired by Lehman Brothers. Mr. Washkowitz is a director of Peabody Energy Corporation.

L-3 Holdings' certificate of incorporation provides for a classified board of directors divided into three classes. Class I will expire at the annual meeting of the stockholders to be held in 2005; Class II will expire at the annual meeting of the stockholders to be held in 2004; and Class III will expire at the annual meeting of the stockholders to be held in 2003. At each annual meeting, L-3 Holdings' stockholders will elect the successors to directors whose terms will then expire to serve from the time of election and qualification until the third annual meeting following election and until their successors have been elected and qualified, or until their resignation or removal, if any. Increases or decreases in the number of directorships will be distributed among the three classes so that, as nearly as possible, each class will consist of an equal number of directors.

Our executive officers and key employees serve at the discretion of our board of directors.

THE BOARD OF DIRECTORS AND CERTAIN COMMITTEES OF THE BOARD OF DIRECTORS

Our board of directors directs the management of our business and affairs, as provided by Delaware law, and conducts its business through meetings of the board of directors and two standing committees: the audit and compensation committees. In addition, from time to time, special committees may be established under the direction of the board of directors when necessary to address specific issues. We have no nominating committee; however, the audit committee has agreed to perform the functions of the nominating committee. Each executive officer serves at the discretion of the board of directors. During the fiscal year ended December 31, 2001, the board of directors held four regularly scheduled meetings and one special meeting. All of our directors attended at least 75% of the combined number of board of directors meetings and committee meetings during the past fiscal year.

The audit committee currently consists of Messrs. Corcoran, Shalikashvili (Chairman) and Simon. This committee, which met five times during 2001, is responsible generally for (1) recommending to the board of directors the independent accountants to be nominated to audit our financial statements; (2) approving the compensation of the independent accountants; (3) meeting with our independent accountants to review the proposed scope of the annual audit of our financial statements; (4) reviewing the findings of the independent accountants with respect to the annual audit; and (5) reviewing with management and the independent accountants our periodic financial reports prior to our filing them with the SEC and reporting annually to the board of directors with respect thereto. In addition, the audit committee, acting as the nominating committee, nominated the Class I members for reelection to the board of directors.

The compensation committee consists of Messrs. Millard (Chairman), Montague and Washkowitz. This committee, which met one time and acted by written consent three times during 2001, is responsible for administering our 1997 Stock Option Plan for Key Employees (the "1997 Plan") and our 1999 Long Term Performances Plan (the "1999 Plan") and has limited authority to adopt amendments to those plans. This committee is also responsible for recommending to the board of directors the salaries to be paid to our Chief Executive Officer and the President, and reviewing and approving the Chief Executive Officer's and the President's other annual cash compensation and long-term incentives and the total compensation to be paid to certain of our other executive officers.

COMPENSATION OF DIRECTORS

The directors who are also our employees or employees of our subsidiaries or affiliates do not receive compensation for their services as directors. The non-affiliated directors receive annual compensation of $30,000 for service on the board of directors, of which $25,000 is paid in cash, and $5,000 is paid in shares of L-3 Holdings' common stock. In addition, non-affiliated directors receive an

annual stock option grant of 3,000 shares of L-3 Holdings' common stock, which will vest in three equal annual installments. The non-affiliated directors are entitled to reimbursement for their reasonable out-of-pocket expenses in connection with their travel to and attendance at meetings of the board of directors or committees thereof. In addition, the non-affiliated directors will be compensated $1,000 per meeting attended, including committee meetings, up to a maximum of $2,000 per day.

Non-affiliated directors may defer up to 100 percent of the cash portion of their annual cash compensation (including meeting fees) otherwise payable to the director. Subject to certain limitations, a participating director's deferred compensation will be distributed in a lump sum on, or distribution in annual installments commencing on, the 30th day following the date he or she ceases to be a director. Deferral elections are irrevocable during any calendar year and must be made before the beginning the calendar year in which his/her compensation is earned. Interest is accrued on deferred amounts. Depending on a director's investment election, deferred amounts earn interest at a rate based on the 90-day U.S. Government Treasury Bill or the performance of L-3 Holdings' common stock.

EXECUTIVE COMPENSATION

SUMMARY COMPENSATION TABLE

The following table provides summary information concerning compensation paid or accrued by us to or on behalf of our Chief Executive Officer and each of our four other most highly compensated executive officers who served in such capacities as of December 31, 2001, collectively referred to herein as the named executive officers, for services rendered to us during each of the last three years.

		ANNUAL COMPENSATION		LONG TERM COMPENSATION AWARD	
NAME AND PRINCIPAL POSITION	YEAR	SALARY ($)	BONUS ($)	SECURITIES UNDERLYING STOCK OPTIONS (#)	ALL OTHER COMPENSATION ($)(1)
Frank C. Lanza	2001	$750,000	$750,000	--	$ 11,125
(Chairman and Chief	2000	750,000	500,000	--	6,858
Executive Officer)	1999	750,000	200,000	--	9,536
Robert V. LaPenta	2001	545,577	650,000	--	34,306
(President and Chief	2000	500,000	400,000	--	32,907
Financial Officer)	1999	500,000	200,000	--	27,900
Michael T. Strianese	2001	255,000	300,000	54,000	13,790
(Senior Vice President,	2000	209,673	225,000	--	73,515
Finance)	1999	180,000	175,000	95,000	69,969
Christopher C. Cambria					
(Senior Vice President,	2001	235,000	300,000	54,000	10,838
Secretary and General	2000	228,025	225,000	--	10,827
Counsel)	1999	207,000	190,000	95,000	7,317
Charles J. Schafer					
(Vice President, Business	2001	248,230	250,000	36,000	118,438
Operations and President of	2000	230,000	175,000	--	118,368
the Products Group)	1999	212,608	85,000	45,000	215,873

(1) Amounts for the year ended December 31, 2001 include: (a) our matching contributions of $6,800 under our savings plan for Messrs. LaPenta, Strianese, Cambria and Schafer; (b) the value of supplemental life insurance programs in the amounts of $11,125 for Mr. Lanza, $27,506 for Mr. LaPenta, $6,990 for Mr. Strianese, $4,038 for Mr. Cambria and $8,638 for Mr. Schafer; and (c) an employment signing bonus of $103,000 for Mr. Schafer.

OPTION GRANTS IN FISCAL YEAR 2001

The following table shows the options to purchase L-3 Holdings' common stock granted in fiscal year 2001 to the named executive officers.

NAME	OPTIONS GRANTED (#)	% TOTAL OPTIONS GRANTED	SHARE PRICE ($)	EXPIRATION DATE	GRANT DATE VALUE ($)
Frank C. Lanza	--	0.00%	--		--
Robert V. LaPenta	--	0.00%	--		--
Michael T. Strianese	54,000	2.44%	$ 39.70	11/15/11	$ 877,410
Christopher C. Cambria	54,000	2.44%	39.70	11/15/11	877,410
Charles J. Schafer	36,000	1.63%	39.70	11/15/11	584,940
	144,000				$2,339,760

OPTION EXERCISES AND FISCAL YEAR-END VALUES

The following table provides information on options to purchase L-3 Holdings' common stock that were exercised during fiscal year 2001 by our named executive officers; the total numbers of exercisable and non-exercisable options to purchase L-3 Holdings' common stock owned by our named executive officers at December 31, 2001, and the aggregate dollar value of such options that were in-the-money at December 31, 2001.

NAME AND PRINCIPAL POSITION	SHARES ACQUIRED ON EXERCISE(#)	VALUE REALIZED ($)	NUMBER OF SECURITIES UNDERLYING UNEXERCISED OPTIONS AT FISCAL YEAR-END (#)		VALUE OF UNEXERCISED IN-THE-MONEY OPTIONS AT FISCAL YEAR-END ($) (1)	
			EXERCISABLE	UNEXERCISABLE (2)	EXERCISABLE	UNEXERCISABLE (2)
Frank C. Lanza (Chairman and Chief Executive Officer)	--	--	1,600,000	228,572	$66,824,000	$9,546,310
Robert V. LaPenta (President and Chief Financial Officer)	--	--	1,400,000	228,572	58,471,000	9,546,310
Michael T. Strianese (Senior Vice President, Finance)	34,000	$1,192,295	75,332	85,668	2,045,467	1,105,255
Christopher C. Cambria (Senior Vice President, Secretary and General Counsel)	50,000	1,552,136	40,132	85,668	1,028,467	1,105,255
Charles J. Schafer (Vice President, Business Operations and President of the Products Group)	35,000	124,750	27,000	51,000	801,750	584,730

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(1) In accordance with SEC rules, the values of the in-the-money options were calculated by subtracting the exercise prices of the options from the December 31, 2001 closing stock price of L-3 Holdings' common stock of $45.00.

(2) These options are unexercisable because they have not yet vested under their terms.

PENSION PLAN

The following table shows the estimated annual pension benefits payable under the L-3 Communications Corporation Pension Plan and Supplemental Executive Retirement Plan to a covered participant upon retirement at normal retirement age (65), based on the career average compensation (salary and bonus) and years of credited service with us.

AVERAGE COMPENSATION AT RETIREMENT	YEAR OF CREDITED SERVICE						
	5	10	15	20	25	30	35
$ 300,000	$19,000	$ 34,244	$ 46,461	$ 60,403	$ 71,670	$ 80,793	$88,154
400,000	25,652	46,235	62,735	81,492	96,621	108,844	118,693
500,000	32,305	58,225	79,009	102,577	121,568	136,890	149,226
600,000	38,954	70,212	95,278	123,664	146,519	164,944	179,765
700,000	45,607	82,203	111,553	144,749	171,467	192,988	210,297
800,000	52,259	94,193	127,827	165,838	196,418	221,038	240,837
900,000	58,911	106,182	144,099	186,923	221,365	249,086	271,370
1,000,000	65,564	118,174	160,374	208,011	246,313	277,135	301,907
1,100,000	72,214	130,162	176,646	229,097	271,263	305,183	332,442
1,200,000	78,867	142,153	192,920	250,184	296,212	333,232	362,979
1,300,000	85,519	154,143	209,194	271,270	321,161	361,280	393,513
1,400,000	92,171	166,132	225,466	292,357	346,112	389,331	424,053
1,500,000	98,823	178,123	241,741	313,445	371,062	417,380	454,587

As of December 31, 2001, the current annual compensation and current years of credited service (including for Messrs. LaPenta and Strianese, years of credited service as an employee of Loral and Lockheed Martin) for each of the following persons were: Mr. Lanza, $1,250,000 and five years; Mr. LaPenta, $945,577 and 30 years; Mr. Strianese, $480,000 and 12 years; Mr. Cambria, $460,000 and five years; and Mr. Schafer, $423,320 and three years.

COMPENSATION COMMITTEE INTERLOCKS AND INSIDER PARTICIPATION

During the 2001 fiscal year, Messrs. Robert Millard, John Montague and Alan Washkowitz served as members of the compensation committee of the board of directors. None of these individuals has served us or any of our subsidiaries as an officer or employee. Messrs. Millard and Washkowitz are limited partners of Lehman Brothers Capital Partners III, L.P., which, together with Lehman Brothers Holdings, Inc. and certain of their affiliates, owned 15.9 % of L-3 Holdings' outstanding common stock as of March 12, 2001 and, as of March 15, 2002 owned less than five percent of L-3 Holdings' outstanding common stock.

Pursuant to a Stockholders Agreement entered into in connection with L-3 Holdings' incorporation, Lehman Brothers Capital Partners III, L.P. and its affiliates that directly own L-3 Holdings' common stock, have the right from time to time subject to certain conditions, to require L-3 Holdings to register under the Securities Act shares of L-3 Holdings' common stock that the Lehman Partnership holds. The Lehman Partnership has the right to request up to four demand registrations and also has piggyback registration rights. L-3 Holdings has agreed in the Stockholders Agreement to pay expenses in connection with, among other things, (i) up to three demand registrations requested by the Lehman Partnership and (ii) any registration in which the existing stockholders participate through piggyback registration rights granted under such agreement.

None of our executive officers serves as a member of the board of directors or compensation committee of any entity which has one or more executive officers serving as a member of our board of directors or compensation committee.

EMPLOYMENT AGREEMENTS

L-3 Holdings has entered into employment agreements (the "Employment Agreements") effective on April 30, 1997 with each of Mr. Lanza, our Chairman and Chief Executive Officer, who

will receive a base salary of $750,000 per annum and appropriate executive level benefits, and Mr. LaPenta, our President and Chief Financial Officer, who will receive a base salary of $500,000 per annum and appropriate executive level benefits. The Employment Agreements provide for an initial term of five years, which will automatically renew for one-year periods thereafter, unless a party thereto gives notice of its intent to terminate at least 90 days prior to the expiration of the term. Mr. LaPenta gave the requisite notice to terminate his respective Employment Agreement effective May 1, 2002. Mr. LaPenta has continued as an employee of L-3 Holdings with the same compensation and benefits as were provided in his Employment Agreement, but is no longer party to an employment agreement with L-3 Holdings, except with respect to those provisions of his Employment Agreement that survive termination. Mr. Lanza did not give such notice to terminate his respective Employment Agreement, which was automatically renewed for a one-year period beginning on April 30, 2002 in accordance with its terms.

Upon a termination of Mr. Lanza without cause or his resignation for good reason, L-3 Holdings will be obligated, through the end of the term, to (i) continue to pay the base salary and (ii) continue to provide life insurance and medical and hospitalization benefits comparable to those provided to other senior executives; provided, however, that any such coverage shall terminate to the extent that Mr. Lanza is offered or obtains comparable benefits coverage from any other employer. The Employment Agreements provide for confidentiality during employment and at all times thereafter. There is also a noncompetition and non-solicitation covenant which is effective during the employment term and for one year thereafter; provided, however, that if the employment terminates following the expiration of the initial term, the noncompetition covenant will only be effective during the period, if any, that L-3 Holdings pays the severance described above.

L-3 Holdings has granted each of Messrs. Lanza and LaPenta nonqualified options to purchase, at $3.24 per share, 2,285,714 shares of L-3 Holdings' common stock. In each case, half of the options were structured as "time options" and half were structured initially as "performance options," collectively referred to herein as the options. The time options became exercisable with respect to 20% of the shares subject to the time options on each of March 2, 1998, April 30, 1999 and April 30, 2000 and will become exercisable with respect to an additional 20% of the shares subject to the time options on each of April 30, 2001 and 2002 if employment continues through and including these dates. The performance options were initially structured to become exercisable nine years after the grant date, but became exercisable earlier if certain targets for our earnings before interest, income taxes, depreciation and amortization were achieved. On April 5, 1999, L-3 Holdings amended the performance options to eliminate the performance target acceleration provisions and to provide that the unvested portion of the performance options vest and become exercisable as of April 30, 2000. The option term is ten years through April 30, 2007; except that if (i) the option-holder is fired for cause or resigns without good reason, the options will expire upon termination of employment or (ii) the option-holder is fired without cause, resigns for good reason, dies, becomes disabled or retires, the options will expire one year after termination of employment. Unexercisable options will terminate upon termination of employment, unless acceleration is expressly provided for. Upon a change of control, L-3 Holdings may terminate the options, so long as the option-holders are cashed out or permitted to exercise their options prior to this change of control.

L-3 Holdings also has entered into a split-dollar life insurance agreement with Mr. LaPenta. Under the split-dollar agreement, L-3 Holdings owns and pays the premiums on the life insurance policy, and Mr. LaPenta has the right to designate a beneficiary to receive a fixed portion of the policy death benefit. The balance of the death benefit will be payable to us as a recovery of our investment.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS

All outstanding capital stock of L-3 Communications is owned by L-3 Holdings. As of September 1, 2002, there were 94,270,004 shares of L-3 Holdings' common stock outstanding. We know of no person who, as of September 1, 2002, beneficially owned more than five percent of the common stock, except as set forth below.

NAME OF BENEFICIAL OWNER	AMOUNT AND NATURE OF BENEFICIAL OWNERSHIP	PERCENT OF CLASS (1)
Citigroup Inc.(2) 153 East 53rd Street New York, New York 10043.	10,852,048	11.5%
Frank C. Lanza(3) c/o L-3 Communications Holdings, Inc. 600 Third Avenue, 34th Floor New York, New York 10016.	4,779,914	5.0%
Robert V. LaPenta(4) c/o L-3 Communications Holdings, Inc. 600 Third Avenue, 34th Floor New York, New York 10016.	5,135,274	5.4%

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(1) Under Rule 13d-3, certain shares may be deemed to be beneficially owned by more than one person (if, for example, persons share the power to vote or the power to dispose of the shares). In addition, shares are deemed to be beneficially owned by a person if the person has the right to acquire the shares (for example, upon exercise of an option) within 60 days of the date as of which the information is provided. In computing the percentage ownership of any person, the amount of shares outstanding is deemed to include the amount of shares beneficially owned by such person (and only such person) by reason of these acquisition rights. As a result, the percentage of outstanding shares of any person as shown in this table does not necessarily reflect the person's actual ownership or voting power with respect to the number of shares of common stock actually outstanding at September 1, 2002.

(2) Based on a Schedule 13G/A filed with the S.E.C., dated January 24, 2002, in which Citigroup Inc. reported that it had shared voting and dispositive power over 10,852,048 shares of common stock.

(3) The shares of common stock beneficially owned includes 1,828,572 shares issuable under employee stock options and exercisable within 60 days of September 1, 2002.

(4) The shares of common stock beneficially owned includes 1,528,572 shares issuable under employee stock options and exercisable within 60 days of September 1, 2002 and 760 shares allocated to the account of Mr. LaPenta under our savings plans.

SECURITY OWNERSHIP OF MANAGEMENT

The following table shows the amount of L-3 Holdings' common stock beneficially owned (unless otherwise indicated) by L-3 Holdings' executive officers, L-3 Holdings' directors, and by all of L-3 Holdings' current executive officers and directors as a group. Except as otherwise indicated, all information listed below is as of September 1, 2002.

NAME OF BENEFICIAL OWNER	SHARES OF COMMON STOCK BENEFICIALLY OWNED (1)(2)	PERCENTAGE OF SHARES OF COMMON STOCK OUTSTANDING (3)
Directors and Executive Officers		
Frank C. Lanza	4,779,914	5.0%
Robert V. LaPenta	5,135,274	5.4%
Michael T. Strianese	57,630	--
Christopher C. Cambria	72,440	--
Charles J. Schafer	27,688	--
Thomas A. Corcoran(5)	6,667	--
Robert B. Millard(4)(6)	139,845	--
John E. Montague(5)	6,667	--
John M. Shalikashvili(5)	7,243	--
Arthur L. Simon(5)	9,819	--
Alan M. Washkowitz(4)(7)	271,389	--
Directors and Executive Officers as a Group (18 persons)(8)	10,678,263	10.9%

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(1) The shares of our common stock beneficially owned include the number of shares (i) issuable under employee stock options and exercisable within 60 days of September 1, 2002 and (ii) allocated to the accounts of executive officers under savings plans. Of the number of shares shown above, (i) the following represent shares that may be acquired upon exercise of employee stock options for the accounts of: Mr. Lanza, 1,828,572 shares; Mr. LaPenta, 1,528,572 shares; Mr. Strianese, 57,000 shares, Mr. Cambria, 71,800 shares and Mr. Schafer, 27,000 shares; and (ii) the following represent shares allocated under saving plans to the accounts of: Mr. LaPenta, 760 shares; Mr. Strianese, 630 shares; Mr. Cambria, 640 shares; and Mr. Schafer, 688 shares.

(2) The number of shares shown includes shares that are individually or jointly owned, as well as shares over which the individual has either sole or shared investment or voting authority.

(3) Share ownership does not exceed one percent of the class unless otherwise indicated. Under Rule 13d-3, certain shares may be deemed to be beneficially owned by more than one person (if, for example, persons share the power to vote or the power to dispose of the shares). In addition, shares are deemed to be beneficially owned by a person if the person has the right to acquire the shares (for example, upon exercise of an option) within 60 days of the date as of which the information is provided. In computing the percentage ownership of any person, the amount of shares outstanding is deemed to include the amount of shares beneficially owned by such person (and only such person) by reason of these acquisition rights. As a result, the percentage of outstanding shares of any person as shown in this table does not necessarily reflect the person's actual ownership or voting power with respect to the number of shares of common stock actually outstanding at September 1, 2002.

(4) Robert B. Millard and Alan H. Washkowitz, each of whom is a member of our board of directors, are each a Managing Director of Lehman Brothers Inc. As limited partners of Lehman Brothers Capital Partners III, L.P., Messrs. Millard and Washkowitz may be deemed to share beneficial ownership of shares of L-3 Holdings' common stock held by Lehman Brothers Capital Partners III, L.P. Such individuals disclaim any such beneficial ownership.

(5) Includes 6,667 shares issuable and exercisable under director stock options within 60 days of September 1, 2002 in the case of Messrs. Corcoran, Montague, and Shalikashvili, 3,667 shares in the case of Mr. Simon and 1,667 shares in the case of Messrs. Millard and Washkowitz.

(6) Includes 105,278 shares owned by a charitable foundation of which Mr. Millard and his wife are the sole trustees, and as to which Mr. Millard disclaims beneficial ownership.

(7) Includes 111,330 shares in trust, for the benefit of Mr. Washkowitz's children, for which Mr. Washkowitz and his wife are co-trustees and as to which Mr. Washkowitz disclaims beneficial ownership.

(8) Includes 3,688,279 shares issuable under employee stock options and exercisable under employee stock options within 60 days of September 1, 2002, and 12,376 shares allocated to the accounts of executive officers under savings plans.

SENIOR CREDIT FACILITIES OF L-3 COMMUNICATIONS CORPORATION

The senior credit facilities of L-3 Communications Corporation have been provided by a syndicate of banks led by Bank of America, N.A., as administrative agent. The senior credit facilities provide for:

(A) $500 million in revolving credit loans which must be repaid by May 15, 2006 (the "Revolving Credit Facility"); and

(B) $250 million in revolving credit loans which must be repaid by February 25, 2003 (the "Revolving 364 Day Facility" and, together with (A) above, the "senior credit facilities").

However, all or a portion of the Revolving 364 Day Facility may be extended annually on the maturity date of the Revolving 364 Day Facility for a period of 364 days with the consent of lenders holding at least 50% of the commitments to make 364-day loans (February 25, 2003, as extended in accordance with the foregoing, the "364 Day Termination Date"). L-3 Communications Corporation may also convert the outstanding principal amount of any or all of the loans outstanding under the Revolving 364 Day Facility to term loans on the 364 Day Termination Date if it meets certain conditions. The senior credit facilities include availability for letters of credit, and the Revolving Credit Facility allows borrowings up to a specified amount on same-day notice (the "Swingline Loans").

All borrowings under the senior credit facilities bear interest, at L-3 Communications Corporation's option, at either:

(A) a "base rate" equal to, for any day, the higher of:

- 0.50% per annum above the latest federal funds effective rate; and
- the rate of interest in effect for such day as publicly announced from time to time by Bank of America, N.A. as its "reference rate,"

plus a spread ranging from 2.00% to 0.50% per annum, and adjusted periodically, depending on L-3 Communications Corporation's Debt Ratio (as defined below) at the time of determination or

(B) "LIBOR" equal to, for any interest period (as defined in the senior credit facilities), the London interbank offered rate for such interest period as determined in accordance with the senior credit facilities and as adjusted to reflect any reserve requirements, plus a spread ranging from 3.00% to 1.50% per annum, and adjusted periodically, depending on the Debt Ratio at the time of determination, provided that Swingline Loans can only bear interest at the "base rate" plus the applicable spread.

The Debt Ratio is defined in the senior credit facilities as the ratio of Consolidated Total Debt to Consolidated EBITDA. Consolidated Total Debt is equal to outstanding indebtedness for borrowed money or the deferred purchase price of property, including capitalized lease obligations, plus permitted convertible securities guaranteed by L-3 Communications Corporation or its subsidiaries minus the lesser of actual unrestricted cash or $50 million. Consolidated EBITDA is equal to consolidated net income (excluding extraordinary gains and losses and gains and losses in connection with asset dispositions and discontinued operations) for the most recent four quarters, plus consolidated interest expense (including consolidated interest expense of L-3 Holdings for permitted convertible securities guaranteed by L-3 Communications Corporation or its subsidiaries), income taxes, depreciation and amortization minus depreciation and amortization related to minority interest.

L-3 Communications Corporation will pay commitment fees calculated at a rate ranging from 0.50% to 0.35% per annum for the Revolving Credit Facility and 0.45% to 0.30% per annum for the Revolving 364 Day Facility, depending on the Debt Ratio in effect at the time of determination, on the daily amount of the available unused commitment under the senior credit facilities. These commitment fees are payable quarterly in arrears and upon termination of the senior credit facilities.

L-3 Communications Corporation will pay a letter of credit fee calculated at a rate ranging from (A) 1.50% to 0.75% per annum in the case of performance letters of credit and (B) 3.00% to 1.50% per annum in the case of all other letters of credit, in each case depending on the Debt Ratio at the time of determination. L-3 Communications Corporation will also pay a fronting fee equal to 0.125% per annum on the aggregate face amount of all outstanding letters of credit. Such fees will be payable quarterly in arrears and upon the termination of the senior credit facilities. In addition, L-3 Communications Corporation will pay customary transaction charges in connection with any letters of credit. The senior credit facilities provide for the issuance of letters of credit in currencies other than United States dollars.

The above interest rates are adjusted for changes in the Debt Ratio and reach their maximum if the Debt Ratio is greater than 4.25 to 1.0 and reach their minimum if that ratio is less than 2.75 to 1.0.

In the event that we convert any or all of the outstanding principal amount under the Revolving 364 Day Facility into term loans (the "Applicable Converted Commitment") on any 364 Termination Date, we would have to repay the principal amount of the resulting term loans by May 16, 2006 or, if earlier, the second anniversary of the effective date of such conversion into term loans.

Borrowings under the senior credit facilities are subject to mandatory prepayment (i) with the net proceeds of any incurrence of indebtedness that is not permitted under the senior credit facilities and (ii) with the proceeds of asset sales, in both cases subject to certain exceptions.

L-3 Communications Corporation's obligations under the senior credit facilities are secured by:

- a pledge by L-3 Communications Holdings of the stock of L-3 Communications Corporation; and

- a pledge by L-3 Communications Corporation and its material direct and indirect subsidiaries of all of the stock of their respective material domestic subsidiaries and 65% of the stock of their material first-tier foreign subsidiaries.

In addition, indebtedness under the senior credit facilities is guaranteed by L-3 Communications Holdings and by all of L-3 Communications Corporation's direct and indirect material domestic subsidiaries.

The senior credit facilities contain customary covenants and restrictions on L-3 Communications Corporation's ability to engage in certain activities. In addition, the senior credit facilities provide that L-3 Communications Corporation must meet or exceed an interest coverage ratio and must not exceed the Debt Ratio. The senior credit facilities also include customary events of default.

Under the senior credit facilities, each of the following items constitutes an event of default:

- L-3 Communications Corporation fails to pay principal or amounts drawn under letters of credit when due;

- L-3 Communications Corporation fails to pay interest within five days after that amount becomes due;

- any representation or warranty made is incorrect in any material respect;

- L-3 Communications Corporation does not comply with its financial and other covenants (and, for some of other covenants, the default continues for 30 days);

- L-3 Communications Corporation or any of its subsidiaries defaults under any indebtedness, guarantee obligation or interest rate hedging agreement in the aggregate amount of at least $15.0 million for more than 10 days and that default would enable the holder of the obligation to accelerate the obligation;

- certain events of bankruptcy, insolvency or reorganization occur with respect to L-3 Communications Corporation or any of its subsidiaries;

- certain events occur with respect to any employee benefit plan of L-3 Communications Corporation or its affiliates covered by ERISA that would have a material adverse effect;

- L-3 Communications Holdings, L-3 Communications Corporation or any of the subsidiaries of L-3 Communications Corporation fails to pay judgments aggregating in excess of $15.0 million, which judgments are not paid, covered by insurance, discharged or stayed for a period of 60 days;

- any of the pledge agreements ceases to be in full force and effect or L-3 Communications Corporation or any party to any pledge agreement so asserts, or the lien under any of the pledge agreements ceases to be an enforceable first priority lien (subject to a grace period in certain cases);

- the guarantees of the senior credit facilities are held to be enforceable or invalid or cease to be in full force and effect, or any guarantor denies its obligations under its guarantee; and

- a change of control.

If an event of default occurs involving certain events of bankruptcy, insolvency or reorganization of L-3 Communications Corporation, the commitments under the senior credit facilities will automatically terminate and the loans, including accrued interest, and all other amounts owed under the agreements will become immediately due and payable. If any other event of default occurs, then lenders holding the majority in aggregate principal amount of the loans under any senior credit facility may declare the commitments under that facility to be terminated and the loans, including accrued interest, and all other amounts owed under that facility to be immediately due and payable. Upon any acceleration, L-3 Communications Corporation must cash collateralize any undrawn letters of credit under the senior credit facilities.

8 1/2% SENIOR SUBORDINATED NOTES DUE 2008

L-3 Communications Corporation has outstanding $180.0 million in aggregate principal amount of 8 1/2% Senior Subordinated Notes due 2008 (the "May 1998 Notes"). The May 1998 Notes are subject to the terms and conditions of an Indenture (the "May 1998 Indenture") dated as of May 22, 1998, among L-3 Communications Corporation, the guarantors named in supplements thereto and The Bank of New York as trustee. The following summary of the material provisions of the May 1998 Indenture does not purport to be complete, and is subject to, and qualified in its entirety by reference to, all of the provisions of the May 1998 Indenture and those terms made a part of the May 1998 Indenture by the Trust Indenture Act of 1939, as amended. All terms defined in the May 1998 Indenture and not otherwise defined herein are used below with the meanings set forth in the May 1998 Indenture.

General

The May 1998 Notes will mature on May 15, 2008 and bear interest at 8 1/2% per annum, payable semi-annually on May 15 and November 15 of each year. The May 1998 Notes are general unsecured obligations of L-3 Communications Corporation and are subordinated in right of payment to all existing and future senior debt of L-3 Communications Corporation and rank pari passu with the December 1998 Notes. The May 1998 Notes are unconditionally guaranteed, on an unsecured senior subordinated basis, jointly and severally by all of L-3 Communications Corporation's restricted subsidiaries other than its foreign subsidiaries.

Optional Redemption

The May 1998 Notes are subject to redemption at any time, at the option of L-3 Communications Corporation, in whole or in part, on or after May 15, 2003 at redemption prices (plus accrued and unpaid interest) starting at 104.250% of principal (plus accrued and unpaid interest) during the 12-month period beginning May 15, 2003 and declining annually to 100% of principal (plus accrued and unpaid interest) on May 15, 2006 and thereafter.

Change of Control

Upon the occurrence of a change of control, each holder of the May 1998 Notes may require L-3 Communications Corporation to repurchase all or a portion of the holder's May 1998 Notes at a purchase price equal to 101% of the principal amount (plus accrued and unpaid interest). Generally, a change of control means the occurrence of any of the following:

- the disposition of all or substantially all of L-3 Communications Corporation's assets to any person;
- the adoption of a plan relating to the liquidation or dissolution of L-3 Communications Corporation;
- the consummation of any transaction in which a person other than the principals and their related parties becomes the beneficial owner of more than 50% of the voting stock of L-3 Communications Corporation; or
- the first day on which a majority of the members of the Board of Directors of L-3 Communications Corporation are not continuing directors.

Subordination

The May 1998 Notes are general unsecured obligations of L-3 Communications Corporation and are subordinate to all existing and future senior debt of L-3 Communications Corporation. The May 1998 Notes rank senior in right of payment to all subordinated indebtedness of L-3 Communications Corporation. The guarantees of L-3 Communications Corporation subsidiaries under the May 1998 Notes are general unsecured obligations of the guarantors and are subordinated to the senior debt and to the guarantees of senior debt of those guarantors. These guarantees under the May 1998 Notes rank senior in right of payment to all subordinated indebtedness of those guarantors.

Certain Covenants

The May 1998 Indenture contains a number of covenants restricting the operations of L-3 Communications Corporation. They limit the ability of L-3 Communications Corporation to incur additional indebtedness, pay dividends or make distributions, sell assets, issue subsidiary stock, restrict distributions from Subsidiaries, create certain liens, enter into certain consolidations or mergers and enter into certain transactions with affiliates.

Events of Default

Events of Default under the May 1998 Indenture include the following:

- a default for 30 days in the payment when due of interest on the May 1998 Notes;
- default in payment when due of the principal of or premium, if any, on the May 1998 Notes;
- failure by L-3 Communications Corporation to comply with certain provision of the May 1998 Indenture (subject, in some but not all cases, to notice and cure periods);
- default under indebtedness for money borrowed by L-3 Communications Corporation or any of its Restricted Subsidiaries in excess of $10.0 million, which default results in the acceleration of such indebtedness prior to its express maturity;
- failure by L-3 Communications Corporation or any Restricted Subsidiary that would be a Significant Subsidiary to pay final judgments aggregating in excess of $10.0 million, which judgments are not paid, discharged or stayed for a period of 60 days;
- except as permitted by the May 1998 Indenture, any guarantee under the May 1998 Notes shall be held in any judicial proceeding to be unenforceable or invalid or shall cease for any reason to be in full force and effect or any guarantor, or any person acting on behalf of any guarantor under the May 1998 Notes, shall deny or disaffirm its obligations under its guarantee; or

- certain events of bankruptcy or insolvency with respect to L-3 Communications Corporation or any of its restricted subsidiaries.

Upon the occurrence of an Event of Default, with certain exceptions, the Trustee or the holders of at least 25% in principal amount of the then outstanding May 1998 Notes may accelerate the maturity of all the May 1998 Notes as provided in the May 1998 Indenture.

8% SENIOR SUBORDINATED NOTES DUE 2008

L-3 Communications Corporation has outstanding $200.0 million in aggregate principal amount of 8% Senior Subordinated Notes due 2008 (the "December 1998 Notes"). The December 1998 Notes are subject to the terms and conditions of an Indenture dated as of December 11, 1998, among L-3 Communications Corporation, the guarantors named therein and in supplements thereto and The Bank of New York as trustee (the "December 1998 Indenture"). The following summary of the material provisions of the December 1998 Indenture does not purport to be complete, and is subject to and qualified in its entirety by reference to, all of the provisions of the December 1998 Indenture and those terms made a part of the December 1998 Indenture by the Trust Indenture Act of 1939, as amended. All terms defined in the December 1998 Indenture and not otherwise defined herein are used below with the meanings set forth in the December 1998 Indenture.

General

The December 1998 Notes will mature on August 1, 2008 and bear interest at 8% per annum, payable semi-annually on February 1 and August 1 of each year. The December 1998 Notes are general unsecured obligations of L-3 Communications Corporation and are subordinated in right of payment to all existing and future senior debt of L-3 Communications Corporation and rank pari passu with the May 1998 Notes. The December 1998 Notes are unconditionally guaranteed, on an unsecured senior subordinated basis, jointly and severally by all of L-3 Communications Corporation's restricted subsidiaries other than its foreign subsidiaries.

Optional Redemption

The December 1998 Notes are subject to redemption at any time, at the option of L-3 Communications Corporation, in whole or in part, on or after August 1, 2003 at redemption prices (plus accrued and unpaid interest) starting at 104% of principal (plus accrued and unpaid interest) during the 12-month period beginning August 1, 2003 and declining annually to 100% of principal (plus accrued and unpaid interest) on August 1, 2006 and thereafter.

Change of Control

Upon the occurrence of a change of control, each holder of the December 1998 Notes may require L-3 Communications Corporation to repurchase all or a portion of such holder's December 1998 Notes at a purchase price equal to 101% of the principal amount (plus accrued and unpaid interest and liquidated damages, if any). Generally, a change of control means the occurrence of any of the following:

- the disposition of all or substantially all of L-3 Communications Corporation's assets to any person;
- the adoption of a plan relating to the liquidation or dissolution of L-3 Communications Corporation;
- the consummation of any transaction in which a person other than the principals and their related parties becomes the beneficial owner of more than 50% of the voting stock of L-3 Communications Corporation; or

- the first day on which a majority of the members of the Board of Directors of L-3 Communications Corporation are not continuing directors.

Subordination

The December 1998 Notes are general unsecured obligations of L-3 Communications Corporation and are subordinate to all existing and future senior debt of L-3 Communications Corporation. The December 1998 Notes rank senior in right of payment to all subordinated indebtedness of L-3 Communications Corporation. The guarantees of L-3 Communications Corporation's subsidiaries under the December 1998 Notes are general unsecured obligations of the guarantors and are subordinated to the senior debt and to the guarantees of senior debt of those guarantors. These guarantees under the December 1998 Notes rank senior in right of payment to all subordinated Indebtedness of those guarantors.

Certain Covenants

The December 1998 Indenture contains a number of covenants restricting the operations of L-3 Communications Corporation, limiting the ability of L-3 Communications Corporation to incur additional Indebtedness, pay dividends or make distributions, sell assets, issue subsidiary stock, restrict distributions from subsidiaries, create certain liens, enter into certain consolidations or mergers and enter into certain transactions with affiliates.

Events of Default

Events of Default under the December 1998 Indenture include the following:

- a default for 30 days in the payment when due of interest on, or liquidated damages with respect to the December 1998 Notes;
- default in payment when due of the principal of or premium, if any, on the December 1998 Notes;
- failure by L-3 Communications Corporation to comply with certain provision of the December 1998 Indenture (subject, in some but not all cases, to notice and cure periods);
- default under indebtedness for money borrowed by L-3 Communications Corporation or any of its restricted subsidiaries in excess of $10.0 million, which default results in the acceleration of such indebtedness prior to its express maturity;
- failure by L-3 Communications Corporation or any restricted subsidiary that would be a significant subsidiary to pay final judgments aggregating in excess of $10.0 million, which judgments are not paid, discharged or stayed for a period of 60 days;
- except as permitted by the December 1998 Indenture, any guarantee under the December 1998 Notes shall be held in any judicial proceeding to be unenforceable or invalid or shall cease for any reason to be in full force and effect or any guarantor, or any person acting on behalf of any guarantor under the December 1998 Notes, shall deny or disaffirm its obligations under its guarantee; or
- certain events of bankruptcy or insolvency with respect to L-3 Communications Corporation or any of its restricted subsidiaries.

Upon the occurrence of an Event of Default, with certain exceptions, the Trustee or the holders of at least 25% in principal amount of the then outstanding December 1998 Notes may accelerate the maturity of all the December 1998 Notes as provided in the December 1998 Indenture.

5 1/4% CONVERTIBLE SENIOR SUBORDINATED NOTES DUE 2009

L-3 Communications Holdings has outstanding $300.0 million in aggregate principal amount of 5 1/4% Convertible Senior Subordinated Notes due 2009 (the "2000 Convertible Notes"). The 2000

Convertible Notes are subject to the terms and conditions of an Indenture dated as of November 21, 2000, among L-3 Communications Holdings, L-3 Communications Corporation, as a guarantor, the other guarantors named therein and in supplements thereto and The Bank of New York as trustee (the "2000 Indenture"). The following summary of the material provisions of the 2000 Indenture does not purport to be complete, and is subject to and qualified in its entirety by reference to, all of the provisions of the 2000 Indenture and those terms made a part of the 2000 Indenture by the Trust Indenture Act of 1939, as amended. All terms defined in the 2000 Indenture and not otherwise defined herein are used below with the meanings set forth in the 2000 Indenture.

General

The 2000 Convertible Notes will mature on June 1, 2009 and bear interest at 5 1/4% per annum, subject to certain adjustments, payable semi-annually on June 1 and December 1 of each year. The 2000 Convertible Notes are unsecured senior subordinated obligations of L-3 Communications Holdings and are subordinated in right of payment to all existing and future senior debt of L-3 Communications Holdings. The 2000 Convertible Notes are unconditionally guaranteed, on an unsecured senior subordinated basis, jointly and severally by all of L-3 Communications Holdings' restricted subsidiaries, including L-3 Communications Corporation, other than its foreign subsidiaries. These guarantees are pari passu with the guarantees of the May 1998 Notes, the December 1998 Notes and the CODES. Holders of the 2000 Convertible Notes may convert the 2000 Convertible Notes into shares of L-3 Communications Holdings' common stock at a conversion rate of $40.75 per share (equal to a conversion rate of 24.5398 shares per $1,000 principal amount of 2000 Convertible Notes), subject to adjustment under certain circumstances.

Optional Redemption

The 2000 Convertible Notes are subject to redemption at any time, at the option of L-3 Communications Holdings, in whole or in part, on or after December 1, 2003 at redemption prices (plus accrued and unpaid interest) starting at 102.625% of principal (plus accrued and unpaid interest) during the 12-month period beginning December 1, 2003 and declining annually to 100% of principal (plus accrued and unpaid interest) on December 1, 2005 and thereafter. No interest will be paid on the 2000 Convertible Notes that are converted into common stock of L-3 Communications Holdings, except the 2000 Convertible Notes that are called for redemption on a date that is after a record date but prior to the corresponding interest payment date if the 2000 Convertible Notes are converted into common stock after the record date.

Change of Control

Upon the occurrence of a change of control, each holder of the 2000 Convertible Notes may require L-3 Communications Holdings to repurchase all or a portion of such holder's 2000 Convertible Notes at a purchase price equal to 100% of the principal amount (plus accrued and unpaid interest and liquidated damages, if any). Generally, a change of control means the occurrence of any of the following:

- the disposition of all or substantially all of the assets of L-3 Communications Holdings and certain of its subsidiaries to any person;
- the consummation of any transaction in which a person other than the principals and their related parties becomes the beneficial owner of more than 50% of the voting stock of L-3 Communications Holdings;
- the first day on which a majority of the members of the Board of Directors of L-3 Communications Holdings are not continuing directors; or
- the consolidation or merger of L-3 Communications Holdings with or into any other person, the merger of another person into L-3 Communications Holdings or any conveyance, transfer, sale, lease, or other disposition of all or substantially all of the properties and assets of L-3 Communications Holdings to another person, subject to certain exceptions.

Subordination

The 2000 Convertible Notes are unsecured senior subordinated obligations of L-3 Communications Holdings and are subordinate to all existing and future senior debt of L-3 Communications Holdings. The guarantees of L-3 Communications Holdings' subsidiaries under the 2000 Convertible Notes, including the guarantee by L-3 Communications Corporation, are general unsecured obligations of the guarantors and are subordinated to the senior debt and to the guarantees of senior debt of those guarantors. These guarantees under the 2000 Convertible Notes rank pari passu with all senior subordinated indebtedness of those guarantors.

Antilayering Provision

The 2000 Indenture provides that (i) L-3 Communications Holdings will not incur, create, issue, assume, guarantee or otherwise become liable for any indebtedness that is subordinate or junior in right of payment to any senior debt and senior in any respect in right of payment to the 2000 Convertible Notes, and (ii) no guarantor of the 2000 Convertible Notes will incur, create, issue, assume, guarantee or otherwise become liable for any indebtedness that is subordinate or junior in right of payment to any senior debt of a guarantor and senior in any respect in right of payment to any of the subsidiary guarantees of the 2000 Convertible Notes.

Events of Default

Events of Default under the 2000 Indenture include the following:

- a default for 30 days in the payment when due of interest on, or liquidated damages with respect to, the 2000 Convertible Notes;
- default in payment when due of the principal of or premium, if any, on the 2000 Convertible Notes;
- failure by L-3 Communications Holdings for 60 days after notice to comply with certain provisions of the 2000 Convertible Indenture (subject, in some but not all cases, to notice and cure periods);
- default under indebtedness for money borrowed by L-3 Communications Holdings or any of its restricted subsidiaries that would be a significant subsidiary in excess of $10.0 million, which default results in the acceleration of such indebtedness prior to its express maturity;
- failure by L-3 Communications Holdings or any restricted subsidiary that would be a significant subsidiary to pay final judgments aggregating in excess of $10.0 million, which judgments are not paid, discharged or stayed for a period of 60 days;
- except as permitted by the 2000 Indenture, any guarantee under the 2000 Convertible Notes shall be held in any judicial proceeding to be unenforceable or invalid; and
- certain events of bankruptcy, insolvency or reorganization with respect to L-3 Communications Holdings.

Upon the occurrence of an Event of Default, with certain exceptions, the Trustee or the holders of at least 25% in principal amount of the then outstanding 2000 Convertible Notes may accelerate the maturity of all the 2000 Convertible Notes as provided in the 2000 Indenture.

4.00% SENIOR SUBORDINATED CONVERTIBLE CONTINGENT DEBT SECURITIES (CODES) DUE 2011

L-3 Communications Holdings has outstanding $420.0 million in aggregate principal amount of 4.00% Senior Subordinated Convertible Contingent Debt SecuritiesSM (CODESSM) due 2011 (the "CODES"). The CODES are subject to the terms and conditions of an Indenture dated as of October 24, 2001, among L-3 Communications Holdings, L-3 Communications Corporation, as a guarantor, the other guarantors named therein and in supplements thereto and The Bank of New York as trustee (the "2001 Indenture"). The following summary of the material provisions of the 2001

Indenture does not purport to be complete, and is subject to and qualified in its entirety by reference to, all of the provisions of the 2001 Indenture and those terms made a part of the 2001 Indenture by the Trust Indenture Act of 1939, as amended. All terms defined in the 2001 Indenture and not otherwise defined herein are used below with the meanings set forth in the 2001 Indenture.

General

The CODES will mature on September 15, 2011 and bear interest at 4.00% per annum, subject to certain adjustments, payable semi-annually on March 15 and September 15 of each year. Holders of CODES are entitled to contingent interest not to exceed a per annum rate of 0.50% during any six months period from March 15 to September 14 and from September 15 to March 14 if the average trading price of the CODES for the five trading days ending on the second trading day immediately preceding the relevant six month period equals 120% or more of the principal amount of the CODES. The CODES are unsecured senior subordinated obligations of L-3 Communications Holdings and are subordinated in right of payment to all existing and future senior debt of L-3 Communications Holdings. The CODES are unconditionally guaranteed, on an unsecured senior subordinated basis, jointly and severally by all of L-3 Communications Holdings' restricted subsidiaries, including L-3 Communications Corporation, other than its foreign subsidiaries. These guarantees are pari passu with the guarantees of the May 1998 Notes, the December 1998 Notes and the 2000 Convertible Notes. Holders of the CODES may convert the CODES into shares of L-3 Communications Holdings' common stock at a conversion rate of $53.8125 per share (equal to a conversion rate of 18.583 shares per $1,000 principal amount of CODES), subject to adjustment under any of the following circumstances:

- during any quarterly conversion period, if the closing sale price of our common stock for a period of at least 20 trading days in the period of 30 consecutive days ending on the first day of such conversion period is more than 120% of the conversion price on that thirtieth day;

- during the five business day period following any 10 consecutive trading-day period in which the average of the trading prices (as defined) for the CODES was less than 105% of the average sale prices (as defined) of our common stock multiplied by the number of shares into which such CODES are then convertible;

- during any period in which the credit rating assigned to the CODES by either Moody's Investors Service, Inc., or Moody's, or Standard & Poor's Rating Services, or Standard & Poor's, is below B3 and B-, respectively, or in which the credit rating assigned to the CODES is suspended or withdrawn by either rating agency or in which neither rating agency continues to rate the CODES or provide ratings services or coverage to us;

- if the CODES have been called for redemption; or

- upon the occurrence of specified corporate transactions described.

Optional Redemption

The CODES are subject to redemption at any time, at the option of L-3 Communications Holdings, in whole or in part, on or after October 24, 2004 at redemption prices (plus accrued and unpaid interest, including contingent interest, if any) starting at 102.0% of principal (plus accrued and unpaid interest, including contingent interest, if any) and declining annually to 100% of principal (plus accrued and unpaid interest, including contingent interest, if any) on September 15, 2006 and thereafter. No interest, including contingent interest, will be paid on the CODES that are converted into common stock of L-3 Communications Holdings, except the CODES that are called for redemption on a date that is after a record date but prior to the corresponding interest payment date if the CODES are converted into common stock after the record date, provided, however, the holders of CODES are entitled to interest, including contingent interest, if any, accrued for a period beginning September 15, 2004 through October 23, 2004 if such holders convert subsequent to October 23, 2004.

Change of Control

Upon the occurrence of a change of control, each holder of the CODES may require L-3 Communications Holdings to repurchase all or a portion of such holder's CODES at a purchase price equal to 100% of the principal amount (plus accrued and unpaid interest, including contingent interest, if any and additional amounts, if any). Generally, a change of control means the occurrence of any of the following:

- the disposition of all or substantially all of the assets of L-3 Communications Holdings and certain of its subsidiaries to any person;
- the consummation of any transaction in which a person other than the principals and their related parties becomes the beneficial owner of more than 50% of the voting stock of L-3 Communications Holdings;
- the first day on which a majority of the members of the Board of Directors of L-3 Communications Holdings are not continuing directors; or
- the consolidation or merger of L-3 Communications Holdings with or into any other person, the merger of another person into L-3 Communications Holdings or any conveyance, transfer, sale, lease, or other disposition of all or substantially all of the properties and assets of L-3 Communications Holdings to another person, subject to certain exceptions.

Subordination

The CODES are unsecured senior subordinated obligations of L-3 Communications Holdings and are subordinate to all existing and future senior debt of L-3 Communications Holdings. The guarantees of L-3 Communications Holdings' subsidiaries under the CODES, including the guarantee by L-3 Communications Corporation, are general unsecured obligations of the guarantors and are subordinated to the senior debt and to the guarantees of senior debt of those guarantors. These guarantees under the CODES rank pari passu with all senior subordinated indebtedness of those guarantors.

Antilayering Provision

The 2001 Indenture provides that (i) L-3 Communications Holdings will not incur, create, issue, assume, guarantee or otherwise become liable for any indebtedness that is subordinate or junior in right of payment to any senior debt and senior in any respect in right of payment to the CODES, and (ii) no guarantor of the CODES will incur, create, issue, assume, guarantee or otherwise become liable for any indebtedness that is subordinate or junior in right of payment to any senior debt of a guarantor and senior in any respect in right of payment to any of the subsidiary guarantees of the CODES.

Events of Default

Events of Default under the 2001 Indenture include the following:

- a default for 30 days in the payment when due of interest (including contingent interest, if any) on, or additional amounts with respect to, the CODES;
- default in payment when due of the principal of or premium, if any, on the CODES;
- failure by L-3 Communications Holdings for 60 days after notice to comply with certain provisions of the 2001 Indenture (subject, in some but not all cases, to notice and cure periods);
- default under indebtedness for money borrowed by L-3 Communications Holdings or any of its restricted subsidiaries that would be a significant subsidiary in excess of $10.0 million, which default results in the acceleration of such indebtedness prior to express maturity;

- failure by L-3 Communications Holdings or any restricted subsidiary that would be a significant subsidiary to pay final judgments aggregating in excess of $10.0 million, which judgments are not paid, discharged or stayed for a period of 60 days;

- except as permitted by the 2001 Indenture, any guarantee under the CODES shall be held in any judicial proceeding to be unenforceable or invalid; and

- certain events of bankruptcy, insolvency or reorganization with respect to L-3 Communications Holdings or any of its restricted subsidiaries that would be significant subsidiaries.

Upon the occurrence of an Event of Default, with certain exceptions, the Trustee or the holders of at least 25% in principal amount of the then outstanding CODES may accelerate the maturity of all the CODES as provided in the 2001 Indenture.

THE EXCHANGE OFFER

GENERAL

L-3 hereby offers, upon the terms and subject to the conditions set forth in this prospectus and in the accompanying letter of transmittal (which together constitute the exchange offer), to exchange up to $750.0 million aggregate principal amount of our 7 5/8% Senior Subordinated Notes due 2012, which we refer to in this prospectus as the outstanding notes, for a like aggregate principal amount of our 7 5/8% Series B Senior Subordinated Notes due 2012, which we refer to in this prospectus as the exchange notes, properly tendered on or prior to the expiration date and not withdrawn as permitted pursuant to the procedures described below. The exchange offer is being made with respect to all of the outstanding notes.

As of the date of this prospectus, $750.0 million aggregate principal amount of the outstanding notes is outstanding. This prospectus, together with the letter of transmittal, is first being sent on or about September , 2002, to all holders of outstanding notes known to L-3. L-3's obligation to accept outstanding notes for exchange pursuant to the exchange offer is subject to certain conditions set forth under "Certain Conditions to the Exchange Offer" below. L-3 currently expects that each of the conditions will be satisfied and that no waivers will be necessary.

PURPOSE AND EFFECT OF THE EXCHANGE OFFER

We have entered into a registration rights agreement with the initial purchasers of the outstanding notes in which we agreed, under some circumstances, to file a registration statement relating to an offer to exchange the outstanding notes for exchange notes. We also agreed to use all commercially reasonable efforts to cause the exchange offer registration statement to become effective under the Securities Act as promptly as practicable, but in no event later than 180 days after the closing date and keep the exchange offer registration statement effective for not less than 20 business days. The exchange notes will have terms substantially identical to the outstanding notes, except that the exchange notes will not contain terms with respect to transfer restrictions, registration rights and additional interest for failure to observe certain obligations in the registration rights agreement. The outstanding notes were issued on June 28, 2002.

Under certain circumstances set forth in the registration rights agreement, we will use all commercially reasonable efforts to cause the SEC to declare effective a shelf registration statement with respect to the resale of the outstanding notes and keep the statement, effective for up to two years after the closing date.

If we fail to comply with certain obligations under the registration rights agreement, we will be required to pay additional interest to holders of the outstanding notes.

Each holder of outstanding notes that wishes to exchange outstanding notes for transferable exchange notes in the exchange offer will be required to make the following representations:

- any exchange notes will be acquired in the ordinary course of its business;
- the holder will have no arrangements or understanding with any person to participate in the distribution of the outstanding notes or the exchange notes within the meaning of the Securities Act;
- the holder is not an "affiliate," as defined in Rule 405 of the Securities Act, of L-3 or if it is an affiliate, that it will comply with applicable registration and prospectus delivery requirements of the Securities Act to the extent applicable;
- if the holder is not a broker-dealer, that it is not engaged in, and does not intend to engage in, the distribution of the exchange notes; and
- if the holder is a broker-dealer, that it will receive exchange notes for its own account in exchange for outstanding notes that were acquired as a result of market-making activities or

other trading activities and that it will be required to acknowledge that it will deliver a prospectus in connection with any resale of the exchange notes. See "Plan of Distribution."

RESALE OF EXCHANGE NOTES

Based on interpretations of the SEC staff set forth in no action letters issued to unrelated third parties, we believe that exchange notes issued under the exchange offer in exchange for outstanding notes may be offered for resale, resold and otherwise transferred by any exchange note holder without compliance with the registration and prospectus delivery provisions of the Securities Act, if:

- the holder is not an "affiliate" of ours within the meaning of Rule 405 under the Securities Act;
- the exchange notes are acquired in the ordinary course of the holder's business; and
- the holder does not intend to participate in the distribution of the exchange notes.

Any holder who tenders in the exchange offer with the intention of participating in any manner in a distribution of the exchange notes:

- cannot rely on the position of the staff of the SEC enunciated in Exxon Capital Holdings Corporation or similar interpretive letters; and
- must comply with the registration and prospectus delivery requirements of the Securities Act in connection with a secondary resale transaction.

This prospectus may be used for an offer to resell, for the resale or for other retransfer of exchange notes only as specifically set forth in this prospectus. With regard to broker-dealers, only broker-dealers that acquired the outstanding notes as a result of market-making activities or other trading activities may participate in the exchange offer. Each broker-dealer that receives exchange notes for its own account in exchange for outstanding notes, where the outstanding notes were acquired by the broker-dealer as a result of market-making activities or other trading activities, must acknowledge that it will deliver a prospectus in connection with any resale of the exchange notes. Please read the section captioned "Plan of Distribution" for more details regarding the transfer of exchange notes.

TERMS OF THE EXCHANGE OFFER

Upon the terms and subject to the conditions set forth in this prospectus and in the accompanying letter of transmittal, we will accept for exchange any outstanding notes properly tendered and not withdrawn prior to the expiration date. We will issue $1,000 principal amount of exchange notes in exchange for each $1,000 principal amount of outstanding notes surrendered under the exchange offer. Outstanding notes may be tendered only in integral multiples of $1,000.

The form and terms of the exchange notes will be substantially identical to the form and terms of the outstanding notes except the exchange notes will be registered under the Securities Act, will not bear legends restricting their transfer and will not provide for any additional amounts upon our failure to fulfill our obligations under the registration rights agreement to file, and cause to be effective, a registration statement. The exchange notes will evidence the same debt as the outstanding notes. The exchange notes will be issued under and entitled to the benefits of the same indenture that authorized the issuance of the outstanding notes.

The exchange offer is not conditioned upon any minimum aggregate principal amount of outstanding notes being tendered for exchange.

As of the date of this prospectus, $750.0 million aggregate principal amount of the outstanding notes are outstanding. This prospectus and a letter of transmittal are being sent to all registered holders of outstanding notes. There will be no fixed record date for determining registered holders of outstanding notes entitled to participate in the exchange offer.

We intend to conduct the exchange offer in accordance with the provisions of the exchange offer and registration rights agreement, the applicable requirements of the Securities Act and the Securities Exchange Act of 1934 and the rules and regulations of the SEC. Outstanding notes that are not tendered for exchange in the exchange offer will remain outstanding and continue to accrue interest and will be entitled to the rights and benefits the holders have under the indenture relating to the outstanding notes, except for any rights under the exchange offer and registration rights agreement that by their terms terminate upon the consummation of the exchange offer.

We will be deemed to have accepted for exchange properly tendered outstanding notes when we have given oral or written notice of the acceptance to the exchange agent. The exchange agent will act as agent for the tendering holders for the purposes of receiving the exchange notes from us and delivering exchange notes to the holders. Under the terms of the exchange offer and registration rights agreement, we reserve the right to amend or terminate the exchange offer, and not to accept for exchange any outstanding notes not previously accepted for exchange, upon the occurrence of any of the conditions specified below under the caption "--Certain Conditions to the Exchange Offer."

Holders who tender outstanding notes in the exchange offer will not be required to pay brokerage commissions or fees or, subject to the instructions in the letter of transmittal, transfer taxes with respect to the exchange of outstanding notes. We will pay all charges and expenses, other than certain applicable taxes described below, in connection with the exchange offer. It is important that you read the section labeled "--Fees and Expenses" below for more details regarding fees and expenses incurred in the exchange offer.

EXPIRATION DATE; EXTENSIONS; AMENDMENTS

The exchange offer will expire at 5:00 p.m., New York City time on , 2002, unless in our sole discretion we extend it.

In order to extend the exchange offer, we will notify the exchange agent orally or in writing of any extension. We will notify the registered holders of outstanding notes of the extension no later than 9:00 a.m., New York City time, on the business day after the previously scheduled expiration date.

We reserve the right, in our sole discretion:

- to delay accepting for exchange any outstanding notes;
- to extend the exchange offer or to terminate the exchange offer and to refuse to accept outstanding notes not previously accepted if any of the conditions set forth below under "--Certain Conditions to the Exchange Offer" have not been satisfied, by giving oral or written notice of the delay, extension or termination to the exchange agent; or
- under the terms of the exchange offer and registration rights agreement, to amend the terms of the exchange offer in any manner.

Any delay in acceptance, extension, termination, or amendment will be followed as promptly as practicable by oral or written notice to the registered holders of outstanding notes. If we amend the exchange offer in a manner that we determine constitutes a material change, we will promptly disclose the amendment in a manner reasonably calculated to inform the holder of outstanding notes of the amendment.

Without limiting the manner in which we may choose to make public announcements of any delay in acceptance, extension, termination or amendment of the exchange offer, we will have no obligation to publish, advertise, or otherwise communicate any public announcement, other than by making a timely release to a financial news service.

CERTAIN CONDITIONS TO THE EXCHANGE OFFER

Despite any other term of the exchange offer, we will not be required to accept for exchange, or exchange any exchange notes for, any outstanding notes, and we may terminate the exchange offer as provided in this prospectus before accepting any outstanding notes for exchange if in our reasonable judgment:

- the exchange notes to be received will not be tradable by the holder. without restriction under the Securities Act, the Securities Exchange Act and without material restrictions under the blue sky or securities laws of substantially all of the states of the United States;

- the exchange offer, or the making of any exchange by a holder of outstanding notes, would violate applicable law or any applicable interpretation of the staff of the SEC: or

- any action or proceeding has been instituted or threatened in any court or by or before any governmental agency with respect to the exchange offer that, in our judgment, would reasonably be expected to impair our ability to proceed with the exchange offer.

In addition, we will not be obligated to accept for exchange the outstanding notes of any holder that has not made to us:

- the representations described under "--Purpose and Effect of the Exchange Offer," "--Procedures for Tendering" and "Plan of Distribution"; and

- such other representations as may be reasonably necessary under applicable SEC rules, regulations or interpretations to make available to it an appropriate form for registration of the exchange notes under the Securities Act.

We expressly reserve the right, at any time or at various times, to extend the period of time during which the exchange offer is open. Consequently, we may delay acceptance of any outstanding notes by giving oral or written notice of the extension to their holders. During any such extensions, all notes previously tendered will remain subject to the exchange offer, and we may accept them for exchange. We will return any outstanding notes that we do not accept for exchange for any reason without expense to their tendering holder as promptly as practicable after the expiration or termination of the exchange offer.

We expressly reserve the right to amend or terminate the exchange offer, and to reject for exchange any outstanding notes not previously accepted for exchange, upon the occurrence of any of the conditions of the exchange offer specified above. We will give oral or written notice of any extension, amendment, nonacceptance, or termination to the holders of the outstanding notes as promptly as practicable.

These conditions are for our sole benefit and we may assert them regardless of the circumstances that may give rise to them or waive them in whole or in part at any or at various times in our sole discretion. If we fail at any time to exercise any of the foregoing rights, this failure will not constitute a waiver of this right. Each right will be deemed an ongoing right that we may assert at any time or at various times.

In addition, we will not accept for exchange any outstanding notes tendered, and will not issue exchange notes in exchange for any outstanding notes, if at the time any stop order will be threatened or in effect with respect to the registration statement of which this prospectus constitutes a part or the qualification of the indenture under the Trust Indenture Act.

PROCEDURES FOR TENDERING

Only a holder of outstanding notes may tender the outstanding notes in the exchange offer. To tender in the exchange offer, a holder must:

- complete, sign and date the accompanying letter of transmittal, or a facsimile of the letter of transmittal; have the signature on the letter of transmittal guaranteed if the letter of transmittal so requires; and mail or deliver the letter of transmittal or facsimile to the exchange agent prior to the expiration date; or

- comply with DTC's Automated Tender Offer Program procedures described below.

In addition, either:

- the exchange agent must receive the outstanding notes along with the accompanying letter of transmittal; or

- the exchange agent must receive, prior to the expiration date, a timely confirmation of book-entry transfer of the outstanding notes into the exchange agent's account at DTC according to the procedures for book-entry transfer described below or a properly transmitted agent's message; or

- the holder must comply with the guaranteed delivery procedures described below.

To be tendered effectively, the exchange agent must receive any physical delivery of a letter of transmittal and other required documents at the address set forth below under "-- Exchange Agent" prior to the expiration date.

The tender by a holder that is not withdrawn prior to the expiration date will constitute an agreement between the holder and us in accordance with the terms and subject to the conditions set forth in this prospectus and in the accompanying letter of transmittal.

The method of delivery of outstanding notes, the letter of transmittal and all other required documents to the exchange agent is at the holder's election and risk. Rather than mail these items, we recommend that holders use an overnight or hand delivery service. In all cases, holders should allow sufficient time to assure delivery to the exchange agent before the expiration date. Holders should not send the letter of transmittal or outstanding notes to us. Holders may request their respective brokers, dealers, commercial banks, trust companies or other nominees to effect the above transactions for them.

Any beneficial owner whose outstanding notes are registered in the name of a broker, dealer, commercial bank, trust company or other nominee and who wishes to tender should contact the registered holder promptly and instruct it to tender on the owners behalf. If the beneficial owner wishes to tender on its own behalf, it must, prior to completing and executing the accompanying letter of transmittal and delivering its outstanding notes either:

- make appropriate arrangements to register ownership of the outstanding notes in such owner's name; or

- obtain a properly completed bond power from the registered holder of outstanding notes.

The transfer of registered ownership may take considerable time and may not be completed prior to the expiration date.

Signatures on a letter of transmittal or a notice of withdrawal described below must be guaranteed by a member firm of a registered national securities exchange or of the National Association of Securities Dealers, Inc., a commercial bank or trust company having an office or correspondent in the United States or another "eligible institution" within the meaning of Rule 17Ad-15 under the Exchange Act, unless the outstanding notes are tendered:

- by a registered holder who has not completed the box entitled "Special Issuance Instructions" or "Special Delivery Instructions" on the accompanying letter of transmittal; or

- for the account of an eligible institution.

If the accompanying letter of transmittal is signed by a person other than the registered holder of any outstanding notes listed on the outstanding notes, the outstanding notes must be endorsed or accompanied by a properly completed bond power. The bond power must be signed by the registered holder as the registered holder's name appears on the outstanding notes and an eligible institution must guarantee the signature on the bond power.

If the accompanying letter of transmittal or any outstanding notes or bond powers are signed by trustees, executors, administrators, guardians, attorneys-in-fact, officers of corporations or others acting in a fiduciary or representative capacity, these persons should so indicate when signing. Unless waived by us, they should also submit evidence satisfactory to us of their authority to deliver the accompanying letter of transmittal.

The exchange agent and DTC have confirmed that any financial institution that is a participant in DTC's system may use DTC's Automated Tender Offer Program to tender. Participants in the program may. instead of physically completing and signing the accompanying letter of transmittal and delivering it to the exchange agent, transmit their acceptance of the exchange offer electronically. They may do so by causing DTC to transfer the outstanding notes to the exchange agent in accordance with its procedures for transfer. DTC will then send an agent's message to the exchange agent. The term "agent's message" means a message transmitted by DTC, received by the exchange agent and forming part of the book-entry confirmation, to the effect that:

- DTC has received an express acknowledgment from a participant in its Automated Tender Offer Program that is tendering outstanding notes that are the subject of the book-entry confirmation;

- the participant has received and agrees to be bound by the terms of the accompanying letter of transmittal, or, in the case of an agent's message relating to guaranteed delivery, that the participant has received and agrees to be bound by the applicable notice of guaranteed delivery; and

- the agreement may be enforced against that participant.

We will determine in our sole discretion all outstanding questions as to the validity, form, eligibility, including time or receipt, acceptance of tendered outstanding notes and withdrawal of tendered outstanding notes. Our determination will be final and binding. We reserve the absolute right to reject any outstanding notes not properly tendered or any outstanding notes the acceptance of which would, in the opinion of our counsel, be unlawful. We also reserve the right to waive any defects, irregularities or conditions of tender as to particular outstanding notes. Our interpretation of the terms and conditions of the exchange offer, including the instructions in the accompanying letter of transmittal, will be final and binding on all parties. Unless waived, any defects or irregularities in connection with tenders of outstanding notes must be cured within such time as we will determine. Although we intend to notify holders of defects or irregularities with respect to tenders of outstanding notes, neither we, the exchange agent, nor any other person will incur any liability for failure to give the notification. Tenders of outstanding notes will not be deemed made until any defects or irregularities have been cured or waived. Any outstanding notes received by the exchange agent that are not properly tendered and as to which the defects or irregularities have not been cured or waived will be returned to the exchange agent without cost to the tendering holder, unless otherwise provided in the letter of transmittal, as soon as practicable following the expiration date.

In all cases, we will issue exchange notes for outstanding notes that we have accepted for exchange under the exchange offer only after the exchange agent timely receives:

- outstanding notes or a timely book-entry confirmation of the outstanding notes into the exchange agent's account at DTC; and

- a properly completed and duly executed letter of transmittal and all other required documents or a properly transmitted agent's message.

By signing the accompanying letter of transmittal or authorizing the transmission of the agent's message, each tendering holder of outstanding notes will represent or be deemed to have represented to us that, among other things:

- any exchange notes that the holder receives will be acquired in the ordinary course of its business;
- the holder has no arrangement or understanding with any person or entity to participate in the distribution of the exchange notes;
- if the holder is not a broker-dealer, that it is not engaged in and does not intend to engage in the distribution of the exchange notes;
- if the holder is a broker-dealer that will receive exchange notes for its own account in exchange for outstanding notes that were acquired as a result of market-making activities or other trading activities. that it will deliver a prospectus, as required by law, in connection with any resale of any exchange notes. See "Plan of Distribution"; and
- the holder is not an "affiliate," as defined in Rule 405 of the Securities Act, of ours or, if the holder is an affiliate, it will comply with any applicable registration and prospectus delivery requirements of the Securities Act.

BOOK-ENTRY TRANSFER

The exchange agent will make a request to establish an account with respect to the outstanding notes at DTC for purposes of the exchange offer promptly after the date of this prospectus. Any financial institution participating in DTC's system may make book-entry delivery of outstanding notes by causing DTC to transfer the outstanding notes into the exchange agent's account at DTC in accordance with DTC's procedures for transfer. Holders of outstanding notes who are unable to deliver confirmation of the book-entry tender of their outstanding notes into the exchange agent's account at DTC or all other documents required by the letter of transmittal to the exchange agent on or prior to the expiration date must tender their outstanding notes according to the guaranteed delivery procedures described below.

GUARANTEED DELIVERY PROCEDURES

Holders wishing to tender their outstanding notes but whose outstanding notes are not immediately available or who cannot deliver their outstanding notes, the accompanying letter of transmittal or any other available required documents to the exchange agent or comply with the applicable procedures under DTC's Automated Tender Offer Program prior to the expiration date may tender if:

- the tender is made through an eligible institution;
- prior to the expiration date, the exchange agent receives from the eligible institution either a properly completed and duly executed notice of guaranteed delivery, by facsimile transmission, mail or hand delivery, or a properly transmitted agent's message and notice of guaranteed delivery:
  - setting forth the name and address of the holder, the registered number(s) of the outstanding notes and the principal amount of outstanding notes tendered:
  - stating that the tender is being made thereby; and
  - guaranteeing that, within three New York Stock Exchange trading days after the expiration date, the accompanying letter of transmittal, or facsimile thereof, together with the outstanding notes or a book-entry confirmation, and any other documents required by the accompanying letter of transmittal will be deposited by the eligible institution with the exchange agent; and
- the exchange agent receives the properly completed and executed letter of transmittal, or facsimile thereof, as well as all tendered outstanding notes in proper form for transfer or a book-entry confirmation. and all other documents required by the accompanying letter of transmittal, within three New York Stock Exchange trading days after the expiration date.

Upon request to the exchange agent, a notice of guaranteed delivery will be sent to holders who wish to tender their outstanding notes according to the guaranteed delivery procedures set forth above.

WITHDRAWAL OF TENDERS

Except as otherwise provided in this prospectus, holders of outstanding notes may withdraw their tenders at any time prior to the expiration date.

For a withdrawal to be effective:

- the exchange agent must receive a written notice of withdrawal, which notice may be by telegram, telex, facsimile transmission or letter of withdrawal at one of the addresses set forth below under "-- Exchange Agent", or
- holders must comply with the appropriate procedures of DTC's Automated Tender Offer Program system.

Any notice of withdrawal must:

- specify the name of the person who tendered the outstanding notes to be withdrawn;
- identify the outstanding notes to be withdrawn, including the principal amount of the outstanding notes; and
- where certificates for outstanding notes have been transmitted, specify the name in which the outstanding notes were registered, if different from that of the withdrawing holder.

If certificates for outstanding notes have been delivered or otherwise identified to the exchange agent, then, prior to the release of the certificates, the withdrawing holder must also submit:

- the serial numbers of the particular certificates to be withdrawn; and
- a signed notice of withdrawal with signatures guaranteed by an eligible institution unless the holder is an eligible institution.

If outstanding notes have been tendered pursuant to the procedure for book-entry transfer described above, any notice of withdrawal must specify the name and number of the account at DTC to be credited with the withdrawn outstanding notes and otherwise comply with the procedures of that facility. We will determine all questions as to the validity, form and eligibility, including time of receipt, of the notices, and our determination will be final and binding on all parties. We will deem any outstanding notes so withdrawn not to have been validly tendered for exchange for purposes of the exchange offer. Any outstanding notes that have been tendered for exchange but that are not exchanged for any reason will be returned to their holder without cost to the holder, or, in the case of outstanding notes tendered by book-entry transfer into the exchange agent's account at DTC according to the procedures described above, the outstanding notes will be credited to an account maintained with DTC for outstanding notes, as soon as practicable after withdrawal, rejection of tender or termination of the exchange offer. Properly withdrawn, outstanding notes may be retendered by following one of the procedures described under "-- Procedures for Tendering" above at any time on or prior to the expiration date.

EXCHANGE AGENT

The Bank of New York has been appointed as exchange agent for the exchange offer. You should direct questions and requests for assistance, requests for additional copies of this prospectus or for the letter of transmittal and requests for the notice of guaranteed delivery to the exchange agent as follows:

BY MAIL OR OVERNIGHT DELIVERY:	BY FACSIMILE:	BY HAND DELIVERY:
The Bank of New York Reorganization Unit 101 Barclay Street - 7 East New York, NY 10286 Attention: Kin Lau	The Bank of New York Reorganization Unit 101 Barclay Street - 7 East New York, NY 10286 Attention: Kin Lau (212) 298-1915 CONFIRM RECEIPT OF FACSIMILE BY TELEPHONE (212) 815-3750	The Bank of New York Reorganization Unit 101 Barclay Street Lobby Level - Corp. Trust Window New York 10286 Attention: Kin Lau

DELIVERY OF THE LETTER OF TRANSMITTAL TO AN ADDRESS OTHER THAN AS SET FORTH ABOVE OR TRANSMISSION VIA FACSIMILE OTHER THAN AS SET FORTH ABOVE DOES NOT CONSTITUTE A VALID DELIVERY OF THE LETTER OF TRANSMITTAL.

FEES AND EXPENSES

We will bear the expenses of soliciting tenders. The principal solicitation is being made by mail; however, we may make additional solicitations by telephone or in person by our officers and regular employees and those of our affiliates.

We have not retained any dealer-manager in connection with the exchange offer and will not make any payments to broker-dealers or others soliciting acceptance of the exchange offer. We will, however, pay the exchange agent reasonable and customary fees for its services and reimburse it for its related reasonable out-of-pocket expenses.

We will pay the cash expenses to be incurred in connection with the exchange offer. The expenses are estimated in the aggregate to be approximately $400,000. They include:

- SEC registration fees;
- fees and expenses of the exchange agent and trustee;
- accounting and legal fees and printing costs; and
- related fees and expenses.

TRANSFER TAXES

We will pay all transfer taxes, if any, applicable to the exchange of outstanding notes under the exchange offer. The tendering holder, however, will be required to pay any transfer taxes, whether imposed on the registered holder or any other person, if:

- certificates representing outstanding notes for principal amounts not tendered or accepted for exchange are to be delivered to, or are to be issued in the name of, any person other than the registered holder of outstanding notes tendered;
- tendered outstanding notes are registered in the name of any person other than the person signing the letter of transmittal; or
- a transfer tax is imposed for any reason other than the exchange of outstanding notes under the exchange offer.

If satisfactory evidence of payment of the taxes is not submitted with the letter of transmittal, the amount of the transfer taxes will be billed to that tendering holder.

Holders who tender their outstanding notes for exchange will not be required to pay any transfer taxes. However, holders who instruct us to register exchange notes in the name of, or request that outstanding notes not tendered or not accepted in the exchange offer be returned to, a person other than the registered tendering holder will be required to pay any applicable transfer tax.

CONSEQUENCES OF FAILURE TO EXCHANGE

Holders of outstanding notes who do not exchange their outstanding notes for exchange notes under the exchange offer will remain subject to the restrictions on transfer of the outstanding notes:

- as set forth in the legend printed on the notes as a consequence of the issuance of the outstanding notes under the exemption from, or in transactions not subject to, the registration requirements of the Securities Act and applicable state securities laws; and

- otherwise as set forth in the offering memorandum distributed in connection with the private offering of the outstanding notes.

In general, you may not offer or sell the outstanding notes unless they are registered under the Securities Act, or if the offer or sale is exempt from registration under the Securities Act and applicable state securities laws. Except as required by the registration rights agreement, we do not intend to register resales of the outstanding notes under the Securities Act. Based on interpretations of the SEC staff, exchange notes issued under the exchange offer may be offered for resale, resold or otherwise transferred by their holders (other than any holder that is our "affiliate" within the meaning of Rule 405 under the Securities Act) without compliance with the registration and prospectus delivery provisions of the Securities Act, provided that the holders acquired the exchange notes in the ordinary course of the holders' business and the holders have no arrangement or understanding with respect to the distribution of the exchange notes to be acquired in the exchange offer. Any holder who tenders in the exchange offer for the purpose of participating in a distribution of the exchange notes:

- cannot rely on the applicable interpretations of the SEC; and

- must comply with the registration and prospectus delivery requirements of the Securities Act in connection with a secondary resale transaction.

ACCOUNTING TREATMENT

We will record the exchange notes in our accounting records at the same carrying value as the outstanding notes, which is the aggregate principal amount, as reflected in our accounting records on the date of exchange. Accordingly, we will not recognize any gain or loss for accounting purposes in connection with the exchange offer. We will record the expenses of the exchange offer as incurred.

OTHER

Participation in the exchange offer is voluntary, and you should carefully consider whether to accept. You are urged to consult your financial and tax advisors in making your own decision on what action to take.

We may in the future seek to acquire untendered outstanding notes in open market or privately negotiated transactions, through subsequent exchange offers or otherwise. We have no present plans to acquire any outstanding notes that are not tendered in the exchange offer or to file a registration statement to permit resales of any untendered outstanding notes.

DESCRIPTION OF THE NOTES

The outstanding notes were issued and the exchange notes offered hereby will be issued under an indenture (the "Indenture") among the Company, as issuer, the Guarantors and The Bank of New York, as trustee (the "Trustee"). The terms of the Notes include those stated in the Indenture and those made part of the Indenture by reference to the Trust Indenture Act of 1939, as amended (the "Trust Indenture Act"). The Notes are subject to all such terms, and holders of the Notes are referred to the Indenture and the Trust Indenture Act for a statement thereof.

The following summary of the material provisions of the Indenture describes the material terms of the Indenture but does not purport to be complete and is subject to, and qualified in its entirety by reference to, the provisions of the Indenture, including the definitions of certain terms contained therein and those terms made part of the Indenture by reference to the Trust Indenture Act. For definitions of certain capitalized terms used in the following summary, see "-- Certain Definitions."

For purposes of this summary, the term "Company" refers only to L-3 Communications Corporation and not to any of its Subsidiaries.

BRIEF DESCRIPTION OF THE NOTES AND THE SUBSIDIARY GUARANTEES

The Notes:

- are general unsecured obligations of the Company;
- rank pari passu in right of payment with the 1997 Notes, the May 1998 Notes and the December 1998 Notes;
- rank pari passu in right of payment with the obligations of the Company under Holdings' outstanding 2000 Convertible Notes and 2001 CODES;
- are subordinated in right of payment to all current and future Senior Debt; and
- are senior in right of payment to any future Indebtedness of the Company that expressly provides that it is not senior to the Notes.

The Subsidiary Guarantees:

- are general unsecured obligations of the Guarantors;
- rank pari passu in right of payment with the guarantees of the 1997 Notes, the May 1998 Notes and the December 1998 Notes;
- rank pari passu in right of payment with the obligations of the Guarantors under Holdings' outstanding 2000 Convertible Notes and 2001 CODES;
- are subordinated in right of payment to all current and future Senior Debt of the Guarantors; and
- are senior in right of payment to any future Indebtedness of the Guarantors that expressly provides that it is not senior to the Subsidiary Guarantees.

At June 30, 2002, the Company did not have any Senior Debt outstanding (excluding letters of credit). The Indenture permits the incurrence of additional Senior Debt in the future. See "-- Certain Covenants -- Incurrence of Indebtedness and Issuance of Preferred Stock."

THE SUBSIDIARY GUARANTEES

The Indenture provides that the Company's payment obligations under the Notes are jointly and severally guaranteed (the "Subsidiary Guarantees") by all of the Company's present and future Restricted Subsidiaries, other than Foreign Subsidiaries. The obligations of each Guarantor under its Subsidiary Guarantee will be limited as necessary to prevent that Subsidiary Guarantee from constituting a fraudulent conveyance under applicable law. See "Risk Factors -- The guarantees may

be unenforceable due to fraudulent conveyance statutes, and accordingly, you could have no claim against the guarantors." The Subsidiary Guarantee of each Guarantor will be subordinated to the prior payment in full of all Senior Debt of such Guarantor, which would include the guarantees of amounts borrowed under the Senior Credit Facilities.

Upon the release of a Guarantee by a Restricted Subsidiary under all then outstanding Credit Facilities, at any time after the suspension of certain covenants as provided below under the caption "-- Certain Covenants -- Changes in Covenants when Notes Rated Investment Grade," the Subsidiary Guarantee of such Restricted Subsidiary under the Indenture will be released and discharged at such time. In the event that any such Restricted Subsidiary thereafter Guarantees any Indebtedness of the Company under any Credit Facility (or if any released Guarantee under any Credit Facility is reinstated or renewed), or if at any time certain covenants are reinstituted as provided below under the caption "-- Certain Covenants -- Changes in Covenants when Notes Rated Investment Grade," then such Restricted Subsidiary will Guarantee the Notes on the terms and conditions set forth in the Indenture.

As of the date of this prospectus, not all of the Company's subsidiaries are "Restricted Subsidiaries." Aviation Communications & Surveillance Systems, LLC, Digital Technics, L.L.C., Digital Technics, L.P., L-3 Communications Secure Information Technology, Inc., Logimetrics, Inc. and mmTech, INC. are currently Unrestricted Subsidiaries. In addition, under the circumstances described below under the subheading "-- Certain Covenants -- Restricted Payments", the Company is permitted to designate certain of the Company's subsidiaries as "Unrestricted Subsidiaries." Unrestricted Subsidiaries are not subject to many of the restrictive covenants in the Indenture. Unrestricted Subsidiaries do not guarantee these Notes.

PRINCIPAL, MATURITY AND INTEREST

The exchange notes will be limited in aggregate principal amount to $750.0 million. The Company may issue additional Notes from time to time after the offering of exchange notes. Any offering of additional Notes is subject to the covenant described below under the caption "-- Certain Covenants -- Incurrence of Indebtedness and Issuance of Preferred Stock." The Notes and any additional Notes subsequently issued under the Indenture will be treated as a single class for all purposes under the Indenture, including, without limitation, waivers, amendments, redemptions and offers to purchase.

The Notes will mature on June 15, 2012. Interest on the Notes will accrue at the rate of 7 5/8% per annum and will be payable semi-annually in arrears on June 15 and December 15, commencing on December 15, 2002, to Holders of record on the immediately preceding June 1 and December 1.

Interest on the Notes will accrue from the most recent date to which interest has been paid or, if no interest has been paid, from the date of original issuance. Interest will be computed on the basis of a 360-day year comprised of twelve 30-day months.

METHODS OF RECEIVING PAYMENTS ON THE NOTES

Principal, premium and Additional Amounts, if any, and interest on the Notes will be payable at the office or agency of the Company maintained for such purpose within the City and State of New York or, at the option of the Company, payment of interest and Additional Amounts, if any, may be made by check mailed to the Holders of the Notes at their respective addresses set forth in the register of Holders of Notes; provided that all payments of principal, premium, interest and Additional Amounts with respect to Notes the Holders of which have given wire transfer instructions to the Company will be required to be made by wire transfer of immediately available funds to the accounts specified by the Holders thereof if such Holders shall be registered Holders of at least $250,000 in principal amount of Notes. Until otherwise designated by the Company, the Company's office or agency in New York will be the office of the Trustee maintained for such purpose. The exchange notes will be issued in denominations of $1,000 and integral multiples thereof.

OPTIONAL REDEMPTION

The Notes will not be redeemable at the Company's option prior to June 15, 2007. Thereafter, the Notes will be subject to redemption at any time at the option of the Company, in whole or in part, upon not less than 30 nor more than 60 days' notice, at the redemption prices (expressed as percentages of principal amount) set forth below plus accrued and unpaid interest and Additional Amounts, if any, to the applicable redemption date, if redeemed during the twelve-month period beginning on June 15 of the years indicated below:

YEAR	PERCENTAGE
2007	103.813%
2008	102.542%
2009	101.271%
2010 and thereafter	100.000%

Notwithstanding the foregoing, before June 15, 2005, the Company may on any one or more occasions redeem up to an aggregate of 35% of the Notes originally issued at a redemption price of 107.625% of the principal amount thereof, plus accrued and unpaid interest and Additional Amounts, if any, to the redemption date, with the net cash proceeds of one or more Equity Offerings by the Company or the net cash proceeds of one or more Equity Offerings by Holdings that are contributed to the Company as common equity capital; provided that at least 65% of the Notes originally issued remain outstanding immediately after the occurrence of each such redemption; and provided, further, that any such redemption must occur within 120 days of the date of the closing of such Equity Offering.

SUBORDINATION

The payment of principal of, premium and Additional Amounts, if any, and interest on the Notes will be subordinated in right of payment, as set forth in the Indenture, to the prior payment in full in cash of all Senior Debt, whether outstanding on the Issue Date or thereafter incurred.

Upon any distribution to creditors of the Company:

(1) in a liquidation or dissolution of the Company;

(2) in a bankruptcy, reorganization, insolvency, receivership or similar proceeding relating to the Company or its property;

(3) in an assignment for the benefit of creditors; or

(4) in any marshalling of the Company's assets and liabilities,

the holders of Senior Debt will be entitled to receive payment in full in cash of all Obligations due in respect of such Senior Debt (including interest after the commencement of any such proceeding at the rate specified in the applicable Senior Debt, whether or not an allowable claim in any such proceeding) before the Holders of Notes will be entitled to receive any payment with respect to the Notes, and until all Obligations with respect to Senior Debt are paid in full in cash, any distribution to which the Holders of Notes would be entitled shall be made to the holders of Senior Debt (except, in each case, that Holders of Notes may receive Permitted Junior Securities and payments made from the trust described under "-- Legal Defeasance and Covenant Defeasance").

The Company also may not make any payment upon or in respect of the Notes (except in Permitted Junior Securities or from the trust described under "-- Legal Defeasance and Covenant Defeasance") if:

(1) a default in the payment of the principal of, premium, if any, or interest on Designated Senior Debt occurs and is continuing; or

(2) any other default occurs and is continuing with respect to Designated Senior Debt that permits holders of the Designated Senior Debt as to which such default relates to accelerate

its maturity (or that would permit such holders to accelerate with the giving of notice or the passage of time or both) and the Trustee receives a notice of such default (a "Payment Blockage Notice") from the Company or the holders of any Designated Senior Debt.

Payments on the Notes may and shall be resumed:

(1) in the case of a payment default, upon the date on which such default is cured or waived; and

(2) in case of a nonpayment default, the earlier of the date on which such nonpayment default is cured or waived or 179 days after the date on which the applicable Payment Blockage Notice is received, unless the maturity of any Designated Senior Debt has been accelerated.

No new period of payment blockage may be commenced unless and until:

(1) 360 days have elapsed since the effectiveness of the immediately prior Payment Blockage Notice; and

(2) all scheduled payments of principal, premium and Additional Amounts, if any, and interest on the Notes that have come due have been paid in full in cash.

No nonpayment default that existed or was continuing on the date of delivery of any Payment Blockage Notice to the Trustee shall be, or be made, the basis for a subsequent Payment Blockage Notice unless such default shall have been cured or waived for a period of not less than 90 days.

The Indenture further requires that the Company promptly notify holders of Senior Debt if payment of the Notes is accelerated because of an Event of Default.

As a result of the subordination provisions described above, in the event of a liquidation or insolvency, Holders of Notes may recover less ratably than creditors of the Company who are holders of Senior Debt. At June 30, 2002, the Company did not have any Senior Debt outstanding.

MANDATORY REDEMPTION

Except as set forth below under "-- Repurchase at the Option of Holders", the Company is not required to make mandatory redemption or sinking fund payments with respect to the Notes.

REPURCHASE AT THE OPTION OF HOLDERS

CHANGE OF CONTROL

Upon the occurrence of a Change of Control, each Holder of Notes will have the right to require the Company to repurchase all or any part (equal to $1,000 or an integral multiple thereof) of such Holder's Notes pursuant to the offer described below (the "Change of Control Offer") at an offer price in cash equal to 101% of the aggregate principal amount thereof plus accrued and unpaid interest and Additional Amounts, if any, to the date of purchase (the "Change of Control Payment"). Within ten days following any Change of Control, the Company will mail a notice to each Holder describing the transaction or transactions that constitute the Change of Control and offering to repurchase Notes on the date specified in such notice, which date shall be no earlier than 30 days and no later than 60 days from the date such notice is mailed (the "Change of Control Payment Date"), pursuant to the procedures required by the Indenture and described in such notice. The Company will comply with the requirements of Rule 14e-1 under the Exchange Act and any other securities laws and regulations thereunder to the extent such laws and regulations are applicable in connection with the repurchase of the Notes as a result of a Change of Control.

On the Change of Control Payment Date, the Company will, to the extent lawful:

(1) accept for payment all Notes or portions thereof properly tendered pursuant to the Change of Control Offer;

(2) deposit with the Paying Agent an amount equal to the Change of Control Payment in respect of all Notes or portions thereof so tendered; and

(3) deliver or cause to be delivered to the Trustee the Notes so accepted together with an Officers' Certificate stating the aggregate principal amount of Notes or portions thereof being purchased by the Company.

The Paying Agent will promptly mail to each Holder of Notes so tendered the Change of Control Payment for such Notes, and the Trustee will promptly authenticate and mail (or cause to be transferred by book entry) to each Holder a new Note equal in principal amount to any unpurchased portion of the Notes surrendered, if any; provided that each such new Note will be in a principal amount of $1,000 or an integral multiple thereof.

The Indenture provides that, prior to mailing a Change of Control Offer, but in any event within 90 days following a Change of Control, the Company will either repay all outstanding Senior Debt or offer to repay all Senior Debt and terminate all commitments thereunder of each lender who has accepted such offer or obtain the requisite consents, if any, under all agreements governing outstanding Senior Debt to permit the repurchase of Notes required by this covenant. The Company will publicly announce the results of the Change of Control Offer on or as soon as practicable after the Change of Control Payment Date.

The Change of Control provisions described above will be applicable whether or not any other provisions of the Indenture are applicable. Except as described above with respect to a Change of Control, the Indenture does not contain provisions that permit the Holders of the Notes to require that the Company repurchase or redeem the Notes in the event of a takeover, recapitalization or similar transaction.

The Senior Credit Facilities prohibits the Company from purchasing any Notes, and also provides that certain change of control events with respect to the Company constitutes a default thereunder. Any future credit agreements or other agreements relating to Senior Debt to which the Company becomes a party may contain similar restrictions and provisions. In the event a Change of Control occurs at a time when the Company is prohibited from purchasing Notes, the Company could seek the consent of its lenders to the purchase of Notes or could attempt to refinance the borrowings that contain such prohibition. If the Company does not obtain such a consent or repay such borrowings, the Company will remain prohibited from purchasing Notes. In such case, the Company's failure to purchase tendered Notes would constitute an Event of Default under the Indenture and under the documentation governing certain of our other Indebtedness which would, in turn, constitute a default under the Senior Credit Facilities. In such circumstances, the subordination provisions in the Indenture would likely restrict payments to the Holders of Notes. See "Risk Factors -- Our ability to repurchase notes with cash upon a change of control may be limited."

Finally, the Company's ability to pay cash to the holders of Notes upon a purchase may be limited by the Company's then-existing financial resources. There can be no assurance that sufficient funds will be available when necessary to make any required purchases. Even if sufficient funds were otherwise available, the terms of the Senior Credit Facilities will prohibit, subject to certain exceptions, the Company's prepayment of Notes prior to their scheduled maturity. Consequently, if the Company is not able to prepay indebtedness outstanding under the Senior Credit Facilities and any other Senior Debt containing similar restrictions or obtain requisite consents, the Company will be unable to fulfill its repurchase obligations if holders of Notes exercise their purchase rights following a Change of Control, thereby resulting in a default under the Indenture and under the documentation governing certain of our other Indebtedness, which would, in turn, constitute a default under our Senior Credit Facilities. Furthermore, the Change of Control provisions of the Indenture and under the documentation governing certain of our other Indebtedness may in certain circumstances make more difficult or discourage a takeover of the Company.

The Company will not be required to make a Change of Control Offer upon a Change of Control if a third party makes the Change of Control Offer in the manner, at the times and otherwise in compliance with the requirements set forth in the Indenture applicable to a Change of Control Offer made by the Company and purchases all Notes validly tendered and not withdrawn under such Change of Control Offer.

The definition of Change of Control contains, with respect to the disposition of assets, the phrase "all or substantially all," which varies according to the facts and circumstances of the subject transaction and is subject to judicial interpretation. Accordingly, in certain circumstances there may be a degree of uncertainty in ascertaining whether a particular transaction would involve a disposition of "all or substantially all" of the assets of the Company and its Restricted Subsidiaries, and therefore it may be unclear as to whether a Change of Control has occurred and whether the holders have the right to require the Company to purchase the Notes. In the event that the Company were to determine that a Change of Control did not occur because not "all or substantially all" of the assets of the Company and its Restricted Subsidiaries had been sold and the holders of the Notes disagreed with such determination, the holders and/or the Trustee would need to seek a judicial determination of the issue.

ASSET SALES

The Indenture provides that the Company will not, and will not permit any of its Restricted Subsidiaries to, consummate an Asset Sale unless:

(1) the Company or the Restricted Subsidiary, as the case may be, receives consideration at the time of such Asset Sale at least equal to the fair market value (evidenced by an Officers' Certificate delivered to the Trustee which will include a resolution of the Board of Directors with respect to such fair market value in the event such Asset Sale involves aggregate consideration in excess of $10.0 million) of the assets or Equity Interests issued or sold or otherwise disposed of; and

(2) at least 80% of the consideration therefor received by the Company or such Restricted Subsidiary, as the case may be, consists of cash, Cash Equivalents and/or Marketable Securities;

provided, however, that:

(a) the amount of any Senior Debt of the Company or such Restricted Subsidiary that is assumed by the transferee in any such transaction; and

(b) any consideration received by the Company or such Restricted Subsidiary, as the case may be, that consists of (1) all or substantially all of the assets of one or more Similar Businesses, (2) other long-term assets that are used or useful in one or more Similar Businesses and (3) Permitted Securities shall be deemed to be cash for purposes of this provision.

Within 365 days after the receipt of any Net Proceeds from an Asset Sale, the Company may apply such Net Proceeds, at its option:

(1) to repay Indebtedness under a Credit Facility;

(2) to the acquisition of Permitted Securities;

(3) to the acquisition of all or substantially all of the assets of one or more Similar Businesses;

(4) to the making of a capital expenditure; or

(5) to the acquisition of other long-term assets in a Similar Business.

Pending the final application of any such Net Proceeds, the Company may temporarily reduce Indebtedness under a Credit Facility or otherwise invest such Net Proceeds in any manner that is not prohibited by the Indenture.

Any Net Proceeds from Asset Sales that are not applied or invested as provided in the first sentence of this paragraph will be deemed to constitute "Excess Proceeds." When the aggregate amount of Excess Proceeds exceeds $10.0 million, the 1997 Indenture provides that the Company will be required to make an offer to all holders of 1997 Notes (an "Asset Sale Offer") to purchase the maximum principal amount of 1997 Notes that may be purchased out of the Excess Proceeds, at an

offer price in cash in an amount equal to 100% of the principal amount thereof plus accrued and unpaid interest to the date of purchase, in accordance with the procedures set forth in the 1997 Indenture.

To the extent that (1) there are no outstanding 1997 Notes at the time an Asset Sale Offer is required to be made or (2) the aggregate amount of 1997 Notes tendered pursuant to an Asset Sale Offer is less than the remaining Excess Proceeds ("Remaining Excess Proceeds") and the sum of:

(a) such amount of Remaining Excess Proceeds; and

(b) the Remaining Excess Proceeds from any subsequent Asset Sale Offers exceeds $10.0 million,

the Company will be required to make an offer to all Holders of Notes and any other Indebtedness that ranks pari passu with the Notes (including, without limitation, the December 1998 Notes and May 1998 Notes) that, by its terms, requires the Company to offer to repurchase such Indebtedness with such Excess Proceeds or Remaining Excess Proceeds, as the case may be, (a "Secondary Asset Sale Offer") to purchase the maximum principal amount of Notes and pari passu Indebtedness that may be purchased out of such Excess Proceeds or Remaining Excess Proceeds, as the case may be, at an offer price in cash in an amount equal to 100% of the principal amount thereof plus accrued and unpaid interest thereon, if any, to the date of purchase, in accordance with the procedures set forth in the Indenture. To the extent that the aggregate amount of Notes or pari passu Indebtedness tendered pursuant to a Secondary Asset Sale Offer is less than the Excess Proceeds or Remaining Excess Proceeds, as the case may be, the Company may use any Excess Proceeds or Remaining Excess Proceeds, as the case may be, for general corporate purposes. If the aggregate principal amount of Notes or pari passu Indebtedness surrendered by Holders thereof exceeds the amount of Excess Proceeds or Remaining Excess Proceeds, as the case may be, in a Secondary Asset Sale Offer, the Company shall repurchase such Indebtedness on a pro rata basis and the Trustee shall select the Notes to be purchased on a pro rata basis. Upon completion of such offer to purchase, the amount of Excess Proceeds shall be reset at zero.

The Senior Credit Facilities will substantially limit the Company's ability to purchase subordinated Indebtedness, including the Notes. Any future credit agreements relating to Senior Debt may contain similar restrictions. See "Description of Other Indebtedness -- Senior Credit Facilities of L-3 Communications Corporation."

SELECTION AND NOTICE

If less than all of the Notes are to be redeemed at any time, selection of Notes for redemption will be made by the Trustee as follows:

(1) in compliance with the requirements of the principal national securities exchange, if any, on which the Notes are listed; or

(2) if the Notes are not so listed, on a pro rata basis, by lot or by such method as the Trustee shall deem fair and appropriate.

No Notes of $1,000 or less shall be redeemed in part. Notices of redemption shall be mailed by first class mail at least 30 but not more than 60 days before the redemption date to each Holder of Notes to be redeemed at its registered address. Notices of redemption may not be conditional.

If any Note is to be redeemed in part only, the notice of redemption that relates to such Note shall state the portion of the principal amount thereof to be redeemed. A new Note in principal amount equal to the unredeemed portion thereof will be issued in the name of the Holder thereof upon cancellation of the original Note. Notes called for redemption become due on the date fixed for redemption. On and after the redemption date, interest ceases to accrue on Notes or portions of them called for redemption.

CHANGES IN COVENANTS WHEN NOTES RATED INVESTMENT GRADE

If on any date following the date of the Indenture:

(1) the Notes are rated Baa3 or better by Moody's and BBB- or better by S&P (or, if either such entity ceases to rate the notes for reasons outside of the control of the Company, the equivalent investment grade credit rating from any other "nationally recognized statistical rating organization" within the meaning of Rule 15c3-1(c)(2)(vi)(F) under the Exchange Act selected by Company as a replacement agency); and

(2) no Default or Event of Default shall have occurred and be continuing,

then, beginning on that day and subject to the provisions of the following paragraph, the provisions and covenants specifically listed under the following captions in this prospectus will be suspended:

(a) "-- Repurchase at the Option of Holders-Asset Sales;"

(b) "-- Restricted Payments;"

(c) "-- Incurrence of Indebtedness and Issuance of Preferred Stock;"

(d) "-- Dividend and Other Payment Restrictions Affecting Restricted Subsidiaries;"

(e) "-- Transactions with Affiliates;"

(f) clauses (4)(a) and (b) of the covenant listed under "-- Merger, Consolidation or Sale of Assets;"

(g) "-- Payments for Consent;" and

(h) clauses (3)(a) and (b) of the covenant listed under "-- Future Subsidiary Guarantees."

In addition, following the achievement of such investment grade ratings, (1) the Subsidiary Guarantees of the Company's Restricted Subsidiaries will be released at the time of the release of Guarantees under all outstanding Credit Facilities as described above under the caption "-- The Subsidiary Guarantees" and, (2) as described below under the caption "-- Future Subsidiary Guarantees," no Restricted Subsidiary thereafter acquired or created will be required to execute a Subsidiary Guarantee unless such Subsidiary Guarantees Indebtedness of the Company under a Credit Facility.

Notwithstanding the foregoing, if the rating assigned by any such rating agency should subsequently decline to below Baa3 or BBB-, respectively, the foregoing covenants shall be reinstituted as of and from the date of such rating decline. For purposes of determining whether a Restricted Payment exceeds the allowable amount under the calculation described in paragraphs 3(a) through (d) of "--Restricted Payments" below, the covenant described under the caption "--Restricted Payments" will be interpreted as if it had been in effect since the date of the Indenture. However, no default will be deemed to have occurred as a result of the provisions and covenants listed in 2(a) through (h) above while those provisions and covenants were suspended. There can be no assurance that the Notes will ever achieve an investment grade rating or that any such rating will be maintained.

RESTRICTED PAYMENTS

The Indenture provides that the Company will not, and will not permit any of its Restricted Subsidiaries to, directly or indirectly:

(1) declare or pay any dividend or make any other payment or distribution on account of the Company's or any of its Restricted Subsidiaries' Equity Interests (including, without limitation, any payment in connection with any merger or consolidation involving the Company) or to the direct or indirect holders of the Company's or any of its Restricted

Subsidiaries' Equity Interests in their capacity as such (other than (A) dividends or distributions payable in Equity Interests (other than Disqualified Stock) of the Company or (B) dividends or distributions by a Restricted Subsidiary so long as, in the case of any dividend or distribution payable on or in respect of any class or series of securities issued by a Restricted Subsidiary other than a Wholly Owned Restricted Subsidiary, the Company or a Restricted Subsidiary receives at least its pro rata share of such dividend or distribution in accordance with its Equity Interests in such class or series of securities);

(2) purchase, redeem or otherwise acquire or retire for value (including without limitation, in connection with any merger or consolidation involving the Company) any Equity Interests of the Company or any direct or indirect parent of the Company;

(3) make any payment on or with respect to, or purchase, redeem, defease or otherwise acquire or retire for value any Indebtedness that is subordinated to the Notes except a payment of interest or principal at Stated Maturity; or

(4) make any Restricted Investment (all such payments and other actions set forth in clauses (1) through (4) above being collectively referred to as "Restricted Payments"),

unless, at the time of and after giving effect to such Restricted Payment:

(1) no Default or Event of Default shall have occurred and be continuing or would occur as a consequence thereof; and

(2) the Company would, at the time of such Restricted Payment and after giving pro forma effect thereto as if such Restricted Payment had been made at the beginning of the applicable four-quarter period, have been permitted to incur at least $1.00 of additional Indebtedness pursuant to the Fixed Charge Coverage Ratio test set forth in the first paragraph of the covenant described below under the caption "--Incurrence of Indebtedness and Issuance of Preferred Stock"; and

(3) such Restricted Payment, together with the aggregate amount of all other Restricted Payments made by the Company and its Restricted Subsidiaries since April 30, 1997 (excluding Restricted Payments permitted by clauses (2) through (8) of the next succeeding paragraph or of the kind contemplated by such clauses that were made prior to the date of the Indenture), is less than the sum of:

(a) 50% of the Consolidated Net Income of the Company for the period (taken as one accounting period) from July 1, 1997 to the end of the Company's most recently ended fiscal quarter for which internal financial statements are available at the time of such Restricted Payment (or, if such Consolidated Net Income for such period is a deficit, less 100% of such deficit); plus

(b) 100% of the aggregate net cash proceeds received by the Company since April 30, 1997 as a contribution to its common equity capital or from the issue or sale of Equity Interests of the Company (other than Disqualified Stock) or from the issue or sale of Disqualified Stock or debt securities of the Company that have been converted into such Equity Interests (other than Equity Interests (or Disqualified Stock or convertible debt securities) sold to a Subsidiary of the Company and other than Disqualified Stock or convertible debt securities that have been converted into Disqualified Stock); plus

(c) to the extent that any Restricted Investment that was made after April 30, 1997 is sold for cash or otherwise liquidated or repaid for cash, the amount of cash received in connection therewith (or from the sale of Marketable Securities received in connection therewith); plus

(d) to the extent not already included in such Consolidated Net Income of the Company for such period and without duplication;

(A) 100% of the aggregate amount of cash received as a dividend from an Unrestricted Subsidiary;

(B) 100% of the cash received upon the sale of Marketable Securities received as a dividend from an Unrestricted Subsidiary; and

(C) 100% of the net assets of any Unrestricted Subsidiary on the date that it becomes a Restricted Subsidiary.

As of June 30, 2002, the amount that would have been available to the Company for Restricted Payments pursuant to this paragraph (3) would have been $1,322 million.

The foregoing provisions will not prohibit:

(1) the payment of any dividend within 60 days after the date of declaration thereof, if at said date of declaration such payment would have complied with the provisions of the Indenture;

(2) the redemption, repurchase, retirement, defeasance or other acquisition of any subordinated Indebtedness or Equity Interests of the Company in exchange for, or out of the net cash proceeds of the substantially concurrent sale (other than to a Subsidiary of the Company) of, other Equity Interests of the Company (other than any Disqualified Stock); provided that the amount of any such net cash proceeds that are utilized for any such redemption, repurchase, retirement, defeasance or other acquisition shall be excluded from clause (3) (b) of the preceding paragraph;

(3) the defeasance, redemption, repurchase or other acquisition of subordinated Indebtedness (other than intercompany Indebtedness) in exchange for, or with the net cash proceeds from an incurrence of, Permitted Refinancing Indebtedness;

(4) the repurchase, retirement or other acquisition or retirement for value of common Equity Interests of the Company or Holdings held by any future, present or former employee, director or consultant of the Company or any Subsidiary or Holdings issued pursuant to any management equity plan or stock option plan or any other management or employee benefit plan or agreement; provided, however, that the aggregate amount of Restricted Payments made under this clause (4) does not exceed $1.5 million in any calendar year and provided further that cancellation of Indebtedness owing to the Company from members of management of the Company or any of its Restricted Subsidiaries in connection with a repurchase of Equity Interests of the Company will not be deemed to constitute a Restricted Payment for purposes of this covenant or any other provision of the Indenture;

(5) repurchases of Equity Interests deemed to occur upon exercise of stock options upon surrender of Equity Interests to pay the exercise price of such options;

(6) payments to Holdings (A) in amounts equal to the amounts required for Holdings to pay franchise taxes and other fees required to maintain its legal existence and provide for other operating costs of up to $500,000 per fiscal year and (B) in amounts equal to amounts required for Holdings to pay federal, state and local income taxes to the extent such income taxes are actually due and owing; provided that the aggregate amount paid under this clause (B) does not exceed the amount that the Company would be required to pay in respect of the income of the Company and its Subsidiaries if the Company were a stand alone entity that was not owned by Holdings;

(7) dividends paid to Holdings in amounts equal to amounts required for Holdings to pay interest and/or principal on Indebtedness that has been guaranteed by, or is otherwise considered Indebtedness of, the Company; and

(8) other Restricted Payments in an aggregate amount since May 22, 1998 not to exceed $20.0 million.

The Board of Directors of the Company may designate any Restricted Subsidiary to be an Unrestricted Subsidiary if such designation would not cause a Default. For purposes of making such

determination, all outstanding Investments by the Company and its Restricted Subsidiaries (except to the extent repaid in cash) in the Subsidiary so designated will be deemed to be Restricted Payments at the time of such designation and will reduce the amount available for Restricted Payments under the first paragraph of this covenant. All such outstanding Investments will be deemed to constitute Investments in an amount equal to the fair market value of such Investments at the time of such designation. Such designation will only be permitted if such Restricted Payment would be permitted at such time and if such Restricted Subsidiary otherwise meets the definition of an Unrestricted Subsidiary.

The amount of all Restricted Payments (other than cash) shall be the fair market value on the date of the Restricted Payment of the asset(s) or securities proposed to be transferred or issued by the Company or such Restricted Subsidiary, as the case may be, pursuant to the Restricted Payment. The fair market value of any non-cash Restricted Payment shall be determined by the Board of Directors whose resolution with respect thereto shall be delivered to the Trustee. Not later than the date of making any Restricted Payment, the Company shall deliver to the Trustee an Officers' Certificate stating that such Restricted Payment is permitted and setting forth the basis upon which the calculations required by the covenant "Restricted Payments" were computed.

INCURRENCE OF INDEBTEDNESS AND ISSUANCE OF PREFERRED STOCK

The Indenture provides that the Company will not, and will not permit any of its Restricted Subsidiaries to, directly or indirectly, create, incur, issue, assume, guarantee or otherwise become directly or indirectly liable, contingently or otherwise, with respect to (collectively, "incur") any Indebtedness (including Acquired Debt) and that the Company will not issue any Disqualified Stock and will not permit any of its Restricted Subsidiaries to issue any shares of preferred stock; provided, however, that the Company and any Restricted Subsidiary may incur Indebtedness (including Acquired Debt) or issue shares of preferred stock if the Fixed Charge Coverage Ratio for the Company's most recently ended four full fiscal quarters for which internal financial statements are available immediately preceding the date on which such additional Indebtedness is incurred or such preferred stock is issued would have been at least 2.0 to 1.0, determined on a pro forma basis (including a pro forma application of the net proceeds therefrom), as if the additional Indebtedness had been incurred, or the preferred stock had been issued, as the case may be, at the beginning of such four-quarter period.

The foregoing limitation will not apply to the incurrence of any of the following items of Indebtedness (collectively, "Permitted Debt"):

(1) the incurrence by the Company of additional Indebtedness under Credit Facilities (and the guarantee thereof by the Guarantors) in an aggregate principal amount outstanding pursuant to this clause (1) at any one time (with letters of credit being deemed to have a principal amount equal to the maximum potential liability of the Company and its Restricted Subsidiaries thereunder), including all Permitted Refinancing Indebtedness then outstanding incurred to refund, refinance or replace any other Indebtedness incurred pursuant to this clause (1), not to exceed $750.0 million less the aggregate amount of all Net Proceeds of Asset Sales applied to repay any such Indebtedness pursuant to the covenant described above under the caption "-- Asset Sales";

(2) the incurrence by the Company and its Restricted Subsidiaries of the Existing Indebtedness;

(3) the incurrence by the Company and the Guarantors of $750.0 million in aggregate principal amount of each of the outstanding notes and the Exchange Notes and the Subsidiary Guarantees thereof;

(4) the incurrence by the Company or any of its Restricted Subsidiaries of Indebtedness represented by Capital Lease Obligations, mortgage financings or purchase money obligations, in each case incurred for the purpose of financing all or any part of the purchase price or cost of construction or improvement of property, plant or equipment used in the business of the Company or such Restricted Subsidiary, in an aggregate principal amount,

including all Permitted Refinancing Indebtedness then outstanding incurred to refund, refinance or replace any other Indebtedness incurred pursuant to this clause (4), not to exceed $100.0 million at any time outstanding;

(5) the incurrence by the Company or any of its Restricted Subsidiaries of Indebtedness in connection with the acquisition of assets or a new Restricted Subsidiary; provided that such Indebtedness was incurred by the prior owner of such assets or such Restricted Subsidiary prior to such acquisition by the Company or one of its Restricted Subsidiaries and was not incurred in connection with, or in contemplation of, such acquisition by the Company or one of its Restricted Subsidiaries; and provided further that the principal amount (or accreted value, as applicable) of such Indebtedness, together with any other outstanding Indebtedness incurred pursuant to this clause (5) does not exceed $50.0 million;

(6) the incurrence by the Company or any of its Restricted Subsidiaries of Permitted Refinancing Indebtedness in exchange for, or the net proceeds of which are used to refund, refinance or replace, Indebtedness that was permitted by the Indenture to be incurred (other than intercompany Indebtedness or Indebtedness incurred pursuant to clause (1) above);

(7) Indebtedness incurred by the Company or any of its Restricted Subsidiaries constituting reimbursement obligations with respect to letters of credit issued in the ordinary course of business in respect of workers' compensation claims or self-insurance, or other Indebtedness with respect to reimbursement type obligations regarding workers' compensation claims; provided, however, that upon the drawing of such letters of credit or the incurrence of such Indebtedness, such obligations are reimbursed within 30 days following such drawing or incurrence;

(8) Indebtedness arising from agreements of the Company or a Restricted Subsidiary providing for indemnification, adjustment of purchase price or similar obligations, in each case, incurred or assumed in connection with the disposition of any business, assets or a Subsidiary, other than guarantees of Indebtedness incurred by any Person acquiring all or any portion of such business, assets or a Subsidiary for the purpose of financing such acquisition; provided, however, that:

(a) such Indebtedness is not reflected on the balance sheet of the Company or any Restricted Subsidiary (contingent obligations referred to in a footnote to financial statements and not otherwise reflected on the balance sheet will not be deemed to be reflected on such balance sheet for purposes of this clause (a)); and

(b) the maximum assumable liability in respect of all such Indebtedness shall at no time exceed the gross proceeds including noncash proceeds (the fair market value of such noncash proceeds being measured at the time received and without giving effect to any subsequent changes in value) actually received by the Company and its Restricted Subsidiaries in connection with such disposition;

(9) the incurrence by the Company or any of its Restricted Subsidiaries of intercompany Indebtedness between or among the Company and any of its Restricted Subsidiaries; provided, however, that:

(a) if the Company is the obligor on such Indebtedness, such Indebtedness is expressly subordinated to the prior payment in full in cash of all Obligations with respect to the Notes; and

(b) (1) any subsequent issuance or transfer of Equity Interests that results in any such Indebtedness being held by a Person other than the Company or one of its Restricted Subsidiaries and (2) any sale or other transfer of any such Indebtedness to a Person that is not either the Company or one of its Restricted Subsidiaries shall be deemed, in each case, to constitute an incurrence of such Indebtedness by the Company or such Restricted Subsidiary, as the case may be;

(10) the incurrence by the Company or any of the Guarantors of Hedging Obligations that are incurred for the purpose of:

(a) fixing, hedging or capping interest rate risk with respect to any floating rate Indebtedness that is permitted by the terms of the Indenture to be outstanding; or

(b) protecting the Company and its Restricted Subsidiaries against changes in currency exchange rates;

(11) the guarantee by the Company or any of the Guarantors of Indebtedness of the Company or a Restricted Subsidiary of the Company that was permitted to be incurred by another provision of this covenant;

(12) the incurrence by the Company's Unrestricted Subsidiaries of Non-Recourse Debt, provided, however, that if any such Indebtedness ceases to be Non-Recourse Debt of an Unrestricted Subsidiary, such event shall be deemed to constitute an incurrence of Indebtedness by a Restricted Subsidiary of the Company that was not permitted by this clause (12), and the issuance of preferred stock by Unrestricted Subsidiaries;

(13) obligations in respect of performance and surety bonds and completion guarantees provided by the Company or any Restricted Subsidiaries in the ordinary course of business; and

(14) the incurrence by the Company or any of its Restricted Subsidiaries of additional Indebtedness in an aggregate principal amount (or accreted value, as applicable) at any time outstanding, including all Permitted Refinancing Indebtedness then outstanding incurred to refund, refinance or replace any other Indebtedness incurred pursuant to this clause (14), not to exceed $100.0 million.

For purposes of determining compliance with this covenant, in the event that an item of Indebtedness meets the criteria of more than one of the categories of Permitted Debt described in clauses (1) through (14) above or is entitled to be incurred pursuant to the first paragraph of this covenant, the Company shall, in its sole discretion, classify, or later reclassify, such item of Indebtedness in any manner that complies with this covenant. Accrual of interest, the accretion of accreted value and the payment of interest in the form of additional Indebtedness will not be deemed to be an incurrence of Indebtedness for purposes of this covenant.

LIENS

The Indenture provides that the Company will not, and will not permit any of its Restricted Subsidiaries to, directly or indirectly, create, incur, assume or suffer to exist any Lien (other than Permitted Liens) securing Indebtedness on any asset now owned or hereafter acquired, or any income or profits therefrom or assign or convey any right to receive income therefrom, unless all payments due under the Indenture and the Notes are secured on an equal and ratable basis with the Obligations so secured until such time as such Obligations are no longer secured by a Lien.

ANTILAYERING PROVISION

The Indenture provides that (A) the Company will not incur, create, issue, assume, guarantee or otherwise become liable for any Indebtedness that is subordinate or junior in right of payment to any Senior Debt and senior in any respect in right of payment to the Notes, and (B) no Guarantor will incur, create, issue, assume, guarantee or otherwise become liable for any Indebtedness that is subordinate or junior in right of payment to any Senior Debt of a Guarantor and senior in any respect in right of payment to any of the Subsidiary Guarantees.

DIVIDEND AND OTHER PAYMENT RESTRICTIONS AFFECTING RESTRICTED SUBSIDIARIES

The Indenture provides that the Company will not, and will not permit any of its Restricted Subsidiaries to, directly or indirectly, create or otherwise cause or suffer to exist or become effective any encumbrance or restriction on the ability of any Restricted Subsidiary to:

(1) (A) pay dividends or make any other distributions to the Company or any of its Restricted Subsidiaries (1) on its Capital Stock or (2) with respect to any other interest or participation in, or measured by, its profits, or (B) pay any indebtedness owed to the Company or any of its Restricted Subsidiaries;

(2) make loans or advances to the Company or any of its Restricted Subsidiaries; or

(3) transfer any of its properties or assets to the Company or any of its Restricted Subsidiaries.

However, the preceding restrictions will not apply to encumbrances or restrictions existing under or by reason of:

(1) the provisions of security agreements that restrict the transfer of assets that are subject to a Lien created by such security agreements;

(2) the provisions of agreements governing Indebtedness incurred pursuant to clause (5) of the second paragraph of the covenant described above under the caption "-- Incurrence of Indebtedness and Issuance of Preferred Stock";

(3) the Senior Credit Facilities, the Indenture, the Notes, the Exchange Notes, the December 1998 Indenture, the December 1998 Notes, the May 1998 Indenture, the May 1998 Notes, the 1997 Indenture and the 1997 Notes;

(4) applicable law;

(5) any instrument governing Indebtedness or Capital Stock of a Person acquired by the Company or any of its Restricted Subsidiaries as in effect at the time of such acquisition (except to the extent such Indebtedness was incurred in connection with or in contemplation of such acquisition), which encumbrance or restriction is not applicable to any Person, or the properties or assets of any Person, other than the Person, or the property or assets of the Person, so acquired, provided that, in the case of Indebtedness, such Indebtedness was permitted by the terms of the Indenture to be incurred;

(6) by reason of customary non-assignment provisions in leases entered into in the ordinary course of business and consistent with past practices;

(7) purchase money obligations for property acquired in the ordinary course of business that impose restrictions of the nature described in clause (3) of the preceding paragraph;

(8) Permitted Refinancing Indebtedness, provided that the restrictions contained in the agreements governing such Permitted Refinancing Indebtedness are not materially more restrictive, taken as a whole, than those contained in the agreements governing the Indebtedness being refinanced;

(9) contracts for the sale of assets, including, without limitation, customary restrictions with respect to a Subsidiary pursuant to an agreement that has been entered into for the sale or disposition of all or substantially all of the Capital Stock or assets of such Subsidiary;

(10) agreements relating to secured Indebtedness otherwise permitted to be incurred pursuant to the covenants described under "Limitations on Incurrence of Indebtedness and Issuance of Preferred Stock" and "Liens" that limit the right of the debtor to dispose of the assets securing such Indebtedness;

(11) restrictions on cash or other deposits or net worth imposed by customers under contracts entered into in the ordinary course of business; or

(12) customary provisions in joint venture agreements and other similar agreements entered into in the ordinary course of business.

MERGER, CONSOLIDATION OR SALE OF ASSETS

The Indenture provides that the Company may not consolidate or merge with or into (whether or not the Company is the surviving corporation), or sell, assign, transfer, lease, convey or otherwise dispose of all or substantially all of its properties or assets in one or more related transactions, to another Person unless:

(1) the Company is the surviving corporation or the Person formed by or surviving any such consolidation or merger (if other than the Company) or to which such sale, assignment, transfer, lease, conveyance or other disposition shall have been made is a corporation organized or existing under the laws of the United States, any state thereof or the District of Columbia;

(2) the Person formed by or surviving any such consolidation or merger (if other than the Company) or the Person to which such sale, assignment, transfer, lease, conveyance or other disposition shall have been made assumes all the obligations of the Company under the Registration Rights Agreement, the Notes and the Indenture pursuant to a supplemental indenture in a form reasonably satisfactory to the Trustee;

(3) immediately after such transaction no Default or Event of Default exists; and

(4) except in the case of a merger of the Company with or into a Wholly Owned Restricted Subsidiary of the Company, the Company or the Person formed by or surviving any such consolidation or merger (if other than the Company), or to which such sale, assignment, transfer, lease, conveyance or other disposition shall have been made, after giving pro forma effect to such transaction as if such transaction had occurred at the beginning of the most recently ended four full fiscal quarters for which internal financial statements are available immediately preceding such transaction either:

(a) would be permitted to incur at least $1.00 of additional Indebtedness pursuant to the Fixed Charge Coverage Ratio test set forth in the first paragraph of the covenant described above under the caption "-- Incurrence of Indebtedness and Issuance of Preferred Stock"; or

(b) would have a pro forma Fixed Charge Coverage Ratio that is greater than the actual Fixed Charge Coverage Ratio for the same four-quarter period without giving pro forma effect to such transaction.

Notwithstanding the foregoing clause (4):

(1) any Restricted Subsidiary may consolidate with, merge into or transfer all or part of its properties and assets to the Company; and

(2) the Company may merge with an Affiliate that has no significant assets or liabilities and was incorporated solely for the purpose of reincorporating the Company in another State of the United States so long as the amount of Indebtedness of the Company and its Restricted Subsidiaries is not increased thereby.

TRANSACTIONS WITH AFFILIATES

The Indenture provides that the Company will not, and will not permit any of its Restricted Subsidiaries to, make any payment to, or sell, lease, transfer or otherwise dispose of any of its properties or assets to, or purchase any property or assets from, or enter into or make or amend any transaction, contract, agreement, understanding, loan, advance or guarantee with, or for the benefit of, any Affiliate (each of the foregoing, an "Affiliate Transaction"), unless:

(1) such Affiliate Transaction is on terms that are no less favorable to the Company or the relevant Restricted Subsidiary than those that would have been obtained in a comparable transaction by the Company or such Restricted Subsidiary with an unrelated Person; and

(2) the Company delivers to the Trustee:

(a) with respect to any Affiliate Transaction or series of related Affiliate Transactions involving aggregate consideration in excess of $5.0 million, a resolution of the Board of Directors set forth in an Officers' Certificate certifying that such Affiliate Transaction complies with clause (1) above and that such Affiliate Transaction has been approved by a majority of the disinterested members of the Board of Directors; and

(b) with respect to any Affiliate Transaction or series of related Affiliate Transactions involving aggregate consideration in excess of $15.0 million, an opinion as to the fairness to the Holders of such Affiliate Transaction from a financial point of view issued by an accounting, appraisal or investment banking firm of national standing.

The foregoing provisions will not prohibit:

(1) any employment agreement entered into by the Company or any of its Restricted Subsidiaries in the ordinary course of business;

(2) any transaction with a Lehman Investor;

(3) any transaction between or among the Company and/or its Restricted Subsidiaries;

(4) transactions between the Company or any of its Restricted Subsidiaries, on the one hand, and a Permitted Joint Venture, on the other hand, on terms that are not materially less favorable to the Company or the applicable Restricted Subsidiary of the Company than those that could have been obtained from an unaffiliated third party; provided that:

(a) in the case of any such transaction or series of related transactions pursuant to this clause (4) involving aggregate consideration in excess of $5.0 million but less than $25.0 million, such transaction or series of transactions (or the agreement pursuant to which the transactions were executed) was approved by the Company's Chief Executive Officer or Chief Financial Officer; and

(b) in the case of any such transaction or series of related transactions pursuant to this clause (4) involving aggregate consideration equal to or in excess of $25.0 million, such transaction or series of related transactions (or the agreement pursuant to which the transactions were executed) was approved by a majority of the disinterested members of the Board of Directors;

(5) any transaction pursuant to and in accordance with the provisions of the Transaction Documents as the same are in effect on the Issue Date; and

(6) any Restricted Payment that is permitted by the provisions of the Indenture described above under the caption "-- Restricted Payments."

PAYMENTS FOR CONSENT

The Indenture provides that neither the Company nor any of its Subsidiaries will, directly or indirectly, pay or cause to be paid any consideration, whether by way of interest, fee or otherwise, to any Holder of any Notes for or as an inducement to any consent, waiver or amendment of any of the terms or provisions of the Indenture or the Notes unless such consideration is offered to be paid or is paid to all Holders of the Notes that consent, waive or agree to amend in the time frame set forth in the solicitation documents relating to such consent, waiver or agreement.

REPORTS

Notwithstanding that the Company may not be subject to the reporting requirements of Section 13 or 15(d) of the Exchange Act or otherwise report on an annual and quarterly basis on forms provided for such annual and quarterly reporting pursuant to rules and regulations promulgated by the SEC, the Indenture requires the Company to file with the Commission (and provide the Trustee and Holders with copies thereof, without cost to each Holder, within 15 days after it files them with the Commission):

(1) within 90 days after the end of each fiscal year, annual reports on Form 10-K (or any successor or comparable form) containing the information required to be contained therein (or required in such successor or comparable form);

(2) within 45 days after the end of each of the first three fiscal quarters of each fiscal year, reports on Form 10-Q (or any successor or comparable form);

(3) promptly from time to time after the occurrence of an event required to be therein reported, such other reports on Form 8-K (or any successor or comparable form); and

(4) any other information, documents and other reports which the Company would be required to file with the Commission if it were subject to Section 13 or 15(d) of the Exchange Act;

provided, however, the Company shall not be so obligated to file such reports with the Commission if the Commission does not permit such filing, in which event the Company will make available such information to prospective purchasers of Notes, in addition to providing such information to the Trustee and the Holders, in each case within 15 days after the time the Company would be required to file such information with the Commission, if it were subject to Sections 13 or 15(d) of the Exchange Act.

FUTURE SUBSIDIARY GUARANTEES

The Company's payment obligations under the Notes are jointly and severally guaranteed by all of the Company's existing and future Restricted Subsidiaries, other than Foreign Subsidiaries. The Indenture provides that if the Company or any of its Subsidiaries shall acquire or create a Subsidiary (other than a Foreign Subsidiary or an Unrestricted Subsidiary) after the Issue Date, then such Subsidiary shall execute a Subsidiary Guarantee and deliver an opinion of counsel, in accordance with the terms of the Indenture. The Subsidiary Guarantee of each Guarantor ranks pari passu with the guarantees of the 2001 CODES, the 2000 Convertible Notes, the December 1998 Notes, the May 1998 Notes and the 1997 Notes and is subordinated to the prior payment in full of all Senior Debt of such Guarantor, which would include the guarantees of amounts borrowed under the Senior Credit Facilities. The obligations of each Guarantor under its Subsidiary Guarantee are limited so as not to constitute a fraudulent conveyance under applicable law.

The Indenture also provides that, notwithstanding the foregoing, for so long as certain covenants are suspended as provided above under the caption "-- Certain Covenants -- Changes in Covenants when Notes Rated Investment Grade," no newly acquired or created Subsidiary will be required to execute a Subsidiary Guarantee unless such Subsidiary Guarantees Indebtedness of the Company under a Credit Facility. However, any Subsidiary (other than a Foreign Subsidiary or an Unrestricted Subsidiary) that Guarantees any Indebtedness of the Company under a Credit Facility will become a Subsidiary Guarantor and, if at any time certain covenants are reinstituted as provided above under the caption "-- Certain Covenants -- Changes in Covenants when Notes Rated Investment Grade," any newly acquired or created Subsidiary (other than a Foreign Subsidiary or an Unrestricted Subsidiary) will Guarantee the Notes on the terms and conditions set forth in the Indenture.

The Indenture provides that no Guarantor may consolidate with or merge with or into (whether or not such Guarantor is the surviving Person) another Person (except the Company or another Guarantor) unless:

(1) subject to the provisions of the following paragraph, the Person formed by or surviving any such consolidation or merger (if other than such Guarantor) or to which such sale, assignment, transfer, lease, conveyance or other disposition shall have been made assumes all the obligations of such Guarantor pursuant to a supplemental indenture in form and substance reasonably satisfactory to the Trustee, under the Notes and the Indenture;

(2) immediately after giving effect to such transaction, no Default or Event of Default exists; and

(3) the Company:

(a) would be permitted by virtue of the Company's pro forma Fixed Charge Coverage Ratio, immediately after giving effect to such transaction, to incur at least $1.00 of additional Indebtedness pursuant to the Fixed Charge Coverage Ratio test set forth in the covenant described above under the caption "-- Incurrence of Indebtedness and Issuance of Preferred Stock"; or

(b) would have a pro forma Fixed Charge Coverage Ratio that is greater than the actual Fixed Charge Coverage Ratio for the same four-quarter period without giving pro forma effect to such transaction.

Notwithstanding the foregoing clause (3):

(1) any Guarantor may consolidate with, merge into or transfer all or part of its properties and assets to the Company or to another Guarantor; and

(2) any Guarantor may merge with an Affiliate that has no significant assets or liabilities and was incorporated solely for the purpose of reincorporating such Guarantor in another State of the United States so long as the amount of Indebtedness of the Company and its Restricted Subsidiaries is not increased thereby.

The Indenture provides that in the event of a sale or other disposition of all of the assets of any Guarantor, by way of merger, consolidation or otherwise, or a sale or other disposition of all of the capital stock of any Guarantor, then such Guarantor (in the event of a sale or other disposition, by way of such a merger, consolidation or otherwise, of all of the capital stock of such Guarantor) or the corporation acquiring the property (in the event of a sale or other disposition of all of the assets of such Guarantor) will be released and relieved of any obligations under its Subsidiary Guarantee; provided that the Net Proceeds of such sale or other disposition are applied in accordance with the applicable provisions of the Indenture. See "-- Repurchase at the Option of Holders -- Asset Sales."

EVENTS OF DEFAULT AND REMEDIES

The Indenture provides that each of the following constitutes an Event of Default:

(1) default for 30 days in the payment when due of interest or Additional Amounts, if any, on the Notes (whether or not prohibited by the subordination provisions of the Indenture);

(2) default in payment when due of the principal of or premium, if any, on the Notes (whether or not prohibited by the subordination provisions of the Indenture);

(3) failure by the Company to comply with the provisions described under the captions "-- Repurchase at the Option of Holders -- Change of Control", "-- Repurchase at the Option of Holders -- Asset Sales" or "-- Merger, Consolidation or Sale of Assets";

(4) failure by the Company for 60 days after notice to comply with any of its other agreements in the Indenture or the Notes;

(5) default under any mortgage, indenture or instrument under which there may be issued or by which there may be secured or evidenced any Indebtedness for money borrowed by the Company or any of its Restricted Subsidiaries (or the payment of which is guaranteed by the Company or any of its Restricted Subsidiaries) whether such Indebtedness or guarantee now exists, or is created after the Issue Date, which default results in the acceleration of such Indebtedness prior to its express maturity and, in each case, the principal amount of any such Indebtedness, together with the principal amount of any other such Indebtedness the maturity of which has been so accelerated, aggregates $25.0 million or more;

(6) failure by the Company or any of its Restricted Subsidiaries to pay final judgments aggregating in excess of $25.0 million, which judgments are not paid, discharged or stayed for a period of 60 days;

(7) certain events of bankruptcy or insolvency with respect to the Company or any of its Significant Subsidiaries or any group of Subsidiaries that, taken as a whole, would constitute a Significant Subsidiary; and

(8) except as permitted by the Indenture, any Subsidiary Guarantee shall be held in any judicial proceeding to be unenforceable or invalid.

If any Event of Default occurs and is continuing, the Trustee or the Holders of at least 25% in principal amount of the then outstanding Notes may declare all the Notes to be due and payable immediately; provided, however, that so long as any Designated Senior Debt is outstanding, such declaration shall not become effective until the earlier of:

(1) the day which is five Business Days after receipt by the Representatives of Designated Senior Debt of such notice of acceleration; or

(2) the date of acceleration of any Designated Senior Debt.

Notwithstanding the foregoing, in the case of an Event of Default arising from certain events of bankruptcy or insolvency, with respect to the Company or any Significant Subsidiary or any group of Subsidiaries that, taken as a whole, would constitute a Significant Subsidiary, all outstanding Notes will become due and payable without further action or notice. Holders of the Notes may not enforce the Indenture or the Notes except as provided in the Indenture. Subject to certain limitations, Holders of a majority in principal amount of the then outstanding Notes may direct the Trustee in its exercise of any trust or power. The Trustee may withhold from Holders of the Notes notice of any continuing Default or Event of Default (except a Default or Event of Default relating to the payment of principal or interest) if it determines that withholding notice is in their interest.

In the case of any Event of Default occurring by reason of any willful action (or inaction) taken (or not taken) by or on behalf of the Company with the intention of avoiding payment of the premium that the Company would have had to pay if the Company then had elected to redeem the Notes pursuant to the optional redemption provisions of the Indenture, an equivalent premium shall also become and be immediately due and payable to the extent permitted by law upon the acceleration of the Notes. If an Event of Default occurs prior to June 15, 2007 by reason of any willful action (or inaction) taken (or not taken) by or on behalf of the Company with the intention of avoiding the prohibition on redemption of the Notes prior to June 15, 2007, then the premium specified in the Indenture shall also become immediately due and payable to the extent permitted by law upon the acceleration of the Notes.

The Holders of a majority in aggregate principal amount of the Notes then outstanding by notice to the Trustee may on behalf of the Holders of all of the Notes waive any existing Default or Event of Default and its consequences under the Indenture except a continuing Default or Event of Default in the payment of interest on, or the principal of, the Notes.

The Company is required to deliver to the Trustee annually a statement regarding compliance with the Indenture, and the Company is required upon becoming aware of any Default or Event of Default, to deliver to the Trustee a statement specifying such Default or Event of Default.

NO PERSONAL LIABILITY OF DIRECTORS, OFFICERS, EMPLOYEES AND STOCKHOLDERS

No director, officer, employee, incorporator or stockholder of the Company or any Guarantor, as such, shall have any liability for any obligations of the Company or any Guarantor under the Notes, the Subsidiary Guarantees or the Indenture or for any claim based on, in respect of, or by reason of, such obligations or their creation. Each Holder of Notes by accepting a Note waives and releases all such liability. The waiver and release are part of the consideration for issuance of the Notes. Such waiver may not be effective to waive liabilities under the federal securities laws and it is the view of the Commission that such a waiver is against public policy.

LEGAL DEFEASANCE AND COVENANT DEFEASANCE

The Company may, at its option and at any time, elect to have all of its obligations discharged with respect to the outstanding Notes ("Legal Defeasance") except for:

(1) the rights of Holders of outstanding Notes to receive payments in respect of the principal of, premium and Additional Amounts, if any, and interest on such Notes when such payments are due from the trust referred to below;

(2) the Company's obligations with respect to the Notes concerning issuing temporary Notes, registration of Notes, mutilated, destroyed, lost or stolen Notes and the maintenance of an office or agency for payment and money for security payments held in trust;

(3) the rights, powers, trusts, duties and immunities of the Trustee, and the Company's obligations in connection therewith; and

(4) the Legal Defeasance provisions of the Indenture.

In addition, the Company may, at its option and at any time, elect to have the obligations of the Company released with respect to certain covenants that are described in the Indenture ("Covenant Defeasance") and thereafter any omission to comply with such obligations shall not constitute a Default or Event of Default with respect to the Notes. In the event Covenant Defeasance occurs, certain events (not including non-payment, bankruptcy, receivership, rehabilitation and insolvency events) described under "Events of Default" will no longer constitute an Event of Default with respect to the Notes.

In order to exercise either Legal Defeasance or Covenant Defeasance:

(1) the Company must irrevocably deposit with the Trustee, in trust, for the benefit of the Holders of the Notes, cash in U.S. dollars, non-callable Government Securities, or a combination thereof, in such amounts as will be sufficient, in the opinion of a nationally recognized firm of independent public accountants, to pay the principal of, premium and Additional Amounts, if any, and interest on the outstanding Notes on the stated maturity or on the applicable redemption date, as the case may be, and the Company must specify whether the Notes are being defeased to maturity or to a particular redemption date;

(2) in the case of Legal Defeasance, the Company shall have delivered to the Trustee an opinion of counsel in the United States reasonably acceptable to the Trustee confirming that:

(a) the Company has received from, or there has been published by, the Internal Revenue Service a ruling; or

(b) since the Issue Date, there has been a change in the applicable federal income tax law, in either case to the effect that, and based thereon such opinion of counsel shall confirm that, the Holders of the outstanding Notes will not recognize income, gain or loss for federal income tax purposes as a result of such Legal Defeasance and will be subject to federal income tax on the same amounts, in the same manner and at the same times as would have been the case if such Legal Defeasance had not occurred;

(3) in the case of Covenant Defeasance, the Company shall have delivered to the Trustee an opinion of counsel in the United States reasonably acceptable to the Trustee confirming that the Holders of the outstanding Notes will not recognize income, gain or loss for federal income tax purposes as a result of such Covenant Defeasance and will be subject to federal income tax on the same amounts, in the same manner and at the same times as would have been the case if such Covenant Defeasance had not occurred;

(4) no Default or Event of Default shall have occurred and be continuing on the date of such deposit (other than a Default or Event of Default resulting from the borrowing of funds to be applied to such deposit) or insofar as Events of Default from bankruptcy or insolvency events are concerned, at any time in the period ending on the 91st day after the date of deposit;

(5) such Legal Defeasance or Covenant Defeasance will not result in a breach or violation of, or constitute a default under any material agreement or instrument (other than the Indenture) to which the Company or any of its Restricted Subsidiaries is a party or by which the Company or any of its Restricted Subsidiaries is bound;

(6) the Company must have delivered to the Trustee an opinion of counsel to the effect that after the 91st day following the deposit, the trust funds will not be subject to the effect of any applicable bankruptcy, insolvency, reorganization or similar laws affecting creditors' rights generally;

(7) the Company must deliver to the Trustee an Officers' Certificate stating that the deposit was not made by the Company with the intent of preferring the Holders of Notes over the other creditors of the Company with the intent of defeating, hindering, delaying or defrauding creditors of the Company or others; and

(8) the Company must deliver to the Trustee an Officers' Certificate and an opinion of counsel, each stating that all conditions precedent provided for relating to the Legal Defeasance or the Covenant Defeasance have been complied with.

TRANSFER AND EXCHANGE

A Holder may transfer or exchange Notes in accordance with the Indenture. The registrar and the Trustee may require a Holder, among other things, to furnish appropriate endorsements and transfer documents and the Company may require a Holder to pay any taxes and fees required by law or permitted by the Indenture. The Company is not required to transfer or exchange any Note selected for redemption. Also, the Company is not required to transfer or exchange any Note for a period of 15 days before a selection of Notes to be redeemed.

The registered Holder of a Note will be treated as the owner of it for all purposes.

AMENDMENT, SUPPLEMENT AND WAIVER

Except as provided in the next two succeeding paragraphs, the Indenture or the Notes may be amended or supplemented with the consent of the Holders of at least a majority in principal amount of the Notes then outstanding (including, without limitation, consents obtained in connection with a purchase of, or tender offer or exchange offer for, Notes), and any existing default or compliance with any provision of the Indenture or the Notes may be waived with the consent of the Holders of a majority in principal amount of the then outstanding Notes (including consents obtained in connection with a tender offer or exchange offer for Notes).

Without the consent of each Holder affected, an amendment or waiver may not (with respect to any Notes held by a non-consenting Holder):

(1) reduce the principal amount of Notes whose Holders must consent to an amendment, supplement or waiver;

(2) reduce the principal of or change the fixed maturity of any Note or alter the provisions with respect to the redemption of the Notes (other than provisions relating to the covenants described above under the caption "-- Repurchase at the Option of Holders");

(3) reduce the rate of or change the time for payment of interest on any Note;

(4) waive a Default or Event of Default in the payment of principal of or premium and Additional Amounts, if any, or interest on the Notes (except a rescission of acceleration of the Notes by the Holders of at least a majority in aggregate principal amount of the Notes and a waiver of the payment default that resulted from such acceleration);

(5) make any Note payable in money other than that stated in the Notes;

(6) make any change in the provisions of the Indenture relating to waivers of past Defaults or the rights of Holders of Notes to receive payments of principal of or premium and Additional Amounts, if any, or interest on the Notes;

(7) waive a redemption payment with respect to any Note (other than a payment required by one of the covenants described above under the caption "-- Repurchase at the Option of Holders"); or

(8) make any change in the foregoing amendment and waiver provisions.

In addition, any amendment to the provisions of Article 10 of the Indenture (which relates to subordination) will require the consent of the Holders of at least 75% in aggregate principal amount of the Notes then outstanding if such amendment would adversely affect the rights of Holders of Notes.

Notwithstanding the foregoing, without the consent of any Holder of Notes, the Company and the Trustee may amend or supplement the Indenture or the Notes:

(1) to cure any ambiguity, defect or inconsistency;

(2) to provide for uncertificated Notes in addition to or in place of certificated Notes;

(3) to provide for the assumption of the Company's obligations to Holders of Notes in the case of a merger or consolidation;

(4) to make any change that would provide any additional rights or benefits to the Holders of Notes or that does not adversely affect the legal rights under the Indenture of any such Holder; or

(5) to comply with requirements of the Commission in order to effect or maintain the qualification of the Indenture under the Trust Indenture Act.

CONCERNING THE TRUSTEE

The Indenture contains certain limitations on the rights of the Trustee, should it become a creditor of the Company, to obtain payment of claims in certain cases, or to realize on certain property received in respect of any such claim as security or otherwise. The Trustee is permitted to engage in other transactions; however, if it acquires any conflicting interest it must eliminate such conflict within 90 days, apply to the Commission for permission to continue or resign.

The Holders of a majority in principal amount of the then outstanding Notes have the right to direct the time, method and place of conducting any proceeding for exercising any remedy available to the Trustee, subject to certain exceptions. The Indenture provides that in case an Event of Default shall occur (which shall not be cured), the Trustee will be required, in the exercise of its power, to use the degree of care of a prudent person in the conduct of such person's affairs. Subject to such provisions, the Trustee will be under no obligation to exercise any of its rights or powers under the Indenture at the request of any Holder of Notes, unless such Holder shall have offered to the Trustee security and indemnity satisfactory to it against any loss, liability or expense.

ADDITIONAL INFORMATION

Anyone who receives this prospectus may obtain a copy of the Indenture and Registration Rights Agreement without charge by writing to L-3 Communications Corporation, 600 Third Avenue, New York, New York 10016, Attention: Vice President -- Finance.

BOOK-ENTRY, DELIVERY AND FORM

The Exchange Notes will be represented by one or more global notes in registered, global form without interest coupons (collectively, the "Global Exchange Note"). The Global Exchange Note initially will be deposited upon issuance with the Trustee as custodian for The Depository Trust Company ("DTC"), in New York, New York, and registered in the name of DTC or its nominee, in each case for credit to an account of a direct or indirect participant as described below.

Except as set forth below, the Global Exchange Notes may be transferred, in whole and not in part, only to another nominee of DTC or to a successor of DTC or its nominee. Beneficial interests in the Global Exchange Notes may not be exchanged for Exchange Notes in certificated form except in the limited circumstances described below. See "-- Exchange of Book-Entry Notes for Certificated

Notes." In addition, transfer of beneficial interests in the Global Notes will be subject to the applicable rules and procedures of DTC and its direct or indirect participants (including, if applicable, those of Euroclear and Clearstream), which may change from time to time.

The Notes may be presented for registration of transfer and exchange at the offices of the registrar.

DEPOSITORY PROCEDURES

DTC has advised the Company that DTC is a limited-purpose trust company created to hold securities for its participating organizations (collectively, the "Participants") and to facilitate the clearance and settlement of transactions in those securities between Participants through electronic book-entry changes in accounts of Participants. The Participants include securities brokers and dealers (including the initial purchasers), banks, trust companies, clearing corporations and certain other organizations. Access to DTC's system is also available to other entities such as banks, brokers, dealers and trust companies that clear through or maintain a custodial relationship with a Participant, either directly or indirectly (collectively, "Indirect Participants"). Persons who are not Participants may beneficially own securities held by or on behalf of DTC only through the Participants or Indirect Participants. The ownership interest and transfer of ownership interest of each actual purchaser of each security held by or on behalf of DTC are recorded on the records of the Participants and Indirect Participants.

DTC has also advised the Company that pursuant to procedures established by it:

(1) upon deposit of the Global Exchange Note, DTC will credit the accounts of Participants with portions of the principal amount of Global Exchange Note; and

(2) ownership of such interests in the Global Exchange Note will be shown on, and the transfer of ownership thereof will be effected only through, records maintained by DTC (with respect to Participants) or by Participants and the Indirect Participants (with respect to other owners of beneficial interests in the Global Exchange Note).

Investors in the Global Exchange Note may hold their interests therein directly through DTC, if they are Participants in such system, or indirectly through organizations (including Euroclear and Clearstream) that are Participants in such system. All interests in a Global Exchange Note, including those held through Euroclear or Clearstream, may be subject to the procedures and requirements of DTC. Those interests held by Euroclear or Clearstream may also be subject to the procedures and requirements of such system.

The laws of some states require that certain persons take physical delivery in definitive form of securities that they own. Consequently, the ability to transfer beneficial interest in a Global Exchange Note to such persons may be limited to that extent. Because DTC can act only on behalf of Participants, which in turn act on behalf of Indirect Participants and certain banks, the ability of a person having a beneficial interest in a Global Exchange Note to pledge such interest to persons or entities that do not participate in DTC system, or otherwise take actions in respect of such interests, may be affected by the lack of physical certificate evidencing such interests. For certain other restrictions on the transferability of the Notes see, "-- Exchange of Book-Entry Notes for Certificated Notes."

EXCEPT AS DESCRIBED BELOW, OWNERS OF INTERESTS IN THE GLOBAL EXCHANGE NOTES WILL NOT HAVE NOTES REGISTERED IN THEIR NAMES, WILL NOT RECEIVE PHYSICAL DELIVERY OF EXCHANGE NOTES IN CERTIFICATED FORM AND WILL NOT BE CONSIDERED THE REGISTERED OWNERS OR HOLDERS THEREOF UNDER THE INDENTURE FOR ANY PURPOSE.

Payments in respect of the principal and premium and Additional Amounts, if any, and interest on a Global Exchange Note registered in the name of DTC or its nominee will be payable by the Trustee to DTC or its nominee in its capacity as the registered Holder under the Indenture. Under the terms of the Indenture, the Company and the Trustee will treat the persons in whose names the

Exchange Notes, including the Global Exchange Notes, are registered as the owners thereof for the purpose of receiving such payments and for any and all other purposes whatsoever. Consequently, neither the Company, the Trustee nor any agent of the Company or the Trustee has or will have any responsibility or liability for:

(1) any aspect of DTC's records or any Participant's or Indirect Participant's records relating to or payments made on account of beneficial ownership interests in the Global Exchange Notes, or for maintaining, supervising or reviewing any of DTC's records or any Participant's or Indirect Participant's records relating to the beneficial ownership interests in the Global Exchange Notes; or

(2) any other matter relating to the actions and practices of DTC or any of its Participants or Indirect Participants.

DTC has advised the Company that its current practices, upon receipt of any payment in respect of securities such as the Exchange Notes (including principal and interest), is to credit the accounts of the relevant Participants with the payment on the payment date, in amounts proportionate to their respective holdings in principal amount of beneficial interests in the relevant security such as the Global Exchange Notes as shown on the records of DTC. Payments by Participants and the Indirect Participants to the beneficial owners of Notes will be governed by standing instructions and customary practices and will be the responsibility of the Participants or the Indirect Participants and will not be the responsibility of DTC, the Trustee or the Company. Neither the Company nor the Trustee will be liable for any delay by DTC or its Participants in identifying the beneficial owners of the Exchange Notes, and the Company and the Trustee may conclusively rely on and will be protected in relying on instructions from DTC or its nominee as the registered owner of the Exchange Notes for all purposes.

Except for trades involving only Euroclear and Clearstream participants, interests in the Global Exchange Notes will trade in DTC's Same-Day Funds Settlement System and secondary market trading activity in such interests will, therefore, settle in immediately available funds, subject in all cases to the rules and procedures of DTC and its participants.

Transfers between Participants in DTC will be effected in accordance with DTC's procedures, and will be settled in same-day funds. Transfers between participants in Euroclear and Clearstream will be effected in the ordinary way in accordance with their respective rules and operating procedures.

Subject to compliance with the transfer restrictions applicable to the Exchange Notes described herein, crossmarket transfers between Participants in DTC, on the one hand, and Euroclear or Clearstream participants, on the other hand, will be effected through DTC in accordance with DTC's rules on behalf of Euroclear or Clearstream, as the case may be, by its respective depository; however, such cross-market transactions will require delivery of instructions to Euroclear or Clearstream, as the case may be, by the counterparty in such system in accordance with the rules and procedures and within the established deadlines (Brussels time) of such system. Euroclear or Clearstream, as the case may be, will, if the transaction meets its settlement requirements, deliver instructions to its respective depository to take action to effect final settlement on its behalf by delivering or receiving interests in the relevant Global Exchange Note in DTC, and making or receiving payment in accordance with normal procedures for same-day fund settlement applicable to DTC. Euroclear participants and Clearstream participants may not deliver instructions directly to the Depositaries for Euroclear or Clearstream.

Because of time zone differences, the securities accounts of a Euroclear or Clearstream participant purchasing an interest in a Global Exchange Note from a Participant in DTC will be credited, and any such crediting will be reported to the relevant Euroclear or Clearstream participant, during the securities settlement processing day (which must be a business day for Euroclear or Clearstream) immediately following the settlement date of DTC. Cash received in Euroclear or Clearstream as a result of sales of interests in a Global Exchange Note by or through a Euroclear or Clearstream participant to a Participant in DTC will be received with value on the settlement date of DTC but will be available in the relevant Euroclear or Clearstream cash account only as of the business day for Euroclear or Clearstream following DTC's settlement date.

DTC has advised the Company that it will take any action permitted to be taken by a Holder of Exchange Notes only at the direction of one or more Participants to whose account DTC interests in the Global Exchange Notes are credited and only in respect of such portion of the aggregate principal amount of the Notes as to which such Participant or Participants has or have given direction. However, if there is an Event of Default under the Notes, DTC reserves the right to exchange Global Exchange Notes for legended Exchange Notes in certificated form, and to distribute such Exchange Notes to its Participants.

The information in this section concerning DTC, Euroclear and Clearstream and their book-entry systems has been obtained from sources that the Company believes to be reliable, but the Company takes no responsibility for the accuracy thereof.

Although DTC, Euroclear and Clearstream have agreed to the foregoing procedures to facilitate transfers of interests in the Global Exchange Note among participants in DTC, Euroclear and Clearstream, they are under no obligation to perform or to continue to perform such procedures, and such procedures may be discontinued at any time, None of the Company, the initial purchasers or the Trustee will have any responsibility for the performance by DTC, Euroclear or Clearstream or their respective participants or indirect participants of their respective obligations under the rules and procedures governing their operations.

EXCHANGE OF BOOK-ENTRY NOTES FOR CERTIFICATED NOTES

A Global Exchange Note is exchangeable for definitive Exchange Notes in registered certificated form if:

(1) DTC (A) notifies the Company that it is unwilling or unable to continue as depository for the Global Exchange Note and the Company thereupon fails to appoint a successor depository or (B) has ceased to be a clearing agency registered under the Exchange Act; or

(2) the Company, at its option, notifies the Trustee in writing that it elects to cause issuance of the Exchange Notes in certificated form.

In addition, beneficial interests in a Global Exchange Note may be exchanged for certificated Exchange Notes upon request but only upon at least 20 days prior written notice given to the Trustee by or on behalf of DTC in accordance with customary procedures. In all cases, certificated Exchange Notes delivered in exchange for any Global Exchange Note or beneficial interest therein will be registered in names, and issued in any approved denominations, requested by or on behalf of DTC (in accordance with its customary procedures).

CERTIFICATED NOTES

Subject to certain conditions, any person having a beneficial interest in the Global Exchange Note may, upon request to the Trustee, exchange such beneficial interest for Exchange Notes in the form of certificated Exchange Notes. Upon any such issuance, the Trustee is required to register such certificated Exchange Notes in the name of, and cause the same to be delivered to, such person or persons (or the nominee of any thereof). In addition, if (i) the Company notifies the Trustee in writing that DTC is no longer willing or able to act as a depository and the Company is unable to locate a qualified successor within 90 days or (ii) the Company, at its option, notifies the Trustee in writing that it elects to cause the issuance of Exchange Notes in the form of certificated Exchange Notes under the Indenture, then, upon surrender by the Global Exchange Note Holder of its Global Note, Notes in such form will be issued to each person that the Global Exchange Note Holder and DTC identify as being the beneficial owner of the related Exchange Notes.

Neither the Company nor the Trustee will be liable for any delay by the Global Exchange Note Holder or DTC in identifying the beneficial owners of Exchange Notes and the Company and the Trustee may conclusively rely on, and will be protected in relying on, instructions from the Global Exchange Note Holder or DTC for all purposes.

SAME DAY SETTLEMENT AND PAYMENT

The Indenture requires that payments in respect of the Exchange Notes represented by the Global Exchange Note (including principal, premium, if any, interest and Additional Amounts, if any) be made by wire transfer of immediately available funds to the accounts specified by the Global Exchange Note Holder. With respect to certificated Exchange Notes, the Company will make all payments of principal, premium, if any, interest and Additional Amounts, if any, by wire transfer of immediately available funds to the accounts specified by the Holders thereof or, if no such account is specified, by mailing a check to each such Holder's registered address. The Company expects that secondary trading in the certificated Exchange Notes will also be settled in immediately available funds.

REGISTRATION RIGHTS; ADDITIONAL AMOUNTS

The Company, the Guarantors and the initial purchasers entered into the Registration Rights Agreement on June 28, 2002. Pursuant to the Registration Rights Agreement, the Company and the Guarantors agreed to file with the Commission the Exchange Offer Registration Statement on the appropriate form under the Securities Act with respect to the Exchange Notes. Upon the effectiveness of the Exchange Offer Registration Statement, the Company will offer to the Holders of Transfer Restricted Securities pursuant to the Exchange Offer who are able to make certain representations the opportunity to exchange their Transfer Restricted Securities for Exchange Notes. If:

(1) the Company and the Guarantors are not required to file the Exchange Offer Registration Statement or permitted to consummate the Exchange Offer because the Exchange Offer is not permitted by applicable law or Commission policy; or

(2) any Holder of Transfer Restricted Securities notifies the Company prior to the 20th day following consummation of the Exchange Offer that:

(a) it is prohibited by law or Commission policy from participating in the Exchange Offer; or

(b) it may not resell the Exchange Notes acquired by it in the Exchange Offer to the public without delivering a prospectus and the prospectus contained in the Exchange Offer Registration Statement is not appropriate or available for such resales; or

(c) it is a broker-dealer and owns Notes acquired directly from the Company or an affiliate of the Company,

the Company and the Guarantors will file with the Commission a Shelf Registration Statement to cover resales of the Notes by the Holders thereof who satisfy certain conditions relating to the provision of information in connection with the Shelf Registration Statement. The Company and the Guarantors will use their reasonable best efforts to cause the applicable registration statement to be declared effective as promptly as possible by the Commission.

For purposes of the foregoing, "Transfer Restricted Securities" means each outstanding note until:

(1) the date on which such outstanding note has been exchanged by a person other than a broker-dealer for an Exchange Note in the Exchange Offer;

(2) following the exchange by a broker-dealer in the Exchange Offer of an outstanding note for an Exchange Note, the date on which such Exchange Note is sold to a purchaser who receives from such broker-dealer on or prior to the date of such sale a copy of the prospectus contained in the Exchange Offer Registration Statement;

(3) the date on which such outstanding note has been effectively registered under the Securities Act and disposed of in accordance with the Shelf Registration Statement; or

(4) the date on which such outstanding note is distributed to the public pursuant to Rule 144 under the Act.

The Registration Rights Agreement provides that:

(1) the Company and the Guarantors will file an Exchange Offer Registration Statement with the Commission on or prior to 90 days after the Issue Date;

(2) the Company and the Guarantors will use all commercially reasonable efforts to have the Exchange Offer Registration Statement declared effective by the Commission on or prior to 180 days after the Issue Date;

(3) unless the Exchange Offer would not be permitted by applicable law or Commission policy, the Company and the Guarantors will commence the Exchange Offer and use all commercially reasonable efforts to issue on or prior to 30 business days after the date on which the Exchange Offer Registration Statement was declared effective by the Commission, Exchange Notes in exchange for all Notes tendered prior thereto in the Exchange Offer; and

(4) if obligated to file the Shelf Registration Statement, the Company and the Guarantors will use their best efforts to file the Shelf Registration Statement with the Commission on or prior to 30 days after such filing obligation arises and to use all commercially reasonable efforts to cause the Shelf Registration Statement to be declared effective by the Commission on or prior to 90 days after such obligation arises.

If:

(a) the Company and the Guarantors fail to file any of the Registration Statements required by the Registration Rights Agreement on or before the date specified above for such filing;

(b) any of such Registration Statements is not declared effective by the Commission on or prior to the date specified for such effectiveness (the "Effectiveness Target Date");

(c) the Company and the Guarantors fail to consummate the Exchange Offer within 30 business days of the Effectiveness Target Date with respect to the Exchange Offer Registration Statement; or

(d) the Shelf Registration Statement or the Exchange Offer Registration Statement is declared effective but thereafter ceases, subject to certain exceptions, to be effective or usable in connection with resales of Transfer Restricted Securities during the periods specified in the Registration Rights Agreement (each such event referred to in clauses (a) through (d) above a "Registration Default"),

then the Company and the Guarantors will pay Additional Amounts to each Holder of outstanding notes, with respect to the first 90-day period immediately following the occurrence of the first Registration Default in an amount equal to $.05 per week per $1,000 principal amount of outstanding notes held by such Holder.

The amount of the Additional Amounts will increase by an additional $.05 per week per $1,000 principal amount of outstanding notes with respect to each subsequent 90-day period until all Registration Defaults have been cured, up to a maximum amount of Additional Amounts of $.50 per week per $1,000 principal amount of outstanding notes.

All accrued Additional Amounts will be paid by the Company and the Guarantors on each Damages Payment Date to the Global Note Holder by wire transfer of immediately available funds or by federal funds check and to Holders of certificated outstanding notes by wire transfer to the accounts specified by them or by mailing checks to their registered addresses if no such accounts have been specified.

Following the cure of all Registration Defaults, the accrual of Additional Amounts will cease.

Holders of outstanding notes will be required to make certain representations to the Company and the Guarantors (as described in the Registration Rights Agreement) in order to participate in the

Exchange Offer and will be required to deliver information to be used in connection with the Shelf Registration Statement and to provide comments on the Shelf Registration Statement within the time periods set forth in the Registration Rights Agreement in order to have their outstanding notes included in the Shelf Registration Statement and benefit from the provisions regarding Additional Amounts set forth above.

CERTAIN DEFINITIONS

Set forth below are certain defined terms used in the Indenture. Reference is made to the Indenture for a full disclosure of all such terms, as well as any other capitalized terms used herein for which no definition is provided.

"1997 Indenture" means the indenture, dated as of April 30, 1997, among The Bank of New York, as trustee, and the Company, with respect to the 1997 Notes.

"1997 Notes" means the $225,000,000 in aggregate principal amount of the Company's 10 3/8% Senior Subordinated Notes due 2007, issued pursuant to the 1997 Indenture on April 30, 1997.

"2000 Convertible Notes" means the $300,000,000 in aggregate principal amount of Holdings' 5.25% Convertible Senior Subordinated Notes due 2009, issued pursuant to the 2000 Convertible Note Indenture in November and December of 2000 and guaranteed by the Company and the other guarantors thereof.

"2000 Convertible Note Indenture" means the indenture, dated as of November 21, 2000, among The Bank of New York, as trustee, Holdings, the Company, as a guarantor, and the other guarantors named therein, with respect to the 2000 Convertible Notes.

"2001 CODES" means the $420,000,000 in aggregate principal amount of Holdings' 4.00% Senior Subordinated Convertible Contingent Debt Securities (CODES) due 2011, issued pursuant to the 2001 CODES Indenture in October and November 2001 and guaranteed by the Company and the other guarantors thereof.

"2001 CODES Indenture" means the indenture, dated as of October 24, 2001, among The Bank of New York, as trustee, Holdings, the Company, as a guarantor, and the other guarantors named therein, with respect to the 2001 CODES.

"Acquired Debt" means, with respect to any specified Person:

(1) Indebtedness of any other Person existing at the time such other Person is merged with or into or became a Restricted Subsidiary of such specified Person, including, without limitation, Indebtedness incurred in connection with, or in contemplation of, such other Person merging with or into or becoming a Restricted Subsidiary of such specified Person; and

(2) Indebtedness secured by a Lien encumbering any asset acquired by such specified Person.

"Additional Amounts" means all additional amounts then owing pursuant to Section 5 of the Registration Rights Agreement.

"Affiliate" of any specified Person means any other Person directly or indirectly controlling or controlled by or under direct or indirect common control with such specified Person. For purposes of this definition, "control" (including, with correlative meanings, the terms "controlling", "controlled by" and "under common control with"), as used with respect to any Person, shall mean the possession, directly or indirectly, of the power to direct or cause the direction of the management or policies of such Person, whether through the ownership of voting securities, by agreement or otherwise; provided that beneficial ownership of 10% or more of the voting securities of a Person shall be deemed to be control.

"Asset Sale" means:

(1) the sale, lease, conveyance or other disposition of any assets or rights (including, without limitation, by way of a sale and leaseback) other than sales of inventory in the ordinary

course of business (provided that the sale, lease, conveyance or other disposition of all or substantially all of the assets of the Company and its Restricted Subsidiaries taken as a whole will be governed by the provisions of the Indenture described above under the caption "-- Change of Control" and/or the provisions described above under the caption "-- Merger, Consolidation or Sale of Assets" and not by the provisions of the Asset Sale covenant); and

(2) the issue or sale by the Company or any of its Subsidiaries of Equity Interests of any of the Company's Restricted Subsidiaries,

in the case of either clause (1) or (2), whether in a single transaction or a series of related transactions (A) that have a fair market value in excess of $5.0 million or (B) for net proceeds in excess of $5.0 million.

Notwithstanding the foregoing:

(1) a transfer of assets by the Company to a Restricted Subsidiary or by a Restricted Subsidiary to the Company or to another Restricted Subsidiary;

(2) an issuance of Equity Interests by a Restricted Subsidiary to the Company or to another Restricted Subsidiary;

(3) a Restricted Payment that is permitted by the covenant described above under the caption "-- Certain Covenants -- Restricted Payments"; and

(4) a disposition of Cash Equivalents in the ordinary course of business will not be deemed to be an Asset Sale.

"Attributable Debt" in respect of a sale and leaseback transaction means, at the time of determination, the present value (discounted at the rate of interest implicit in such transaction, determined in accordance with GAAP) of the obligation of the lessee for net rental payments during the remaining term of the lease included in such sale and leaseback transaction (including any period for which such lease has been extended or may, at the option of the lessor, be extended).

"Capital Lease Obligation" means, at the time any determination thereof is to be made, the amount of the liability in respect of a capital lease that would at such time be required to be capitalized on a balance sheet in accordance with GAAP.

"Capital Stock" means:

(1) in the case of a corporation, corporate stock;

(2) in the case of an association or business entity, any and all shares, interests, participations, rights or other equivalents (however designated) of corporate stock;

(3) in the case of a partnership or limited liability company, partnership or membership interests (whether general or limited); and

(4) any other interest or participation that confers on a Person the right to receive a share of the profits and losses of, or distributions of assets of, the issuing Person.

"Cash Equivalents" means:

(1) United States dollars;

(2) securities issued or directly and fully guaranteed or insured by the United States government or any agency or instrumentality thereof having maturities of not more than one year from the date of acquisition;

(3) certificates of deposit and eurodollar time deposits with maturities of six months or less from the date of acquisition, bankers' acceptances with maturities not exceeding six months

and overnight bank deposits, in each case with any domestic financial institution to the Senior Credit Facilities or with any domestic commercial bank having capital and surplus in excess of $500.0 million and a Thompson Bank Watch Rating of "B" or better;

(4) repurchase obligations with a term of not more than seven days for underlying securities of the types described in clauses (2) and (3) above entered into with any financial institution meeting the qualifications specified in clause (3) above;

(5) commercial paper having the highest rating obtainable from Moody's or S&P and in each case maturing within six months after the date of acquisition;

(6) investment funds investing 95% of their assets in securities of the types described in clauses (1)-(5) above; and

(7) readily marketable direct obligations issued by any State of the United States of America or any political subdivision thereof having maturities of not more than one year from the date of acquisition and having one of the two highest rating categories obtainable from either Moody's or S&P.

"Change of Control" means the occurrence of any of the following:

(1) the sale, lease, transfer, conveyance or other disposition (other than by way of merger or consolidation), in one or a series of related transactions, of all or substantially all of the assets of the Company and its Restricted Subsidiaries taken as a whole to any "person" (as such term is used in Section 13(d)(3) of the Exchange Act) other than the Principals or their Related Parties (as defined below);

(2) the adoption of a plan relating to the liquidation or dissolution of the Company;

(3) the consummation of any transaction (including, without limitation, any merger or consolidation) the result of which is that any "person" (as defined above), other than the Principals and their Related Parties, becomes the "beneficial owner" (as such term is defined in Rule 13d-3 and Rule 13d-5 under the Exchange Act), directly or indirectly, of more than 50% of the Voting Stock of the Company (measured by voting power rather than number of shares); or

(4) the first day on which a majority of the members of the Board of Directors of the Company are not Continuing Directors.

"Consolidated Cash Flow" means, with respect to any Person for any period, the Consolidated Net Income of such Person for such period plus:

(1) an amount equal to any extraordinary loss plus any net loss realized in connection with an Asset Sale (to the extent such losses were deducted in computing such Consolidated Net Income); plus

(2) provision for taxes based on income or profits of such Person and its Restricted Subsidiaries for such period, to the extent that such provision for taxes was included in computing such Consolidated Net Income; plus

(3) consolidated interest expense of such Person and its Restricted Subsidiaries for such period, whether paid or accrued and whether or not capitalized (including, without limitation, original issue discount, non-cash interest payments, the interest component of any deferred payment obligations, the interest component of all payments associated with Capital Lease Obligations, imputed interest with respect to Attributable Debt, commissions, discounts and other fees and charges incurred in respect of letter of credit or bankers' acceptance financings, and net payments (if any) pursuant to Hedging Obligations), to the extent that any such expense was deducted in computing such Consolidated Net Income; plus

(4) depreciation, amortization (including amortization of goodwill, debt issuance costs and other intangibles but excluding amortization of other prepaid cash expenses that were paid in a

prior period) and other non-cash expenses (excluding any such non-cash expense to the extent that it represents an accrual of or reserve for cash expenses in any future period or amortization of a prepaid cash expense that was paid in a prior period) of such Person and its Restricted Subsidiaries for such period to the extent that such depreciation, amortization and other non-cash expenses were deducted in computing such Consolidated Net Income; minus

(5) non-cash items (excluding any items that were accrued in the ordinary course of business) increasing such Consolidated Net Income for such period, in each case, on a consolidated basis and determined in accordance with GAAP.

"Consolidated Net Income" means, with respect to any Person for any period, the aggregate of the Net Income of such Person and its Restricted Subsidiaries for such period, on a consolidated basis, determined in accordance with GAAP; provided that:

(1) the Net Income of any Person that is not a Restricted Subsidiary or that is accounted for by the equity method of accounting shall be included only to the extent of the amount of dividends or distributions paid in cash to the referent Person or a Restricted Subsidiary thereof;

(2) the Net Income of any Restricted Subsidiary shall be excluded to the extent that the declaration or payment of dividends or similar distributions by that Restricted Subsidiary of that Net Income is not at the date of determination permitted without any prior governmental approval (that has not been obtained) or, directly or indirectly, by operation of the terms of its charter or any agreement, instrument, judgment, decree, order, statute, rule or governmental regulation applicable to that Restricted Subsidiary or its stockholders;

(3) the Net Income of any Person acquired in a pooling of interests transaction for any period prior to the date of such acquisition shall be excluded;

(4) the cumulative effect of a change in accounting principles shall be excluded;

(5) the Net Income of any Unrestricted Subsidiary shall be excluded, whether or not distributed to the Company or one of its Restricted Subsidiaries; and

(6) the Net Income of any Restricted Subsidiary shall be calculated after deducting preferred stock dividends payable by such Restricted Subsidiary to Persons other than the Company and its other Restricted Subsidiaries.

"Consolidated Tangible Assets" means, with respect to the Company, the total consolidated assets of the Company and its Restricted Subsidiaries, less the total intangible assets of the Company and its Restricted Subsidiaries, as shown on the most recent internal consolidated balance sheet of the Company and such Restricted Subsidiaries calculated on a consolidated basis in accordance with GAAP.

"Continuing Directors" means, as of any date of determination, any member of the Board of Directors of the Company who:

(1) was a member of such Board of Directors on the date of the Indenture; or

(2) was nominated for election or elected to such Board of Directors with the approval of a majority of the Continuing Directors who were members of such Board at the time of such nomination or election.

"Credit Facilities" means, with respect to the Company, one or more debt facilities (including, without limitation, the Senior Credit Facilities) or commercial paper facilities with banks or other institutional lenders providing for revolving credit loans, term loans, receivables financing (including through the sale of receivables to such lenders or to special purpose entities formed to borrow from such lenders against such receivables) or letters of credit, in each case, as amended, restated, modified, renewed, refunded, replaced or refinanced in whole or in part from time to time.

"December 1998 Indenture" means the indenture, dated as of December 11, 1998, between The Bank of New York, as trustee, the Company and the guarantors party thereto, with respect to the December 1998 Notes.

"December 1998 Notes" means the $200,000,000 in aggregate principal amount of the Company's 8% Senior Subordinated Notes due 2008, issued pursuant to the December 1998 Indenture on December 11, 1998.

"Default" means any event that is, or with the passage of time or the giving of notice or both would be, an Event of Default.

"Designated Senior Debt" means:

(1) any Indebtedness outstanding under the Senior Credit Facilities; and

(2) any other Senior Debt permitted under the Indenture the principal amount of which is $25.0 million or more and that has been designated by the Company as "Designated Senior Debt."

"Disqualified Stock" means any Capital Stock that, by its terms (or by the terms of any security into which it is convertible, or for which it is exchangeable, at the option of the holder thereof), or upon the happening of any event, matures or is mandatorily redeemable, pursuant to a sinking fund obligation or otherwise, or redeemable at the option of the Holder thereof, in whole or in part, on or prior to the date that is 91 days after the date on which the Notes mature; provided, however, that any Capital Stock that would constitute Disqualified Stock solely because the holders thereof have the right to require the Company to repurchase such Capital Stock upon the occurrence of a Change of Control or an Asset Sale shall not constitute Disqualified Stock if the terms of such Capital Stock provide that the Company may not repurchase or redeem any such Capital Stock pursuant to such provisions unless such repurchase or redemption complies with the covenant described above under the caption "-- Certain Covenants -- Restricted Payments"; and provided further, that if such Capital Stock is issued to any plan for the benefit of employees of the Company or its Subsidiaries or by any such plan to such employees, such Capital Stock shall not constitute Disqualified Stock solely because it may be required to be repurchased by the Company in order to satisfy applicable statutory or regulatory obligations.

"Equity Interests" means Capital Stock and all warrants, options or other rights to acquire Capital Stock (but excluding any debt security that is convertible into, or exchangeable for, Capital Stock).

"Equity Offering" means any public or private sale of equity securities (excluding Disqualified Stock) of the Company or Holdings, other than any private sales to an Affiliate of the Company or Holdings.

"Exchange Act" means the Securities Exchange Act of 1934, as amended.

"Existing Indebtedness" means any Indebtedness of the Company and its Restricted Subsidiaries (other than Indebtedness under the Senior Credit Facilities and the Notes) in existence on the date of the Indenture, until such amounts are repaid.

"Fixed Charges" means, with respect to any Person for any period, the sum, without duplication, of:

(1) the consolidated interest expense of such Person and its Restricted Subsidiaries for such period, whether paid or accrued (including, without limitation, original issue discount, non-cash interest payments, the interest component of any deferred payment obligations, the interest component of all payments associated with Capital Lease Obligations, imputed interest with respect to Attributable Debt, commissions, discounts and other fees and charges incurred in respect of letter of credit or bankers' acceptance financings, and net payments (if any) pursuant to Hedging Obligations, but excluding amortization of debt issuance costs);

(2) the consolidated interest of such Person and its Restricted Subsidiaries that was capitalized during such period;

(3) any interest expense on Indebtedness of another Person that is guaranteed by such Person or one of its Restricted Subsidiaries or secured by a Lien on assets of such Person or one of its Restricted Subsidiaries (whether or not such Guarantee or Lien is called upon); and

(4) the product of:

(a) all dividend payments, whether or not in cash, on any series of preferred stock of such Person or any of its Restricted Subsidiaries, other than dividend payments on Equity Interests payable solely in Equity Interests of the Company, times

(b) a fraction, the numerator of which is one and the denominator of which is one minus the then current combined federal, state and local statutory tax rate of such Person, expressed as a decimal,

in each case, on a consolidated basis and in accordance with GAAP.

"Fixed Charge Coverage Ratio" means, with respect to any Person for any period, the ratio of the Consolidated Cash Flow of such Person for such period to the Fixed Charges of such Person and its Restricted Subsidiaries for such period. In the event that the Company or any of its Restricted Subsidiaries incurs, assumes, Guarantees or redeems any Indebtedness (other than revolving credit borrowings) or issues preferred stock subsequent to the commencement of the period for which the Fixed Charge Coverage Ratio is being calculated but on or prior to the date on which the event for which the calculation of the Fixed Charge Coverage Ratio is made (the "Calculation Date"), then the Fixed Charge Coverage Ratio shall be calculated giving pro forma effect to such incurrence, assumption, Guarantee or redemption of Indebtedness, or such issuance or redemption of preferred stock, as if the same had occurred at the beginning of the applicable four-quarter reference period. In addition, for purposes of making the computation referred to above:

(1) acquisitions that have been made by the Company or any of its Restricted Subsidiaries, including through mergers or consolidations and including any related financing transactions, during the four-quarter reference period or subsequent to such reference period and on or prior to the Calculation Date shall be deemed to have occurred on the first day of the four-quarter reference period and Consolidated Cash Flow for such reference period shall be calculated without giving effect to clause (3) of the proviso set forth in the definition of Consolidated Net Income;

(2) the Consolidated Cash Flow attributable to discontinued operations, as determined in accordance with GAAP, and operations or businesses disposed of prior to the Calculation Date, shall be excluded; and

(3) the Fixed Charges attributable to discontinued operations, as determined in accordance with GAAP, and operations or businesses disposed of prior to the Calculation Date, shall be excluded, but only to the extent that the obligations giving rise to such Fixed Charges will not be obligations of the referent Person or any of its Restricted Subsidiaries following the Calculation Date.

"Foreign Subsidiary" means a Restricted Subsidiary of the Company that was not organized or existing under the laws of the United States, any state thereof, the District of Columbia or any territory thereof or has not guaranteed or otherwise provided credit support for any Indebtedness of the Company.

"GAAP" means generally accepted accounting principles set forth in the opinions and pronouncements of the Accounting Principles Board of the American Institute of Certified Public Accountants and statements and pronouncements of the Financial Accounting Standards Board or in such other statements by such other entity as have been approved by a significant segment of the accounting profession, which were in effect on April 30, 1997.

"Guarantee" means a guarantee (other than by endorsement of negotiable instruments for collection in the ordinary course of business), direct or indirect, in any manner (including, without limitation, letters of credit and reimbursement agreements in respect thereof), of all or any part of any Indebtedness.

"Guarantors" means each Subsidiary of the Company that executes a Subsidiary Guarantee in accordance with the provisions of the Indenture, and their respective successors and assigns.

"Hedging Obligations" means, with respect to any Person, the obligations of such Person under:

(1) currency exchange or interest rate swap agreements, interest rate cap agreements and currency exchange or interest rate collar agreements; and

(2) other agreements or arrangements designed to protect such Person against fluctuations in currency exchange rates or interest rates.

"Holdings" means L-3 Communications Holdings, Inc., a Delaware corporation.

"Indebtedness" means, with respect to any Person, any indebtedness of such Person, whether or not contingent, in respect of borrowed money or evidenced by bonds, notes, debentures or similar instruments or letters of credit (or reimbursement agreements in respect thereof) or banker's acceptances or representing Capital Lease Obligations or the balance deferred and unpaid of the purchase price of any property or representing any Hedging Obligations, except any such balance that constitutes an accrued expense or trade payable, if and to the extent any of the foregoing indebtedness (other than letters of credit and Hedging Obligations) would appear as a liability upon a balance sheet of such Person prepared in accordance with GAAP, as well as all indebtedness of others secured by a Lien on any asset of such Person (whether or not such indebtedness is assumed by such Person) and, to the extent not otherwise included, the Guarantee by such Person of any indebtedness of any other Person. The amount of any Indebtedness outstanding as of any date shall be:

(1) the accreted value thereof, in the case of any Indebtedness that does not require current payments of interest; and

(2) the principal amount thereof, together with any interest thereon that is more than 30 days past due, in the case of any other Indebtedness.

"Investments" means, with respect to any Person, all investments by such Person in other Persons (including Affiliates) in the forms of direct or indirect loans (including guarantees of Indebtedness or other obligations), advances or capital contributions (excluding commission, travel, moving and similar loans or advances to officers and employees made in the ordinary course of business), purchases or other acquisitions for consideration of Indebtedness, Equity Interests or other securities, together with all items that are or would be classified as investments on a balance sheet prepared in accordance with GAAP. If the Company or any Restricted Subsidiary of the Company sells or otherwise disposes of any Equity Interests of any direct or indirect Restricted Subsidiary of the Company such that, after giving effect to any such sale or disposition, such Person is no longer a Subsidiary of the Company, the Company shall be deemed to have made an Investment on the date of any such sale or disposition equal to the fair market value of the Equity Interests of such Subsidiary not sold or disposed of in an amount determined as provided in the last paragraph of the covenant described above under the caption "-- Restricted Payments."

"Issue Date" means June 28, 2002.

"Lehman Investor" means Lehman Brothers Holdings Inc. and any of its Affiliates.

"Lien" means, with respect to any asset, any mortgage, lien, pledge, charge, security interest or encumbrance of any kind in respect of such asset, whether or not filed, recorded or otherwise perfected under applicable law (including any conditional sale or other title retention agreement, any lease in the nature thereof, any option or other agreement to sell or give a security interest in and any filing of or agreement to give any financing statement under the Uniform Commercial Code (or equivalent statutes) of any jurisdiction).

"Marketable Securities" means, with respect to any Asset Sale, any readily marketable equity securities that are:

(1) traded on The New York Stock Exchange, the American Stock Exchange or the Nasdaq National Market; and

(2) issued by a corporation having a total equity market capitalization of not less than $250.0 million;

provided that the excess of:

(a) the aggregate amount of securities of any one such corporation held by the Company and any Restricted Subsidiary; over

(b) ten times the average daily trading volume of such securities during the 20 immediately preceding trading days

shall be deemed not to be Marketable Securities; as determined on the date of the contract relating to such Asset Sale.

"May 1998 Indenture" means the indenture, dated as of May 22, 1998, between the Bank of New York, as trustee, and the Company, with respect to the May 1998 Notes.

"May 1998 Notes" means the $180,000,000 in aggregate principal amount of the Company's 8 1/2% Senior Subordinated notes due 2008, issued pursuant to the May 1998 Indenture on May 22, 1998.

"Moody's" means Moody's Investors Services, Inc.

"Net Income" means, with respect to any Person, the net income (loss) of such Person, determined in accordance with GAAP and before any reduction in respect of preferred stock dividends, excluding, however:

(1) any gain or loss, together with any related provision for taxes thereon, realized in connection with:

(a) any Asset Sale (including, without limitation, dispositions pursuant to sale and leaseback transactions); or

(b) the disposition of any securities by such Person or any of its Restricted Subsidiaries or the extinguishment of any Indebtedness of such Person or any of its Restricted Subsidiaries; and

(2) any extraordinary gain or loss, together with any related provision for taxes on such extraordinary gain or loss; and

(3) the cumulative effect of a change in accounting principles.

"Net Proceeds" means the aggregate cash proceeds received by the Company or any of its Subsidiaries in respect of any Asset Sale (including, without limitation, any cash received upon the sale or other disposition of any non-cash consideration received in any Asset Sale), net of the direct costs relating to such Asset Sale (including, without limitation, legal, accounting and investment banking fees, and sales commissions) and any relocation expenses incurred as a result thereof, taxes paid or payable as a result thereof (after taking into account any available tax credits or deductions and any tax sharing arrangements), amounts required to be applied to the repayment of Indebtedness secured by a Lien on the asset or assets that were the subject of such Asset Sale and any reserve for adjustment in respect of the sale price of such asset or assets established in accordance with GAAP.

"Non-Recourse Debt" means Indebtedness:

(1) as to which neither the Company nor any of its Restricted Subsidiaries:

(a) provides credit support of any kind (including any undertaking, agreement or instrument that would constitute Indebtedness);

(b) is directly or indirectly liable (as a guarantor or otherwise); or

(c) constitutes the lender;

(2) no default with respect to which (including any rights that the holders thereof may have to take enforcement action against an Unrestricted Subsidiary) would permit (upon notice, lapse of time or both) any holder of any other Indebtedness (other than Indebtedness incurred under Credit Facilities) of the Company or any of its Restricted Subsidiaries to declare a default on such other Indebtedness or cause the payment thereof to be accelerated or payable prior to its stated maturity; and

(3) as to which the lenders have been notified in writing that they will not have any recourse to the stock or assets of the Company or any of its Restricted Subsidiaries.

"Obligations" means any principal, premium (if any), Additional Amounts (if any), interest (including interest accruing on or after the filing of any petition in bankruptcy or for reorganization, whether or not a claim for post-filing interest is allowed in such proceeding), penalties, fees, charges, expenses, indemnifications, reimbursement obligations, damages, guarantees and other liabilities or amounts payable under the documentation governing any Indebtedness or in respect thereto.

"Permitted Investment" means:

(1) any Investment in the Company or in a Restricted Subsidiary of the Company that is a Guarantor;

(2) any Investment in cash or Cash Equivalents;

(3) any Investment by the Company or any Restricted Subsidiary of the Company in a Person, if as a result of such Investment:

(a) such Person becomes a Restricted Subsidiary of the Company and a Guarantor; or

(b) such Person is merged, consolidated or amalgamated with or into, or transfers or conveys substantially all of its assets to, or is liquidated into, the Company or a Restricted Subsidiary of the Company that is a Guarantor;

(4) any Restricted Investment made as a result of the receipt of non-cash consideration from an Asset Sale that was made pursuant to and in compliance with the covenant described above under the caption "-- Repurchase at the Option of Holders -- Asset Sales" or any disposition of assets not constituting an Asset sale;

(5) any acquisition of assets solely in exchange for the issuance of Equity Interests (other than Disqualified Stock) of the Company;

(6) advances to employees not to exceed $2.5 million at any one time outstanding;

(7) any Investment acquired in connection with or as a result of a workout or bankruptcy of a customer or supplier;

(8) Hedging Obligations permitted to be incurred under the covenant described above under the caption "-- Incurrence of Indebtedness and Issuance of Preferred Stock";

(9) any Investment in a Similar Business that is not a Restricted Subsidiary; provided that the aggregate fair market value of all Investments outstanding pursuant to this clause (9) (valued on the date each such Investment was made and without giving effect to subsequent changes in value) may not at any one time exceed 10% of the Consolidated Tangible Assets of the Company; and

(10) other Investments in any Person having an aggregate fair market value (measured on the date each such Investment was made and without giving effect to subsequent changes in value), when taken together with all other Investments made pursuant to this clause (10) that are at the time outstanding, not to exceed $30.0 million.

"Permitted Joint Venture" means any joint venture, partnership or other Person designated by the Board of Directors (until designation by the Board of Directors to the contrary); provided that:

(1) at least 25% of the Capital Stock thereof with voting power under ordinary circumstances to elect directors (or Persons having similar or corresponding powers and responsibilities) is at the time owned (beneficially or directly) by the Company and/or by one or more Restricted Subsidiaries of the Company; and

(2) such joint venture, partnership or other Person is engaged in a Similar Business. Any such designation or designation to the contrary shall be evidenced to the Trustee by promptly filing with the Trustee a copy of the resolution giving effect to such designation and an Officers' Certificate certifying that such designation complied with the foregoing provisions.

"Permitted Junior Securities" means Equity Interests in the Company or debt securities that are subordinated to all Senior Debt (and any debt securities issued in exchange for Senior Debt) to substantially the same extent as, or to a greater extent than, the Notes and the Subsidiary Guarantees are subordinated to Senior Debt under the Indenture.

"Permitted Liens" means:

(1) Liens securing Senior Debt of the Company or any Guarantor that was permitted by the terms of the Indenture to be incurred;

(2) Liens in favor of the Company or any Guarantor;

(3) Liens on property of a Person existing at the time such Person is merged into or consolidated with the Company or any Restricted Subsidiary of the Company; provided that such Liens were in existence prior to the contemplation of such merger or consolidation and do not extend to any assets other than those of the Person merged into or consolidated with the Company;

(4) Liens on property existing at the time of acquisition thereof by the Company or any Subsidiary of the Company, provided that such Liens were in existence prior to the contemplation of such acquisition and do not extend to any other assets of the Company or any of its Restricted Subsidiaries;

(5) Liens to secure the performance of statutory obligations, surety or appeal bonds, performance bonds or other obligations of a like nature incurred in the ordinary course of business;

(6) Liens to secure Indebtedness (including Capital Lease Obligations) permitted by clause (4) of the second paragraph of the covenant entitled "-- Incurrence of Indebtedness and Issuance of Preferred Stock" covering only the assets acquired with such Indebtedness;

(7) Liens existing on the Issue Date;

(8) Liens for taxes, assessments or governmental charges or claims that are not yet delinquent or that are being contested in good faith by appropriate proceedings promptly instituted and diligently concluded, provided that any reserve or other appropriate provision as shall be required in conformity with GAAP shall have been made therefor;

(9) Liens incurred in the ordinary course of business of the Company or any Restricted Subsidiary of the Company with respect to obligations that do not exceed $50.0 million at any one time outstanding;

(10) Liens on assets of Guarantors to secure Senior Debt of such Guarantors that was permitted by the Indenture to be incurred;

(11) Liens securing Permitted Refinancing Indebtedness, provided that any such Lien does not extend to or cover any property, shares or debt other than the property, shares or debt securing the Indebtedness so refunded, refinanced or extended;

(12) Liens incurred or deposits made to secure the performance of tenders, bids, leases, statutory obligations, surety and appeal bonds, government contracts, performance and return of money bonds and other obligations of a like nature, in each case incurred in the ordinary course of business (exclusive of obligations for the payment of borrowed money);

(13) Liens upon specific items of inventory or other goods and proceeds of any Person securing such Person's obligations in respect of bankers' acceptances issued or created for the account of such Person to facilitate the purchase, shipment or storage of such inventory or other goods in the ordinary course of business;

(14) Liens encumbering customary initial deposits and margin deposits, and other Liens incurred in the ordinary course of business that are within the general parameters customary in the industry, in each case securing Indebtedness under Hedging Obligations; and

(15) Liens encumbering deposits made in the ordinary course of business to secure nondelinquent obligations arising from statutory or regulatory, contractual or warranty requirements of the Company or its Subsidiaries for which a reserve or other appropriate provision, if any, as shall be required by GAAP shall have been made.

"Permitted Refinancing Indebtedness" means any Indebtedness of the Company or any of its Subsidiaries issued in exchange for, or the net proceeds of which are used to extend, refinance, renew, replace, defease or refund other Indebtedness of the Company or any of its Restricted Subsidiaries; provided that:

(1) the principal amount (or accreted value, if applicable) of such Permitted Refinancing Indebtedness does not exceed the principal amount of (or accreted value, if applicable), plus accrued interest on, the Indebtedness so extended, refinanced, renewed, replaced, defeased or refunded (plus the amount of reasonable expenses and prepayment premiums incurred in connection therewith);

(2) such Permitted Refinancing Indebtedness has a final maturity date no earlier than the final maturity date of, and has a Weighted Average Life to Maturity equal to or greater than the Weighted Average Life to Maturity of, the Indebtedness being extended, refinanced, renewed, replaced, defeased or refunded;

(3) if the Indebtedness being extended, refinanced, renewed, replaced, defeased or refunded is subordinated in right of payment to the Notes, such Permitted Refinancing Indebtedness is subordinated in right of payment to the Notes on terms at least as favorable to the Holders of Notes as those contained in the documentation governing the Indebtedness being extended, refinanced, renewed, replaced, defeased or refunded; and

(4) such Indebtedness is incurred either by the Company or by the Restricted Subsidiary who is the obligor on the Indebtedness being extended, refinanced, renewed, replaced, defeased or refunded.

"Permitted Securities" means, with respect to any Asset Sale, Voting Stock of a Person primarily engaged in one or more Similar Businesses; provided that after giving effect to the Asset Sale such Person shall become a Restricted Subsidiary and, unless the Asset Sale relates to a Foreign Subsidiary, a Guarantor.

"Principals" means any Lehman Investor, Frank C. Lanza and Robert V. LaPenta.

"Related Party" with respect to any Principal means:

(1) any controlling stockholder, 50% (or more) owned Subsidiary, or spouse or immediate family member (in the case of an individual) of such Principal; or

(2) any trust, corporation, partnership or other entity, the beneficiaries, stockholders, partners, owners or Persons beneficially holding a more than 50% controlling interest of which consist of such Principal and/or such other Persons referred to in the immediately preceding clause (1).

"Representative" means the indenture trustee or other trustee, agent or representative for any Senior Debt.

"Restricted Investment" means an Investment other than a Permitted Investment.

"Restricted Subsidiary" means, with respect to any Person, each Subsidiary of such Person that is not an Unrestricted Subsidiary.

"Senior Credit Facilities" means the Second Amended and Restated 364 Day Credit Agreement, dated as of May 16, 2001, as in effect on the date of the Indenture among the Company, the lenders party thereto, Banc of America, N.A., as administrative agent, and Lehman Commercial Paper Inc., as syndication agent and documentation agent, and the Third Amended and Restated Credit Agreement, dated as of May 16, 2001, as in effect on the date of the Indenture among the Company, the lenders party thereto, Banc of America, N.A., as administrative agent, and Lehman Commercial Paper Inc., as syndication agent and documentation agent, and any related notes, collateral documents, letters of credit and guarantees, including any appendices, exhibits or schedules to any of the foregoing (as the same may be in effect from time to time), in each case, as such agreements may be amended, modified, supplemented or restated from time to time, or refunded, refinanced, restructured, replaced, renewed, repaid or extended from time to time (whether with the original agents and lenders or other agents and lenders or otherwise, and whether provided under the original credit agreement or other credit agreements or otherwise).

"Senior Debt" means:

(1) all Indebtedness of the Company or any of its Restricted Subsidiaries outstanding under Credit Facilities and all Hedging Obligations with respect thereto;

(2) any other Indebtedness permitted to be incurred by the Company or any of its Restricted Subsidiaries under the terms of the Indenture, unless the instrument under which such Indebtedness is incurred expressly provides that it is on a parity with or subordinated in right of payment to the Notes; and

(3) all Obligations with respect to the foregoing.

Notwithstanding anything to the contrary in the foregoing, Senior Debt will not include:

(1) any liability for federal, state, local or other taxes owed or owing by the Company;

(2) any Indebtedness of the Company to any of its Subsidiaries or other Affiliates;

(3) any trade payables; or

(4) any Indebtedness that is incurred in violation of the Indenture. The 1997 Notes, the May 1998 Notes, the December 1998 Notes, the 2000 Convertible Notes and the 2001 CODES will be pari passu with the Notes and will not constitute Senior Debt.

"Significant Subsidiary" means any Subsidiary which is a "significant subsidiary" within the meaning of Rule 405 under the Securities Act.

"Similar Business" means a business, a majority of whose revenues in the most recently ended calendar year were derived from:

(1) the sale of defense products, electronics, communications systems, aerospace products, avionics products and/or communications products;

(2) any services related thereto;

(3) any business or activity that is reasonably similar thereto or a reasonable extension, development or expansion thereof or ancillary thereto; and

(4) any combination of any of the foregoing.

"Stated Maturity" means, with respect to any installment of interest or principal on any series of Indebtedness, the date on which such payment of interest or principal was scheduled to be paid in the

original documentation governing such Indebtedness, and shall not include any contingent obligations to repay, redeem or repurchase any such interest or principal prior to the date originally scheduled for the payment thereof.

"Subsidiary" means, with respect to any Person:

(1) any corporation, association or other business entity of which more than 50% of the total voting power of shares of Capital Stock entitled (without regard to the occurrence of any contingency) to vote in the election of directors, managers or trustees thereof is at the time owned or controlled, directly or indirectly, by such Person or one or more of the other Subsidiaries of that Person (or a combination thereof); and

(2) any partnership (A) the sole general partner or the managing general partner of which is such Person or a Subsidiary of such Person or (B) the only general partners of which are such Person or of one or more Subsidiaries of such Person (or any combination thereof).

"S&P" means Standard and Poor's Corporation.

"Transaction Documents" means the Indenture, the Notes, the Purchase Agreement and the Registration Rights Agreement.

"Unrestricted Subsidiary" means any Subsidiary that is designated by the Board of Directors as an Unrestricted Subsidiary pursuant to a board resolution, but only to the extent that such Subsidiary:

(1) has no Indebtedness other than Non-Recourse Debt;

(2) is not party to any agreement, contract, arrangement or understanding with the Company or any Restricted Subsidiary of the Company unless the terms of any such agreement, contract, arrangement or understanding are no less favorable to the Company or such Restricted Subsidiary than those that might be obtained at the time from Persons who are not Affiliates of the Company;

(3) is a Person with respect to which neither the Company nor any of its Restricted Subsidiaries has any direct or indirect obligation:

(a) to subscribe for additional Equity Interests; or

(b) to maintain or preserve such Person's financial condition or to cause such Person to achieve any specified levels of operating results;

(4) has not guaranteed or otherwise directly or indirectly provided credit support for any Indebtedness of the Company or any of its Restricted Subsidiaries; and

(5) has at least one director on its board of directors that is not a director or executive officer of the Company or any of its Restricted Subsidiaries.

Any such designation by the Board of Directors shall be evidenced to the Trustee by filing with the Trustee a certified copy of the Board Resolution giving effect to such designation and an Officers' Certificate certifying that such designation complied with the foregoing conditions and was permitted by the covenant described above under the caption "-- Certain Covenants -- Restricted Payments." If, at any time, any Unrestricted Subsidiary would fail to meet the foregoing requirements as an Unrestricted Subsidiary, it shall thereafter cease to be an Unrestricted Subsidiary for purposes of the Indenture and any Indebtedness of such Subsidiary shall be deemed to be incurred by a Restricted Subsidiary of the Company as of such date (and, if such Indebtedness is not permitted to be incurred as of such date under the covenant described under the caption "-- Certain Covenants -- Incurrence of Indebtedness and Issuance of Preferred Stock", the Company shall be in default of such covenant).

The Board of Directors of the Company may at any time designate any Unrestricted Subsidiary to be a Restricted Subsidiary; provided that such designation shall be deemed to be an incurrence of Indebtedness by a Restricted Subsidiary of the Company of any outstanding Indebtedness of such Unrestricted Subsidiary and such designation shall only be permitted if:

(1) such Indebtedness is permitted under the covenant described under the caption "-- Certain Covenants -- Incurrence of Indebtedness and Issuance of Preferred Stock," calculated on a pro forma basis as if such designation had occurred at the beginning of the four-quarter reference period; and

(2) no Default or Event of Default would be in existence following such designation.

"Voting Stock" of any Person as of any date means the Capital Stock of such Person that is at the time entitled to vote in the election of the Board of Directors of such Person.

"Weighted Average Life to Maturity" means, when applied to any Indebtedness at any date, the number of years obtained by dividing:

(1) the sum of the products obtained by multiplying (A) the amount of each then remaining installment, sinking fund, serial maturity or other required payments of principal, including payment at final maturity, in respect thereof, by (B) the number of years (calculated to the nearest one-twelfth) that will elapse between such date and the making of such payment; by

(2) the then outstanding principal amount of such Indebtedness.

"Wholly Owned" means, when used with respect to any Subsidiary or Restricted Subsidiary of a Person, a Subsidiary (or Restricted Subsidiary, as appropriate) of such Person all of the outstanding Capital Stock or other ownership interests of which (other than directors' qualifying shares) shall at the time be owned by such Person or by one or more Wholly Owned Subsidiaries (or Wholly Owned Restricted Subsidiaries, as appropriate) of such Person and one or more Wholly Owned Subsidiaries (or Wholly Owned Restricted Subsidiaries, as appropriate) of such Person.

CERTAIN UNITED STATES FEDERAL INCOME TAX CONSIDERATIONS

EXCHANGE OF NOTES

The exchange of outstanding notes for exchange notes in the exchange offer will not constitute a taxable event to holders for United States federal income tax purposes. Consequently, no gain or loss will be recognized by a holder upon receipt of an exchange note, the holding period of the exchange note will include the holding period of the outstanding note exchanged therefor and the basis of the exchange note will be the same as the basis of the outstanding note immediately before the exchange.

IN ANY EVENT, PERSONS CONSIDERING THE EXCHANGE OF OUTSTANDING NOTES FOR EXCHANGE NOTES SHOULD CONSULT THEIR OWN TAX ADVISORS CONCERNING THE UNITED STATES FEDERAL INCOME TAX CONSEQUENCES IN LIGHT OF THEIR PARTICULAR SITUATIONS AS WELL AS ANY CONSEQUENCES ARISING UNDER THE LAWS OF ANY OTHER TAXING JURISDICTION.

PLAN OF DISTRIBUTION

Each broker-dealer that receives exchange notes for its own account pursuant to the exchange offer must acknowledge that it will deliver a prospectus in connection with any resale of the exchange notes. This prospectus, as it may be amended or supplemented from time to time, may be used by a broker-dealer in connection with resales of exchange notes received in exchange for outstanding notes where the outstanding notes were acquired as a result of market-making activities or other trading activities. To the extent any such broker-dealer participates in the exchange offer and so notifies L-3, or causes L-3 to be so notified in writing, L-3 has agreed that for a period of 180 days after the date of this prospectus, it will make this prospectus, as amended or supplemented, available to such broker-dealer for use in connection with any such resale, and will promptly send additional copies of this prospectus and any amendment or supplement to this prospectus to any broker-dealer that requests such documents in the letter of transmittal.

We will not receive any proceeds from any sale of exchange notes by broker-dealers. Exchange notes received by broker-dealers for their own accounts pursuant to the exchange offer may be sold from time to time in one or more transactions in the over-the-counter market, in negotiated transactions, through the writing of options on the exchange notes or a combination of these methods of resale, at market prices prevailing at the time of resale, at prices related to the prevailing market prices or negotiated prices. Any resale may be made directly to purchasers or to or through brokers or dealers who may receive compensation in the form of commissions or concessions from any broker-dealer or the purchasers of any exchange notes. Any broker-dealer that resells exchange notes that were received by it for its own account pursuant to the exchange offer and any broker or dealer that participates in a distribution of the exchange notes may be deemed to be an "underwriter" within the meaning of the Securities Act and any profit on any resale of exchange notes and any commissions or concessions received by these persons may be deemed to be underwriting compensation under the Securities Act. The letter of transmittal states that by acknowledging that it will deliver and by delivering a prospectus, a broker-dealer will not be deemed to admit that it is an "underwriter" within the meaning of the Securities Act.

We have agreed to pay all expenses incident to the exchange offer, including the expenses of one counsel for the holders of the outstanding notes, other than commissions or concessions of any brokers or dealers and will indemnify the holders of outstanding notes, including any broker-dealers, against certain liabilities, including liabilities under the Securities Act.

By its acceptance of the exchange offer, any broker-dealer that receives exchange notes pursuant to the exchange offer hereby agrees to notify L-3 prior to using the prospectus in connection with the sale or transfer of exchange notes, and acknowledges and agrees that, upon receipt of notice from L-3 of the happening of any event which makes any statement in this prospectus untrue in any material respect or which requires the making of any changes in this prospectus in order to make the statements therein not misleading or which may impose upon L-3 disclosure obligations that may have a material adverse effect on L-3 (which notice L-3 agrees to deliver promptly to such broker-dealer) such broker-dealer will suspend use of this prospectus until L-3 has notified such broker-dealer that delivery of this prospectus may resume and has furnished copies of any amendment or supplement to this prospectus to such broker-dealer.

LEGAL MATTERS

The validity of the exchange notes offered by this prospectus will be passed upon for us by Simpson Thacher & Bartlett, New York, New York.

EXPERTS

The following financial statements have been included in this prospectus in reliance of the reports of PricewaterhouseCoopers LLP, independent accountants, giving on their authority as experts in accounting and auditing:

- Our consolidated financial statements as of December 31, 2001 and 2000, and the three years ended December 31, 2001 included in this prospectus; and
- The combined financial statements of Aircraft Integration Systems Business as of December 31, 2001 and 2000 and for the three years ended December 31, 2001 included in this prospectus.

INDEX TO FINANCIAL STATEMENTS

L-3 COMMUNICATIONS HOLDINGS, INC. AND L-3 COMMUNICATIONS CORPORATION

L-3 COMMUNICATIONS HOLDINGS, INC. AND L-3 COMMUNICATIONS CORPORATION

UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS AS OF JUNE 30, 2002 AND DECEMBER 31, 2001 AND FOR THE THREE AND SIX MONTHS ENDED JUNE 30, 2002 AND 2001

L-3 COMMUNICATIONS HOLDINGS, INC.
AND L-3 COMMUNICATIONS CORPORATION

CONDENSED CONSOLIDATED BALANCE SHEETS

(IN THOUSANDS, EXCEPT SHARE AND PER SHARE DATA)
(UNAUDITED)

	JUNE 30, 2002	DECEMBER 31, 2001
ASSETS		
Current assets:		
Cash and cash equivalents	$ 466,118	$ 361,022
Contracts in process	1,304,177	801,824
Deferred income taxes	51,282	62,965
Other current assets	22,239	16,590
Total current assets	1,843,816	1,242,401
Property, plant and equipment, net	385,201	203,374
Goodwill	2,474,221	1,707,718
Deferred income taxes	125,711	97,883
Deferred debt issue costs	51,573	40,190
Other assets	68,704	47,683
Total assets	$4,949,226	$3,339,249
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Current portion of long-term debt	$ 48,075	$ --
Accounts payable, trade	168,003	129,538
Accrued employment costs	176,837	126,981
Accrued expenses	58,616	38,823
Customer advances	71,427	74,060
Accrued interest	16,241	13,288
Income taxes	6,568	16,768
Other current liabilities	73,701	125,113
Total current liabilities	619,468	524,571
Pension and postretirement benefits	264,712	155,052
Other liabilities	60,651	60,585
Long-term debt	1,844,332	1,315,252
Total liabilities	2,789,163	2,055,460
Minority interest	71,839	69,897
Commitments and contingencies		
Shareholders' equity:		
L-3 Holdings' common stock $.01 par value; authorized 300,000,000 shares, issued and outstanding 93,707,083 and 78,496,626 shares (L-3 Communications common stock: $.01 par value, 100 shares authorized, issued and outstanding)	1,755,072	939,037
Retained earnings	362,649	301,730
Unearned compensation	(4,541)	(3,205)
Accumulated other comprehensive loss	(24,956)	(23,670)
Total shareholders' equity	2,088,224	1,213,892
Total liabilities and shareholders' equity	$4,949,226	$3,339,249

See notes to unaudited condensed consolidated financial statements.

L-3 COMMUNICATIONS HOLDINGS, INC.
AND L-3 COMMUNICATIONS CORPORATION

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS

(IN THOUSANDS, EXCEPT PER SHARE DATA)
(UNAUDITED)

	THREE MONTHS ENDED JUNE 30,	
	2002	2001
Sales:		
Contracts, primarily long-term U.S. Government	$862,122	$ 453,813
Commercial, primarily products	93,067	107,747
Total sales	955,189	561,560
Costs and expenses:		
Contracts, primarily long-term U.S. Government	759,675	408,261
Commercial, primarily products:		
Cost of sales	62,620	59,850
Selling, general and administrative	35,206	32,982
Total costs and expenses	857,501	501,093
Operating income	97,688	60,467
Interest and other income (expense)	(203)	972
Interest expense	31,570	22,031
Minority interest	1,776	1,585
Income before income taxes and extraordinary item	64,139	37,823
Provision for income taxes	22,641	14,487
Income before extraordinary item	41,498	23,336
Extraordinary item -- loss on extinguishment of debt, net of income taxes of $6,329	(9,858)	--
Net income	$ 31,640	$ 23,336
L-3 Holdings' earnings per common share before extraordinary item:		
Basic	$ 0.52	$ 0.31
Diluted	$ 0.49	$ 0.30
L-3 Holdings' earnings per common share:		
Basic	$ 0.40	$ 0.31
Diluted	$ 0.38	$ 0.30
L-3 Holdings' weighted average common shares outstanding:		
Basic	79,968	74,770
Diluted	90,719	78,026

See notes to unaudited condensed consolidated financial statements.

L-3 COMMUNICATIONS HOLDINGS, INC.
AND L-3 COMMUNICATIONS CORPORATION

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS

(IN THOUSANDS, EXCEPT PER SHARE DATA)
(UNAUDITED)

	SIX MONTHS ENDED JUNE 30,	
	2002	2001
Sales:		
Contracts, primarily long-term U.S. Government	$1,478,497	$ 825,057
Commercial, primarily products	173,532	198,404
Total sales	1,652,029	1,023,461
Costs and expenses:		
Contracts, primarily long-term U.S. Government	1,304,734	746,121
Commercial, primarily products:		
Cost of sales	108,133	107,452
Selling, general and administrative	70,167	62,552
Total costs and expenses	1,483,034	916,125
Operating income	168,995	107,336
Interest and other income	824	1,454
Interest expense	57,663	46,436
Minority interest	2,764	1,585
Income before income taxes and extraordinary item	109,392	60,769
Provision for income taxes	38,615	23,275
Income before extraordinary item	70,777	37,494
Extraordinary item-loss on extinguishment of debt, net of income taxes of $6,329	(9,858)	--
Net income	$ 60,919	$ 37,494
L-3 Holdings' earnings per common share before extraordinary item:		
Basic	$ 0.89	$ 0.52
Diluted	$ 0.84	$ 0.50
L-3 Holdings' earnings per common share:		
Basic	$ 0.77	$ 0.52
Diluted	$ 0.73	$ 0.50
L-3 Holdings' weighted average common shares outstanding:		
Basic	79,436	71,486
Diluted	90,110	74,790

See notes to unaudited condensed consolidated financial statements.

L-3 COMMUNICATIONS HOLDINGS, INC.
AND L-3 COMMUNICATIONS CORPORATION

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

(IN THOUSANDS)
(UNAUDITED)

	SIX MONTHS ENDED JUNE 30,	
	2002	2001
OPERATING ACTIVITIES:		
Net income	$ 60,919	$ 37,494
Extraordinary item-loss on extinguishment of debt	9,858	--
Depreciation	29,874	19,833
Goodwill amortization	--	20,510
Amortization of deferred debt issue costs	3,470	3,642
Amortization of intangibles and other assets	4,546	2,293
Deferred income taxes	29,619	16,467
Minority interest	2,764	1,585
Other non-cash items	9,109	8,306
Changes in operating assets and liabilities, net of amounts acquired:		
Contracts in process	(103,971)	(36,848)
Other current assets	1,412	(2,584)
Other assets	(6,006)	(5,293)
Accounts payable	17,951	(15,842)
Customer advances	(7,605)	5,982
Accrued expenses	56,947	(2,819)
Other current liabilities	(19,569)	(25,899)
Pension and postretirement benefits	19,846	3,864
Other liabilities	3,212	2,534
All other operating activities, net	450	(547)
Net cash from operating activities	112,826	32,678
INVESTING ACTIVITIES:		
Acquisition of businesses, net of cash acquired	(1,316,105)	(211,019)
Proceeds from sale of interest in subsidiary	--	72,060
Capital expenditures	(24,074)	(20,517)
Disposition of property, plant and equipment	209	247
Other investing activities	1,187	(5,001)
Net cash used in investing activities	(1,338,783)	(164,230)
FINANCING ACTIVITIES:		
Borrowings under revolving credit facilities	566,000	235,200
Repayment of borrowings under revolving credit facilities	(566,000)	(425,200)
Borrowings under bridge loan facility	500,000	--
Repayment of borrowings under bridge loan facility	(500,000)	--
Proceeds from sale of senior subordinated notes	750,000	--
Redemption of senior subordinated notes	(186,399)	--
Proceeds from sale of common stock, net	768,435	353,783
Debt issuance costs	(18,571)	(3,813)
Employee stock purchase plan contributions	7,625	--
Proceeds from exercise of stock options	14,390	10,044
Distributions paid to minority interest	(822)	--
Other financing activities, net	(3,605)	(2,809)
Net cash from financing activities	1,331,053	167,205
Net increase in cash	105,096	35,653
Cash and cash equivalents, beginning of the period	361,022	32,680
Cash and cash equivalents, end of the period	$ 466,118	$ 68,333

See notes to unaudited condensed consolidated financial statements.

1. DESCRIPTION OF BUSINESS

L-3 Communications Holdings, Inc. derives all its operating income and cash flow from its wholly owned subsidiary L-3 Communications Corporation ("L-3 Communications"). L-3 Communications Holdings, Inc. ("L-3 Holdings" and together with its subsidiaries, "L-3" or "the Company") is a merchant supplier of secure communications and intelligence, surveillance and reconnaissance ("ISR") systems, training, simulation and support services, aviation products and aircraft modernization, as well as specialized products. The Company's customers include the U.S. Department of Defense ("DoD"), prime contractors to the DoD, certain U.S. Government intelligence agencies, major aerospace and defense contractors, foreign governments, commercial customers and certain other U.S. federal, state and local government agencies.

As a result of recently completed acquisitions (see Note 3) and their effect on the Company's operations, effective January 1, 2002, the Company began to present its businesses with the following four reportable segments: (1) Secure Communications & ISR; (2) Training, Simulation & Support Services; (3) Aviation Products & Aircraft Modernization and (4) Specialized Products. Prior to December 31, 2001, the Company had two reportable segments: Secure Communications Systems and Specialized Products. Prior year segment data have been reclassified to conform to the current year presentation of segments.

Secure Communications & ISR. This segment provides products and services for the global ISR market, specializing in signals intelligence (SIGINT) and communications intelligence (COMINT) systems, which provide the unique ability to collect and analyze unknown electronic signals from command centers, communication nodes and air defense systems for real-time situation awareness and response in real-time to the warfighter. This segment also provides secure, high data rate communications systems for military and other U.S. Government and foreign government reconnaissance and surveillance applications. These systems and products are critical elements of virtually all major communication, command and control, intelligence gathering and space systems. The Company's systems and products are used to connect a variety of airborne, space, ground and sea-based communication systems and are used in the transmission, processing, recording, monitoring and dissemination functions of these communication systems. The major secure communication programs and systems include:

- secure data links for airborne, satellite, ground and sea-based remote platforms for real time information collection and dissemination to users;
- highly specialized fleet management and support, including procurement, systems integration, sensor development, modifications and maintenance for signals intelligence and ISR special mission aircraft and airborne surveillance systems;
- strategic and tactical signal intelligence systems that detect, collect, identify, analyze and disseminate information;
- secure telephone and network equipment and encryption management; and
- communication systems for surface and undersea vessels and manned space flights.

Training, Simulation & Support Services. This segment provides a full range of services, including:

- services designed to meet customer training requirements for aircrews, navigators, mission operators, gunners and maintenance technicians for virtually any platform, including military fixed and rotary wing aircraft, air vehicles and various ground vehicles;

- communication software support, information services and a wide range of engineering development services and integration support;
- high-end engineering and information support services used for command, control, communications and ISR architectures, as well as for air warfare modeling and simulation tools for applications used by the DoD and U.S. Government intelligence agencies, including missile and space systems, Unmanned Aerial Vehicles (UAVs) and military aircraft;
- developing and managing extensive programs in the United States and internationally, focusing on teaching, training and education, logistics, strategic planning, organizational design, democracy transition and leadership development; and
- design, prototype development and production of ballistic missile targets for present and future threat scenarios.

Aviation Products & Aircraft Modernization. This segment provides aviation products and aircraft modernization services including:

- airborne traffic and collision avoidance systems (TCAS);
- commercial, solid-state, crash-protected cockpit voice recorders and flight data recorders (known as "black boxes") and cruise ship hardened voyage recorders;
- ruggedized displays for military and high-end commercial applications;
- turnkey aviation life cycle management services that integrate custom developed and commercial off-the-shelf products for various military and commercial wide-body and rotary wing aircraft, including heavy maintenance and structural modifications and Head-of-State and commercial interior completions; and
- engineering, modification, maintenance, logistics and upgrades for U.S. Special Operations Command aircraft, vehicles and personal equipment.

Specialized Products. This segment supplies products to military and commercial customers in several niche markets. The products include:

- ocean products, including acoustic undersea warfare products for mine hunting, dipping sonars, anti-submarine and naval power distribution, conditioning, switching and protection equipment for surface and undersea platforms;
- telemetry, instrumentation, space and guidance products including tracking and flight termination;
- premium fuzing products;
- microwave components;
- detection systems for aviation, port and border applications to detect explosives, concealed weapons, contraband and illegal narcotics, inspection of agricultural products and examination of cargo;
- high performance antennas and ground based radomes; and
- training devices and motion simulators which produce advanced virtual reality simulation and high-fidelity representations of cockpits and mission stations for aircraft and land vehicles.

2. BASIS OF PRESENTATION

The accompanying unaudited condensed consolidated financial statements comprise the unaudited condensed consolidated financial statements of L-3 Holdings and L-3 Communications. The only obligations of L-3 Holdings are the 5 1/4% Convertible Senior Subordinated Notes due 2009 (the "Convertible Notes") and the 4% Senior Subordinated Convertible Contingent Debt Securities due 2011 ("CODES"). L-3 Holdings has also guaranteed the borrowings under the senior credit facilities of L-3 Communications. Because the debt obligations of L-3 Holdings have been jointly, severally, fully and unconditionally guaranteed by L-3 Communications and certain of its domestic subsidiaries, such debt obligations have been reported as debt of L-3 Communications in its unaudited condensed consolidated financial statements in accordance with the Securities and Exchange Commission's Staff Accounting Bulletin No. 54. In addition, all issuances of equity securities including grants of stock options and restricted stock by L-3 Holdings to employees of L-3 Communications have also been reported in the unaudited condensed consolidated financial statements of L-3 Communications. As a result, the unaudited condensed consolidated financial positions, results of operations and cash flows of L-3 Holdings and L-3 Communications are substantially the same.

L-3 Holdings has no independent assets or operations other than through its wholly owned subsidiary L-3 Communications. L-3 Communications and all of the guarantor subsidiaries of L-3 Communications are guarantor subsidiaries of L-3 Holdings. Financial information of the subsidiaries of L-3 Communications is presented in Note 12.

The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X of the Securities and Exchange Commission. Accordingly, they do not include all of the information and notes required by generally accepted accounting principles in the United States of America for a complete set of financial statements. In the opinion of management, all adjustments (consisting of normal recurring accruals) considered necessary for a fair presentation of the results for the interim periods presented have been included. The results of operations for the interim periods are not necessarily indicative of results for the full year.

The preparation of financial statements in conformity with generally accepted accounting principles in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of sales and costs and expenses during the reporting period. The most significant of these estimates and assumptions relate to contract estimates of sales and estimated costs to complete contracts in process, estimates of market values for inventories reported at lower of cost or market, estimates of pension and postretirement benefit obligations, recoverability of recorded amounts of fixed assets and goodwill, income taxes, litigation and environmental obligations. Changes in estimates are reflected in the periods during which they become known. Actual results could differ from these estimates.

Certain reclassifications have been made to conform prior period amounts to the current period presentation.

These interim financial statements should be read in conjunction with the Consolidated Financial Statements of L-3 Holdings and L-3 Communications for the fiscal year ended December 31, 2001, included in their Annual Reports on Form 10-K for the fiscal year ended December 31, 2001.

3. ACQUISITIONS AND DIVESTITURES AND OTHER TRANSACTIONS

Aircraft Integration Systems. On March 8, 2002, the Company acquired the assets of Aircraft Integration Systems ("AIS"), a division of Raytheon Company, for $1,148,700 in cash which includes $1,130,000 for the original contract purchase price, an increase to the contract purchase price of $18,700 related to additional assets contributed by Raytheon to AIS, plus acquisition costs. Following the acquisition, the Company changed AIS's name to L-3 Integrated Systems ("IS"). The purchase price is subject to adjustment based on the IS closing date net tangible book value, as defined. The acquisition was financed using approximately $229,000 of cash on hand, borrowings under the Company's senior credit facilities of $420,000 and a $500,000 senior subordinated bridge loan. (See Note 5.)

The Company acquired IS because it is a long-standing, sole-source business provider of critical communications intelligence (COMINT), signals intelligence (SIGINT) and unique sensor systems for special customers within the U.S. Government. The Company believes that IS has excellent operating prospects as its major customers increasingly focus on intelligence gathering and information distribution to the battlefield. The Company also believes there are significant opportunities to apply its proven business integration and cost control skills to further enhance IS's operating and financial performance. The Company also believes that IS also creates significant opportunities for the sale of the Company's secure communications and aviation products, including communication links, signal processing, antennas, data recorders, displays and traffic control and collision avoidance systems. The table below presents a summary of the initial preliminary estimates of fair values of the assets acquired and liabilities assumed on the acquisition date.

Contracts in process	$ 360,567
Other current assets	1,678
Property, plant and equipment	182,307
Goodwill	663,215
Other non-current assets	54,852
Total assets acquired	1,262,619
Current liabilities	17,020
Long-term liabilities	96,279
Total liabilities assumed	113,299
Net assets acquired	$1,149,320

Based on the initial preliminary purchase price allocation for IS, goodwill, of which approximately $611,000 is expected to be deductible for income tax purposes, in the amount of $464,250 was assigned to the Secure Communications & ISR segment and $198,965 was assigned to the Aviation Products & Aircraft Modernization segment.

Detection Systems. On June 14, 2002, the Company successfully completed the acquisition of the detection systems business of PerkinElmer ("Detection Systems") for $100,000 in cash plus acquisition costs, subject to adjustment based on closing date net working capital, as defined. Detection Systems business offers X-ray screening for several major security applications: (1) aviation systems for checked and oversized baggage, break bulk cargo and air freight; (2) port and border applications including pallets, break bulk and air freight; and (3) facility protection such as parcels, mail and cargo. Detection Systems has a broad range of systems and technology, and an installed base of over 16,000 units. Detection Systems' customer base includes major airlines and airports, a number of domestic

agencies, such as the U.S. Customs Service, U.S. Marshals Service, U.S. Department of Agriculture and U.S. Department of State, and international authorities throughout Europe, Asia and South America. The acquisition broadens L-3's capabilities and product offerings in the rapidly growing areas of airport security and other homeland defense markets, including explosive detection systems ("EDS"). The acquisition provides L-3 with enhanced manufacturing and marketing capabilities, which will be used as the Company works to meet growing demand for its EDS products.

In connection with a letter of intent entered into with OSI Systems, Inc. ("OSI"), the Company intends to sell the ARGUS and conventional product lines of Detection Systems to OSI. The sale is subject to clearance under the Hart-Scott-Rodino Antitrust Improvements Act.

Spar Aerospace. At December 31, 2001, the Company had acquired 70.3% of the outstanding common stock of Spar Aerospace Limited ("Spar"), a leading provider of high-end aviation product modernization, for $105,078 in cash and acquired control of Spar and the ability to require the remaining stockholders to tender their shares. During January 2002, the Company completed the acquisition and paid $43,641 for the remaining outstanding common stock of Spar which was not tendered to the Company at December 31, 2001.

SY Tech, BT Fuze and Emergent. During the fourth quarter of 2001, the Company acquired three other businesses for an aggregate purchase price of $147,695 in cash plus acquisition costs, reflecting net purchase price increases of $8,605 based on the closing date balance sheets of the acquired businesses and, $1,800 of additional purchase price based on the financial performance of the acquired companies for the year ended December 31, 2001. The Company acquired:

(1) the net assets of SY Technology, Inc. ("SY"), a provider of air warfare simulation services, on December 31, 2001. This acquisition is subject to additional purchase price not to exceed $3,000 which is contingent upon the financial performance of SY for the years ending December 31, 2002 and 2003;

(2) the net assets of Bulova Technologies, a producer of military fuzes that prevent the inadvertent firing and detonation of weapons during handling, on December 19, 2001. Bulova Technologies was later renamed BT Fuze Products ("BT Fuze"). The purchase price is subject to adjustment based on the closing date net assets of BT Fuze; and

(3) the common stock of Emergent Government Services Group ("Emergent"), a provider of engineering and information services to the U.S. Air Force, Army, Navy and intelligence agencies, on November 30, 2001. Following the acquisition, the Company changed Emergent's name to L-3 Communications Analytics.

KDI and EER. On May 4, 2001, the Company acquired all of the outstanding common stock of KDI Precision Products ("KDI") for $79,460 in cash including acquisition costs. On May 31, 2001, the Company acquired all of the outstanding common stock of EER Systems ("EER") for $119,774 in cash including acquisition costs, and additional purchase price not to exceed $5,000 which is contingent upon the financial performance of EER for the year ending December 31, 2002.

All of the Company's acquisitions have been accounted for as purchase business combinations and are included in the Company's results of operations from their respective effective dates. The Company values acquired contracts in process at their estimated contract selling prices less the estimated costs to complete and a reasonable profit allowance for the Company's effort to complete such contracts. The assets and liabilities recorded in connection with the purchase price allocations for the acquisitions of Spar, Emergent, BT Fuze, SY, IS and Detection Systems are based upon

preliminary estimates of fair values for contracts in process, estimated costs in excess of billings to complete contracts in process, inventories, identifiable intangibles and deferred income taxes. Actual adjustments will be based on the final purchase prices and final appraisals and other analyses of fair values which are in process, as well as audited historical net assets acquired for the IS acquisition as of March 8, 2002. With the exception of the IS acquisition, the Company does not expect the differences between the preliminary and final purchase price allocations for the acquisitions to be material. Material differences between the preliminary and final purchase price allocations for the IS acquisition could result from the valuation of contracts in process, including the recoverability of unbilled contract receivables and inventories, estimated costs in excess of billings to complete acquired contracts in process in a loss position, capitalized costs for internal-use software and management information systems, identifiable intangibles, goodwill, deferred income taxes and pension and postretirement benefits liabilities. The Company expects to complete the purchase price allocation for IS in the second half of 2002.

Had the acquisitions of IS and Detection Systems and the related financing transactions occurred on January 1, 2002, the unaudited pro forma sales, net income and diluted earnings per share for the six months ended June 30, 2002, would have been approximately $1,928,600, $56,500 and $0.68. Had the acquisitions of KDI, EER, SY, BT Fuze, Emergent, Spar, IS and Detection Systems and the related financing transactions occurred on January 1, 2001, the unaudited pro forma sales, net income and diluted earnings per share for the six months ended June 30, 2001, would have been approximately $1,690,700, $26,600 and $0.33. The pro forma results are based on various assumptions and are not necessarily indicative of the result of operations that would have occurred had the acquisitions and the related financing transactions occurred on January 1, 2001 and 2002.

In March 2001, the Company settled certain items with a third party provider related to a services agreement. In connection with the settlement, L-3 received a net cash payment of $14,200. The payment represents a credit for fees paid over the term of the services agreement and incremental costs incurred by the Company over the same period arising from performance deficiencies under the services agreement. These incremental costs included additional operating costs for material management, vendor replacement, rework, warranty, manufacturing and engineering support, and administrative activities. The credit was amortized in 2001 as a reduction to costs and expenses over the period in which the services were provided.

4. CONTRACTS IN PROCESS

The components of contracts in process are presented in the table below.

	JUNE 30, 2002	DECEMBER 31, 2001
Billed receivables, less allowances of $15,045 and $11,649	$ 466,070	$ 330,795
Unbilled contract receivables	750,057	353,262
Less: unliquidated progress payments	(221,405)	(102,739)
Unbilled contract receivables, net	528,652	250,523
Inventoried contract costs, gross	203,800	122,211
Less: unliquidated progress payments	(38,887)	(6,575)
Inventoried contract costs, net	164,913	115,636
Inventories at lower of cost or market	144,542	104,870
Total contracts in process	$1,304,177	$ 801,824

5. DEBT

The components of long-term debt are presented in the table below.

	JUNE 30, 2002	DECEMBER 31, 2001
Borrowings under Senior Credit Facilities	$ --	$ --
10 3/8% Senior Subordinated Notes due 2007	48,075	225,000
8 1/2% Senior Subordinated Notes due 2008	180,000	180,000
8% Senior Subordinated Notes due 2008	200,000	200,000
7 5/8% Senior Subordinated Notes due 2012	750,000	--
5 1/4% Convertible Senior Subordinated Notes due 2009	300,000	300,000
4% Senior Subordinated Convertible Contingent Debt Securities due 2011 (CODES)	420,000	420,000
Principal amount of long-term debt	$1,898,075	$1,325,000
Less: Current portion of long-term debt	48,075	--
Unamortized discount on CODES	2,375	2,502
Fair value of interest rate swap agreements	3,293	7,246
Carrying amount of long-term debt	$1,844,332	$1,315,252

On February 26, 2002, the Company's lenders approved a $150,000 increase in the amount of the senior credit facilities. The five-year revolving credit facility which matures on May 15, 2006 was increased by $100,000 to $500,000 and the 364-day revolving credit facility increased by $50,000 to $250,000. Additionally, the maturity date of the $250,000 364-day revolving credit facility was extended to February 25, 2003.

Available borrowings under the Company's senior credit facilities at June 30, 2002 were $577,707, after reductions for outstanding letters of credit of $172,293. There were no outstanding borrowings under the senior credit facilities at June 30, 2002.

In June 2002, L-3 Communications sold $750,000 of 7 5/8% Senior Subordinated Notes due June 15, 2012 (the "June 2002 Notes") with interest payable semi-annually on June 15 and December 15 of each year commencing December 15, 2002. The net proceeds from this offering and the concurrent sale of common stock by L-3 Holdings (see Note 7) were used to (1) repay $500,000 borrowed on March 8, 2002, under the Company's senior subordinated bridge loan facility, (2) repay the indebtedness outstanding under the Company's senior credit facilities, (3) repurchase and redeem the 10 3/8% Senior Subordinated Notes due 2007 and (4) increase cash and cash equivalents. The June 2002 Notes are general unsecured obligations of L-3 Communications and are subordinated in right of payment to all existing and future senior debt of L-3 Communications. The June 2002 Notes are subject to redemption at any time, at the option of L-3 Communications, in whole or in part, on or after June 15, 2007 at redemption prices (plus accrued and unpaid interest) starting at 103.813% of the principal amount (plus accrued and unpaid interest) during the 12-month period beginning June 15, 2007 and declining annually to 100% of principal (plus accrued and unpaid interest) on June 15, 2010 and thereafter. Prior to June 15, 2005, L-3 Communications may redeem up to 35% of the June 2002 Notes with the proceeds of certain equity offerings at a redemption price of 107.625% of the principal amount (plus accrued and unpaid interest).

On June 6, 2002, L-3 Communications commenced a tender offer to purchase any and all of its $225,000 aggregate principal amount of 10 3/8% Senior Subordinated Notes due 2007. The tender offer

expired on July 3, 2002. On June 25, 2002, L-3 Communications sent a notice of redemption for all of its $225,000 aggregate principal amount of 10 3/8% Senior Subordinated Notes due 2007 that remained outstanding after the expiration of the tender offer. Upon sending the notice, the remaining notes became due and payable at the redemption price as of July 25, 2002. At June 30, 2002, L-3 Communications had purchased for cash $176,925 of these notes plus premiums, fees and other transaction costs of $9,474 and accrued interest. The remaining principal amount of these notes of $48,075 was purchased and redeemed in July 2002 plus premiums, fees and other transaction costs of $2,995 and accrued interest. In connection with the extinguishment of these notes, L-3 Communications recorded a pre-tax extraordinary loss of $16,187 ($9,858 after-tax), including premiums, fees and other transaction costs of $12,469 and $3,718 to write-off the remaining balance of debt issue costs relating to these notes.

In June 2002, L-3 Communications unwound the interest rate swap agreements on $200,000 of its 8% Senior Subordinated Notes due 2008 and received cash of $8,675. L-3 Communications recorded a reduction in interest expense for the six months ended June 30, 2002 of $3,446, which represented the value of the interest savings that was earned prior to the unwinding of these swap agreements. The remaining $5,229 was recorded as a deferred gain and will be amortized as a reduction of interest expense over the remaining life of the $200,000 of 8% Senior Subordinated Notes due 2008 at an amount of $215 per quarter, or $860 annually.

In June 2002, L-3 Communications entered into interest rate swap agreements on $200,000 of its 7 5/8% Senior Subordinated Notes due 2012. These swap agreements exchange the fixed interest rate for a variable interest rate on $200,000 of the $750,000 principal amount outstanding. Under these swap agreements, L-3 Communications will pay or receive the difference between the fixed interest rate of 7 5/8% on the senior subordinated notes and a variable interest rate determined two business days prior to the beginning of the interest period equal to (1) the six month LIBOR rate, plus (2) 215.25 basis points. The difference to be paid or received on these swap agreements as interest rates change is recorded as an adjustment to interest expense. The swap agreements are accounted for as fair value hedges.

Pursuant to a registration rights agreement that L-3 Communications entered into with the initial purchasers of the June 2002 Notes, L-3 Communications agreed to file a registration statement with the SEC within 90 days after the closing of the offering to exchange the June 2002 Notes for substantially identical notes that are registered under the Securities Act. If L-3 Communications does not file the registration statement with the SEC on or before September 26, 2002, L-3 Communications will pay to each holder of the June 2002 Notes an amount equal to $0.05 per week per $1,000 principal amount for the first 90-day period until all registration defaults have been cured. The amount that L-3 Communications will pay will increase by an additional $0.05 per week per $1,000 principal amount for each subsequent 90-day period until all registration defaults have been cured, up to a maximum amount of $0.50 per week per $1,000 principal amount.

6. COMPREHENSIVE INCOME

Comprehensive income for the three and six months ended June 30, 2002 and 2001 is presented in the tables below.

	THREE MONTHS ENDED JUNE 30,	
	2002	2001
Net income	$31,640	$23,336
Other comprehensive income (loss):		
Foreign currency translation adjustments, net of tax benefits	(812)	(242)
Unrealized gains (losses) on securities:		
Unrealized losses arising during the period, net of tax benefit of $45	--	(66)
Reclassification adjustment for losses included in net income, net of tax expense of $2,323	--	3,743
Unrealized gains (losses) on hedging instruments:		
Unrealized gains (losses) arising during the period, net of tax benefit of $156 and tax expense of $131	(290)	213
Comprehensive income	$30,538	$26,984

	SIX MONTHS ENDED JUNE 30,	
	2002	2001
Net income	$ 60,919	$ 37,494
Other comprehensive income (loss):		
Foreign currency translation adjustments, net of tax benefits	(1,245)	(540)
Unrealized gains (losses) on securities:		
Unrealized losses arising during the period, net of tax benefit of $111	--	(180)
Reclassification adjustment for losses included in net income, net of tax expense of $2,274	--	3,632
Unrealized gains (losses) on hedging instruments:		
Cumulative adjustment at January 1, 2001, net of tax benefit of $25	--	(41)
Unrealized gains (losses) arising during the period, net of tax benefit of $196 and tax expense of $116	(364)	189
Reclassification adjustment for losses included in net income, net of tax expense of $198	323	--
Comprehensive income	$ 59,633	$ 40,554

Accumulated other comprehensive balances at June 30, 2002 and December 31, 2001 are presented in the table below.

	FOREIGN CURRENCY TRANSLATION ADJUSTMENTS	UNREALIZED GAINS (LOSSES) ON SECURITIES	UNREALIZED LOSSES ON HEDGING INSTRUMENTS	MINIMUM PENSION LIABILITY ADJUSTMENTS	ACCUMULATED OTHER COMPREHENSIVE LOSS
JUNE 30, 2002					
Balance January 1, 2002	$ (2,852)	$ (246)	$ (163)	$ (20,409)	$ (23,670)
Period change	(1,245)	--	(41)	--	(1,286)
Balance June 30, 2002	$ (4,097)	$ (246)	$ (204)	$ (20,409)	$ (24,956)
DECEMBER 31, 2001					
Balance January 1, 2001	$ (2,584)	$ (3,698)	$ --	$ (890)	$ (7,172)
Period change	(268)	3,452	(163)	(19,519)	(16,498)
Balance December 31, 2001.	$ (2,852)	$ (246)	$ (163)	$ (20,409)	$ (23,670)

7. L-3 HOLDINGS EARNINGS PER SHARE

A reconciliation of basic and diluted earnings per share ("EPS") is presented in the table below.

	THREE MONTHS ENDED JUNE 30,		SIX MONTHS ENDED JUNE 30,	
	2002	2001	2002	2001
BASIC:				
Income before extraordinary item	$ 41,498	$ 23,336	$ 70,777	$ 37,494
Extraordinary item, net of income taxes	(9,858)	--	(9,858)	--
Net income	$ 31,640	$ 23,336	$ 60,919	$ 37,494
Weighted average common shares outstanding	79,968	74,770	79,436	71,486
Basic earnings per share before extraordinary item	$ 0.52	$ 0.31	$ 0.89	$ 0.52
Basic earnings per share	$ 0.40	$ 0.31	$ 0.77	$ 0.52
DILUTED:				
Income before extraordinary item	$ 41,498	$ 23,336	$ 70,777	$ 37,494
After-tax interest expense savings on the assumed conversion of Convertible Notes	2,579	--	5,158	--
Income before extraordinary item including assumed conversion	44,077	23,336	75,935	37,494
Extraordinary item, net of income taxes	(9,858)	--	(9,858)	--
Net income including assumed conversion	$ 34,219	$ 23,336	$ 66,077	$ 37,494
Common and potential common shares:				
Weighted average common shares outstanding	79,968	74,770	79,436	71,486
Assumed exercise of stock options	8,887	7,470	8,465	7,634
Assumed purchase of common shares for treasury	(5,498)	(4,214)	(5,153)	(4,330)
Assumed conversion of Convertible Notes	7,362	--	7,362	--
Common and potential common shares	90,719	78,026	90,110	74,790
Diluted earnings per share before extraordinary item	$ 0.49	$ 0.30	$ 0.84	$ 0.50
Diluted earnings per share	$ 0.38	$ 0.30	$ 0.73	$ 0.50

The 7,361,964 shares of L-3 Holdings common stock that are issuable upon conversion of the Convertible Notes were not included in the computation of diluted EPS for the three and six months ended June 30, 2001 because the effect of the assumed conversion would have been anti-dilutive.

The 7,804,878 shares of L-3 Holdings' common stock that are issuable upon conversion of the CODES were not included in the computation of diluted EPS for the three and six months ended June 30, 2002 because the conditions required for the CODES to become convertible were not satisfied.

On April 23, 2002, the Company announced that its Board of Directors had authorized a two-for-one stock split on all shares of L-3 Holdings common stock. The stock split entitled all shareholders of record at the close of business on May 6, 2002 to receive one additional share of L-3 Holdings common stock for every share held on that date. The additional shares were distributed to shareholders in the form of a stock dividend on May 20, 2002. Upon completion of the stock split, L-3 Holdings had approximately 80 million shares of common stock outstanding. All of L-3 Holdings' historical as reported share and EPS data has been restated to give effect to the stock split

On June 28, 2002, L-3 Holdings sold 14,000,000 shares of its common stock in a public offering for $56.60 per share. Upon closing, L-3 Holdings received net proceeds after deducting discounts, commissions and estimated expenses of $768,435. The net proceeds of this offering and the concurrent sale of senior subordinated notes by L-3 Communications (see Note 5) were used to (1) repay $500,000 borrowed on March 8, 2002, under the Company's senior subordinated bridge loan facility, (2) repay the indebtedness outstanding under the Company's senior credit facilities, (3) repurchase and redeem the 10 3/8% Senior Subordinated Notes due 2007 and (4) increase cash and cash equivalents.

8. TRANSITIONAL DISCLOSURE REQUIRED BY SFAS NO. 142

In July 2001, the Financial Accounting Standards Board ("FASB") issued Statement of Financial Accounting Standards ("SFAS") No. 142, Goodwill and Other Intangible Assets, which supersedes Accounting Principles Board ("APB") Opinion No. 17, Intangible Assets. SFAS No. 142 revised the standards for accounting for goodwill and other intangible assets. SFAS No. 142 requires that goodwill and indefinite lived identifiable intangible assets no longer be amortized, but be tested for impairment at least annually based on their estimated fair values. The provisions of SFAS No. 142 became effective on January 1, 2002, and require full implementation of the impairment measurement provisions by December 31, 2002. Effective January 1, 2002, the Company is not recording goodwill amortization expense. Based on the estimated fair values of the Company's reporting units using a discounted cash flows valuation, the goodwill for certain space and broadband commercial communications businesses included in the Specialized Products segment may be impaired. The aggregate amount of goodwill recorded for these businesses is approximately $21.0 million, net of related income taxes. The Company expects to complete the valuation of the assets and liabilities for these businesses and to determine the amount of the goodwill impairment in the second half of 2002. Any resulting impairment would be a non-cash charge, recorded effective January 1, 2002, as a cumulative effect of a change in accounting principle in accordance with the adoption provisions of SFAS No. 142.

The table below presents net income and basic and diluted EPS for the three and six months ended June 30, 2002 compared with those amounts for the same periods in 2001, adjusted to exclude goodwill amortization expense, net of income taxes.

	THREE MONTHS ENDED JUNE 30,		SIX MONTHS ENDED JUNE 30,	
	2002	2001	2002	2001
Reported income before extraordinary item	$ 41,498	$23,336	$ 70,777	$ 37,494
Add: Goodwill amortization expense, net of tax	--	8,482	--	15,855
Less: Incremental minority interest	--	(80)	--	(80)
Adjusted income before extraordinary item	$ 41,498	$31,738	$ 70,777	$ 53,269
Adjusted net income	$ 31,640	$31,738	$ 60,919	$ 53,269
BASIC EPS:				
Reported before extraordinary item	$ 0.52	$ 0.31	$ 0.89	$ 0.52
Goodwill amortization expense, net of tax	--	0.11	--	0.23
Incremental minority interest	--	--	--	--
Adjusted before extraordinary item	$ 0.52	$ 0.42	$ 0.89	$ 0.75
Adjusted after extraordinary item	$ 0.40	$ 0.42	$ 0.77	$ 0.75
DILUTED EPS:				
Reported before extraordinary item	$ 0.49	$ 0.30	$ 0.84	$ 0.50
Goodwill amortization expense, net of tax	--	0.11	--	0.21
Incremental minority interest	--	--	--	--
Adjusted before extraordinary item	$ 0.49	$ 0.41	$ 0.84	$ 0.71
Adjusted after extraordinary item	$ 0.38	$ 0.41	$ 0.73	$ 0.71

9. CONTINGENCIES

The Company is engaged in providing products and services under contracts with the U.S. Government and to a lesser degree, under foreign government contracts, some of which are funded by the U.S. Government. All such contracts are subject to extensive legal and regulatory requirements, and, from time to time, agencies of the U.S. Government investigate whether such contracts were and are being conducted in accordance with these requirements. Under U.S. Government procurement regulations, an indictment of the Company by a federal grand jury could result in the Company being suspended for a period of time from eligibility for awards of new government contracts. A conviction could result in debarment from contracting with the federal government for a specified term. Additionally, in the event that U.S. Government expenditures for products and services of the type manufactured and provided by the Company are reduced, and not offset by greater commercial sales or other new programs or products, or acquisitions, there may be a reduction in the volume of contracts or subcontracts awarded to the Company.

Management continually assesses the Company's obligations with respect to applicable environmental protection laws. While it is difficult to determine the timing and ultimate cost to be incurred by the Company in order to comply with these laws, based upon available internal and external assessments, with respect to those environmental loss contingencies of which management is aware, the Company believes that even without considering potential insurance recoveries, if any, there are no environmental loss contingencies that, individually or in the aggregate, would be material

to the Company's results of operations. The Company accrues for these contingencies when it is probable that a liability has been incurred and the amount of the loss can be reasonably estimated.

The Company has been periodically subject to litigation, claims or assessments and various contingent liabilities incidental to its business. With respect to those investigative actions, items of litigation, claims or assessments of which they are aware, management of the Company is of the opinion that the probability is remote that, after taking into account certain provisions that have been made with respect to these matters, the ultimate resolution of any such investigative actions, items of litigation, claims or assessments will have a material adverse effect on the financial position, results of operations or cash flows of the Company.

10. SEGMENT INFORMATION

The Company has four reportable segments: (1) Secure Communications & ISR, (2) Training, Simulation & Support Services (3) Aviation Products & Aircraft Modernization and (4) Specialized Products which are described in Note 1. The Company evaluates the performance of its operating segments and reportable segments based on their sales and operating income.

The table below presents sales, operating income and assets by reportable segment.

	THREE MONTHS ENDED JUNE 30,		SIX MONTHS ENDED JUNE 30,	
	2002	2001	2002	2001
SALES:				
Secure Communications & ISR	$ 278,570	$ 89,404	$ 436,306	$ 172,689
Training, Simulation & Support Services	201,000	151,774	398,302	268,760
Aviation Products & Aircraft Modernization	203,483	70,873	310,792	131,454
Specialized Products	277,213	251,756	514,926	454,387
Elimination of intersegment sales	(5,077)	(2,247)	(8,297)	(3,829)
Consolidated total	$ 955,189	$ 561,560	$ 1,652,029	$ 1,023,461
OPERATING INCOME:				
Secure Communications & ISR	$ 29,656	$ 4,824	$ 46,065	$ 11,144
Training, Simulation & Support Services	22,315	19,344	43,785	28,510
Aviation Products & Aircraft Modernization	32,252	24,866	49,722	47,545
Specialized Products	13,465	11,433	29,423	20,137
Consolidated total	$ 97,688	$ 60,467	$ 168,995	$ 107,336

	JUNE 30, 2002	DECEMBER 31, 2001
ASSETS:		
Secure Communications & ISR	$1,108,705	$ 366,482
Training, Simulation & Support Services	544,497	497,368
Aviation Products & Aircraft Modernization	1,047,348	545,517
Specialized Products	1,532,344	1,382,010
Corporate	716,332	547,872
Consolidated total	$4,949,226	$3,339,249

The following table presents the changes in goodwill allocated to the reportable segments during the six months ended June 30, 2002.

	SECURE COMMUNICATIONS & ISR	TRAINING, SIMULATION & SUPPORT SERVICES	AVIATION PRODUCTS & AIRCRAFT MODERNIZATION	SPECIALIZED PRODUCTS	CONSOLIDATED TOTAL
BALANCE JANUARY 1, 2002	$181,215	$377,127	$371,222	$778,154	$1,707,718
Acquired	491,098	4,916	222,063	48,426	766,503
BALANCE JUNE 30, 2002	$672,313	$382,043	$593,285	$826,580	$2,474,221

The Company's sales by product and services are summarized in the table below.

	THREE MONTHS ENDED JUNE 30,		SIX MONTHS ENDED JUNE 30,	
	2002	2001	2002	2001
Avionics and ocean systems	$ 138,123	$160,871	$ 250,466	$ 292,674
Aircraft modernization and maintenance	143,241	--	201,672	--
Intelligence, surveillance and reconnaissance products	126,583	--	165,027	--
Telemetry and instrumentation	81,788	82,897	162,759	156,045
Military and high data rate communications	80,628	51,746	143,116	100,279
Detection systems and premium fuzing products	61,756	13,030	104,942	16,554
Information security systems	51,069	24,500	94,730	43,866
Training devices and motion simulators	37,881	35,784	67,260	66,813
Microwave components	20,749	30,715	42,782	55,538
Space and commercial communications, satellite control and tactical sensor systems	24,509	14,994	41,291	32,434
Subtotal products	766,327	414,537	1,274,045	764,203
Training, simulation and support services	201,000	151,774	398,302	268,760
Subtotal	967,327	566,311	1,672,347	1,032,963
Intercompany eliminations	(12,138)	(4,751)	(20,318)	(9,502)
Total	$ 955,189	$561,560	$1,652,029	$1,023,461

11. NEW ACCOUNTING PRONOUNCEMENTS

In August of 2001, the FASB issued SFAS No. 143, Accounting for Asset Retirement Obligations. SFAS No. 143 applies to legal obligations associated with the retirement of tangible long-lived assets that result from the acquisition, construction, development or normal operation of a long-lived asset, except for certain obligations of lessees. This statement does not apply to obligations that arise solely from a plan to dispose of a long-lived asset. SFAS No. 143 requires that estimated asset retirement costs be measured at their fair values and recognized as assets and depreciated over the useful life of the related asset. Similarly, liabilities for the present value of asset retirement obligations are to be recognized and accreted as interest expense each year to their estimated future value until the asset is

retired. These provisions will be applied to existing asset retirement obligations as of the adoption date as a cumulative effect of a change in accounting principle. SFAS No. 143 is effective for the Company's fiscal years beginning January 1, 2003. SFAS No. 143 is not expected to have a material effect on the Company's consolidated results of operations and financial position.

In October of 2001, the FASB issued SFAS No. 144, Accounting for the Impairment or Disposal of Long-lived Assets. SFAS No. 144 addresses financial accounting and reporting for the impairment or disposal of long-lived assets. This statement supersedes SFAS No. 121, Accounting for the Impairment of Long-lived Assets and for Long-lived Assets to Be Disposed Of, and the accounting and reporting provisions of APB Opinion No. 30, Reporting the Results of Operations -- Reporting the Effects of Disposal of a Segment of a Business, and Extraordinary, Unusual and Infrequently Occurring Events and Transactions (APB No. 30), for the disposal of a segment of a business (as previously defined in that Opinion). SFAS No. 144 expands the scope of accounting for disposals to include all components of an entity, including reportable segments and operating segments, reporting units, subsidiaries and certain asset groups. It requires the gain or loss on disposal to be measured as the difference between (1) the fair value less the costs to sell and (2) the carrying value of the component, and such gain or loss cannot include the estimated future operating losses of the component, which were included in the gain or loss determination under APB No. 30. SFAS No. 144 also amends Accounting Research Bulletin No. 51, Consolidated Financial Statements, to eliminate the exception to consolidate a subsidiary for which control is likely to be temporary. The provisions of SFAS No. 144 became effective on January 1, 2002. SFAS No. 144 did not have a material effect on the Company's consolidated results of operation and financial position.

In May 2002, the FASB issued SFAS No. 145, Rescission of SFAS Nos. 4, 44 and 64, Amendment of SFAS No. 13, and Technical Corrections as of April 2002. SFAS No. 145, rescinds SFAS No. 4, Reporting Gains and Losses from Extinguishment of Debt, and SFAS No. 64, Extinguishments of Debt made to Satisfy Sinking-Fund Requirements. Under the provisions of SFAS No. 145, gains and losses from extinguishment of debt can only be classified as extraordinary items if they meet the criteria in APB Opinion No. 30. The provisions of this Statement related to the rescission of SFAS No. 4 shall be applied in fiscal years beginning after May 15, 2002. Earlier application is permitted. This statement also amends SFAS No. 13, Accounting for Leases, to eliminate an inconsistency between the accounting for sale-leaseback transactions and certain lease modifications that have economic effects that are similar and is effective for transactions occurring after May 15, 2002. This Statement also amends other existing authoritative pronouncements to make various technical corrections, clarify meanings, or describe their applicability under changed conditions and are effective for financial statements issued on or after May 15, 2002. SFAS No. 145 is not expected to have a material effect on the Company's consolidated results of operations, financial position or cash flows.

In July of 2002, the FASB issued SFAS No. 146, "Accounting for Costs Associated with Exit or Disposal Activities". SFAS No. 146 replaces EITF No. 94-3 "Liability Recognition for Certain Employee Termination Benefits and Other Costs to Exit an Activity (including Certain Costs Incurred in a Restructuring)." SFAS No. 146 requires companies to recognize costs associated with exit or disposal activities when they are incurred rather than at the date of a commitment to an exit or disposal plan as was required by EITF No. 94-3. Examples of costs covered by SFAS No. 146 include lease termination costs and certain employee severance costs that are associated with a restructuring, discontinued operation, plant closing, or other exit or disposal activity. SFAS No. 146 is to be applied to exit or disposal activities initiated after December 31, 2002. SFAS No. 146 is not expected to have a material effect on the Company's consolidated results of operations and financial position.

12. UNAUDITED FINANCIAL INFORMATION OF L-3 COMMUNICATIONS AND ITS SUBSIDIARIES

L-3 Communications is a wholly owned subsidiary of L-3 Holdings. The debt of L-3 Communications, including its outstanding senior subordinated notes and borrowings under amounts drawn against the senior credit facilities, are guaranteed, on a joint and several, full and unconditional basis, by certain of its wholly owned domestic subsidiaries (the "Guarantor Subsidiaries"). The foreign subsidiaries and certain domestic subsidiaries of L-3 Communications (the "Non-Guarantor Subsidiaries") do not guarantee the debt of L-3 Communications. None of the debt of L-3 Communications has been issued by its subsidiaries. There are no restrictions on the payment of dividends from the Guarantor Subsidiaries to L-3 Communications.

The following unaudited condensed combining financial information present the results of operations, financial position and cash flows of (i) L-3 Communications excluding its consolidated subsidiaries (the "Parent") (ii) the Guarantor Subsidiaries, (iii) the Non-Guarantor Subsidiaries and (iv) the eliminations to arrive at the information for L-3 Communications on a consolidated basis.

	L-3 COMMUNICATIONS (PARENT)	GUARANTOR SUBSIDIARIES	NON-GUARANTOR SUBSIDIARIES	ELIMINATIONS	CONSOLIDATED L-3 COMMUNICATIONS
CONDENSED COMBINING BALANCE SHEETS:					
AS OF JUNE 30, 2002					
Total current assets	$ 991,005	$ 643,545	$ 209,266	$ --	$1,843,816
Other long-term assets	1,015,846	1,631,442	458,122	--	3,105,410
Investment in and amounts due from (to) consolidated subsidiaries	2,425,949	290,091	(26,287)	(2,689,753)	--
Total assets	$4,432,800	$2,565,078	$ 641,101	$ (2,689,753)	$4,949,226
Total current liabilities	$ 322,954	$ 206,832	$ 89,682	$ --	$ 619,468
Other long-term liabilities	177,290	139,078	8,995	--	325,363
Long-term debt	1,844,332	--	--	--	1,844,332
Minority interest	--	--	71,839	--	71,839
Shareholders' equity	2,088,224	2,219,168	470,585	(2,689,753)	2,088,224
Total liabilities and shareholders equity	$4,432,800	$2,565,078	$ 641,101	$ (2,689,753)	$4,949,226

	L-3 COMMUNICATIONS (PARENT)	GUARANTOR SUBSIDIARIES	NON-GUARANTOR SUBSIDIARIES	ELIMINATIONS	CONSOLIDATED L-3 COMMUNICATIONS
AS OF DECEMBER 31, 2001					
Total current assets	$ 786,498	$ 300,585	$155,318	$ --	$1,242,401
Other long-term assets	965,566	701,887	429,395	--	2,096,848
Investment in and amounts due from consolidated subsidiaries	1,229,572	150,580	43,236	(1,423,388)	--
Total assets	$2,981,636	$1,153,052	$627,949	$ (1,423,388)	$3,339,249
Total current liabilities	$ 278,598	$ 136,579	$109,394	$ --	$ 524,571
Other long-term liabilities	173,894	31,080	10,663	--	215,637
Long-term debt	1,315,252	--	--	--	1,315,252
Minority interest	--	--	69,897	--	69,897
Shareholders' equity	1,213,892	985,393	437,995	(1,423,388)	1,213,892
Total liabilities and shareholders' equity	$2,981,636	$1,153,052	$627,949	$ (1,423,388)	$3,339,249
CONDENSED COMBINING STATEMENTS OF OPERATIONS:					
FOR THE SIX MONTHS ENDED JUNE 30, 2002					
Sales	$ 748,768	$ 779,368	$131,964	$ (8,071)	$1,652,029
Operating income	68,431	72,818	27,746	--	168,995
Interest and other income (expense)	3,646	(198)	181	(2,805)	824
Interest expense	56,127	1,396	2,945	(2,805)	57,663
Minority interest	--	--	2,764	--	2,764
Provision for income taxes	5,630	25,142	7,843	--	38,615
Equity in net income of consolidated subsidiaries	60,457	--	--	(60,457)	--
Extraordinary item-loss on extinguishment of debt, net of taxes	(9,858)	--	--	--	(9,858)
Net income	$ 60,919	$ 46,082	$ 14,375	$ (60,457)	$ 60,919
FOR THE SIX MONTHS ENDED JUNE 30, 2001					
Sales	$ 597,558	$ 165,947	$262,195	$ (2,239)	$1,023,461
Operating income (loss)	88,913	(7,729)	26,152	--	107,336
Interest and other income (expense)	7,997	(306)	(6,237)	--	1,454
Interest expense	46,415	17	4	--	46,436
Minority interest	--	--	1,585	--	1,585
Provision (benefit) for income taxes	19,340	(3,084)	7,019	--	23,275
Equity in net income (loss) of consolidated subsidiaries	6,339	--	--	(6,339)	--
Net income (loss)	$ 37,494	$ (4,968)	$ 11,307	$ (6,339)	$ 37,494
FOR THE THREE MONTHS ENDED JUNE 30, 2002					
Sales	$ 408,065	$ 476,668	$ 75,330	$ (4,874)	$ 955,189
Operating income	27,427	51,161	19,100	--	97,688
Interest and other income (expense)	2,824	(273)	51	(2,805)	(203)
Interest expense	31,367	135	2,873	(2,805)	31,570

	L-3 COMMUNICATIONS (PARENT)	GUARANTOR SUBSIDIARIES	NON-GUARANTOR SUBSIDIARIES	ELIMINATIONS	CONSOLIDATED L-3 COMMUNICATIONS
FOR THE THREE MONTHS ENDED					
JUNE 30, 2002 (CONTINUED)					
Minority interest	--	--	1,776	--	1,776
Provision (benefit) for income taxes	(394)	17,916	5,119	--	22,641
Equity in net income of consolidated subsidiaries	42,220	--	--	(42,220)	--
Extraordinary item-loss on extinguishment of debt, net of taxes	(9,858)	--	--	--	(9,858)
Net income	$ 31,640	$ 32,837	$ 9,383	$ (42,220)	$ 31,640
FOR THE THREE MONTHS ENDED					
JUNE 30, 2001					
Sales	$ 316,673	$ 86,068	$ 159,951	$ (1,132)	$ 561,560
Operating income	44,318	(4,054)	20,203	--	60,467
Interest and other income (expense)	7,614	(306)	(6,336)	--	972
Interest expense	22,283	(256)	4	--	22,031
Minority interest	--	--	1,585	--	1,585
Provision (benefit) for income taxes	11,356	(1,572)	4,703	--	14,487
Equity in net income (loss) of consolidated subsidiaries	5,043	--	--	(5,043)	--
Net income (loss)	$ 23,336	$ (2,532)	$ 7,575	$ (5,043)	$ 23,336
CONDENSED COMBINING STATEMENTS OF CASH FLOWS:					
FOR THE SIX MONTHS ENDED JUNE 30, 2002					
Net cash from (used in) operating activities	$ (7,861)	$ 119,705	$ 982	$ --	$ 112,826
Net cash used in investing activities	(1,325,593)	(1,168,458)	(149,669)	1,304,937	(1,338,783)
Net cash from financing activities	1,476,293	1,034,273	125,424	(1,304,937)	1,331,053
Net increase (decrease) in cash	142,839	(14,480)	(23,263)	--	105,096
Cash and cash equivalents, beginning of period	320,210	(4,412)	45,224	--	361,022
Cash and cash equivalents, end of period	$ 463,049	$ (18,892)	$ 21,961	$ --	$ 466,118
FOR THE SIX MONTHS ENDED JUNE 30, 2001					
Net cash from (used in) operating activities	$ 20,806	$ (23,583)	$ 35,455	$ --	$ 32,678
Net cash used in investing activities	(151,123)	(5,232)	(216,621)	208,746	(164,230)
Net cash from financing activities	160,929	26,974	188,048	(208,746)	167,205
Net increase (decrease) in cash	30,612	(1,841)	6,882	--	35,653
Cash and cash equivalents, beginning of period	18,708	4,911	9,061	--	32,680
Cash and cash equivalents, end of period	$ 49,320	$ 3,070	$ 15,943	$ --	$ 68,333

L-3 COMMUNICATIONS HOLDINGS, INC. AND L-3 COMMUNICATIONS CORPORATION

CONSOLIDATED FINANCIAL STATEMENTS AS OF DECEMBER 31, 2001 AND 2000
AND FOR THE YEARS ENDED DECEMBER 31, 2001, 2000 AND 1999

REPORT OF INDEPENDENT AUDITORS

To the Board of Directors and Shareholders of
L-3 Communications Holdings, Inc.

We have audited the accompanying consolidated balance sheets of L-3 Communications Holdings, Inc. ("L-3 Holdings") and L-3 Communications Corporation ("L-3 Communications") and subsidiaries (collectively, the "Company") as of December 31, 2001 and 2000, and the related consolidated statements of operations, changes in shareholders' equity and cash flows for each of the three years ended December 31, 2001. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatements. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of L-3 Holdings and L-3 Communications and subsidiaries as of December 31, 2001 and 2000 and their respective consolidated results of operations and cash flows for each of the three years ended December 31, 2001, in conformity with accounting principles generally accepted in the United States of America.

/s/ PricewaterhouseCoopers LLP

1177 Avenue of the Americas
New York, New York
February 4, 2002, except as to Note 1, Note 2 (Basis of Presentation and Recently Issued Accounting Standards) and Note 16 to the consolidated financial statements, for which the date is May 20, 2002

L-3 COMMUNICATIONS HOLDINGS , INC.
AND L-3 COMMUNICATIONS CORPORATION
CONSOLIDATED BALANCE SHEETS

(IN THOUSANDS, EXCEPT SHARE DATA)

	DECEMBER 31,	
	2001	2000
ASSETS		
Current assets:		
Cash and cash equivalents	$ 361,022	$ 32,680
Contracts in process	801,824	700,133
Deferred income taxes	62,965	89,732
Other current assets	16,590	7,025
Total current assets	1,242,401	829,570
Property, plant and equipment, net	203,374	156,128
Intangibles, primarily goodwill	1,707,718	1,371,368
Deferred income taxes	97,883	57,111
Deferred debt issue costs	40,190	29,907
Other assets	47,683	19,460
Total assets	$3,339,249	$2,463,544
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Accounts payable, trade	$ 129,538	$ 159,901
Accrued employment costs	126,981	102,606
Accrued expenses	38,823	55,576
Customer advances	74,060	55,203
Accrued interest	13,288	16,335
Income taxes	16,768	7,251
Other current liabilities	125,113	71,797
Total current liabilities	524,571	468,669
Pension and postretirement benefits	155,052	105,523
Other liabilities	60,585	101,783
Long-term debt	1,315,252	1,095,000
Total liabilities	2,055,460	1,770,975
Minority interest	69,897	--
Commitments and contingencies		
Shareholders' equity:		
L-3 Holdings' common stock; $.01 par value; authorized 300,000,000 shares, issued and outstanding 78,496,626 and 67,213,290 shares (L-3 Communications' common stock; $.01 par value, 100 shares authorized, issued and outstanding)	939,037	515,926
Retained earnings	301,730	186,272
Unearned compensation	(3,205)	(2,457)
Accumulated other comprehensive loss	(23,670)	(7,172)
Total shareholders' equity	1,213,892	692,569
Total liabilities and shareholders' equity	$3,339,249	$2,463,544

See notes to consolidated financial statements.

L-3 COMMUNICATIONS HOLDINGS , INC.
AND L-3 COMMUNICATIONS CORPORATION

CONSOLIDATED STATEMENTS OF OPERATIONS

(IN THOUSANDS, EXCEPT PER SHARE DATA)

	YEAR ENDED DECEMBER 31,		
	2001	2000	1999
Sales:			
Contracts, primarily long-term U.S. Government	$ 1,903,728	$ 1,536,486	$ 1,132,699
Commercial, primarily products	443,694	373,575	272,763
Total sales	2,347,422	1,910,061	1,405,462
Costs and expenses:			
Contracts, primarily long-term U.S. Government	1,674,438	1,343,376	994,262
Commercial, primarily products:			
Cost of sales	271,250	238,034	175,278
Selling, general and administrative	126,404	105,933	85,436
Total costs and expenses	2,072,092	1,687,343	1,254,976
Operating income	275,330	222,718	150,486
Interest and other income	1,739	4,393	5,534
Interest expense	86,390	93,032	60,590
Minority interest	4,457	--	--
Income before income taxes	186,222	134,079	95,430
Provision for income taxes	70,764	51,352	36,741
Net income	$ 115,458	$ 82,727	$ 58,689
L-3 Holdings' earnings per common share:			
Basic	$ 1.54	$ 1.24	$ 0.91
Diluted	$ 1.47	$ 1.18	$ 0.88
L-3 Holdings' weighted average common shares outstanding:			
Basic	74,880	66,710	64,214
Diluted	85,438	69,906	67,032

See notes to consolidated financial statements.

L-3 COMMUNICATIONS HOLDINGS, INC.
AND L-3 COMMUNICATIONS CORPORATION

CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

FOR THE YEARS ENDED DECEMBER 31, 2001, 2000 AND 1999

(IN THOUSANDS)

	L-3 HOLDINGS' COMMON STOCK			
	SHARES ISSUED	PAR VALUE	ADDITIONAL PAID-IN CAPITAL	RETAINED EARNINGS
Balance December 31, 1998	54,804	$548	$264,221	$ 44,856
Comprehensive income:				
Net income				58,689
Minimum pension liability adjustment				
Unrealized loss on securities				
Foreign currency translation adjustment				
Shares issued:				
Sale of common stock	10,000	100	201,713	
Employee benefit plans	326	3	6,990	
Acquisition consideration	302	3	6,431	
Exercise of stock options	158	1	1,763	
Grant of restricted stock			1,921	
Amortization of unearned compensation				
Balance December 31, 1999	65,590	655	483,039	103,545
Comprehensive income:				
Net income				82,727
Minimum pension liability adjustment, net of ($553) tax benefit				
Foreign currency translation adjustment				
Unrealized loss on securities, net of ($2,316) tax benefit				
Shares issued:				
Employee benefit plans	469	5	12,637	
Exercise of stock options	1,154	12	18,050	
Grant of restricted stock			1,512	
Amortization of unearned compensation				
Other			16	
Balance December 31, 2000	67,213	672	515,254	186,272
Comprehensive income:				
Net income				115,458
Minimum pension liability adjustment, net of ($11,955) tax benefit				
Foreign currency translation adjustment, net of ($164) tax benefit				
Unrealized loss on securities, net of ($111) tax benefit				
Unrealized loss on securities reclassified into net income, net of $2,274 tax expense				
Unrealized losses on hedging instruments, net of ($100) tax benefit				
Shares issued:				
Sale of common stock	9,150	92	353,530	
Employee benefit plans	418	4	16,864	
Acquisition consideration	588	6	17,351	
Exercise of stock options	1,128	11	28,253	
Employee stock purchase plan contributions			4,861	
Grant of restricted stock			2,118	
Amortization of unearned compensation				
Other			21	
Balance December 31, 2001	78,497	$785	$938,252	$301,730

	UNEARNED COMPENSATION	ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)	TOTAL
Balance December 31, 1998	$ --	$ (9,651)	$ 299,974
Comprehensive income:			
Net income			58,689
Minimum pension liability adjustment		9,443	9,443
Unrealized loss on securities		(970)	(970)
Foreign currency translation adjustment		(1,225)	(1,225)
			65,937
Shares issued:			
Sale of common stock			201,813

Employee benefit plans			6,993
Acquisition consideration			6,434
Exercise of stock options			1,764
Grant of restricted stock	(1,921)		--
Amortization of unearned compensation	260		260
Balance December 31, 1999	(1,661)	(2,403)	583,175
Comprehensive income:			
Net income			82,727
Minimum pension liability adjustment, net of ($553) tax benefit		(819)	(819)
Foreign currency translation adjustment		(1,222)	(1,222)
Unrealized loss on securities, net of ($2,316) tax benefit		(2,728)	(2,728)
			77,958
Shares issued:			
Employee benefit plans			12,642
Exercise of stock options			18,062
Grant of restricted stock	(1,512)		--
Amortization of unearned compensation	716		716
Other			16
Balance December 31, 2000	(2,457)	(7,172)	692,569
Comprehensive income:			
Net income			115,458
Minimum pension liability adjustment, net of ($11,955) tax benefit		(19,519)	(19,519)
Foreign currency translation adjustment, net of ($164) tax benefit		(268)	(268)
Unrealized loss on securities, net of ($111) tax benefit		(180)	(180)
Unrealized loss on securities reclassified into net income, net of $2,274 tax expense		3,632	3,632
Unrealized losses on hedging instruments, net of ($100) tax benefit		(163)	(163)
			98,960
Shares issued:			
Sale of common stock			353,622
Employee benefit plans			16,868
Acquisition consideration			17,357
Exercise of stock options			28,264
Employee stock purchase plan contributions			4,861
Grant of restricted stock	(2,118)		--
Amortization of unearned compensation	1,370		1,370
Other			21
Balance December 31, 2001	$ (3,205)	$ (23,670)	$1,213,892

See notes to consolidated financial statements.

L-3 COMMUNICATIONS HOLDINGS, INC.
AND L-3 COMMUNICATIONS CORPORATION

CONSOLIDATED STATEMENTS OF CASH FLOWS

(IN THOUSANDS)

	YEAR ENDED DECEMBER 31,		
	2001	2000	1999
OPERATING ACTIVITIES:			
Net income	$ 115,458	$ 82,727	$ 58,689
Goodwill amortization	42,606	35,327	20,970
Depreciation and other amortization	44,345	38,927	32,748
Amortization of deferred debt issue costs	6,388	5,724	3,904
Minority interest	4,457	--	--
Deferred income tax provision	52,638	25,103	28,831
Other noncash items	17,576	12,517	6,617
Changes in operating assets and liabilities, net of amounts acquired:			
Contracts in process	(40,652)	(66,402)	(61,670)
Other current assets	1,643	(2,599)	(70)
Other assets	(12,033)	(416)	552
Accounts payable	(43,165)	38,065	2,896
Accrued employment costs	11,931	6,239	2,052
Accrued expenses	(20,300)	2,274	(6,280)
Customer advances	12,627	(17,087)	5,766
Accrued interest	(3,047)	3,637	5,985
Income taxes	14,431	13,161	3,917
Other current liabilities	(37,555)	(59,286)	(13,554)
Pension and postretirement benefits	4,550	(7,214)	1,788
Other liabilities	1,423	1,959	7,102
All other operating activities	(353)	1,149	(1,225)
Net cash from operating activities	172,968	113,805	99,018
INVESTING ACTIVITIES:			
Acquisition of businesses, net of cash acquired	(446,911)	(599,608)	(272,195)
Proceeds from sale of interest in subsidiary	75,206	--	--
Capital expenditures	(48,121)	(33,580)	(23,456)
Disposition of property, plant and equipment	1,237	18,060	6,713
Other investing activities	(6,301)	6,905	4,136
Net cash (used in) investing activities	(424,890)	(608,223)	(284,802)
FINANCING ACTIVITIES:			
Borrowings under revolving credit facility	316,400	858,500	74,700
Repayment of borrowings under revolving credit facility	(506,400)	(668,500)	(74,700)
Proceeds from sale of convertible senior subordinated notes	420,000	300,000	--
Proceeds from sale of L-3 Holdings' common stock, net	353,622	--	201,582
Debt issuance costs	(16,671)	(12,916)	(323)
Proceeds from exercise of stock options	16,325	8,954	658
Employee stock purchase plan contributions	4,861	--	--
Distributions to minority interest	(2,530)	--	--
Other financing activities	(5,343)	(1,728)	525
Net cash from financing activities	580,264	484,310	202,442
Net increase (decrease) in cash	328,342	(10,108)	16,658
Cash and cash equivalents, beginning of period	32,680	42,788	26,130
Cash and cash equivalents, end of period	$ 361,022	$ 32,680	$ 42,788

See notes to consolidated financial statements.

1. DESCRIPTION OF BUSINESS

L-3 Communications Holdings, Inc. derives all its operating income and cash flow from its wholly owned subsidiary L-3 Communications Corporation ("L-3 Communications"). L-3 Communications Holdings, Inc. ("L-3 Holdings" and together with its subsidiaries, "L-3" or "the Company") is a merchant supplier of secure communications and intelligence, surveillance and reconnaissance ("ISR") systems, training, simulation and support services, aviation products and aircraft modernization, as well as specialized products. The Company's customers include the U.S. Department of Defense ("DoD") and prime contractors thereof, certain U.S. Government intelligence agencies, major aerospace and defense contractors, foreign governments, commercial customers and certain other U.S. federal, state and local government agencies.

As a result of recently completed acquisitions, including Aircraft Integration Systems, a division of Raytheon Company, on March 8, 2002, and Spar, Analytics, BT Fuze and SY Technologies in November and December of 2001 and their effect on the Company's operations, effective January 1, 2002, the Company began to present its businesses with the following four reportable segments: (1) Secure Communications & ISR, (2) Training, Simulation & Support Services; (3) Aviation Products & Aircraft Modernization; and (4) Specialized Products. The descriptions of the Company's reportable segments below include the products and services provided by our Aircraft Integration Systems business. Prior to December 31, 2001, the Company had two reportable segments: Secure Communications Systems and Specialized Products. Prior year segment data have been reclassified to conform to the current year presentation of segments.

Secure Communications & ISR. This segment provides products and services for the global ISR market, specializing in signals intelligence (SIGINT) and communications intelligence (COMINT) systems, which provide the unique ability to collect and analyze unknown electronic signals from command centers, communication nodes and air defense systems for real-time situation awareness and response in real-time to the warfighter. This segment also provides secure, high data rate communications systems for military and other U.S. Government and foreign government reconnaissance and surveillance applications. These systems and products are critical elements of virtually all major communication, command and control, intelligence gathering and space systems. The Company's systems and products are used to connect a variety of airborne, space, ground and sea-based communication systems and are used in the transmission, processing, recording, monitoring and dissemination functions of these communication systems. The major secure communication programs and systems include:

- secure data links for airborne, satellite, ground and sea-based remote platforms for real time information collection and dissemination to users;
- highly specialized fleet management and support including procurement, systems integration, sensor development, modifications and maintenance for signals intelligence and ISR special mission aircraft and airborne surveillance systems;
- strategic and tactical signal intelligence systems that detect, collect, identify, analyze and disseminate information;
- secure telephone and network equipment and encryption management; and
- communication systems for surface and undersea vessels and manned space flights.

Training, Simulation & Support Services. This segment provides a full range of services, including:

- services designed to meet customer training requirements for aircrews, navigators, mission operators, gunners and maintenance technicians for virtually any platform, including military fixed and rotary wing aircraft, air vehicles and various ground vehicles;

- communication software support, information services and a wide range of engineering development services and integration support;
- high-end engineering and information support services used for command, control, communications and ISR architectures, as well as for air warfare modeling and simulation tools for applications used by the DoD and U.S. Government intelligence agencies, including missile and space systems, Unmanned Aerial Vehicles (UAVs) and military aircraft;
- developing and managing extensive programs in the United States and internationally, focusing on teaching, training and education, logistics, strategic planning, organizational design, democracy transition and leadership development; and
- design, prototype development and production of ballistic missile targets for present and future threat scenarios.

Aviation Products & Aircraft Modernization. This segment provides aviation products and aircraft modernization services including:

- airborne traffic and collision avoidance systems (TCAS);
- commercial, solid-state, crash-protected cockpit voice recorders and flight data recorders (known as "black boxes") and cruise ship hardened voyage recorders;
- ruggedized displays for military and high-end commercial applications;
- turnkey aviation life cycle management services that integrate custom developed and commercial off-the-shelf products for various military and commercial wide-body and rotary wing aircraft, including heavy maintenance and structural modifications and Head-of-State and commercial interior completions; and
- engineering, modification, maintenance, logistics and upgrades for U.S. Special Operations Command aircraft, vehicles and personal equipment.

Specialized Products. This segment supplies products to military and commercial customers in several niche markets. The products include:

- ocean products, including acoustic undersea warfare products for mine hunting, dipping sonars and anti-submarine and naval power distribution, conditioning, switching and protection equipment for surface and undersea platforms;
- telemetry, instrumentation, space and guidance products including tracking and flight termination;
- premium fuzing products;
- microwave components;
- explosives detection systems for checked baggage at airports;
- high performance antennas and ground based radomes; and
- training devices and motion simulators which produce advanced virtual reality simulation and high-fidelity representations of cockpits and mission stations for aircraft and land vehicles.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

BASIS OF PRESENTATION: The accompanying financial statements comprise the consolidated financial statements of L-3 Holdings and L-3 Communications. L-3 Holdings' only asset is its investment in L-3

Communications. The only obligations of L-3 Holdings are the 5 1/4% Convertible Senior Subordinated Notes and the 4% Senior Subordinated Convertible Contingent Debt Securities. L-3 Holdings has also guaranteed the borrowings under the senior credit facilities of L-3 Communications. Because obligations of L-3 Holdings have been jointly, severally, fully and unconditionally guaranteed by L-3 Communications and certain of its domestic subsidiaries, such debt has been reflected as debt of L-3 Communications in its consolidated financial statements in accordance with the Securities and Exchange Commission's ("SEC") Staff Accounting Bulletin ("SAB") No. 54. In addition, all issuances of equity securities including grants of stock options and restricted stock by L-3 Holdings to employees of L-3 Communications have been reflected in the consolidated financial statements of L-3 Communications. As a result, the consolidated financial positions, results of operations and cash flows of L-3 Holdings and L-3 Communications are substantially the same.

On April 23, 2002, the Company announced that its Board of Directors had authorized a two-for-one stock split on all shares of L-3 Holdings' common stock. The stock split entitled all shareholders of record at the close of business on May 6, 2002 to receive one additional share of L-3 Holdings common stock for every share held on that date. The additional shares were distributed to shareholders in the form of a stock dividend on May 20, 2002. The reported number of shares of L-3 Holdings' common stock issued and outstanding, as well as the historical EPS, outstanding stock options, and the number of common shares issuable upon conversion of the Company's convertible securities data, have been restated in this filing to give effect to the stock split.

On April 23, 2002, the Company's shareholders approved an increase in the number of authorized shares of L-3 Holdings common stock from 100,000,000 to 300,000,000 and an increase in the number of authorized shares of L-3 Holdings preferred stock from 25,000,000 to 50,000,000.

PRINCIPLES OF CONSOLIDATION: The consolidated financial statements of the Company include all wholly-owned and significant majority-owned subsidiaries. All significant intercompany transactions are eliminated in consolidation. Investments over which the Company has significant influence but does not have voting control are accounted for by the equity method.

CASH AND CASH EQUIVALENTS: Cash equivalents consist of highly liquid investments with a maturity of three months or less at time of purchase.

REVENUE RECOGNITION: The substantial majority of the Company's direct and indirect sales to the U.S. Government and certain of the Company's sales to foreign governments and commercial customers are made pursuant to written contractual arrangements or "contracts" to design, develop, manufacture and or modify complex products, and to the specifications of the buyers (customers) or to provide services related to the performance of such contracts. These contracts are within the scope of the American Institute of Certified Public Accountants Statement of Position 81-1 Accounting for Performance of Construction -- Type and Certain Production-Type Contracts ("SOP 81-1"), and sales and profits on them are recognized using percentage-of-completion methods of accounting. Sales and profits on fixed-price production contracts whose units are produced and delivered in a continuous or sequential process are recorded as units are delivered based on their selling prices (the "units-of-delivery" method). Sales and profits on other fixed-price contracts are recorded based on the ratio of total actual incurred costs to date to the total estimated costs for each contract (the "cost-to-cost method.") Sales and fees on cost-reimbursable contracts are recognized as costs are incurred. Amounts representing contract change orders or claims are included in sales only when they can be reliably estimated and their realization is reasonably assured. Losses on contracts are recognized in the period in which they are determined. The impact of revisions of contract estimates, which may result from contract modifications, performance or other reasons, are recognized on a cumulative catch-up basis in the period in which the revisions are made.

Sales on arrangements that are not within the scope of SOP 81-1 are recognized in accordance with the SEC's SAB No. 101. Sales are recognized when there is persuasive evidence of an arrangement, delivery has occurred or services have been performed, the selling price to the buyer is fixed or determinable and collectibility is reasonably assured.

CONTRACTS IN PROCESS: For the Company's contracts that are within the scope of SOP 81-1, accumulated costs incurred that are allowable under the terms of the contract and profits earned on contract sales are reported in Contracts in Process. Billed Receivables represent the uncollected portion of amounts recorded as sales and billed to customers, including those amounts for sales arrangements that are not within the scope of SOP 81-1. Unbilled Contract Receivables represent accumulated recoverable costs and earned profits or losses on contracts in process that have been recorded as sales, but have not yet been billed to customers. Inventoried Contract Costs represent recoverable incurred costs on contracts in process. Incurred contract costs include direct costs and overhead costs, and for U.S. Government contracts and contracts with prime contractors or subcontractors of the U.S. Government, general and administrative costs, independent research and development costs and bid and proposal costs. Contracts in Process also contain amounts relating to contracts and programs with long performance cycles, a portion of which may not be realized within one year. Provisions for contracts in a loss position in excess of the amounts included in Contracts in Process represent the unrecoverable costs on the loss contracts that will be incurred in future periods and are reported in Estimated Costs in Excess of Billings to Complete Contracts in Process, which is a component of Other Current Liabilities and Other Liabilities. Under the contractual arrangements on certain contracts with the U.S. Government, the Company receives progress payments as it incurs costs. The U.S. Government has a security interest in the Unbilled Contract Receivables and Inventoried Contract Costs to which progress payments have been applied, and such progress payments are reflected as a reduction of the related Unbilled Contract Receivables and Inventoried Contract Costs. Customer Advances are classified as current liabilities.

Inventories other than Inventoried Contract Costs are stated at the lower of cost or market primarily using the average cost method.

DERIVATIVE FINANCIAL INSTRUMENTS: In connection with its risk management and financial derivatives, the Company has entered into interest rate swap agreements, interest rate cap and floor contracts and foreign currency forward contracts. The interest rate swap agreements are accounted for as fair value hedges. The foreign currency forward contracts are accounted for as cash flow hedges. The embedded derivatives related to the issuance of the Company's debt is recorded at fair value with changes reflected in the statement of operations. The differential to be paid or received as interest rates change on the interest rate swap agreements is recorded as an adjustment to interest expense.

PROPERTY, PLANT AND EQUIPMENT: Property, plant and equipment are stated at cost. Depreciation is computed by applying principally the straight-line method to the estimated useful lives of the related assets. Useful lives range substantially from 10 to 40 years for buildings and improvements and 3 to 10 years for machinery, equipment, furniture and fixtures. Leasehold improvements are amortized over the shorter of the lease term or the estimated useful life of the improvements.

DEBT ISSUANCE COSTS: Costs incurred to issue debt are deferred and amortized as interest expense over the term of the related debt using a method that approximates the effective interest method.

INTANGIBLES: Intangibles consist primarily of the excess of the purchase cost of acquired businesses over the fair value of identifiable net assets acquired ("goodwill"). Goodwill related to acquisitions consummated after June 30, 2001 is not amortized. Other intangibles are amortized on a straight-line basis over periods ranging from 5 to 15 years. Accumulated goodwill amortization was

$117,975 at December 31, 2001 and $76,001 at December 31, 2000. The carrying amount of goodwill is evaluated on a recurring basis. Current and estimated future profitability and undiscounted cash flows excluding financing costs of the acquired businesses are the primary indicators used to assess the recoverability of goodwill. For the years ended December 31, 2001 and 2000, there were no material adjustments to the carrying amounts of goodwill resulting from these evaluations (see Recently Issued Accounting Standards below for a description of changes in accounting for goodwill).

INCOME TAXES: The Company provides for income taxes using the liability method. Deferred income tax assets and liabilities reflect tax carryforwards and the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting and income tax purposes, as determined under enacted tax laws and rates. The effect of changes in tax laws or rates is accounted for in the period of enactment.

RESEARCH AND DEVELOPMENT: Research and development costs sponsored by the Company include bid and proposal costs related to government products and services. These costs generally are allocated among all contracts in progress under U.S. Government contractual arrangements. Customer-funded research and development costs, including software development costs, incurred pursuant to contracts are accounted for as direct contract costs. Other software development costs incurred after establishing technological feasibility are capitalized and are amortized on a product by product basis using the amount that is the greater of the straight line method over the useful life or the ratio of current revenues to total estimated revenues.

STOCK OPTIONS: Compensation expense for stock options is recognized in income based on the excess, if any, of L-3 Holdings' fair value of the stock at the grant date of the award or other measurement date over the amount an employee must pay to acquire the stock. When the exercise price for stock options granted to employees equals or exceeds the fair value of the L-3 Holdings common stock at the date of grant, the Company does not recognize compensation expense. See Note 12 for the fair value pro forma disclosure of stock-based compensation.

USE OF ESTIMATES: The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of sales and costs and expenses during the reporting period. The most significant of these estimates and assumptions relate to contract estimates of sales and estimated costs to complete contracts in process, estimates of market values for inventories reported at lower of cost or market, estimates of pension and postretirement benefit obligations, recoverability of recorded amounts of fixed assets and goodwill, income taxes, litigation and environmental obligations. Actual results could differ from these estimates.

RECENTLY ISSUED ACCOUNTING STANDARDS: In July 2001, the FASB issued SFAS No. 141, Business Combinations, which supersedes Accounting Principles Board Opinion ("APB") No. 16, Business Combinations. SFAS No. 141 requires that the purchase method of accounting be used for all business combinations initiated after June 30, 2001 and establishes specific criteria for the recognition of intangible assets separately from goodwill. In July 2001, the FASB also issued SFAS No. 142, Goodwill and Other Intangible Assets, which supersedes APB No. 17, Intangible Assets. SFAS No. 142 revises the standards for accounting for goodwill and intangible assets. SFAS No. 142 requires that goodwill and indefinite lived identifiable intangible assets shall no longer be amortized, but be tested for impairment at least annually. SFAS No. 142 also requires that the amortization period of identifiable intangible assets with finite lives be no longer limited to forty years. The provisions of SFAS No. 142 are effective beginning January 1, 2002, with full implementation of the impairment

measurement provisions completed by December 31, 2002. Effective January 1, 2002, the Company will not record goodwill amortization expense, but will be required to amortize identifiable intangibles with finite lives. Goodwill amortization expense for the year ended December 31, 2001 was $42,606.

The following table presents net income for the years ended December 31, 2001, 2000, and 1999 adjusted to exclude goodwill amortization expense, net of the related income tax effects, related to goodwill that is no longer being amortized.

	YEAR ENDED DECEMBER 31,		
	2001	2000	1999
Reported net income	$ 115,458	$ 82,727	$ 58,689
Add: Goodwill amortization expense, net of tax	33,899	29,617	17,532
Adjusted net income before assumed conversion of notes	149,357	112,344	76,221
After-tax interest expense on assumed conversion of notes	10,502	--	--
Adjusted net income including assumed conversion of notes	$ 159,859	$ 112,344	$ 76,221
BASIC EPS:			
Reported	$ 1.54	$ 1.24	$ 0.91
Goodwill amortization expense, net of tax	0.45	0.44	0.28
Adjusted	$ 1.99	$ 1.68	$ 1.19
DILUTED EPS:			
Reported	$ 1.47	$ 1.18	$ 0.88
Goodwill amortization expense, net of tax	0.40	0.43	0.26
Adjusted	$ 1.87	$ 1.61	$ 1.14

In August of 2001, the FASB issued SFAS No. 143, Accounting for Asset Retirement Obligations. SFAS No. 143 applies to legal obligations associated with the retirement of tangible long-lived assets that result from the acquisition, construction, development or normal operation of a long-lived asset, except for certain obligations of lessees. This statement does not apply to obligations that arise solely from a plan to dispose of a long-lived asset. SFAS No. 143 requires that estimated asset retirement costs be measured at their fair values and recognized as assets and depreciated over the useful life of the related asset. Similarly, liabilities for the present value of asset retirement obligations are to be recognized and accreted as interest expense each year to their estimated future value until the asset is retired. These provisions will be applied to existing asset retirement obligations as of the adoption date as a cumulative-effect of a change in accounting policy. SFAS No. 143 is effective for the Company's fiscal years beginning January 1, 2003. SFAS No. 143 will not have a material effect on the Company's consolidated results of operations and financial position.

In October of 2001, the FASB issued SFAS No. 144, Accounting for the Impairment or Disposal of Long-Lived Assets. SFAS No. 144 addresses financial accounting and reporting for the impairment or disposal of long-lived assets. This statement supersedes SFAS No. 121, Accounting for the Impairment of Long-lived Assets and for Long-lived Assets to Be Disposed Of, and the accounting and reporting provisions of Accounting Principles Board Opinion No. 30, Reporting the Results of Operations -- Reporting the Effects of Disposal of a Segment of a Business, and Extraordinary, Unusual and Infrequently Occurring Events and Transactions (APB No. 30), for the disposal of a segment of a business (as previously defined in that Opinion). SFAS No. 144 expands the scope of accounting for disposals to include all components of an entity, including reportable segments and

operating segments, reporting units, subsidiaries and certain asset groups. It requires the gain or loss on disposal to be measured as the difference between (1) the fair value less the costs to sell and (2) the carrying value of the component, and such gain or loss cannot include the estimated future operating losses of the component, which were included in the gain or loss determination under APB No. 30. SFAS No. 144 also amends Accounting Research Bulletin No. 51, Consolidated Financial Statements, to eliminate the exception to consolidation for a subsidiary for which control is likely to be temporary. The provisions of SFAS No. 144 are effective for the Company's fiscal years beginning January 1, 2002, and interim periods within those fiscal years. SFAS No. 144 will not have a material effect on the Company's consolidated results of operations and financial position.

RECLASSIFICATIONS: Certain reclassifications have been made to conform prior-year amounts to the current-year presentation.

3. ACQUISITIONS, DIVESTITURES AND OTHER TRANSACTIONS

On October 3, 2001, the Company announced that it had signed a definitive agreement with Spar Aerospace Limited ("Spar"), a leading provider of high-end aviation product modernization, pursuant to which L-3 offered to acquire all of the outstanding common stock of Spar for Cdn$15.50 per share or approximately Cdn$182,000, net of cash to be acquired of approximately Cdn$47,500. The acquisition of Spar provides the Company significant opportunity for pull-through sales of its avionics products. The acquisition also opens up the Canadian and worldwide high-end aviation product modernization marketplace to the Company.

On November 23, 2001, the Company acquired 65.8% of the outstanding common stock of Spar for $97,223 in cash and acquired control of Spar and the ability to require the remaining stockholders to tender their shares. The Company acquired an additional 4.5% of the outstanding common stock of Spar for $7,855 in cash, during the remainder of 2001. Additional consideration of $43,641 for the remaining outstanding common stock of Spar at December 31, 2001, that the Company acquired and paid for in January 2002, has been recorded in other current liabilities in the consolidated balance sheet at December 31, 2001. During January 2002, the Company completed the acquisition and paid for the remaining outstanding common stock of Spar.

The table below presents a summary of the preliminary estimates of fair values of the assets acquired and liabilities assumed on the date the Company obtained a majority ownership interest in Spar.

Cash	$ 29,460
Other current assets	33,108
Property, plant and equipment	12,565
Goodwill	104,289
Other non-current assets	229
Total assets acquired	179,651
Current liabilities	23,816
Long-term liabilities	7,116
Total liabilities assumed	30,932
Net assets acquired	$148,719

The goodwill was assigned to the Aviation Products & Aircraft Modernization segment and is not deductible for tax purposes.

During the fourth quarter of 2001, the Company acquired three other businesses for an aggregate purchase price of $137,290 in cash plus acquisition costs, subject to adjustment based on the closing date net assets or net working capital of the acquired business and, in one case, additional purchase price contingent upon the post-acquisition performance of the acquired company. The Company acquired:

(1) the net assets of SY Technology, Inc. ("SY"), a provider of air warfare simulation services, on December 31, 2001. This acquisition is subject to additional purchase price not to exceed $4,800 which is contingent upon the financial performance of SY for the year ended December 31, 2001, and the years ending December 31, 2002 and 2003;

(2) the net assets of Bulova Technologies, a producer of military fuzes that prevent the inadvertent firing and detonation of weapons during handling, on December 19, 2001. Bulova Technology was later renamed BT Fuze Products ("BT Fuze"); and,

(3) the common stock of Emergent Government Services Group ("Emergent"), a provider of engineering and information services to the U.S. Air Force, Army, Navy and intelligence agencies, on November 30, 2001. Following the acquisition, the Company changed Emergent Government Services Group's name to L-3 Communications Analytics.

Based on the preliminary purchase price allocations, the goodwill recognized in the acquisitions of SY, BT Fuze and Emergent was $102,145, of which approximately $74,000 is expected to be fully deductible for tax purposes. Goodwill of $60,525 was assigned to the Training, Simulation & Support Services segment and $41,620 was assigned to the Specialized Products segment.

On May 4, 2001, the Company acquired all of the outstanding common stock of KDI Precision Products ("KDI") for $79,432 in cash including acquisition costs. On May 31, 2001, the Company acquired all of the outstanding common stock of EER Systems ("EER") for $119,533 in cash including acquisition costs, and additional purchase price not to exceed $10,000 which is contingent upon the financial performance of EER for the year ended December 31, 2001 and the year ending December 31, 2002.

On February 10, 2000, the Company acquired the assets of the Training Devices and Training Services ("TDTS") business of Raytheon Company for $159,203 in cash including acquisition costs. Following the acquisition, the Company changed TDTS's name to L-3 Communications Link Simulation and Training ("Link Simulation and Training"). On February 14, 2000, the Company acquired the assets of Trex Communications Corporation ("TrexCom") for $50,069 in cash including acquisition costs. On April 28, 2000, the Company acquired the Traffic Alert and Collision Avoidance System ("TCAS") product line from Honeywell Inc. for a purchase price of $239,988 in cash including acquisition costs. On June 30, 2000, the Company acquired all the outstanding common stock of MPRI Inc. ("MPRI") for $39,725 in cash including acquisition costs and $4,000 of additional purchase price that was based on the financial performance of MPRI for the year ended June 30, 2001. On December 29, 2000, the Company acquired all of the outstanding common stock of Coleman Research Corporation ("Coleman"), a subsidiary of Thermo Electron Corporation, for $60,565 in cash including acquisition costs, and additional purchase price not to exceed $5,000 which is contingent upon the financial performance of Coleman for the year ended December 31, 2001.

Additionally, during the years ended December 31, 2001, 2000 and 1999, the Company purchased other businesses, which individually and in the aggregate were not material to its consolidated results of operations, financial position or cash flows in the year acquired.

All of the acquisitions were financed with cash on hand or borrowings on bank credit facilities.

All of the Company's acquisitions have been accounted for as purchase business combinations and are included in the Company's results of operations from their respective effective dates. The assets and liabilities recorded in connection with the purchase price allocations for the acquisitions of KDI, EER, Spar, Emergent, BT Fuze and SY are based upon preliminary estimates of fair values for contracts in process, estimated costs in excess of billings to complete contracts in process, inventories, identifiable intangibles and deferred taxes. Actual adjustments will be based on the final purchase prices and final appraisals and other analyses of fair values which are in process. The Company has valued acquired contracts in process at contract price, less the estimated costs to complete and an allowance for the Company's normal profit on its effort to complete such contracts. The preliminary assets and liabilities recorded in connection with the acquisitions of KDI, EER, Emergent, BT Fuze and SY were $367,570 and $31,214. The Company does not expect the differences between the preliminary and final purchase price allocations for the acquisitions to be material. Goodwill is amortized on a straight-line basis over periods of 40 years for KDI and EER. In accordance with SFAS No. 142, goodwill is not amortized for Spar, Emergent, BT Fuze and SY.

Had the acquisitions of KDI, EER, SY, BT Fuze, Emergent and Spar and the related financing transactions occurred on January 1, 2001, the unaudited pro forma sales, net income and diluted earnings per share for the year ended December 31, 2001 would have been $2,638,700, $121,300 and $1.49. Had the acquisitions of TDTS, TrexCom, TCAS, MPRI, Coleman, KDI, EER, SY, BT Fuze, Emergent and Spar and the related financing transactions occurred on January 1, 2000 the unaudited pro forma sales, net income and diluted earnings per share for the year ended December 31, 2000 would have been $2,554,600, $103,700 and $1.31. The pro forma results are based on various assumptions and are not necessarily indicative of the results of operations that would have occurred had the acquisitions and the related financing transactions occurred on January 1, 2000 and 2001.

On January 14, 2002, the Company agreed to acquire Aircraft Integration Systems ("AIS"), a division of Raytheon Company, for $1,130,000 in cash plus acquisition costs. The acquisition is expected to close in March 2002. The acquisition is expected to be financed using cash on hand, borrowings under the Company's senior credit facilities and a $500,000 senior subordinated bridge loan. The Company expects to offer and sell approximately $1,000,000 of debt and equity securities during the first half of 2002, depending on capital market conditions, and use the proceeds from those offerings to repay the $500,000 senior subordinated bridge loan and the borrowings made under the senior credit facilities.

On January 2, 2002, the Company agreed to acquire the detection systems business of PerkinElmer for $100,000 in cash plus acquisition costs. The acquisition is subject to customary closing conditions, including clearance under the Hart-Scott-Rodino Antitrust Improvements Act and is expected to close by the end of the second quarter of 2002.

On May 31, 2001, the Company sold a 30% interest in Aviation Communications and Surveillance Systems LLC ("ACSS") which comprised the Company's TCAS business to Thales Avionics, a wholly owned subsidiary of Thales (formerly Thomson-CSF), for $75,206 of cash. L-3 continues to consolidate the financial statements of ACSS.

Interest and other income for the year ended December 31, 2001 includes a gain of $6,966 from the sale of a 30% interest in ACSS which was largely offset by a $6,341 write-down in the carrying amount of an investment in common stock. Also included in interest and other income for 2001 is a charge of $515 to account for the increase, in accordance with SFAS No. 133, in the fair value assigned to the embedded derivatives in L-3 Holdings' $420,000 4% Senior Subordinated Contingent Debt Securities due 2011 sold in the fourth quarter of 2001, and a loss of $751 from an equity method investment. Interest and other income for the year ended December 31, 2000 includes gains of

$14,940 from the sales of the Company's interests in certain businesses. These gains were largely offset by losses of $12,456 on the write-down in the carrying value of certain investments and intangible assets. The net proceeds from the sales were $19,638, and are included in Other Investing Activities on the Statement of Cash Flows.

In March 2001, the Company settled certain items with a third party provider related to an existing services agreement. In connection with the settlement, L-3 received a net cash payment of $14,200. The payment represents a credit for fees being paid over the term of the services agreement and incremental costs incurred by the Company over the same period arising from performance deficiencies under the services agreement. These incremental costs include additional operating costs for material management, vendor replacement, rework, warranty, manufacturing and engineering support, and administrative activities. The $14,200 cash receipt was recorded as a reduction of costs and expenses in 2001.

4. CONTRACTS IN PROCESS

The components of contracts in process are presented in the table below. The unbilled contract receivables, inventoried contract costs and unliquidated progress payments are principally related to contracts with the U.S. Government and prime contractors or subcontractors of the U.S. Government.

	DECEMBER 31,	
	2001	2000
Billed receivables, less allowances of $11,649 and $6,430	$ 330,795	$ 310,185
Unbilled contract receivables	353,262	277,026
Less: unliquidated progress payments	(102,739)	(69,529)
Unbilled contract receivables, net	250,523	207,497
Inventoried contract costs, gross	110,244	83,808
Less: unliquidated progress payments	(6,575)	(5,685)
Inventoried contract costs, net	103,669	78,123
Inventories at lower of cost or market	116,837	104,328
Total contracts in process	$ 801,824	$ 700,133

The Company believes that approximately $289,396 of the unbilled contract receivables at December 31, 2001 will be billed and collected within one year.

The selling, general and administrative ("SG&A") cost data presented in the table below have been used in the determination of the costs and expenses presented on the statements of operations.

	YEAR ENDED DECEMBER 31		
	2001	2000	1999
SG&A costs included in inventoried contract costs	$ 19,970	$ 24,396	$ 23,637
SG&A incurred costs	418,002	350,561	265,136
Independent research and development, including bid and proposal costs included in SG&A incurred costs	107,466	101,883	76,134

5. OTHER CURRENT LIABILITIES AND OTHER LIABILITIES

At December 31, 2001, other current liabilities include an accrual of $43,641 for the remaining Spar common shares outstanding at December 31, 2001 which the Company acquired in January 2002, and $19,236 of estimated costs in excess of billings to complete contracts in process. At December 31, 2001, other liabilities include $18,814 for the non-current portion of estimated costs in excess of billings to complete contracts in process.

At December 31, 2000, other current liabilities include $31,737 of estimated costs in excess of billings to complete contracts in process principally related to contracts assumed as part of the TDTS business that was acquired from Raytheon in February 2000, including the U.S. Army Aviation Combined Arms Tactical Trainer ("AVCATT") contract. At December 31, 2000, other liabilities include $59,641 for the non-current portion of estimated costs in excess of billings to complete contracts in process, principally for the AVCATT contract.

At December 31, 2001, current and non-current estimated costs in excess of billings to complete contracts in process reflect contract costs incurred during 2001 that were charged against the estimated costs in excess of billings and favorable performance on the AVCATT contract related to cost reductions arising from engineering design changes, material sourcing changes, unit price reductions on several parts in the contract bill of materials and lower overhead costs that occurred during 2001.

6. PROPERTY, PLANT AND EQUIPMENT

	DECEMBER 31,	
	2001	2000
Land	$ 12,947	$ 11,242
Buildings and improvements	38,544	25,942
Machinery, equipment, furniture and fixtures	260,338	192,679
Leasehold improvements	29,232	24,514
Gross property, plant and equipment	341,061	254,377
Less: accumulated depreciation and amortization	137,687	98,249
Property, plant and equipment, net	$203,374	$156,128

Depreciation and amortization expense for property, plant and equipment was $40,362 for 2001, $36,158 for 2000, and $29,554 for 1999.

7. DEBT

The components of long-term debt and a reconciliation to the carrying amount of long-term debt are presented in the table below.

	DECEMBER 31,	
	2001	2000
Borrowings under Senior Credit Facilities	$ --	$ 190,000
10 3/8% Senior Subordinated Notes due 2007	225,000	225,000
8 1/2% Senior Subordinated Notes due 2008	180,000	180,000
8% Senior Subordinated Notes due 2008	200,000	200,000
5 1/4% Convertible Senior Subordinated Notes due 2009	300,000	300,000
4% Senior Subordinated Convertible Contingent Debt Securities due 2011	420,000	--
Principal amount of long-term debt	1,325,000	1,095,000
Less: Unamortized discount	2,502	--
Fair value of interest rate swap agreements	7,246	--
Carrying amount of long-term debt	$1,315,252	$1,095,000

The borrowings under the Senior Credit Facilities, 10 3/8% Senior Subordinated Notes due 2007, 8 1/2% Senior Subordinated Notes due 2008 and 8% Senior Subordinated Notes due 2008 are the indebtedness of L-3 Communications. The 5 1/4% Convertible Senior Subordinated Notes due 2009 and the 4% Senior Subordinated Convertible Contingent Debt Securities due 2011 are the indebtedness of L-3 Holdings. Details on all of the outstanding debt of both L-3 Communications and L-3 Holdings are discussed below.

In May 2001, L-3 Communications restructured its Senior Credit Facilities. At December 31, 2001, the Senior Credit Facilities were comprised of a $400,000 five year revolving credit facility maturing on May 15, 2006 and a $200,000 364-day revolving facility maturing on May 15, 2002 under which at the maturity date L-3 Communications may, (1) at its request and subject to approval of the lenders, extend the maturity date, in whole or in part, for an additional 364-day period, or (2) at its election, convert the outstanding principal amount thereunder into a term loan which would be repayable in a single payment two years from the conversion date. Additionally, the Senior Credit Facilities provided L-3 Communications the ability to increase, on an uncommitted basis, the amount of either the five year revolving credit facility or the 364-day revolving credit facility up to an additional $150,000 in the aggregate.

At December 31, 2001, available borrowings under the Company's Senior Credit Facilities were $497,594, after reductions for outstanding letters of credit of $102,406. There were no outstanding borrowings under the Senior Credit Facilities at December 31, 2001.

Borrowings under the Senior Credit Facilities bear interest, at L-3 Communications' option, at either: (i) a "base rate" equal to the higher of 0.50% per annum above the latest federal funds rate and the Bank of America "reference rate" (as defined) plus a spread ranging from 2.00% to 0.50% per annum depending on L-3 Communications' Debt Ratio at the time of determination or (ii) a "LIBOR rate" (as defined) plus a spread ranging from 3.00% to 1.50% per annum depending on L-3 Communications' Debt Ratio at the time of determination. The Debt Ratio is defined as the ratio of Consolidated Total Debt to Consolidated EBITDA. Consolidated Total Debt is equal to outstanding debt plus capitalized lease obligations minus the lesser of actual unrestricted cash or $50,000. Consolidated EBITDA is equal to consolidated net income (excluding extraordinary gains and losses, and gains and losses in connection with asset dispositions and discontinued operations) for the most

recent four quarters, plus consolidated interest expense, income taxes, depreciation and amortization minus depreciation and amortization related to minority interest. At December 31, 2001, there were no borrowings outstanding under the Senior Credit Facilities. L-3 Communications pays commitment fees calculated on the daily amounts of the available unused commitments under the Senior Credit Facilities at a rate ranging from 0.50% to 0.35% per annum, depending on L-3 Communications' Debt Ratio in effect at the time of determination. L-3 Communications pays letter of credit fees calculated at a rate ranging from 1.50% to 0.75% per annum for performance letters of credit and 3.00% to 1.50% for all other letters of credit, in each case depending on L-3 Communications' Debt Ratio at the time of determination.

Additionally, in February 2002, the Company expects the lenders to approve a $150,000 increase in the amount of the Senior Credit Facilities. The five year revolving credit facility will increase by $100,000 to $500,000 and the 364-day revolving credit facility will increase by $50,000 to $250,000. Additionally, the maturity date of the $200,000 364-day revolving credit facility is expected to be extended to February 2003.

In March 2002, L-3 Communications expects to borrow $500,000 under a senior subordinated Bridge Loan Facility to finance a portion of the purchase price of AIS and related expenses. The Bridge Loan Facility will be subordinated in right of payment to all of L-3 Communications' existing and future senior debt. Borrowings under the Bridge Loan Facility will bear interest through March 2003, at L-3 Communications' option, at either the one-month or three-month LIBOR rate plus a spread equal to 350 basis points. The Bridge Loan Facility will mature in May 2009, but if the loans under the facility are not repaid by March 2003, each lender's loan will be automatically converted into an exchange note with terms substantially similar to those of the senior subordinated notes discussed below, and will bear interest at a fixed rate equal to the yield to maturity on the Company's highest yielding existing subordinated indebtedness at the time of exchange plus 100 basis points. Subject to the exceptions that will be set forth in the Bridge Loan Facility, L-3 Communications will be required to prepay the Bridge Loan Facility with the net cash proceeds from:

- any debt offerings by L-3 Holdings or its subsidiaries, including L-3 Communications;
- issuance of any equity interests in L-3 Holdings or L-3 Communications;
- incurrence of any other indebtedness of L-3 Holdings or any of its subsidiaries, including L-3 Communications (other than under the Senior Credit Facilities and certain permitted indebtedness); and
- any sale of assets or stock of any subsidiaries of L-3 Communications.

In the fourth quarter of 2001, L-3 Holdings sold $420,000 of 4% Senior Subordinated Convertible Contingent Debt Securities ("CODES") due September 15, 2011. The net proceeds from the offering of the outstanding notes amounted to approximately $407,450 after underwriting discounts and commissions and other offering expenses. Interest is payable semi-annually on March 15 and September 15 of each year commencing March 15, 2002. The CODES are convertible into L-3 Holdings' common stock at a conversion price of $53.81 per share (7,804,878 shares) under any of the following circumstances: (1) during any Conversion Period (defined below) if the closing sales price of the common stock of L-3 Holdings is more than 120% of the conversion price ($64.58) for at least 20 trading days in the 30 consecutive trading-day period ending on the first day of the respective Conversion Period; (2) during the five business day period following any 10 consecutive trading-day period in which the average of the trading prices for the CODES was less than 105% of the conversion value; (3) if the credit ratings assigned to the CODES by either Moody's or Standard & Poor's are below certain specified ratings, (4) if they have been called for redemption by the

Company, or (5) upon the occurrence of certain specified corporate transactions. A Conversion Period is the period from and including the thirtieth trading day in a fiscal quarter to, but not including, the thirtieth trading day of the immediately following fiscal quarter. There are four Conversion Periods in each fiscal year. Additionally, holders of the CODES have a right to receive contingent interest payments, not to exceed a per annum rate of 0.5% of the outstanding principal amount of the CODES, which will be paid on the CODES during any six-month period following a six-month period in which the average trading price of the CODES is above 120% of the principal amount of the CODES. The contingent interest payment provision as well as the ability of the holders of the CODES to exercise the conversion features as a result of changes in the credit ratings assigned to the CODES have been accounted for as embedded derivatives. The initial aggregate fair values assigned to the embedded derivatives was $2,502, which was also recorded as a discount to the CODES. The carrying values assigned to the embedded derivatives were recorded in other liabilities and will be adjusted periodically through other income (expense) for changes in their fair values. The CODES are subject to redemption at any time at the option of L-3 Holdings, in whole or in part, on or after October 24, 2004 at redemption prices (plus accrued and unpaid interest -- including contingent interest) starting at 102% of principal (plus accrued and unpaid interest -- including contingent interest) during the 12 month period beginning October 24, 2004 and declining annually to 100% of principal (plus accrued and unpaid interest -- including contingent interest) on September 15, 2006. The CODES are general unsecured obligations of L-3 Holdings and are subordinated in right of payment to all existing and future senior debt of L-3.

In the fourth quarter of 2000, L-3 Holdings sold $300,000 of 5 1/4% Convertible Senior Subordinated Notes (the "Convertible Notes") due June 1, 2009. The net proceeds from the offering of the outstanding notes amounted to approximately $290,500 after underwriting discounts and other offering expenses, and were used to repay revolver borrowings outstanding under the Company's Senior Credit Facilities. Interest is payable semi-annually on June 1 and December 1 of each year commencing June 1, 2001. The Convertible Notes may be converted at any time into L-3 Holdings common stock at a conversion price of $40.75 per share. If all the Convertible Notes were converted, an additional 7,361,964 shares of L-3 Holdings common stock would have been outstanding at December 31, 2001. The Convertible Notes are general unsecured obligations of L-3 Holdings and are subordinated in right of payment to all existing and future senior debt of L-3 Holdings and L-3 Communications. The Convertible Notes are subject to redemption at any time, at the option of L-3 Holdings, in whole or in part, on or after December 1, 2003 at redemption prices (plus accrued and unpaid interest) starting at 102.625% of principal (plus accrued and unpaid interest) during the 12-month period beginning December 1, 2003 and declining annually to 100% of principal (plus accrued and unpaid interest) on December 1, 2005 and thereafter.

In December 1998, L-3 Communications sold $200,000 of 8% Senior Subordinated Notes due August 1, 2008 (the "December 1998 Notes") with interest payable semi-annually on February 1 and August 1 of each year commencing February 1, 1999. The December 1998 Notes are general unsecured obligations of L-3 Communications and are subordinated in right of payment to all existing and future senior debt of L-3 Communications. The December 1998 Notes are subject to redemption at any time, at the option of L-3 Communications, in whole or in part, on or after August 1, 2003 at redemption prices (plus accrued and unpaid interest) starting at 104% of principal (plus accrued and unpaid interest) during the 12-month period beginning August 1, 2003 and declining annually to 100% of principal (plus accrued and unpaid interest) on August 1, 2006 and thereafter.

In May 1998, L-3 Communications sold $180,000 of 8 1/2% Senior Subordinated Notes due May 15, 2008 (the "May 1998 Notes") with interest payable semi-annually on May 15 and November 15 of each year commencing November 15, 1998. The May 1998 Notes are general unsecured obligations of

L-3 Communications and are subordinated in right of payment to all existing and future senior debt of L-3 Communications. The May 1998 Notes are subject to redemption at any time, at the option of L-3 Communications, in whole or in part, on or after May 15, 2003 at redemption prices (plus accrued and unpaid interest) starting at 104.250% of principal (plus accrued and unpaid interest) during the 12-month period beginning May 15, 2003 and declining annually to 100% of principal (plus accrued and unpaid interest) on May 15, 2006 and thereafter.

In April 1997, L-3 Communications sold $225,000 of 10 3/8% Senior Subordinated Notes due May 1, 2007 (the "1997 Notes") with interest payable semi-annually on May 1 and November 1 of each year commencing November 1, 1997. The 1997 Notes are general unsecured obligations of L-3 Communications and are subordinated in right of payment to all existing and future senior debt of L-3 Communications. The 1997 Notes are subject to redemption at any time, at the option of L-3 Communications, in whole or in part, on or after May 1, 2002 at redemption prices (plus accrued and unpaid interest) starting at 105.188% of principal (plus accrued and unpaid interest) during the 12-month period beginning May 1, 2002 and declining annually to 100% of principal (plus accrued and unpaid interest) on May 1, 2005 and thereafter.

Collectively the 1997 Notes, May 1998 Notes and December 1998 Notes comprise the "Senior Subordinated Notes". The maturities on the Senior Subordinated Notes, Convertible Notes and CODES are $225,000 in 2007, $380,000 in 2008, $300,000 in 2009 and $420,000 in 2011.

In November 2001, L-3 Communications entered into interest rate swap agreements on its $180,000 of 8 1/2% Senior Subordinated Notes due 2008. These swap agreements exchange the fixed interest rate for a variable interest rate on the entire principal amount. Under these swap agreements, L-3 Communications will pay or receive the difference between the fixed interest rate of 8 1/2% on the senior subordinated notes and a variable interest rate determined two business days prior to the interest payment date of the senior subordinated notes equal to (1) the six month LIBOR rate, set in arrears, plus (2) an average of 350.8 basis points. In July 2001, L-3 Communications entered into interest rate swap agreements on its $200,000 of 8% Senior Subordinated Notes due 2008. These swap agreements exchange the fixed interest rate for a variable interest rate on the entire principal amount. Under these swap agreements, L-3 Communications will pay or receive the difference between the fixed interest rate of 8% on the senior subordinated notes and a variable interest rate determined two business days prior to the interest payment date of the senior subordinated notes equal to (1) the six month LIBOR rate, set in arrears, plus (2) an average of 192 basis points. The difference to be paid or received on these swap agreements as interest rates change is recorded as an adjustment to interest expense. The swap agreements are accounted for as fair value hedges.

The Senior Credit Facilities, Senior Subordinated Notes, Convertible Notes and CODES agreements contain (and the Bridge Loan Facility will contain) financial and other restrictive covenants that limit, among other things, the ability of the Company to borrow additional funds, dispose of assets, or pay cash dividends. The Company's most restrictive covenants are contained in the Senior Credit Facilities, as amended. The covenants require that (1) the Company's Debt Ratio be less than or equal to 4.50 for the quarter ended December 31, 2001, and that the maximum allowable Debt Ratio be 4.85 for the quarters ending March 31, 2002 and June 30, 2002, thereafter declining over time to less than or equal to 3.50 for the quarters ending December 31, 2004 and thereafter, and (2) the Company's Interest Coverage Ratio be greater than or equal to 2.50 for the quarter ended December 31, 2001, and that the minimum allowable Interest Coverage Ratio, thereafter increase over time to greater than or equal to at least 3.00 for the quarters ending December 31, 2003 and thereafter. The Interest Coverage Ratio is equal to the ratio of Consolidated EBITDA to Consolidated Cash Interest Expense. Consolidated Cash Interest Expense is equal to interest expense

less the amortization of deferred debt issue costs included in interest expense. For purposes of calculating the financial covenants under the Senior Credit Facilities, the Convertible Notes and CODES are considered debt of L-3 Communications. The Senior Credit Facilities also limit the payment of dividends by L-3 Communications to L-3 Holdings except for payment of franchise taxes, fees to maintain L-3 Holdings' legal existence, income taxes up to certain amounts, interest accrued on the Convertible Notes and CODES or to provide for operating costs of up to $1,000 annually. Under the covenant, L-3 Communications may also pay permitted dividends to L-3 Holdings from its excess cash flow, as defined, a cumulative amount of $5,000, provided that the Debt Ratio is no greater than 3.5 to 1 as of the most recent fiscal quarter. As a result, at December 31, 2001, $5,000 of L-3 Communications net assets were available for payment of dividends to L-3 Holdings. Through December 31, 2001, the Company was in compliance with these covenants at all times.

In connection with the Senior Credit Facilities, the Company has granted the lenders a first priority lien on the stock of L-3 Communications and substantially all of its domestic subsidiaries. The borrowings under the Senior Credit Facilities are guaranteed by L-3 Holdings and by substantially all of the domestic subsidiaries of L-3 Communications on a senior basis. The payment of principal and premium, if any, and interest on the Senior Subordinated Notes are (and the Bridge Loan Facility will be) unconditionally guaranteed, on an unsecured senior subordinated basis, jointly and severally, by all of L-3 Communications' restricted subsidiaries other than its foreign subsidiaries. The guarantees of the Senior Subordinated Notes are (and the Bridge Loan Facility will be) junior to the guarantees of the Senior Credit Facilities and rank pari passu with each other and the guarantees of the Convertible Notes and the CODES. Additionally, the Convertible Notes and CODES are unconditionally guaranteed, on an unsecured senior subordinated basis, jointly and severally, by L-3 Communications and substantially all of its direct and indirect domestic subsidiaries. These guarantees rank junior to the guarantees of the Senior Credit Facilities and rank pari passu with each other and the guarantees of the Senior Subordinated Notes and will rank pari passu with the guarantees of the Bridge Loan Facility.

8. FINANCIAL INSTRUMENTS

Fair Value of Financial Instruments. The Company's financial instruments consist primarily of cash and cash equivalents, billed receivables, investments, trade accounts payable, customer advances, Senior Credit Facilities, Senior Subordinated Notes, Convertible Notes, CODES, foreign currency forward contracts, interest rate cap and floor contracts, interest rate swap agreements and embedded derivatives related to the issuance of the CODES. The carrying amounts of cash and cash equivalents, billed receivables, trade accounts payable, Senior Credit Facilities, and customer advances are representative of their respective fair values because of the short-term maturities or expected settlement dates of these instruments. The fair values of the Company's investments are based on quoted market prices, as available, and on historical cost for investments which it is not practicable to estimate fair value. The Senior Subordinated Notes are registered, unlisted public debt which are traded in the over-the-counter market and their fair values are based on quoted trading activity. The fair values of the Convertible Notes and CODES are based on quoted prices for the same or similar issues. The fair value of foreign currency forward contracts were estimated based on exchange rates at December 31, 2001 and 2000. The fair values of the interest rate cap and floor contracts, interest rate swap agreements and the embedded derivatives were estimated by discounting expected cash flows using quoted market interest rates. The carrying amounts and estimated fair values of the Company's financial instruments are presented in the table below.

	DECEMBER 31,			
	2001		2000	
	CARRYING AMOUNT	ESTIMATED FAIR VALUE	CARRYING AMOUNT	ESTIMATED FAIR VALUE
Investments	$ 16,532	$ 16,532	$ 8,985	$ 8,985
Senior Subordinated Notes	597,754	630,925	605,000	586,300
Convertible Notes	300,000	387,000	300,000	331,350
CODES	417,498	432,600	--	--
Borrowings under Senior Credit Facilities	--	--	190,000	190,000
Interest rate caps	--	--	431	2
Interest rate floor	(432)	(432)	(74)	(104)
Foreign currency forward contracts	258	258	--	392
Interest rate swaps	(7,246)	(7,246)	--	--
Embedded derivatives	(3,060)	(3,060)	--	--

Interest Rate Risk Management. To mitigate risks associated with changing interest rates on borrowings under the Senior Credit Facilities, the Company entered into interest rate cap and interest rate floor contracts. The interest rate caps and floors are denominated in U.S. dollars and have designated maturities which occur every three months until the interest rate cap and floor contracts expire in March 2002. In 2001, the Company entered into interest rate swap agreements on $380,000 of its Senior Subordinated Notes to take advantage of the current low interest rate environment. These swap agreements exchanged the fixed interest rate for a variable interest rate on the entire notional amount, are denominated in U.S. dollars and have designated maturities which occur on the interest payment dates of the related Senior Subordinated Notes. Collectively the interest rate cap and floor contracts and interest rate swap agreements are herein referred to as the ("interest rate agreements"). Cash payments received from or paid to the counterparties on the interest rate agreements are the difference between the amount that the reference interest rates are greater than or less than the contract rates on the designated maturity dates, multiplied by the notional amounts underlying the respective interest rate agreements. Cash payments or receipts between the Company and counterparties are recorded as a component of interest expense. The initial cost or receipt of these arrangements, if any, are deferred and amortized as a component of interest expense over the term of the interest rate agreement. The Company manages exposure to counterparty credit risk by entering into the interest rate agreements only with major financial institutions that are expected to fully perform under the terms of such agreements. The notional amounts are used to measure the volume of these agreements and do not represent exposure to credit loss.

Foreign Currency Exchange Risk Management. Some of the Company's U.S. operations have contracts with foreign customers which are denominated in foreign currencies. To mitigate the risk associated with certain of these contracts denominated in foreign currency, the Company has entered into foreign currency forward contracts. The Company's activities involving foreign currency forward contracts are designed to hedge the foreign denominated cash paid or received, primarily Euro, British Pound and Italian Lira. The Company manages exposure to counterparty credit risk by entering into foreign currency forward contracts only with major financial institutions that are expected to fully perform under the terms of such contracts. The notional amounts are used to measure the volume of these contracts and do not represent exposure to foreign currency losses.

Information with respect to the interest rate agreements and foreign currency forward contracts is presented in the table below.

	DECEMBER 31,			
	2001		2000	
	NOTIONAL AMOUNT	UNREALIZED GAINS (LOSSES)	NOTIONAL AMOUNT	UNREALIZED GAINS (LOSSES)
Interest rate swaps	$380,000	--	--	--
Interest rate caps	100,000	$ (107)	$100,000	$ (429)
Interest rate floor	50,000	(414)	50,000	(30)
Foreign currency forward contracts	7,138	258	6,863	392

9. L-3 HOLDINGS COMMON STOCK

On June 29, 2001, the Company established the L-3 Communications Corporation Employee Stock Purchase Plan ("ESPP") and registered 3,000,000 shares of L-3 Holdings common stock, which may be purchased by employees of L-3 Communications Corporation and its U.S. subsidiaries through payroll deductions. In general, an eligible employee who participates in the ESPP may purchase L-3 Holdings' common stock at a fifteen percent discount. The ESPP is not subject to the Employment Retirement Income Security Act of 1974, as amended. As of December 31, 2001, $4,861 of employee contributions to the employee stock purchase plan were received by the Company and recorded as a component of shareholders' equity in the consolidated balance sheet. On January 7, 2002, the Company transferred 148,570 shares of L-3 Holdings' common stock to the trustee of the ESPP on behalf of those employees who made contributions to the ESPP in 2001.

On May 2, 2001, L-3 Holdings sold 13,800,000 shares of common stock in a public offering for $40.00 per share. L-3 Holdings sold 9,150,000 shares and other selling stockholders, including affiliates of Lehman Brothers Inc., sold 4,650,000 secondary shares. Upon closing, L-3 Holdings received net proceeds after underwriting discounts and commissions and other offering expenses of $353,622. The net proceeds were contributed to L-3 Communications and were used to repay borrowings under the Senior Credit Facilities, pay for the KDI and EER acquisitions and to increase cash and cash equivalents.

As additional consideration for the ILEX acquisition, L-3 Holdings issued 588,248 shares of its common stock valued at $17,357 in April 2001 based on the financial performance of ILEX in 1999 and 2000, and in August 1999, L-3 Holdings issued 301,910 shares of its common stock valued at $6,434 based on the financial performance of ILEX in 1998. There is no remaining contingent consideration for the ILEX acquisition.

On February 4, 1999, L-3 Holdings sold 10,000,000 shares of common stock in a public offering for $21.00 per share (the "February 1999 Common Stock Offering"); the net proceeds amounted to $201,582 and were contributed by L-3 Holdings to L-3 Communications. In addition, 13,000,000 shares were also sold in the February 1999 Common Stock Offering by the Lehman Partnership and Lockheed Martin. In October 1999, Lockheed Martin sold its remaining interest in L-3 Holdings' common stock. In December 1999, the Lehman Partnership distributed to its partners approximately 7,600,000 shares of L-3 Holdings' common stock. As of December 31, 2001, the Lehman Partnership owned approximately 4.4% of the outstanding common stock of L-3 Holdings.

On May 19, 1998, L-3 Holdings sold 13,800,000 shares of its common stock in an initial public offering ("IPO"). The net proceeds of the IPO amounted to $139,500 and were contributed by L-3 Holdings to L-3 Communications. Prior to the IPO, the common stock of L-3 Holdings consisted of

three classes Class A, Class B, and Class C common stock. Immediately prior to the IPO, each authorized share of L-3 Holdings Class A common stock, Class B common stock and Class C common stock was converted into one class of common stock and the authorized L-3 Holdings common stock was increased to 100,000,000 shares.

10. L-3 HOLDINGS EARNINGS PER SHARE

A reconciliation of basic and diluted earnings per share ("EPS") is presented in the table below.

	YEAR ENDED DECEMBER 31,		
	2001	2000	1999
Basic:			
Net income	$ 115,458	$ 82,727	$ 58,689
Weighted average common shares outstanding	74,880	66,710	64,214
Basic earnings per share	$ 1.54	$ 1.24	$ 0.91
Diluted:			
Net income	$ 115,458	$ 82,727	$ 58,689
After-tax interest expense savings on the assumed conversion of Convertible Notes	10,502	--	--
Net income including assumed conversion	$ 125,960	$ 82,727	$ 58,689
Common and potential common shares:			
Weighted average common shares outstanding	74,880	66,710	64,214
Assumed exercise of stock options	7,692	7,880	6,752
Assumed purchase of common shares for treasury	(4,496)	(4,684)	(3,934)
Assumed conversion of Convertible Notes	7,362	--	--
Common and potential common shares	85,438	69,906	67,032
Diluted earnings per share	$ 1.47	$ 1.18	$ 0.88

The 7,804,878 shares of L-3 Holdings' common stock that are issuable upon conversion of the CODES were not included in the computation of diluted EPS for the year ended December 31, 2001 because the conditions required for the CODES to become convertible have not been met.

11. INCOME TAXES

Pretax income of the Company was $186,222 for 2001, $134,079 for 2000, and $95,430 for 1999 substantially all of which was derived from domestic operations. The components of the Company's provision for income taxes are presented in the table below.

	YEAR ENDED DECEMBER 31,		
	2001	2000	1999
Current income tax provision, primarily federal	$18,126	$26,249	$ 7,910
Deferred income tax provision:			
Federal	43,965	23,130	27,881
State and local	8,673	1,973	950
Subtotal	52,638	25,103	28,831
Total provision for income taxes	$70,764	$51,352	$36,741

A reconciliation of the statutory federal income tax rate to the effective income tax rate of the Company is presented in the table below.

	YEAR ENDED DECEMBER 31,		
	2001	2000	1999
Statutory federal income tax rate	35.0%	35.0%	35.0%
State and local income taxes, net of federal income tax benefit	5.3	4.4	4.6
Foreign sales corporation and extra territorial income benefits	(3.6)	(2.6)	--
Nondeductible goodwill amortization and other expenses	4.8	6.8	5.2
Research and experimentation and other tax credits	(5.0)	(6.1)	(7.1)
Other, net	1.5	0.8	0.8
Effective income tax rate	38.0%	38.3%	38.5%

The provision for income taxes excludes current tax benefits related to compensation expense deductions for the exercise of stock options that were credited directly to shareholders' equity of $11,939 for 2001, $9,108 for 2000 and $1,011 for 1999.

The significant components of the Company's net deferred tax assets and liabilities are presented in the table below.

	DECEMBER 31,	
	2001	2000
Deferred tax assets:		
Inventoried costs	$ 8,520	$ 14,868
Compensation and benefits	11,460	10,461
Pension and postretirement benefits	59,397	39,486
Property, plant and equipment	16,579	9,081
Income recognition on contracts in process	16,670	55,942
Net operating loss carryforwards	32,480	9,660
Tax credit carryforwards	31,943	18,444
Other, net	21,555	14,430
Total deferred tax assets	198,604	172,372
Deferred tax liabilities:		
Goodwill	(26,493)	(18,903)
Other, net	(11,263)	(6,626)
Total deferred tax liabilities	(37,756)	(25,529)
Net deferred tax assets	$ 160,848	$ 146,843

The following table presents the classification of the Company's net deferred tax assets.

Current deferred tax assets .	$ 62,965	$ 89,732
Long-term deferred tax assets	97,883	57,111
Total net deferred tax assets	$ 160,848	$ 146,843

At December 31, 2001, the Company had $82,340 of U.S. net operating losses and $31,943 of tax credit carryforwards primarily related to U.S. and state research and experimentation credits and state investment tax credits. The net operating losses, some of which are subject to limitation, expire, if unused, between 2011 and 2021. The tax credits primarily expire, if unused, beginning in 2012. The Company believes that it will generate sufficient taxable income to utilize these net operating losses and tax credit carryforwards before they expire.

12. STOCK OPTIONS

The Company adopted the 1999 Long Term Performance Plan in April 1999, and adopted the 1997 Option Plan in April 1997. As of December 31, 2001, the number of shares of L-3 Holdings' common stock authorized for grant of options or awards under these plans was 16,611,630. On April 26, 2001, an additional 6,000,000 shares of L-3 Holdings' common stock were authorized for grant of options or awards under the 1999 Long Term Performance Plan. The grants may be awarded to employees of the Company in the form of non-qualified stock options, incentive stock options, stock appreciation rights, restricted stock or other incentive awards. The price at which options may be granted shall not be less than 100% of the fair market value of L-3 Holdings' common stock on the date of grant. In general, options expire after 10 years and are exercisable ratably over a 3 year period. As of December 31, 2001, the Company had 5,005,838 shares of L-3 Holdings' common stock available for awards under these plans.

On January 1, 2001, January 1, 2000 and May 19, 1999, the Company awarded 60,928, 85,792 and 80,678 shares of restricted stock of L-3 Holdings to employees. The 2001 and 1999 awards vest January 1, 2004 and the 2000 award vests January 1, 2005.

On April 5, 1999, the Company amended the terms of the stock options granted to Frank C. Lanza, Chairman and Chief Executive Officer and Robert V. LaPenta, President and Chief Financial Officer on April 30, 1997 for the purchase of 2,285,714 shares each of L-3 Holdings' common stock at an option price of $3.24. Such amendment eliminated the performance target acceleration provisions on the unvested performance options, so that 914,286 options for each of Mr. Lanza and Mr. LaPenta, vested on April 5, 1999. These performance options would have originally vested nine years after the grant date, but would have become exercisable with respect to 25% of the shares subject to such performance options on each of April 30, 1999, 2000, 2001 and 2002, to the extent certain targets for the Company's EBITDA were achieved.

The table below presents the Company's stock option activity.

	NUMBER OF OPTIONS (IN THOUSANDS)	WEIGHTED AVERAGE EXERCISE PRICE
Balance at December 31, 1998	5,756	$ 4.64
Options granted	2,018	19.55
Options exercised	(158)	4.19
Options cancelled	(86)	15.00
Balance at December 31, 1999	7,530	8.51
Options granted	1,322	23.87
Options exercised	(1,154)	7.76
Options cancelled	(442)	19.91
Balance at December 31, 2000	7,256	10.71
Options granted	2,214	35.81
Options exercised	(1,128)	14.57
Options cancelled	(362)	21.23
Balance at December 31, 2001	7,980	$ 16.68

The following table summarizes information about stock options outstanding at December 31, 2001.

	OUTSTANDING			EXERCISABLE		
RANGE OF EXERCISE PRICES	NUMBER OF OPTIONS	WEIGHTED AVERAGE REMAINING CONTRACTUAL LIFE (YEARS)	WEIGHTED AVERAGE EXERCISE PRICE	NUMBER OF OPTIONS	WEIGHTED AVERAGE REMAINING CONTRACTUAL LIFE (YEARS)	WEIGHTED AVERAGE EXERCISE PRICE
$3.24	3,718	5.5	$ 3.24	3,260	5.5	$ 3.24
$11.00	170	6.3	$ 11.00	170	6.3	$ 11.00
$16.38 - $19.99	740	7.7	$ 18.77	430	7.7	$ 18.62
$20.00 - $23.50	820	7.6	$ 20.80	256	7.3	$ 20.55
$29.00	368	8.6	$ 29.00	100	8.6	$ 29.00
$32.50 - $35.00	1,284	9.3	$ 33.25	--	--	--
$39.70	880	9.9	$ 39.70	--	--	--
Total	7,980	7.2	$ 16.68	4,216	5.9	$ 6.78

The weighted average fair values of stock options at their grant date during 2001, 2000 and 1999, where the exercise price equaled the market price (estimated fair value) on the grant date were $14.87, $10.10 and $7.30, respectively. In accordance with APB 25, no compensation expense was recognized. The following table reflects pro forma net income and L-3 Holdings EPS had the Company elected to adopt the fair value approach of SFAS 123.

	YEAR ENDED DECEMBER 31,		
	2001	2000	1999
Net income:			
As reported	$ 115,458	$ 82,727	$ 58,689
Pro forma	107,573	75,064	54,625
L-3 Holdings Basic EPS:			
As reported	$ 1.54	$ 1.24	$ 0.91
Pro forma	1.44	1.13	0.85
L-3 Holdings Diluted EPS:			
As reported	$ 1.47	$ 1.18	$ 0.88
Pro forma	1.38	1.07	0.81

The estimated fair value of options granted was calculated using the Black-Scholes option-pricing valuation model. The weighted average assumptions used in the valuation models are presented in the table below.

	YEAR ENDED DECEMBER 31,		
	2001	2000	1999
Expected option term	5.0	5.0	4.8
Expected volatility	39.5%	35.8%	31.0%
Expected dividend yield	--	--	--
Risk-free interest rate	4.5%	6.4%	4.7%

13. COMMITMENTS AND CONTINGENCIES

The Company leases certain facilities and equipment under agreements expiring at various dates through 2028. The following table presents future minimum payments under noncancellable operating leases with initial or remaining terms in excess of one year as of December 31, 2001.

	OPERATING LEASES		
	REAL ESTATE	EQUIPMENT	TOTAL
2002	$ 60,163	$1,735	$ 61,898
2003	48,302	996	49,298
2004	32,693	379	33,072
2005	28,788	104	28,892
2006	25,722	12	25,734
Thereafter	151,561	--	151,561
Total	$347,229	$3,226	$350,455

Real estate lease commitments have been reduced by minimum sublease rental income of $5,127 due in the future under noncancellable subleases. Leases covering major items of real estate and equipment contain renewal and or purchase options. Rent expense, net of sublease income was $41,370 for 2001, $34,123 for 2000 and $22,452 for 1999.

On March 30, 1998, the Company entered into a real estate lease agreement, as lessee, with an unrelated lessor which expired on March 30, 2001, which is accounted for as an operating lease. On March 29, 2001, the Company exercised its option to renew the lease through March 30, 2003. On or before the lease expiration date, the Company can exercise options under the lease agreement to either renew the lease, purchase the property for $12,500, or sell the property on behalf of the lessor (the "Sale Option"). If the Company elects the Sale Option, the Company must pay the lessor a residual guarantee amount of $10,894, on or before the lease expiration date, and at the time the property is sold, the Company must pay the lessor a supplemental rent equal to the gross sales proceeds in excess of the residual guarantee amount not to exceed $1,606.

On June 30, 1999, the Company entered into a real estate lease agreement, as lessee, with an unrelated lessor which expires on June 30, 2002, which is accounted for as an operating lease. On or before the lease expiration date, the Company can exercise options under the lease agreement to either renew the lease, purchase the property for $15,500, or sell the property on behalf of the lessor. If the Company elects the Sale Option, the Company must pay the lessor a residual guarantee amount of $13,524, on or before the lease expiration date, and at the time the property is sold, the Company must pay the lessor a supplemental rent equal to the gross sales proceeds in excess of the residual guarantee amount not to exceed $1,976.

For both real estate lease agreements discussed above, if the gross sales proceeds are less than the sum of the residual guarantee amount and the supplemental rent, the Company is required to pay a supplemental rent to the extent the reduction in the fair value of the property is demonstrated by an independent appraisal to have been caused by the Company's failure to properly maintain the property. Accordingly, the aggregate residual guarantee amounts of $24,418 have been included in the noncancellable real estate operating lease payments relating to the expiration of such leases.

On December 28, 2000, the Company entered into a sale-leaseback transaction on its facility located in Hauppauge, NY. The facility was sold for $13,650. The lease agreement which is accounted for as an operating lease, has an initial term of 14 years with a fixed annual rent that increases 2.5% annually. The Company has the option to extend the lease term for an additional 3 terms of 5 years each. The gain of $4,110 on the sale of the facility has been deferred and will be recognized ratably over the term of the lease.

The Company has a contract to provide and operate for the U.S. Air Force ("USAF") a full-service training facility including simulator systems near a USAF base. The Company expects to lease the simulator systems from unrelated third parties, and has entered into agreements with the owner-lessors of the simulator systems, under which the Company is acting as the construction agent on behalf of the owner-lessors for procurement and construction for the simulator systems. The estimated project costs to construct the simulator systems is approximately $48,360. During the construction period, if certain events occur that are caused by the Company's actions or failures to act, these agreements may obligate the Company to make payments to the owner-lessors which may be equal to 89.9% of the incurred project costs for the simulator systems at the time of such defaults. At December 30, 2002, the estimated completion date of the construction, pursuant to these agreements, the Company, as lessee, will enter into leases each with a term of 15 years with the owner-lessors for the use of the simulator systems. These leases are expected to be accounted for as operating leases and the aggregate noncancellable rental payments under such leases are estimated to be $89,241.

The Company is engaged in providing products and services under contracts with the U.S. Government and to a lesser degree, under foreign government contracts, some of which are funded by the U.S. Government. All such contracts are subject to extensive legal and regulatory requirements, and, from time to time, agencies of the U.S. Government investigate whether such contracts were and are being conducted in accordance with these requirements. Under U.S. Government procurement regulations, an indictment of the Company by a federal grand jury could result in the Company being suspended for a period of time from eligibility for awards of new government contracts. A conviction could result in debarment from contracting with the federal government for a specified term. Additionally, in the event that U.S. Government expenditures for products and services of the type manufactured and provided by the Company are reduced, and not offset by greater commercial sales or other new programs or products, or acquisitions, there may be a reduction in the volume of contracts or subcontracts awarded to the Company.

The Company has been periodically subject to litigation, claims or assessments and various contingent liabilities incidental to its business. Management continually assesses the Company's obligations with respect to applicable environmental protection laws. While it is difficult to determine the timing and ultimate cost to be incurred by the Company in order to comply with these laws, based upon available internal and external assessments, with respect to those environmental loss contingencies of which management is aware, the Company believes that even without considering potential insurance recoveries, if any, there are no environmental loss contingencies that, individually or in the aggregate, would be material to the Company's consolidated results of operations. The Company accrues for these contingencies when it is probable that a liability has been incurred and the amount of the loss can be reasonably estimated.

With respect to those investigative actions, items of litigation, claims or assessments of which it is aware, management of the Company is of the opinion that the probability is remote that, after taking into account certain provisions that have been made with respect to these matters, the ultimate resolution of any such investigative actions, items of litigation, claims or assessments will have a material adverse effect on the consolidated financial position, results of operations or cash flows of the Company.

14. PENSIONS AND OTHER EMPLOYEE BENEFITS

The Company maintains a number of pension plans, both contributory and noncontributory, covering employees at certain locations. Eligibility for participation in these plans varies and benefits are generally based on the participant's compensation and/or years of service. The Company's funding policy is generally to contribute in accordance with cost accounting standards that affect government contractors, subject to the Internal Revenue Code and regulations thereon. Plan assets are invested primarily in U.S. government and agency obligations and listed stocks and bonds.

The Company also provides postretirement medical and life insurance benefits for retired employees and dependents at certain locations. Participants are eligible for these benefits when they retire from active service and meet the eligibility requirements for the Company's pension plans. These benefits are funded primarily on a pay-as-you-go basis with the retiree generally paying a portion of the cost through contributions, deductibles and coinsurance provisions.

The following table summarizes the balance sheet impact, as well as the benefit obligations, assets, funded status and rate assumptions associated with the pension and postretirement benefit plans.

	PENSION PLANS		POSTRETIREMENT BENEFIT PLANS	
	2001	2000	2001	2000
CHANGE IN BENEFIT OBLIGATION:				
Benefit obligation at beginning of year	$ 415,483	$ 328,541	$ 68,538	$ 65,554
Service cost	18,516	16,343	1,709	1,670
Interest cost	31,428	28,029	4,746	4,754
Participants' contributions	62	36	607	--
Amendments	--	853	--	--
Actuarial loss (gain)	22,277	8,867	4,043	(1,271)
Acquisitions	63,793	48,187	12,369	1,879
Benefits paid	(18,108)	(15,373)	(4,869)	(4,048)
Benefit obligation at end of year	$ 533,451	$ 415,483	$ 87,143	$ 68,538
CHANGE IN PLAN ASSETS:				
Fair value of plan assets at beginning of year	$ 391,263	$ 367,451	$ --	$ --
Actual return on plan assets	(13,754)	(21,905)	--	--
Acquisitions	63,344	49,709	--	--
Employer contributions	8,108	11,345	4,262	4,048
Participants' contributions	62	36	607	--
Benefits paid	(18,108)	(15,373)	(4,869)	(4,048)
Fair value of plan assets at end of year	$ 430,915	$ 391,263	$ --	$ --
FUNDED STATUS OF THE PLANS	$ (102,536)	$ (24,220)	$ (87,143)	$ (68,538)
Unrecognized actuarial loss (gain)	69,697	(5,044)	(5,032)	(9,401)
Unrecognized prior service cost	3,426	3,777	(547)	(1,207)
Net amount recognized	$ (29,413)	$ (25,487)	$ (92,722)	$ (79,146)
AMOUNTS RECOGNIZED IN THE BALANCE SHEETS CONSIST OF:				
Accrued benefit liability	$ (62,330)	$ (26,377)	$ (92,722)	$ (79,146)
Accumulated other comprehensive income	32,917	890	--	--
Net amount recognized	$ (29,413)	$ (25,487)	$ (92,722)	$ (79,146)
RATE ASSUMPTIONS:				
Discount rate	7.25%	7.50%	7.25%	7.50%
Rate of return on plan assets	9.50%	9.50%	n.a.	n.a.
Salary increases	4.50%	4.50%	4.50%	4.50%

The annual increase in cost of benefits ("health care cost trend rate") is assumed to be an average of 10.00% in 2001 and is assumed to gradually decrease to a rate of 4.5% thereafter. Assumed health care cost trend rates have a significant effect on amounts reported for postretirement medical benefit plans. A one percentage point decrease in the assumed health care cost trend rates would have the effect of decreasing the aggregate service and interest cost by $540 and the postretirement medical obligations by $6,139. A one percentage point increase in the assumed health care cost trend rate would have the effect of increasing the aggregate service and interest cost by $658 and the postretirement medical obligations by $6,651.

The following table summarizes the components of net periodic pension and postretirement medical costs.

	PENSION PLANS		POSTRETIREMENT PENSION PLANS	
	2001	2000	2001	2000
COMPONENTS OF NET PERIODIC BENEFIT COST:				
Service cost	$ 18,516	$ 16,343	$1,709	$1,670
Interest cost	31,428	28,029	4,746	4,754
Amortization of prior service cost	351	351	(99)	(99)
Expected return on plan assets	(37,716)	(39,109)	--	--
Recognized actuarial (gain) loss	(424)	(3,981)	(887)	(865)
Recognition due to settlement	--	307	--	--
Net periodic benefit cost	$ 12,155	$ 1,940	$5,469	$5,460

The accumulated benefit obligation, projected benefit obligation, and fair value of plan assets for pension plans with accumulated benefit obligations in excess of plan assets were $300,072, $324,840, and $247,383, respectively, as of December 31, 2001 and $86,426, $92,180 and $78,773, respectively, as of December 31, 2000.

In connection with the Company's assumption of certain plan obligations pursuant to the Company's acquisition of the predecessor company, Lockheed Martin has provided the Pension Benefit Guaranty Corporation ("PBGC") with commitments to assume sponsorship or other forms of financial support under certain circumstances with respect to the Company's pension plans for Communication Systems -- West and Aviation Recorders (the "Subject Plans"). Upon the occurrence of certain events, Lockheed Martin, at its option, has the right to decide whether to cause the Company to transfer sponsorship of any or all of the Subject Plans to Lockheed Martin, even if the PBGC has not sought to terminate the Subject Plans. Such a triggering event occurred in 1998, but reversed in 1999, relating to a decrease in the PBGC-mandated discount rate in 1998 that had resulted in an increase in the underlying liability. The Company notified Lockheed Martin of the 1998 triggering event, and in February 1999, Lockheed Martin informed the Company that it had no present intention to exercise its right to cause the Company to transfer sponsorship of the Subject Plans. If Lockheed Martin did assume sponsorship of these plans, it would be primarily liable for the costs associated with funding the Subject Plans or any costs associated with the termination of the Subject Plans but L-3 Communications would be required to reimburse Lockheed Martin for these costs. To date, the impact on pension expense and funding requirements resulting from this arrangement has not been significant. However, should Lockheed Martin assume sponsorship of the Subject Plans or if these plans were terminated, the impact of any increased pension expenses or funding requirements could be material to the Company. The Company has performed its obligations under the letter agreement with Lockheed Martin and the Lockheed Martin Commitment and has not received any communications from the PBGC concerning actions which the PBGC contemplates taking in respect of the Subject Plans.

Employee Savings Plans. Under its various employee savings plans, the Company matches the contributions of participating employees up to a designated level. The extent of the match, vesting terms and the form of the matching contributions vary among the plans. Under these plans, the Company's matching contributions in L-3 Holdings common stock and cash were $21,462 for 2001, $15,201 for 2000 and $8,798 for 1999.

15. SUPPLEMENTAL CASH FLOW INFORMATION

	YEAR ENDED DECEMBER 31,		
	2001	2000	1999
Interest paid	$81,552	$81,390	$50,532
Income taxes paid	4,904	10,052	6,317
Noncash transactions:			
Common stock issued related to acquisition	17,357	--	6,432
Contribution in common stock to savings plans	16,868	12,642	6,993

16. SEGMENT INFORMATION

The Company has four reportable segments: (1) Secure Communications & ISR, (2) Training, Simulation & Support Services, (3) Aviation Products & Aircraft Modernization and (4) Specialized Products, which are described in Note 1. The Company evaluates the performance of its operating segments and reportable segments based on their sales and operating income. All corporate expenses are allocated to the Company's divisions using an allocation methodology prescribed by U.S. Government regulations for government contractors. Accordingly, all costs and expenses are included in the Company's measure of segment profitability.

	SECURE COMMUNICATIONS & ISR	TRAINING SIMULATION & SUPPORT SERVICES	AVIATION PRODUCTS & AIRCRAFT MORDERNIZATION
2001			
Sales	$452,152	$597,029	$263,450
Operating income	31,975	65,715	85,602
Total assets	366,482	497,368	545,517
Capital expenditures	11,561	2,999	9,625
Depreciation and amortization	13,839	13,207	12,064
2000			
Sales	$405,379	$283,407	$209,207
Operating income	54,174	23,491	66,854
Total assets	293,023	295,139	360,469
Capital expenditures	6,405	2,762	2,145
Depreciation and amortization	13,093	9,340	10,085
1999			
Sales	$437,050	$ 91,857	$119,369
Operating income	37,759	6,745	27,826
Total assets	265,380	74,187	96,734
Capital expenditures	5,864	644	1,330
Depreciation and amortization	14,672	2,527	3,815

	SPECIALIZED PRODUCTS	CORPORATE	ELIMINATION OF INTERSEGMENT SALES	CONSOLIDATED TOTAL
2001				
Sales	$1,040,753		$ (5,962)	$2,347,422
Operating income	92,038			275,330
Total assets	1,382,010	$547,872		3,339,249
Capital expenditures	23,657	279		48,121
Depreciation and amortization	47,481			86,951
2000				
Sales	$1,028,802		$ (16,734)	$1,910,061
Operating income	78,199			222,718
Total assets	1,325,108	$189,805		2,463,544
Capital expenditures	21,667	601		33,580
Depreciation and amortization	41,736			74,254
1999				
Sales	$ 765,706		$ (8,520)	$1,405,462
Operating income	78,156			150,486
Total assets	1,017,152	$175,288		1,628,741
Capital expenditures	15,385	233		23,456
Depreciation and				

amortization	32,704	53,718

Corporate assets not allocated to the reportable segments primarily include cash and cash equivalents, corporate office fixed assets, deferred income tax assets and deferred debt issuance costs.

Substantially all of the Company's operations are domestic. The Company's foreign operations are not material to the Company's results of operations, cash flows or financial position. Sales to principal customers are summarized in the table below.

	YEAR ENDED DECEMBER 31,		
	2001	2000	1999
U.S. Government agencies	$1,614,858	$1,284,379	$ 924,006
Foreign governments	200,913	144,274	127,637
Commercial export	218,971	172,101	144,274
Other (principally U.S. commercial)	312,680	309,307	209,545
Consolidated sales	$2,347,422	$1,910,061	$1,405,462

The Company's sales by product and services are summarized in the table below:

	YEARS ENDED DECEMBER 31,		
	2001	2000	1999
	(DOLLARS IN MILLIONS)		
Avionics, ocean systems and premium fuzing products	$ 672.3	$ 595.6	$ 492.7
Telemetry and instrumentation	327.8	385.6	301.4
Military communications and high data rate communications	234.2	234.5	249.3
Training devices and motion simulators	160.7	148.5	--
Information security systems	151.2	105.4	102.9
Microwave components	112.9	92.8	78.7
Space and commercial communications, satellite control and tactical sensor systems	109.0	95.0	106.6
Sub-total products	1,768.1	1,657.4	1,331.6
Training, simulation and support services	597.0	283.4	91.8
Subtotal	2,365.1	1,940.8	1,423.4
Intercompany eliminations	(17.7)	(30.7)	(17.9)
Total	$ 2,347.4	$ 1,910.1	$ 1,405.5

17. UNAUDITED QUARTERLY FINANCIAL DATA

Unaudited summarized financial data by quarter for the years ended December 31, 2001 and 2000 is presented in the table below.

	MARCH 31	JUNE 30	SEPTEMBER 30	DECEMBER 31
2001				
Sales	$ 461,901	$ 561,560	$ 618,164	$ 705,797
Operating income	46,869	60,467	75,208	92,786
Net income	14,158	23,336	33,435	44,529
Basic EPS	$ 0.21	$ 0.31	$ 0.43	$ 0.57
Diluted EPS	$ 0.20	$ 0.30	$ 0.41	$ 0.53
2000				
Sales	$ 377,052	$ 460,976	$ 514,415	$ 557,618
Operating income	34,669	49,653	62,815	75,581
Net income	10,929	16,459	24,116	31,223
Basic EPS	$ 0.17	$ 0.25	$ 0.36	$ 0.46
Diluted EPS	$ 0.16	$ 0.24	$ 0.34	$ 0.44

18. FINANCIAL INFORMATION OF L-3 COMMUNICATIONS AND ITS SUBSIDIARIES

The shareholders' equity of L-3 Communications equals that of L-3 Holdings but its components of the common stock and additional paid-in capital accounts are different. The table below presents information regarding changes in common stock and additional paid-in capital of L-3 Communications for each of the three years ended December 31, 2001.

	L-3 COMMUNICATIONS COMMON STOCK			
	SHARES ISSUED	PAR VALUE	ADDITIONAL PAID-IN CAPITAL	TOTAL
Balance at December 31, 1998	100	$--	$ 264,769	$ 264,769
Contributions from L-3 Holdings			218,925	218,925
Balance at December 31, 1999	100	--	483,694	483,694
Contributions from L-3 Holdings			322,732	322,732
Push down of Convertible Notes			(290,500)	(290,500)
Balance at December 31, 2000	100	--	515,926	515,926
Contributions from L-3 Holdings			830,561	830,561
Push down of CODES			(407,450)	(407,450)
Balance at December 31, 2001	100	$--	$ 939,037	$ 939,037

The net proceeds received by L-3 Holdings from the sale of its common stock, exercise of L-3 Holdings employee stock options and L-3 Holdings common stock contributed to the Company's savings plans are contributed to L-3 Communications. The net proceeds from the sale of the Convertible Notes and CODES by L-3 Holdings were also contributed to L-3 Communications and are reflected as indebtedness of L-3 Communications. See Notes 2 and 7.

The debt of L-3 Communications, including the Senior Subordinated Notes and borrowings under amounts drawn against the Senior Credit Facilities are guaranteed, on a joint and several, full and

unconditional basis, by certain of its wholly-owned domestic subsidiaries (the "Guarantor Subsidiaries"). See Note 7. The foreign subsidiaries and certain domestic subsidiaries of L-3 Communications (the "Non-Guarantor Subsidiaries") do not guarantee the debt of L-3 Communications. None of the debt of L-3 Communications has been issued by its subsidiaries. There are no restrictions on the payment of dividends from the Guarantor Subsidiaries to L-3 Communications.

In lieu of providing separate audited financial statements for the Guarantor Subsidiaries, the Company has included the accompanying condensed combining financial statement based on Rule 3-10 of SEC Regulation S-X . The Company does not believe that separate financial statements of the Guarantor Subsidiaries are material to users of the financial statements.

The following condensed combining financial information present the results of operations, financial position and cash flows of (i) L-3 Communications excluding its consolidated subsidiaries (the "Parent") (ii) the Guarantor Subsidiaries, (iii) the Non-Guarantor Subsidiaries and (iv) the eliminations to arrive at the information for L-3 Communications on a consolidated basis.

	PARENT	GUARANTOR SUBSIDIARIES	NON-GUARANTOR SUBSIDIARIES	ELIMINATIONS	CONSOLIDATED L-3 COMMUNICATIONS
CONDENSED COMBINING BALANCE SHEETS:					
AS OF DECEMBER 31, 2001:					
Total current assets	$ 786,498	$ 300,585	$ 155,318	$ --	$1,242,401
Other long-term assets	965,566	701,887	429,395	--	2,096,848
Investment in and amounts due from consolidated subsidiaries	1,229,572	150,580	43,236	(1,423,388)	--
Total assets	$2,981,636	$1,153,052	$ 627,949	$ (1,423,388)	$3,339,249
Total current liabilities	$ 278,598	$ 136,579	$ 109,394	$ --	$ 524,571
Other long-term liabilities	173,894	31,080	10,663	--	215,637
Long-term debt	1,315,252	--	--	--	1,315,252
Minority interest	--	--	69,897	--	69,897
Shareholders' equity	1,213,892	985,393	437,995	(1,423,388)	1,213,892
Total liabilities and shareholders' equity	$2,981,636	$1,153,052	$ 627,949	$ (1,423,388)	$3,339,249
AS OF DECEMBER 31, 2000					
Total current assets	$ 530,672	$ 229,531	$ 69,367	$ --	$ 829,570
Other long-term assets	1,110,082	433,763	90,129	--	1,633,974
Investment in and amounts due from (to) consolidated subsidiaries	613,153	55,805	(27,022)	(641,936)	--
Total assets	$2,253,907	$ 719,099	$ 132,474	$ (641,936)	$2,463,544
Total current liabilities	$ 365,123	$ 71,948	$ 31,598	$ --	$ 468,669
Other long-term liabilities	101,215	103,173	2,918	--	207,306
Long-term debt	1,095,000	--	--	--	1,095,000
Shareholders' equity	692,569	543,978	97,958	(641,936)	692,569
Total liabilities and shareholders' equity	$2,253,907	$ 719,099	$ 132,474	$ (641,936)	$2,463,544

	PARENT	GUARANTOR SUBSIDIARIES	NON-GUARANTOR SUBSIDIARIES	ELIMINATIONS	CONSOLIDATED L-3 COMMUNICATIONS
CONDENSED COMBINING STATEMENTS OF OPERATIONS:					
FOR THE YEAR ENDED DECEMBER 31, 2001:					
Sales	$1,328,702	$854,094	$168,558	$ (3,932)	$2,347,422
Operating income	219,373	30,237	25,720	--	275,330
Interest and other income (expense)	8,335	(515)	(6,081)	--	1,739
Interest expense	86,024	51	315	--	86,390
Minority interest	--	--	4,457	--	4,457
Provision for income taxes	53,840	11,275	5,649	--	70,764
Equity in net income of consolidated subsidiaries	27,614	--	--	(27,614)	--
Net income	$ 115,458	$ 18,396	$ 9,218	$ (27,614)	$ 115,458
FOR THE YEAR ENDED DECEMBER 31, 2000:					
Sales	$1,313,998	$441,677	$159,735	$ (5,349)	$1,910,061
Operating income	206,680	5,755	10,283	--	222,718
Interest and other income	3,061	264	1,068	--	4,393
Interest expense	92,633	149	250	--	93,032
Provision for income taxes	44,852	2,248	4,252	--	51,352
Equity in net income of consolidated subsidiaries	10,471	--	--	(10,471)	--
Net income	$ 82,727	$ 3,622	$ 6,849	$ (10,471)	$ 82,727
FOR THE YEAR ENDED DECEMBER 31, 1999:					
Sales	$ 837,924	$440,160	$130,122	$ (2,744)	$1,405,462
Operating income (loss)	103,753	52,016	(5,283)	--	150,486
Interest and other income	4,738	469	327	--	5,534
Interest expense	60,307	--	283	--	60,590
Provision (benefit) for income taxes	18,238	20,091	(1,588)	--	36,741
Equity in net income of consolidated subsidiaries	28,743	--	--	(28,743)	--
Net income (loss)	$ 58,689	$ 32,394	$ (3,651)	$ (28,743)	$ 58,689

	PARENT	GUARANTOR SUBSIDIARIES	NON-GUARANTOR SUBSIDIARIES	ELIMINATIONS	CONSOLIDATED L-3 COMMUNICATIONS
CONDENSED COMBINING STATEMENTS OF CASH FLOWS:					
FOR THE YEAR ENDED DECEMBER 31, 2001:					
Net cash from operating activities	$ 104,169	$ 30,014	$ 38,785	$ --	$ 172,968
Net cash (used in) investing activities	(470,091)	(227,199)	(61,820)	334,220	(424,890)
Net cash from financing activities	667,424	187,862	59,198	(334,220)	580,264
Net increase (decrease) in cash	301,502	(9,323)	36,163	--	328,342
Cash and cash equivalents, beginning of period	18,708	4,911	9,061	--	32,680
Cash and cash equivalents, end of period	$ 320,210	$ (4,412)	$ 45,224	$ --	$ 361,022
FOR THE YEAR ENDED DECEMBER 31, 2000:					
Net cash from (used in) operating activities	$ 108,726	$ (10,504)	$ 15,583	$ --	$ 113,805
Net cash (used in) investing activities	(607,579)	(21,819)	(8,163)	29,338	(608,223)
Net cash from (used in) financing activities	483,524	32,070	(1,946)	(29,338)	484,310
Net increase (decrease) in cash	(15,329)	(253)	5,474	--	(10,108)
Cash and cash equivalents, beginning of period	34,037	5,164	3,587	--	42,788
Cash and cash equivalents, end of period	$ 18,708	$ 4,911	$ 9,061	$ --	$ 32,680
FOR THE YEAR ENDED DECEMBER 31, 1999:					
Net cash from (used in) operating activities	$ 75,737	$ 31,315	$ (8,034)	$ --	$ 99,018
Net cash (used in) investing activities	(280,118)	(155,607)	(62,408)	213,331	(284,802)
Net cash from financing activities	214,681	128,997	72,095	(213,331)	202,442
Net increase in cash	10,300	4,705	1,653	--	16,658
Cash and cash equivalents, beginning of period	23,737	459	1,934	--	26,130
Cash and cash equivalents, end of period	$ 34,037	$ 5,164	$ 3,587	$ --	$ 42,788

AIRCRAFT INTEGRATION SYSTEMS BUSINESS

COMBINED FINANCIAL STATEMENTS AS OF DECEMBER 31, 2001 AND 2000 AND
FOR THE YEARS ENDED DECEMBER 31, 2001, 2000 AND 1999

REPORT OF INDEPENDENT ACCOUNTANTS

To the Board of Directors of Raytheon Company:

In our opinion, the accompanying combined balance sheets and the related combined statements of operations and comprehensive income, parent company investment and cash flows present fairly, in all material respects, the financial position of the Aircraft Integration Systems Business (the "Company") of Raytheon Company at December 31, 2001 and 2000, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2001 in conformity with accounting principles generally accepted in the United States of America. These financial statements are the responsibility of the Company's management; our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits of these statements in accordance with auditing standards generally accepted in the United States of America, which require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

The Company is a member of a group of affiliated companies and, as disclosed in the financial statements, has extensive transactions and relationships with members of the group. Because of these relationships, it is possible that the terms of these transactions are not the same as those that would result from transactions among wholly unrelated parties.

/s/ PricewaterhouseCoopers LLP

Dallas, Texas
February 19, 2002

AIRCRAFT INTEGRATION SYSTEMS BUSINESS
COMBINED BALANCE SHEETS

	DECEMBER 31,	
	2001	2000
	(IN MILLIONS)	
ASSETS		
Current assets:		
Cash and cash equivalents	$ 4.0	$ 4.3
Contracts in process	310.8	394.6
Inventories	13.1	16.1
Deferred federal income taxes	13.3	27.1
Prepaid expenses and other current assets	1.2	7.8
Total current assets	342.4	449.9
Property, plant, and equipment, net	156.8	150.7
Goodwill, net of accumulated amortization of $173.8 in 2001 and $146.0 in 2000	940.1	967.9
Other assets, net	52.2	47.1
Total assets	$ 1,491.5	$ 1,615.6
LIABILITIES AND PARENT COMPANY INVESTMENT		
Current liabilities:		
Current portion of long-term debt	$ 1.4	$ 1.4
Advance payments	--	4.7
Accounts payable	36.0	62.3
Accrued salaries and wages	22.6	22.2
Other accrued expenses	1.1	11.8
Total current liabilities	61.1	102.4
Accrued retiree benefits and other long-term liabilities	36.4	24.0
Deferred federal income taxes	12.5	14.8
Long-term debt	0.3	1.7
Commitments and contingencies (Note 13)		
Accumulated other comprehensive loss	(5.8)	--
Parent company investment	1,387.0	1,472.7
Total liabilities and parent company investment	$ 1,491.5	$ 1,615.6

See notes to combined financial statements.

AIRCRAFT INTEGRATION SYSTEMS BUSINESS
COMBINED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME

	YEARS ENDED DECEMBER 31,		
	2001	2000	1999
	(IN MILLIONS)		
Net sales	$ 856.4	$ 964.4	$ 886.5
Net sales to the Parent	62.2	58.7	21.9
	918.6	1,023.1	908.4
Cost of sales	677.5	723.0	764.6
Cost of sales to the Parent	59.9	54.6	20.4
Cost of sales -- Parent subcontract services	20.6	16.9	27.2
Administrative and selling expenses	100.1	97.3	107.6
Research and development expenses	18.6	18.9	21.2
Total operating expenses	876.7	910.7	941.0
Operating income (loss)	41.9	112.4	(32.6)
Non-operating expense, net	1.4	0.9	1.6
Income (loss) before taxes	40.5	111.5	(34.2)
Federal income taxes	22.1	47.1	(4.0)
Net income (loss)	18.4	64.4	(30.2)
Other comprehensive loss, net of tax:			
Minimum pension liability adjustment	(5.8)	--	--
Comprehensive income (loss)	$ 12.6	$ 64.4	$ (30.2)

See notes to combined financial statements.

AIRCRAFT INTEGRATION SYSTEMS BUSINESS
COMBINED STATEMENTS OF PARENT COMPANY INVESTMENT

	YEARS ENDED DECEMBER 31,		
	2001	2000	1999
	(IN MILLIONS)		
Parent company investment, beginning of year	$ 1,472.7	$ 1,524.5	$ 1,496.3
Net income (loss)	18.4	64.4	(30.2)
Net transfers (to) from Parent	(104.1)	(116.2)	58.4
Parent company investment, end of year	$ 1,387.0	$ 1,472.7	$ 1,524.5

See notes to combined financial statements.

AIRCRAFT INTEGRATION SYSTEMS BUSINESS
COMBINED STATEMENTS OF CASH FLOWS

	YEARS ENDED DECEMBER 31,		
	2001	2000	1999
	(IN MILLIONS)		
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net income (loss)	$ 18.4	$ 64.4	$ (30.2)
Adjustments to reconcile net income (loss) to net cash from operating activities:			
Depreciation and amortization	51.2	50.3	51.4
Deferred federal income taxes	14.5	15.8	(23.5)
Changes in assets and liabilities:			
Contracts in process	83.8	6.5	38.5
Inventories	3.0	1.1	(9.0)
Prepaid expenses and other current assets	6.6	17.9	(18.9)
Advance payments	(4.7)	(20.2)	(2.2)
Accounts payable	(26.3)	(10.5)	(1.7)
Accrued salaries and wages	0.4	13.6	(5.1)
Other accrued expenses	(10.7)	(3.5)	(28.5)
Other adjustments, net	(3.3)	(3.3)	(2.5)
Net cash provided by (used in) operating activities	132.9	132.1	(31.7)
CASH FLOWS FROM INVESTING ACTIVITIES:			
Expenditures for property, plant, and equipment	(21.7)	(10.2)	(15.4)
Expenditures for internal use software	(6.0)	(0.3)	(11.3)
Net cash used in investing activities	(27.7)	(10.5)	(26.7)
CASH FLOWS FROM FINANCING ACTIVITIES:			
Transfers (to) from Parent	(104.1)	(116.2)	58.4
Decrease in long-term debt	(1.4)	(1.3)	(1.1)
Net cash (used in) provided by financing activities	(105.5)	(117.5)	57.3
Net (decrease) increase in cash and cash equivalents	(0.3)	4.1	(1.1)
Cash and cash equivalents, beginning of year	4.3	0.2	1.3
Cash and cash equivalents, end of year	$ 4.0	$ 4.3	$ 0.2

See notes to combined financial statements.

1. BACKGROUND AND BASIS OF PRESENTATION

The Aircraft Integration Systems Business (the "Company") of Raytheon Company and its subsidiaries (the "Parent") is engaged in the development and integration of complex electronic systems for airborne intelligence, surveillance, and reconnaissance missions. The combined financial statements presented may not be indicative of the financial position or results of operations that would have been achieved had the Company operated as a nonaffiliated entity.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

PRINCIPLES OF COMBINATION

The combined financial statements include the accounts of certain similar business operations that have historically been presented as a portion of Aircraft Integration Systems (AIS), a reportable segment of the Parent. The portion of AIS that has not been included consists primarily of a majority of the ASTOR program and the Boeing Business Jet programs. All material intercompany transactions have been eliminated.

REVENUE RECOGNITION

Sales under long-term contracts are recorded under the percentage of completion method. Costs and estimated gross margins are recorded as sales as work is performed based on the percentage that incurred costs bear to estimated total costs utilizing the most recent estimates of costs and funding. Amounts representing contract change orders, claims or other items are included in sales only when they can be reasonably estimated and realization is probable. Some contracts contain incentive provisions based upon performance in relation to established targets which are recognized in the contract estimates when deemed realizable. Since many contracts extend over a long period of time, revisions in cost and funding estimates during the progress of work have the effect of adjusting earnings applicable to performance in prior periods in the current period. When the current contract estimate indicates a loss, provision is made for the total anticipated loss in the current period.

RESEARCH AND DEVELOPMENT EXPENSES

Expenditures for company-sponsored research and development projects are expensed as incurred. Customer-sponsored research and development projects performed under contracts are accounted for as contract costs as the work is performed.

FEDERAL INCOME TAXES

Historically, the Company's operations have been included in the consolidated income tax returns filed by the Parent. Federal income tax expense in the statement of operations is calculated on a separate tax return basis as if the Company had operated as a stand-alone entity. The provision for income taxes is calculated in accordance with Statement of Financial Accounting Standards No. 109, Accounting for Income Taxes, which requires the recognition of deferred income taxes using the liability method.

CASH AND CASH EQUIVALENTS

Cash and cash equivalents consist of cash and short-term, highly liquid investments with original maturities of 90 days or less.

CONTRACTS IN PROCESS

Contracts in process are stated at cost plus estimated profit but not in excess of realizable value.

INVENTORIES

Inventories consist of consumables and parts used in the performance of contracts and are valued at the lower of cost or market, cost being determined on a weighted-average basis. A reserve is established for inventory items considered excess or obsolete.

PROPERTY, PLANT, AND EQUIPMENT

Property, plant, and equipment are stated at cost. Major improvements are capitalized while expenditures for maintenance, repairs, and minor improvements are charged to expense. When assets are retired or otherwise disposed of, the assets and related accumulated depreciation and amortization are eliminated from the accounts and any resulting gain or loss is reflected in income.

Provisions for depreciation are computed on a combination of accelerated and straight-line methods. Depreciation provisions are based on estimated useful lives as follows: buildings -- 20 to 45 years and machinery and equipment -- 3 to 10 years. Leasehold improvements are amortized over the lesser of the remaining life of the lease or the estimated useful life of the improvement.

GOODWILL

Goodwill, which represents the excess of the acquisition cost over the fair value of the net assets recorded, relates to the allocation of a portion of the goodwill associated with the Parent's acquisition of E-Systems, Inc. in 1995 and Chrysler Technologies, Inc. in 1996. Goodwill is amortized using the straight-line method over its estimated useful life of 40 years.

COMPUTER SOFTWARE

Internal use computer software is stated at cost less accumulated amortization and is amortized using the straight-line method over its estimated useful life ranging from 4 to 10 years.

IMPAIRMENT OF LONG-LIVED ASSETS

Upon indication of possible impairment, the Company evaluates the recoverability of long-lived assets by measuring the carrying amount of the assets against the related undiscounted future cash flows. When an evaluation indicates that the future undiscounted cash flows are not sufficient to recover the carrying value of the asset, the asset is adjusted to its estimated fair value.

ADVANCE PAYMENTS

Advance payments represent funds received in excess of work performed on contracts in process.

ACCOUNTS PAYABLE

Accounts payable includes a book overdraft of $3.1 million at December 31, 2001 and $5.9 million at December 31, 2000.

FOREIGN CURRENCY

Foreign exchange transaction gains and losses in 2001, 2000, and 1999 were not material.

COMPREHENSIVE INCOME

Comprehensive income and its components are presented in the statement of operations and other comprehensive income. The minimum pension liability adjustment is shown net of tax benefits of $3.1 million in 2001.

PENSION AND POSTRETIREMENT COSTS

The Parent has several pension and retirement plans covering the majority of the Company's employees. In addition, the Company maintains a separate plan for certain employees (see Note 12). Annual charges to income are made for the cost of the plans, including current service costs, interest on projected benefit obligations, and net amortization and deferrals, increased or reduced by the return on assets. Unfunded accumulated benefit obligations for the Company's separate plan are included in accrued retiree benefits and other long-term liabilities on the balance sheet. The Parent funds annually those pension costs which are calculated in accordance with Internal Revenue Service regulations and standards issued by the Cost Accounting Standards Board.

FAIR VALUE OF FINANCIAL INSTRUMENTS

The carrying value of certain financial instruments including cash and cash equivalents and the current portion of long-term debt approximates fair value due to their short maturities and varying interest rates. The carrying value of long-term debt, which approximates fair value, is based on current rates offered to the Company for similar debt with the same remaining maturities.

ACCOUNTING STANDARDS

In October 2001, the Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standards No. 144, Accounting for the Impairment or Disposal of Long-Lived Assets (SFAS No. 144). This accounting standard, which is effective for fiscal years beginning after December 31, 2001, requires that long-lived assets that are to be disposed of by sale be measured at the lower of book value or fair value less cost to sell. Additionally, SFAS No. 144 expands the scope of discontinued operations to include all components of an entity with operations that can be distinguished from the rest of the entity and will be eliminated from the ongoing operations of the entity in a disposal transaction. The effect of adopting SFAS No. 144 on the Company's financial position and results of operations has not yet been determined.

In June 2001, the FASB issued Statement of Financial Accounting Standards No. 142, Goodwill and Other Intangible Assets (SFAS No. 142). This accounting standard addresses financial accounting and reporting for goodwill and other intangible assets and requires that goodwill amortization be discontinued and replaced with periodic tests of impairment. SFAS No. 142 is effective for fiscal years beginning after December 15, 2001, and is required to be applied at the beginning of the fiscal year. Impairment losses that arise due to the initial application of this standard will be reported as a change in accounting principle. The Company has not completed its analysis of the effect of adopting SFAS No. 142, however the Company expects that this analysis will result in a goodwill impairment loss in the first quarter of 2002.

Effective January 1, 2001, the Company adopted Statement of Financial Accounting Standards No. 133, Accounting for Derivative Instruments and Hedging Activities (SFAS No. 133). This accounting standard requires that all derivatives be recognized as either assets or liabilities at estimated fair value. The Company also adopted Statement of Financial Accounting Standards No. 138, Accounting for Certain Derivative Instruments and Certain Hedging Activities, an amendment of SFAS No. 133. This accounting standard amended the accounting and reporting standards of SFAS No. 133 for certain derivative instruments and hedging activities. The January 1, 2001 adoption of SFAS No. 133, as amended, had no effect on the Company's financial position or results of operations.

RISKS AND UNCERTAINTIES

The Company is engaged in supplying primarily defense-related equipment to U.S. and foreign governments and is subject to certain business risks peculiar to the defense industry. Sales to governments may be affected by changes in procurement policies, budget considerations, changing concepts of national defense, political developments abroad, and other factors.

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Significant estimates are used when accounting for long-term contracts including estimates of the extent of progress towards completion, contract revenue, contract completion costs, contingencies, and customer and vendor claims, as well as estimates for litigation and environmental liabilities. Actual results could differ from those estimates.

3. RESTRUCTURING

Restructuring costs include the cost of involuntary employee termination benefits and related employee severance costs, facility closures, and other costs associated with the Company's approved plans. Employee termination benefits include severance, wage continuation, medical, and other benefits. Facility closure and related costs include disposal costs of property, plant, and equipment, lease payments, and lease terminations costs.

The Parent created Raytheon Systems Company (RSC) in December 1997, which included the Company. In conjunction with the formation of RSC, the Parent established certain restructuring reserves. A portion of these reserves was for actions related to the Company.

In 1999, the Company determined that the cost of the restructuring initiatives would be higher than originally planned and recorded a $7.8 million restructuring charge which was included in cost of sales. The increase in the estimated costs related to higher than anticipated costs for severance. The Company also recorded an additional $0.7 million restructuring charge in 1999, which was included in cost of sales, to further reduce the manufacturing and administrative workforce by 39 employees.

The restructuring and exit costs discussed above provided for severance and related benefits for approximately 400 employees. There were no major activities that were continued as a result of these actions. Employee-related exit costs included severance and other termination benefit costs for employees in various functional areas including manufacturing, engineering, and administration. The Company completed all restructuring actions during 2000. While these actions were intended to improve the Company's competitive position, there can be no assurances as to their ultimate success or that additional restructuring actions will not be required.

Restructuring activity is as follows (in millions):

	2000	1999
Accrued liability at beginning of year	$ 2.2	$ 0.4
Charges and liabilities accrued		
Severance and other employee-related costs	--	8.5
Costs incurred		
Severance and other employee related costs	2.2	6.7
Accrued liability at end of year	$ 0.0	$ 2.2
Cash expenditures	$ 2.2	$ 6.7
Number of employee terminations due to restructuring actions	39	80

4. PARENT COMPANY INVESTMENT AND INTERCOMPANY COST ALLOCATIONS

PARENT COMPANY INVESTMENT

The Company has obtained financing for its day-to-day operations from the Parent. Parent company investment includes the Parent's equity investment in the Company and net amounts due to the

Parent. Neither intercompany interest expense nor interest expense associated with the Parent's general corporate debt has been included in the combined financial statements. All transfers to and from the Parent have been reported in the parent company investment account.

INTERCOMPANY COST ALLOCATIONS

Certain costs are allocated to the Company by the Parent, primarily related to certain services, legal expenses, information systems, risk management and employee benefits (see Note 12 for further disclosure regarding employee benefits). The estimated costs of such services and benefits have been included in the combined financial statements based primarily on the proportion of the Parent's expenses allocated to the Company based on factors including employee headcount and costs incurred. Management believes these allocations are reasonable.

The amounts allocated to the Company in 2001, 2000, and 1999 in the combined statement of operations are as follows (in millions):

	2001	2000	1999
Cost of sales	$ 103.4	$ 101.2	$ 121.9
Administrative and selling expenses	11.2	9.9	10.6

5. CONTRACTS IN PROCESS

Contracts in process consisted of the following at December 31, 2001 (in millions):

	COST TYPE	FIXED PRICE	TOTAL
U.S. government end-use contracts:			
Billed	$ 4.1	$ 22.2	$ 26.3
Unbilled	65.0	190.7	255.7
Less: progress payments	--	(60.0)	(60.0)
	69.1	152.9	222.0
Other customers			
Billed	--	4.9	4.9
Unbilled	--	83.9	83.9
Less: progress payments	--	--	--
	--	88.8	88.8
	$ 69.1	$ 241.7	$ 310.8

Contracts in process consisted of the following at December 31, 2000 (in millions):

	COST TYPE	FIXED PRICE	TOTAL
U.S. government end-use contracts:			
Billed	$ 4.2	$ 15.6	$ 19.8
Unbilled	49.6	387.4	437.0
Less: progress payments	--	(197.2)	(197.2)
	53.8	205.8	259.6
Other customers			
Billed	--	14.1	14.1
Unbilled	12.6	108.3	120.9
Less: progress payments	--	--	--
	12.6	122.4	135.0
	$ 66.4	$ 328.2	$ 394.6

The U.S. government has title to the costs incurred underlying unbilled amounts on contracts that provide for progress payments. Unbilled amounts are primarily recorded on the percentage of completion method and are recoverable from the customer upon shipment of the product, presentation of billings, or completion of the contract.

Included in contracts in process at December 31, 2001 was approximately $11 million related to claims on contracts, which are included at their estimated realizable value. The Company believes that it has a contractual or legal basis for pursuing recovery of these claims, and that collection is probable. The settlement of these amounts depends on individual circumstances and negotiations with the counterparty, therefore, the timing of the collection will vary. There were no such claim amounts included in contracts in process at December 31, 2000.

Billed and unbilled contracts in process include retentions arising from contractual provisions. At December 31, 2001, retentions amounted to $1.6 million and are anticipated to be collected as follows: 2002 -- $0.8 million, 2003 -- $0.5 million, and the balance thereafter.

The Parent sold short-term government receivables through Raytheon Receivables, Inc. (RRI), a special purpose entity, which sold a portion of these short-term government receivables to a financial institution. The Company's pro-rata amount of these receivables sold through RRI, which totaled $1.7 million at December 31, 2000, has been removed from these combined financial statements. During the first quarter of 2001, the Parent terminated its short-term government receivables facility.

6. PROPERTY, PLANT, AND EQUIPMENT

Property, plant, and equipment consisted of the following at December 31 (in millions):

	2001	2000
Land	$ 0.4	$ 0.4
Buildings and leasehold improvements	223.1	215.4
Machinery and equipment	166.2	134.1
	389.7	349.9
Less: accumulated depreciation	(232.9)	(199.2)
	$ 156.8	$ 150.7

Depreciation expense was $18.2 million, $18.5 million, and $18.7 million in 2001, 2000, and 1999, respectively.

In 1998, the Parent entered into a property sale and five-year operating lease facility whereby property, plant, and equipment with a net book value of $16.6 million was removed from the Company's balance sheet. Operating lease expense of $3.2 million, $2.9 million, and $3.4 million was included in cost of sales in 2001, 2000, and 1999, respectively. During November 2001, the Parent repurchased the remaining property, plant, and equipment with a net book value of $6.0 million from this facility.

7. OTHER ASSETS

Other assets consisted of the following at December 31 (in millions):

	2001	2000
Computer software	$ 27.9	$ 26.3
Licenses	17.1	18.1
Pension intangible asset	6.7	--
Other noncurrent assets	0.5	2.7
	$ 52.2	$ 47.1

The Company capitalizes certain costs incurred in connection with the purchase and development of internal use computer software. The Company capitalized $6.0 million, $0.3 million, and $11.3 million of computer software during 2001, 2000, and 1999, respectively.

Licenses represent P-3 data rights acquired to allow the Company to compete on a worldwide basis for P-3 airframe maintenance and modification contracts.

8. LONG-TERM DEBT

The Parent has not allocated intercompany indebtedness or associated interest expense to the Company at December 31, 2001 and during 2001, 2000, and 1999.

Long-term debt consists solely of revenue bonds. The Airport Revenue Bond, issued in 1996, has a floating interest rate as follows: 5.0% for 1999, 5.15% for 2000, 5.3% for 2001, and 5.4% for 2002. The bond requires annual principal and interest payments with the final principal installment of $1.1 million due August 1, 2002. The Industrial Development Revenue Bond, issued in 1983 has a stated interest rate of 83.11% of the prime rate (3.9% at December 31, 2001) and is collateralized by certain buildings. The bond requires monthly principal payments of $27,000 with the final payment due December 31, 2003. Total interest payments on these revenue bonds approximated $0.2 million in 2001, and $0.3 million in 2000, and 1999.

Debt consisted of the following at December 31 (in millions):

	2001	2000
Airport Revenue Bond	$ 1.1	$ 2.1
Industrial Development Revenue Bond	0.6	1.0
Less: installments due within one year	(1.4)	(1.4)
Long-term debt	0.3	1.7
	$ 1.7	$ 3.1

The aggregate amounts of installments due on long-term debt for the next five years are (in millions):

2002	$ 1.4
2003	0.3
2004	--
2005	--
2006	--

9. INCOME TAXES

Federal income taxes consisted of the following (in millions):

	2001	2000	1999
Current income tax expense	$ 7.6	$ 31.3	$ 19.5
Deferred income tax expense (benefit)	14.5	15.8	(23.5)
	$ 22.1	$ 47.1	$ (4.0)

The provision for income taxes differs from the U.S. statutory rate due to the following (in millions):

	2001	2000	1999
Tax expense (benefit) at statutory rate	$ 14.1	$ 39.0	$ (12.0)
Foreign sales corporation benefit	(2.0)	(2.0)	(1.9)
Nondeductible goodwill amortization	9.8	9.8	9.8
Nondeductible meals	0.2	0.3	0.1
Total	$ 22.1	$ 47.1	$ (4.0)

Current income tax expense amounts are included as a transfer to the Parent in the parent company investment account. The effect of temporary differences which give rise to deferred income tax balances was as follows at December 31 (in millions):

	2001	2000
Current deferred tax assets:		
Contracts in process and other reserves	$ 13.0	$ 26.4
Inventory	0.3	0.7
Net current deferred tax assets	$ 13.3	$ 27.1
Noncurrent deferred tax liability:		
Depreciation and amortization	$ 15.6	$ 14.8
Additional pension minimum liability	(3.1)	--
Net noncurrent deferred tax liability	$ 12.5	$ 14.8

10. EMPLOYEE STOCK OPTION PLAN

The Company has no separate employee stock option plan, however, certain employees of the Company participate in the Parent's 1995 Stock Option Plan (the "Stock Option Plan") which provides for the grant of both incentive and nonqualified options at an exercise price which is 100% of the fair market value of the option on the date of grant. The plan provides that all stock options may be exercised in their entirety 12 to 36 months after the date of grant. Incentive stock options

terminate 10 years from the date of grant and become exercisable to a maximum of $100,000 per year. Nonqualified stock options expire 10 years and a day from the date of grant.

The following stock option information relates to options granted to the employees of the Company under the Stock Option Plan:

	NUMBER OF OPTIONS	WEIGHTED-AVERAGE EXERCISE PRICE PER SHARE
Outstanding at December 31, 1998	282,442	$ 56.27
Granted	158,600	68.42
Exercised	(62,248)	68.61
Canceled	(500)	60.52
Outstanding at December 31, 1999	378,294	$ 59.33
Granted	304,500	19.69
Exercised	--	--
Canceled	(4,775)	55.75
Outstanding at December 31, 2000	678,019	$ 41.55
Granted	293,832	29.82
Exercised	(12,781)	19.33
Canceled	(485)	39.68
Outstanding at December 31, 2001	958,585	$ 38.25

The Parent adopted the disclosure-only provisions of Statement of Financial Accounting Standards No. 123, Accounting for Stock Based Compensation (SFAS No. 123) and accordingly, no compensation expense has been recognized for the Stock Option Plan. Had compensation cost for the stock options awarded to the employees of the Company been determined based on the fair value at the grant date for awards under the Stock Option Plan, consistent with the methodology prescribed under SFAS No. 123, the Company's net income in 2001, 2000, and 1999 would include an additional $1.8 million, $2.4 million, and $1.5 million of compensation expense, respectively.

The weighted-average fair value of each option granted in 2001, 2000, and 1999, respectively, was estimated at $9.24, $5.86, and $22.60 on the date of grant using the Black-Scholes option pricing model with the following assumptions:

	2001	2000	1999
Expected life	4 years	4 years	4 years
Assumed annual dividend growth rate	1%	1%	5%
Expected volatility	40%	40%	35%
Assumed annual forfeiture rate	12%	12%	5%

The risk free interest rate (month-end yields on 4-year treasury strips equivalent zero coupon) ranged from 4.38% to 5.04% in 2001, 5.28% to 6.72% in 2000, and 4.63% to 6.16% in 1999.

The following table summarizes information about stock options outstanding and exercisable at December 31, 2001:

	OPTIONS OUTSTANDING			OPTIONS EXERCISABLE	
EXERCISE PRICE RANGE	SHARES OUTSTANDING AT DECEMBER 31, 2001	WEIGHTED AVERAGE CONTRACTUAL REMAINING LIFE (YEARS)	WEIGHTED AVERAGE EXERCISE PRICE	SHARES EXERCISABLE AT DECEMBER 31, 2001	WEIGHTED AVERAGE EXERCISE PRICE
$19.19-29.69.....	565,460	8.72	$ 24.49	98,333	$ 19.55
$31.24-48.97.....	39,457	6.97	$ 35.50	17,457	$ 40.03
$51.69-68.47.....	353,668	6.59	$ 60.56	353,668	$ 60.56
	958,585	7.86	$ 38.25	469,458	$ 51.21

11. BUSINESS SEGMENT REPORTING

The Company operates in the following geographic areas (in millions):

	UNITED STATES	OUTSIDE UNITED STATES	COMBINED
Sales:			
2001	$ 864.4	$ 54.2	$ 918.6
2000	941.8	81.3	1,023.1
1999	856.1	52.3	908.4
Long-lived assets at:			
December 31, 2001	$ 208.9	$ 0.1	$ 209.0
December 31, 2000	197.7	0.1	197.8

The country of destination was used to attribute sales to either United States or Outside United States. Sales to major customers in 2001, 2000, and 1999 were: U.S. government, including foreign military sales $808.4 million, $898.9 million, and $819.1 million, respectively, and U.S. Department of Defense $779.2 million, $857.5 million, and $781.8 million, respectively.

12. PENSION AND OTHER EMPLOYEE BENEFITS

The Parent sponsors defined benefit pension and postretirement plans which cover certain of the Company's employees and provide income and life insurance benefits. In addition, the Company maintains a separate plan for certain other employees.

The following table summarizes information regarding the Company's separate pension and other postretirement benefits' prepaid (accrued) benefit cost at December 31 (in millions):

	PENSION BENEFITS		OTHER POST-RETIREMENT BENEFITS	
	2001	2000	2001	2000
Changes in benefit obligation:				
Benefit obligation, beginning of year	$ 53.7	$ 57.0	$ 41.1	$ 38.8
Service cost	1.5	1.7	0.8	1.0
Interest cost	4.0	4.2	3.1	2.7
Plan amendments	3.9	--	--	--
Benefits paid	(3.5)	(2.0)	(2.0)	(1.6)
Actuarial (gain) loss	3.5	(7.2)	(6.1)	0.2
Benefits obligation, end of year	$ 63.1	$ 53.7	$ 36.9	$ 41.1

	PENSION BENEFITS		OTHER POST-RETIREMENT BENEFITS	
	2001	2000	2001	2000
Changes in plan assets:				
Fair value of plan assets, beginning of year	$ 69.6	$ 68.3	$ 32.4	$ 29.2
Actual return on plan assets	(14.9)	0.4	0.8	1.6
Employer contributions	0.7	2.8	1.7	3.2
Benefits paid	(3.5)	(1.9)	(2.0)	(1.6)
Fair value of plan assets, end of year	$ 51.9	$ 69.6	$ 32.9	$ 32.4
Funded status -- unrecognized components	$ (11.3)	$ 15.9	$ (3.9)	$ (8.6)
Additional contributions	--	--	1.0	--
Unrecognized net actuarial gain	8.9	(14.6)	(14.9)	(11.2)
Unrecognized prior service cost	6.7	3.0	(6.4)	(7.6)
Prepaid (accrued) benefit cost	$ 4.3	$ 4.3	$ (24.2)	$ (27.4)
Funded status -- recognized in balance sheets				
Prepaid benefit cost	4.3	4.3	-	-
Accrued benefit liability	(15.6)	--	(24.2)	(27.4)
Intangible asset	6.7	--	--	--
Accumulated other comprehensive income	8.9	--	--	--
Prepaid (accrued) benefit cost	$ 4.3	$ 4.3	$ (24.2)	$ (27.4)

	2001	2000	2001	2000
Weighted-average assumptions:				
Discount rate	7.25%	7.75%	7.25%	7.75%
Expected return on plan assets	9.50%	9.50%	8.50%	8.50%
Rate of compensation increase	4.50%	4.50%	4.50%	4.50%
Health care trend rate in the next year			9.00%	8.25%
Gradually declining to a trend rate of			5.00%	5.00%
In the years beyond			2010	2006

The effect of a one percent increase and decrease in the assumed health care trend rate for each future year for the aggregate of service and interest cost is $0.2 million and $(0.2) million, respectively, and for the accumulated postretirement benefit obligation is $2.4 million and $(2.2) million, respectively.

The following table summarizes the net periodic cost (benefit) for the Company's pension and other postretirement benefits (in millions):

	PENSION BENEFITS			OTHER POST-RETIREMENT BENEFITS		
	2001	2000	1999	2001	2000	1999
Components of net periodic benefit cost:						
Service cost	$ 1.5	$ 1.7	$ 1.6	$ 0.8	$ 1.0	$ 0.9
Interest cost	4.0	4.2	4.2	3.1	2.7	3.5
Expected return on plan assets	(5.1)	(5.0)	(3.9)	(2.7)	(2.8)	(2.4)
Amortization of prio service cost	0.3	0.3	0.3	(1.1)	(1.1)	(1.1)
Recognized actuarial loss (gain)	--	--	0.5	(0.5)	(0.7)	--
Net periodic benefit cost (benefit)	$ 0.7	$ 1.2	$ 2.7	$ (0.4)	$ (0.9)	$ 0.9

As noted above, the Company also contributes to multiemployer pension and other employee benefit plans administered by Raytheon Company, and contributed and charged to expense $13.3 million, $12.9 million, and $26.0 million in 2001, 2000, and 1999, respectively.

Under the terms of various savings and investment plans (defined contribution plans), covered employees are allowed to contribute up to a specific percentage of their pay, generally limited to $30,000 per year. The Company matches the employee's contribution, up to a certain percent of the employee's pay. Total expense for defined contribution plans was $9.2 million, $10.1 million, and $10.4 million in 2001, 2000, and 1999, respectively.

The Company makes annual contributions to the Raytheon Company stock fund of the various savings and investment plans of approximately one-half of one percent of salaries and wages, limited to $170,000 in 2001, 2000, and 1999, of most U.S. salaried and hourly employees. The expense was $1.4 million, $1.5 million, and $1.6 million in 2001, 2000, and 1999, respectively.

13. COMMITMENTS AND CONTINGENCIES

At December 31, 2001, the Company had commitments under long-term operating leases requiring approximate annual rentals as follows (in millions):

2002	$ 6.4
2003	4.1
2004	1.1
2005	0.5
2006	0.3
Thereafter	1.0

Rent expense in 2001, 2000, and 1999 was $10.5 million, $7.0 million, and $6.6 million, respectively.

The Company has banks and insurance companies issue, on its behalf, letters of credit to meet various bid, warranty, retention, and advance payment obligations, $133.7 million of which were outstanding at December 31, 2001. Approximately $32.8 million of this total relates to letters of credit issued to meet performance clauses in certain contracts. These instruments expire on various dates in 2002.

Government contractors are subject to various levels of audit and investigation. Agencies that oversee contract performance include: the Defense Contract Audit Agency, the Department of Defense Inspector General, the General Accounting Office, the Department of Justice, and Congressional Committees.

In addition, various claims and legal proceedings generally incidental to the normal course of business are pending or threatened against the Company. While the ultimate liability from these proceedings is presently indeterminable, any additional liability is not expected to have a material adverse effect on the Company's financial position or results of operations after giving effect to provisions already recorded.

14. RELATED PARTY TRANSACTIONS

Included in the accompanying combined statements of operations are net sales to the Parent of $62.2 million, $58.7 million, and $21.9 million in 2001, 2000, and 1999, respectively. The Company's costs of sales related to these sales were $59.9 million, $54.6 million, and $20.4 million in 2001, 2000, and 1999, respectively. Services performed by the Parent were $20.6 million, $16.9 million, and $27.2 million in 2001, 2000, and 1999, respectively. The Company's combined statements of operations also include certain allocated costs in 2001, 2000, and 1999 (see Note 4).

Amounts included in contracts in process for services provided to the Parent were $7.4 million and $3.5 million at December 31, 2001 and 2000, respectively. Amounts included in parent company investment for services obtained from the Parent were $529.8 million and $498.3 million at December 31, 2001 and 2000, respectively.

15. SUBSEQUENT EVENT

In January 2002, the Parent announced that it had entered into an agreement to sell the Aircraft Integration Systems Business for approximately $1.13 billion. In connection with this agreement the Parent will retain certain assets and liabilities of the business, including all amounts related to taxes and employee benefits. There can be no assurance that the sale will be consummated.

[GRAPHIC OMITTED] L3 COMMUNICATIONS

OFFER TO EXCHANGE ALL OUTSTANDING 7 5/8% SENIOR SUBORDINATED NOTES DUE 2012 FOR 7 5/8% SERIES B SENIOR SUBORDINATED NOTES DUE 2012, WHICH HAVE BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933

PROSPECTUS

UNTIL , 2002, ALL DEALERS THAT EFFECT TRANSACTIONS IN THESE SECURITIES, WHETHER OR NOT PARTICIPATING IN THIS OFFERING, MAY BE REQUIRED TO DELIVER A PROSPECTUS. THIS IS IN ADDITION TO THE DEALERS' OBLIGATION TO DELIVER A PROSPECTUS WHEN ACTING AS UNDERWRITERS AND WITH RESPECT TO THE UNSOLD ALLOTMENTS OR SUBSCRIPTIONS.

, 2002

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 20. INDEMNIFICATION OF DIRECTORS AND OFFICERS.

Section 145 of the Delaware General Corporation Law (the "DGCL") provides for, among other things:

a. permissive indemnification for expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by designated persons, including directors and officers of a corporation, in the event such persons are parties to litigation other than stockholder derivative actions if certain conditions are met;

b. permissive indemnification for expenses (including attorneys' fees) actually and reasonably incurred by designated persons, including directors and officers of a corporation, in the event such persons are parties to stockholder derivative actions if certain conditions are met;

c. mandatory indemnification for expenses (including attorneys' fees) actually and reasonably incurred by designated persons, including directors and officers of a corporation, in the event such persons are successful on the merits or otherwise in defense of litigation covered by a. and b. above; and

d. that the indemnification provided for by Section 145 is not deemed exclusive of any other rights which may be provided under any by-law, agreement, stockholder or disinterested director vote, or otherwise.

In addition to the indemnification provisions of the DGCL described above, the Registrant's certificate of incorporation (the "Certificate of Incorporation") authorizes indemnification of the Registrant's officers and directors, subject to a case-by-case determination that they acted in good faith and in a manner they reasonably believed to be in or not opposed to the best interests of the Company, and in the case of any criminal proceeding, they had no reasonable cause to believe their conduct was unlawful. In the event that a Change in Control (as defined in the Certificate of Incorporation) shall have occurred, the proposed indemnitee director or officer may require that the determination of whether he met the standard of conduct be made by special legal counsel selected by him. In addition, whereas the DGCL would require court-ordered indemnification, if any, in cases in which a person has been adjudged to be liable to the Registrant, the Certificate of Incorporation also permits indemnification in such cases if and to the extent that the reviewing party determines that such indemnity is fair and reasonable under the circumstances.

The Certificate of Incorporation requires the advancement of expenses to an officer or director (without a determination as to his conduct) in advance of the final disposition of a proceeding if such person furnishes a written affirmation of his good faith belief that he has met the applicable standard of conduct and furnishes a written undertaking to repay any advances if it is ultimately determined that he is not entitled to indemnification. In connection with proceedings by or in the right of the Registrant, the Certificate of Incorporation provides that indemnification shall include not only reasonable expenses, but also penalties, fines and amounts paid in settlement. Unless ordered by a court, such indemnification shall not include judgments. Under the Certificate of Incorporation, no officer or director is entitled to indemnification or advancement of expenses with respect to a proceeding brought by him against the Registrant other than a proceeding seeking or defending such officer's or director's right to indemnification or advancement of expenses. Finally, the Certificate of Incorporation provides that the Company may, subject to authorization on a case by case basis, indemnify and advance expenses to employees or agents to the same extent as a director or to a lesser extent (or greater, as permitted by law) as determined by the Board of Directors.

The Certificate of Incorporation purports to confer upon officers and directors contractual rights to indemnification and advancement of expenses as provided therein. In addition, as permitted by the

DGCL, the Registrant has entered into indemnity agreements with its directors and selected officers that provide contract rights substantially identical to the rights to indemnification and advancement of expenses set forth in the Certificate of Incorporation, as described above.

The Certificate of Incorporation limits the personal liability of directors to the Registrant or its stockholders for monetary damages for breach of the duty as a director, other than liability as a director (i) for breach of duty of loyalty to the Registrant or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the DGCL (certain illegal distributions), or (iv) for any transaction for which the director derived an improper personal benefit.

The Registrant maintains officers' and directors' insurance covering certain liabilities that may be incurred by officers and directors in the performance of their duties.

ITEM 21. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES.

The following exhibits are filed pursuant to Item 601 of Regulation S-K.

EXHIBIT NO.	DESCRIPTION OF EXHIBIT
**1.1	Purchase Agreement, dated as of June 25, 2002, among L-3 Communications Corporation, the Guarantors, Lehman Brothers Inc., Banc of America Securities LLC and Credit Suisse First Boston Corporation.
3.1	Certificate of Incorporation of L-3 Communications Corporation (incorporated by reference to Exhibit 3.1 to the Company's Registration Statement on Form S-4 No. 333-31649).
3.2	By-Laws of L-3 Communications Corporation (incorporated by reference to Exhibit 3.2 to the Company's Registration Statement on Form S-4 No. 333- 31649).
3.3	Certificate of Incorporation of Hygienetics Environmental Services, Inc. (incorporated by reference to Exhibit 3.3 to the Company's Registration Statement on Form S-1 No. 333-46983).
3.4	By-laws of Hygienetics Environmental Services, Inc. (incorporated by reference to Exhibit 3.4 to the Company's Registration Statement on Form S-1 No. 333- 46983).
3.5	Certificate of Incorporation of L-3 Communications ILEX Systems, Inc. (incorporated by reference to Exhibit 3.5 to the Company's Registration Statement on Form S-1 (No. 333-46983).
3.6	By-laws of L-3 Communications ILEX Systems, Inc. (incorporated by reference to Exhibit 3.6 to the Company's Registration Statement on Form S-1 No. 333- 46983).
3.7	Certificate of Incorporation of Southern California Microwave, Inc. (incorporated by reference to Exhibit 3.7 to the Company's Registration Statement on Form S-1 No. 333-46983).
3.8	By-laws of Southern California Microwave, Inc. (incorporated by reference to Exhibit 3.8 to the Company's Registration Statement on Form S-1 No. 333- 46983).
3.9	Certificate of Incorporation of L-3 Communications SPD Technologies, Inc. (incorporated by reference to Exhibit 3.9 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.10	By-laws of L-3 Communications SPD Technologies, Inc. (incorporated by reference to Exhibit 3.10 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.11	Certificate of Incorporation of L-3 Communications ESSCO, Inc. (incorporated by reference to Exhibit 3.11 to the Company's Registration Statement on Form S-4 No. 333-70199).

EXHIBIT NO.	DESCRIPTION OF EXHIBIT
3.12	By-laws of L-3 Communications ESSCO, Inc. (incorporated by reference to Exhibit 3.12 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.13	Certificate of Incorporation of L-3 Communications Storm Control Systems, Inc. (incorporated by reference to Exhibit 3.13 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.14	By-laws of L-3 Communications Storm Control Systems, Inc. (incorporated by reference to Exhibit 3.14 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.15	Certificate of Incorporation of L-3 Communications DBS Microwave, Inc. (incorporated by reference to Exhibit 3.15 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.16	By-laws of L-3 Communications DBS Microwave, Inc. (incorporated by reference to Exhibit 3.16 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.17	Certificate of Incorporation of SPD Electrical Systems, Inc. (incorporated by reference to Exhibit 3.17 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.18	By-laws of SPD Electrical Systems, Inc. (incorporated by reference to Exhibit 3.18 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.19	Certificate of Incorporation of SPD Switchgear Inc. (incorporated by reference to Exhibit 3.19 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.20	By-laws of SPD Switchgear Inc. (incorporated by reference to Exhibit 3.20 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.21	Certificate of Incorporation of Pac Ord Inc. (incorporated by reference to Exhibit 3.21 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.22	By-laws of Pac Ord Inc. (incorporated by reference to Exhibit 3.22 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.23	Certificate of Incorporation of Henschel Inc. (incorporated by reference to Exhibit 3.23 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.24	By-laws of Henschel Inc. (incorporated by reference to Exhibit 3.24 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.25	Certificate of Incorporation of Power Paragon, Inc. (incorporated by reference to Exhibit 3.25 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.26	By-laws of Power Paragon, Inc. (incorporated by reference to Exhibit 3.26 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.27	Certificate of Incorporation of SPD Holdings, Inc. (incorporated by reference to Exhibit 3.27 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.28	By-laws of SPD Holdings, Inc. (incorporated by reference to Exhibit 3.28 to the Company's Registration Statement on Form S-4 No. 333-70199).
**3.29	Certificate of Incorporation of AMI Instruments, Inc.
**3.30	By-laws of AMI Instruments, Inc.
**3.31	Certificate of Incorporation of Apcom, Inc.
**3.32	By-laws of Apcom, Inc.

EXHIBIT NO.	DESCRIPTION OF EXHIBIT
**3.33	Certificate of Incorporation of Celerity Systems Incorporated.
**3.34	By-laws of Celerity Systems Incorporated.
**3.35	Certificate of Incorporation of Coleman Research Corporation.
**3.36	By-laws of Coleman Research Corporation.
**3.37	Certificate of Incorporation of EER Systems, Inc.
**3.38	By-laws of EER Systems, Inc.
**3.39	Certificate of Incorporation of Electrodynamics, Inc.
**3.40	By-laws of Electrodynamics, Inc.
**3.41	Certificate of Incorporation of Interstate Electronics Corporation.
**3.42	By-laws of Interstate Electronics Corporation.
**3.43	Certificate of Incorporation of KDI Precision Products, Inc.
**3.44	By-laws of KDI Precision Products, Inc.
**3.45	Certificate of Incorporation of L-3 Communications AIS GP Corporation.
**3.46	By-laws of L-3 Communications AIS GP Corporation.
**3.47	Certificate of Incorporation of L-3 Communications Analytics Corporation.
**3.48	By-laws of L-3 Communications Analytics Corporation.
**3.49	Certificate of Incorporation of L-3 Communications Atlantic Science and Technology Corporation.
**3.50	By-laws of L-3 Communications Atlantic Science and Technology Corporation.
**3.51	Certificate of Incorporation of L-3 Communications Aydin Corporation.
**3.52	By-laws of L-3 Communications Aydin Corporation.
**3.53	Certificate of Limited Partnership of L-3 Communications Integrated Systems L.P.
**3.54	Limited Partnership Agreement of L-3 Communications Integrated Systems L.P.
**3.55	Certificate of Incorporation of L-3 Communications Investments, Inc.
**3.56	By-laws of L-3 Communications Investments, Inc.
**3.57	Certificate of Incorporation of Microdyne Communications Technologies Incorporated.
**3.58	By-laws of Microdyne Communications Technologies Incorporated.
**3.59	Certificate of Incorporation of Microdyne Corporation.
**3.60	By-laws of Microdyne Corporation.
**3.61	Certificate of Incorporation of Microdyne Outsourcing Incorporated.
**3.62	By-laws of Microdyne Outsourcing Incorporated.
**3.63	Certificate of Incorporation of MPRI, Inc.
**3.64	By-laws of MPRI, Inc.
**3.65	Certificate of Incorporation of MCTI Acquisition Corporation.

EXHIBIT NO.	DESCRIPTION OF EXHIBIT
**3.66	Bylaws of MCTI Acquisition Corporation.
**3.67	Certificate of Incorporation of L-3 Communications Security and Detection Systems Corporation Delaware.
**3.68	Bylaws of L-3 Communications Security and Detection Systems Corporation Delaware.
**4.1	Indenture dated as of June 28, 2002 among L-3 Communications Corporation, the Guarantors and The Bank of New York, as Trustee.
4.2	Form of 7 5/8% Senior Subordinated Note due 2012 (included in Exhibit 4.1).
4.3	Form of 7 5/8% Series B Senior Subordinated Note due 2012 (included in Exhibit 4.1).
**4.4	Registration Rights Agreement, dated as of June 28, 2002, among L-3 Communications Corporation, the Guarantors, Lehman Brothers Inc., Banc of America Securities LLC and Credit Suisse First Boston Corporation.
**5	Opinion of Simpson Thacher and Bartlett.
10.6	Employment Agreement dated April 30, 1997 between Frank C. Lanza and L-3 Communications Holdings, Inc. (incorporated by reference to Exhibit 10.5 to the Registrant's Registration Statement on Form S-1 No. 333-46975).
10.7	Employment Agreement dated April 30, 1997 between Robert V. LaPenta and L-3 Communications Holdings, Inc. (incorporated by reference to Exhibit 10.51 to the Registrant Statement on Form S-1 No. 333-46975).
10.10	Form of Stock Option Agreement of Employee Options (incorporated by reference to Exhibit 10.9 to the Registrant's Registration Statement on Form S-1 No. 333-46975).
10.11	1997 Stock Option Plan for Key Employees (incorporated by reference to Exhibit 10.11 to Registrant's Registration Statement on Form S-1, No. 333-70125).
10.12	Non-Qualified Stock Option Agreement dated as of April 30, 1997 by and between L-3 Communications Holdings, Inc. and Frank C. Lanza (incorporated by reference to Exhibit 10.12 to Registrant's Registration Statement on Form S-1, No. 333-70125).
10.13	Non-Qualified Stock Option Agreement dated as of April 30, 1997 by and between L-3 Communications Holdings, Inc. and Robert V. LaPenta (incorporated by reference to Exhibit 10.13 to Registrant's Registration Statement on Form S-1, No. 333-70125).
10.15	Option Plan for Non-Employee Directors of L-3 Communication's Holdings, Inc. (incorporated by reference to Exhibit 10.15 to Registrant's annual report on Form 10-K filed on March 31, 1999).
10.16	1999 Long Term Performance Plan dated as of April 27, 1999 (incorporated by reference to Exhibit 10.16 to the Registrant's annual report on Form 10-K filed on March 30, 2000).
10.20	L-3 Communications Corporation Pension Plan (incorporated by reference to Exhibit 10.10 to the Registrant's Registration Statement on Form S-1 No. 333-46975).
10.31	Indenture dated as of May 22, 1998 between L-3 Communications and The Bank of New York, as Trustee (incorporated by reference to Exhibit 10.6 to L-3 Communications Corporation's Registration Statement on Form S-4 No. 333-70199).
10.32	Indenture dated as of December 11, 1998 among L-3 Communications Corporation, the Guarantors named therein and The Bank of New York, as Trustee (incorporated by reference to Exhibit 10.32 to Registrant's Registration Statement on Form S-1, No. 333-70125).

EXHIBIT NO.	DESCRIPTION OF EXHIBIT
10.33	Indenture dated as of November 21, 2000 among L-3 Communications Holdings, Inc., the Guarantors named therein and the Bank of New York, as Trustee (incorporated by reference to Exhibit 10.33 to Registrant's annual report on Form 10-K filed on March 19, 2002).
10.34	Purchase Agreement dated as of November 21, 2000 between L-3 Communications Holdings, Inc. and Lehman Brothers Inc. (incorporated by reference to Exhibit 10.34 to Registrant's annual report on Form 10-K filed on March 19, 2002).
10.35	Registration Rights Agreement dated as of November 21, 2000 between L-3 Communications Holdings, Inc. and Lehman Brothers Inc. (incorporated by reference to Exhibit 10.35 to Registrant's annual report on Form 10-K filed on March 19, 2002).
10.40	Consent, Waiver and First Amendment to Amended and Restated 364 Day Credit Agreement dated as of April 28, 2000 among L-3 Communications Corporation and lenders named therein (incorporated by reference to Exhibit 10.40 to Registrant's annual report on Form 10-K filed on March 19, 2002).
10.41	Consent, Waiver and First Amendment to Second Amended and Restated Credit Agreement dated as of April 28, 2000 among L-3 Communications Corporation and lenders named therein (incorporated by reference to Exhibit 10.41 to Registrant's annual report on Form 10-K filed on March 19, 2002).
10.42	Consent, Waiver and First Amendment to New 364 Day Credit Agreement dated as of April 28, 2000 among L-3 Communications Corporation and lenders named therein (incorporated by reference to Exhibit 10.42 to Registrant's annual report on Form 10-K filed on March 19, 2002).
10.43	New 364 Day Credit Agreement dated as of April 24, 2000 among L-3 Communications Corporation and lenders named therein (incorporated by reference to Exhibit 10.43 to Registrant's annual report on Form 10-K filed on March 19, 2002).
10.44	Amended and Restated 364 Day Credit Agreement dated as of April 24, 2000 among L-3 Communications Corporation and lenders named therein (incorporated by reference to Exhibit 10.44 to Registrant's annual report on Form 10-K filed on March 19, 2002).
10.45	Second Amended and Restated Credit Agreement dated as of April 24, 2000 among L-3 Communications Corporation and lenders named therein (incorporated by reference to Exhibit 10.45 to Registrant's annual report on Form 10-K filed on March 19, 2002).
10.91	Asset Purchase Agreement relating to the Honeywell TCAS Business by and among Honeywell Inc., L-3 Communications Corporation and, solely in respect of the Guaranty in Article XIV, Honeywell International Inc. dated as of February 10, 2000 (incorporated by reference to Exhibit 10.91 to Registrant's annual report on Form 10-K filed on March 19, 2002).
10.92	Asset Purchase and Sale Agreement, dated January 7, 2000 by and between L-3 Communications Corporation and Raytheon Company (incorporated by reference to Exhibit 10.92 to Registrant's annual report on Form 10-K filed on March 19, 2002).
*11	L-3 Communications Holdings, Inc. Computation of Basic Earnings Per Share and Diluted Earnings Per Share.
**12	Ratio of Earnings to Fixed Charges.
**21	Subsidiaries of the Registrant.
**23.1	Consent of PricewaterhouseCoopers LLP with respect to the consolidated financial statements of L-3 Communications Holdings, Inc. and L-3 Communications Corporation.

EXHIBIT NO.	DESCRIPTION OF EXHIBIT
**23.2	Consent of PricewaterhouseCoopers LLP with respect to the combined financial statements of Aircraft Integration Systems Business.
24	Powers of Attorney L-3 Communications Corporation and the Additional Registrants (included on the signature pages hereto).
**25	Form T-1 Statement of Eligibility under the Trust Indenture Act of 1939 of The Bank of New York, as Trustee.
**99.1	Letter of Transmittal.
**99.2	Notice of Guaranteed Delivery.

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* The information required in this exhibit is presented on Note 10 to the Consolidated Financial Statements as of December 31, 2001 in accordance with the provisions of SFAS No. 128, Earnings Per Share.

** Filed herewith

ITEM 22. UNDERTAKINGS.

The undersigned registrants hereby undertake:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Selection 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement.

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrants pursuant to the foregoing provisions, or otherwise, the registrants have been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrants of expenses incurred or paid by the director, officer or controlling person of the registrants in the successful defense of any action, suit or proceeding) is asserted by such

director, officer or controlling person in connection with the securities being registered, the registrants will, unless in the opinion of their counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned registrants hereby undertake to respond to requests for information that is incorporated by reference into the prospectus pursuant to Item 4, 10(b), 11, or 13 of this form, within one business day of receipt of such request, and to send the incorporated documents by first class mail or other equally prompt means. This includes information contained in documents filed subsequent to the effective date of the registration statement through the date of responding to the request.

The undersigned registrants hereby undertake to supply by means of a post-effective amendment all information concerning a transaction, and the company being acquired involved therein, that was not the subject of and included in the registration statement when it became effective.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the city of New York, state of New York, on September 18, 2002.

L-3 COMMUNICATIONS CORPORATION

By: /s/ Christopher C. Cambria

Christopher C. Cambria,
Senior Vice President --
General Counsel and Secretary

SIGNATURES AND POWERS OF ATTORNEY

Each person whose signature appears below authorizes Christopher C. Cambria, Michael T. Strianese, Frank C. Lanza, Robert V. LaPenta, or any of them, as his attorney in fact and agent, with full power of substitution and resubstitution, to execute, in his name and on his behalf, in any and all capacities, this Registration Statement on Form S-4 and any amendments thereto (and any additional registration statement related thereto permitted by Rule 462 (b) promulgated under the Securities Act of 1933 (and all further amendments including post-effective amendments thereto)) necessary or advisable to enable the registrant to comply with the Securities Act of 1933, and any rules, regulations and requirements of the Securities and Exchange Commission, in respect thereof, in connection with the registration of the securities which are the subject of such registration statement, which amendments may make such changes in such registration statement as such attorney may deem appropriate, and with full power and authority to perform and do any and all acts and things whatsoever which any such attorney or substitute may deem necessary or advisable to be performed or done in connection with any or all of the above-described matters, as fully as each of the undersigned could do if personally present and acting, hereby ratifying and approving all acts of any such attorney or substitute.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

SIGNATURE	TITLE	DATE
/s/ Frank C. Lanza Frank C. Lanza	Chairman, Chief Executive Officer and Director	September 18, 2002
/s/ Robert V. LaPenta Robert V. LaPenta	President, Chief Financial Officer and Director	September 18, 2002
/s/ Michael T. Strianese Michael T. Strianese	Senior Vice President -- Finance	September 18, 2002
/s/ Thomas A. Corcoran Thomas A. Corcoran	Director	September 18, 2002
/s/ Robert B. Millard Robert B. Millard	Director	September 18, 2002
/s/ John E. Montague John E. Montague	Director	September 18, 2002
/s/ John M. Shalikashvili John M. Shalikashvili	Director	September 18, 2002
Arthur L. Simon	Director	
/s/ Alan H. Washkowitz Alan H. Washkowitz	Director	September 18, 2002

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, each of the registrants has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the city of New York, state of New York, on September 18, 2002.

ELECTRODYNAMICS, INC.
L-3 COMMUNICATIONS STORM CONTROL
SYSTEMS, INC.
MICRODYNE CORPORATION

By: /s/ Christopher C. Cambria

Christopher C. Cambria, Vice President
and Secretary

SIGNATURES AND POWERS OF ATTORNEY

Each person whose signature appears below authorizes Christopher C. Cambria, Frank C. Lanza, Robert V. LaPenta, or any of them, as his attorney in fact and agent, with full power of substitution and resubstitution, to execute, in his name and on his behalf, in any and all capacities, this Registration Statement on Form S-4 and any amendments thereto (and any additional registration statement related thereto permitted by Rule 462 (b) promulgated under the Securities Act of 1933 (and all further amendments including post-effective amendments thereto)) necessary or advisable to enable the registrants to comply with the Securities Act of 1933, and any rules, regulations and requirements of the Securities and Exchange Commission, in respect thereof, in connection with the registration of the securities which are the subject of such registration statement, which amendments may make such changes in such registration statement as such attorney may deem appropriate, and with full power and authority to perform and do any and all acts and things whatsoever which any such attorney or substitute may deem necessary or advisable to be performed or done in connection with any or all of the above-described matters, as fully as each of the undersigned could do if personally present and acting, hereby ratifying and approving all acts of any such attorney or substitute.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

SIGNATURE	TITLE	DATE
/s/ Frank C. Lanza Frank C. Lanza	Chief Executive Officer and Director	September 18, 2002
/s/ Robert V. LaPenta Robert V. LaPenta	Chief Financial Officer and Director	September 18, 2002
/s/ Christopher C. Cambria Christopher C. Cambria	Vice President, Secretary and Director	September 18, 2002

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, each of the registrants certifies has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the city of New York, state of New York, on September 18, 2002.

AMI INSTRUMENTS, INC.
APCOM, INC.
CELERITY SYSTEMS INCORPORATED
COLEMAN RESEARCH CORPORATION
EER SYSTEMS, INC.
HENSCHEL INC.
HYGIENETICS ENVIRONMENTAL SERVICES, INC.
INTERSTATE ELECTRONICS CORPORATION
KDI PRECISION PRODUCTS, INC.
L-3 COMMUNICATIONS AIS GP CORPORATION
L-3 COMMUNICATIONS ANALYTICS CORPORATION
L-3 COMMUNICATIONS ATLANTIC SCIENCE AND TECHNOLOGY CORPORATION
L-3 COMMUNICATIONS AYDIN CORPORATION
L-3 COMMUNICATIONS ESSCO, INC.
L-3 COMMUNICATIONS ILEX SYSTEMS, INC.
L-3 COMMUNICATIONS INVESTMENTS, INC.
L-3 COMMUNICATIONS SECURITY AND DETECTION SYSTEMS CORPORATION DELAWARE
L-3 COMMUNICATIONS SPD TECHNOLOGIES, INC.
MCTI ACQUISITION CORPORATION
MICRODYNE COMMUNICATIONS TECHNOLOGIES INCORPORATED
MICRODYNE OUTSOURCING INCORPORATED
MPRI, INC.
PAC ORD INC.
POWER PARAGON, INC.
SPD ELECTRICAL SYSTEMS, INC.
SPD HOLDINGS, INC.
SPD SWITCHGEAR INC.
SOUTHERN CALIFORNIA MICROWAVE, INC.

By: /s/ Christopher C. Cambria

Christopher C. Cambria, Vice President and Secretary

SIGNATURES AND POWERS OF ATTORNEY

Each person whose signature appears below authorizes Christopher C. Cambria, Frank C. Lanza, Robert V. LaPenta, or any of them, as his attorney in fact and agent, with full power of substitution and resubstitution, to execute, in his name and on his behalf, in any and all capacities, this Registration Statement on Form S-4 and any amendments thereto (and any additional registration statement related thereto permitted by Rule 462 (b) promulgated under the Securities Act of 1933 (and all further amendments including post-effective amendments thereto)) necessary or advisable to enable the registrants to comply with the Securities Act of 1933, and any rules, regulations and requirements of the Securities and Exchange Commission, in respect thereof, in connection with the registration of the securities which are the subject of such registration statement, which amendments may make such changes in such registration statement as such attorney may deem appropriate, and with full power and authority to perform and do any and all acts and things whatsoever which any

such attorney or substitute may deem necessary or advisable to be performed or done in connection with any or all of the above-described matters, as fully as each of the undersigned could do if personally present and acting, hereby ratifying and approving all acts of any such attorney or substitute.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

SIGNATURE	TITLE	DATE
/s/ Frank C. Lanza Frank C. Lanza	Chief Executive Officer	September 18, 2002
/s/ Robert V. LaPenta Robert V. LaPenta	Chief Financial Officer	September 18, 2002
/s/ Christopher C. Cambria Christopher C. Cambria	Vice President and Director	September 18, 2002

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, each of the registrants has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the city of New York, state of New York, on September 18, 2002.

L-3 COMMUNICATIONS INTEGRATED SYSTEMS L.P.

By: L-3 COMMUNICATIONS AIS GP CORPORATION,
as General Partner

By: /s/ Christopher C. Cambria

Name: Christopher C. Cambria
Title: Vice President and Secretary

SIGNATURES AND POWERS OF ATTORNEY

Each person whose signature appears below authorizes Christopher C. Cambria, Frank C. Lanza, Robert V. LaPenta, or any of them, as his attorney in fact and agent, with full power of substitution and resubstitution, to execute, in his name and on his behalf, in any and all capacities, this Registration Statement on Form S-4 and any amendments thereto (and any additional registration statement related thereto permitted by Rule 462 (b) promulgated under the Securities Act of 1933 (and all further amendments including post-effective amendments thereto)) necessary or advisable to enable the registrants to comply with the Securities Act of 1933, and any rules, regulations and requirements of the Securities and Exchange Commission, in respect thereof, in connection with the registration of the securities which are the subject of such registration statement, which amendments may make such changes in such registration statement as such attorney may deem appropriate, and with full power and authority to perform and do any and all acts and things whatsoever which any such attorney or substitute may deem necessary or advisable to be performed or done in connection with any or all of the above-described matters, as fully as each of the undersigned could do if personally present and acting, hereby ratifying and approving all acts of any such attorney or substitute.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

SIGNATURE	TITLE	DATE
/s/ Frank C. Lanza Frank C. Lanza	Chief Executive Officer	September 18, 2002
/s/ Robert V. LaPenta Robert V. LaPenta	Chief Financial Officer	September 18, 2002
/s/ Christopher C. Cambria Christopher C. Cambria	Vice President and Director	September 18, 2002

EXHIBIT INDEX

Exhibits identified in parentheses below are on file with the SEC and are incorporated herein by reference to such previous filings.

EXHIBIT NO.	DESCRIPTION OF EXHIBIT
**1.1	Purchase Agreement, dated as of June 25, 2002, among L-3 Communications Corporation, the Guarantors, Lehman Brothers Inc., Banc of America Securities LLC and Credit Suisse First Boston Corporation.
3.1	Certificate of Incorporation of L-3 Communications Corporation (incorporated by reference to Exhibit 3.1 to the Company's Registration Statement on Form S-4 No. 333-31649).
3.2	By-Laws of L-3 Communications Corporation (incorporated by reference to Exhibit 3.2 to the Company's Registration Statement on Form S-4 No. 333- 31649).
3.3	Certificate of Incorporation of Hygienetics Environmental Services, Inc. (incorporated by reference to Exhibit 3.3 to the Company's Registration Statement on Form S-1 No. 333-46983).
3.4	By-laws of Hygienetics Environmental Services, Inc. (incorporated by reference to Exhibit 3.4 to the Company's Registration Statement on Form S-1 No. 333- 46983).
3.5	Certificate of Incorporation of L-3 Communications ILEX Systems, Inc. (incorporated by reference to Exhibit 3.5 to the Company's Registration Statement on Form S-1 (No. 333-46983).
3.6	By-laws of L-3 Communications ILEX Systems, Inc. (incorporated by reference to Exhibit 3.6 to the Company's Registration Statement on Form S-1 No. 333- 46983).
3.7	Certificate of Incorporation of Southern California Microwave, Inc. (incorporated by reference to Exhibit 3.7 to the Company's Registration Statement on Form S-1 No. 333-46983).
3.8	By-laws of Southern California Microwave, Inc. (incorporated by reference to Exhibit 3.8 to the Company's Registration Statement on Form S-1 No. 333- 46983).
3.9	Certificate of Incorporation of L-3 Communications SPD Technologies, Inc. (incorporated by reference to Exhibit 3.9 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.10	By-laws of L-3 Communications SPD Technologies, Inc. (incorporated by reference to Exhibit 3.10 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.11	Certificate of Incorporation of L-3 Communications ESSCO, Inc. (incorporated by reference to Exhibit 3.11 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.12	By-laws of L-3 Communications ESSCO, Inc. (incorporated by reference to Exhibit 3.12 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.13	Certificate of Incorporation of L-3 Communications Storm Control Systems, Inc. (incorporated by reference to Exhibit 3.13 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.14	By-laws of L-3 Communications Storm Control Systems, Inc. (incorporated by reference to Exhibit 3.14 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.15	Certificate of Incorporation of L-3 Communications DBS Microwave, Inc. (incorporated by reference to Exhibit 3.15 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.16	By-laws of L-3 Communications DBS Microwave, Inc. (incorporated by reference to Exhibit 3.16 to the Company's Registration Statement on Form S-4 No. 333-70199).

EXHIBIT NO.	DESCRIPTION OF EXHIBIT
3.17	Certificate of Incorporation of SPD Electrical Systems, Inc. (incorporated by reference to Exhibit 3.17 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.18	By-laws of SPD Electrical Systems, Inc. (incorporated by reference to Exhibit 3.18 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.19	Certificate of Incorporation of SPD Switchgear Inc. (incorporated by reference to Exhibit 3.19 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.20	By-laws of SPD Switchgear Inc. (incorporated by reference to Exhibit 3.20 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.21	Certificate of Incorporation of Pac Ord Inc. (incorporated by reference to Exhibit 3.21 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.22	By-laws of Pac Ord Inc. (incorporated by reference to Exhibit 3.22 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.23	Certificate of Incorporation of Henschel Inc. (incorporated by reference to Exhibit 3.23 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.24	By-laws of Henschel Inc. (incorporated by reference to Exhibit 3.24 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.25	Certificate of Incorporation of Power Paragon, Inc. (incorporated by reference to Exhibit 3.25 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.26	By-laws of Power Paragon, Inc. (incorporated by reference to Exhibit 3.26 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.27	Certificate of Incorporation of SPD Holdings, Inc. (incorporated by reference to Exhibit 3.27 to the Company's Registration Statement on Form S-4 No. 333-70199).
3.28	By-laws of SPD Holdings, Inc. (incorporated by reference to Exhibit 3.28 to the Company's Registration Statement on Form S-4 No. 333-70199).
**3.29	Certificate of Incorporation of AMI Instruments, Inc.
**3.30	By-laws of AMI Instruments, Inc.
**3.31	Certificate of Incorporation of Apcom, Inc.
**3.32	By-laws of Apcom, Inc.
**3.33	Certificate of Incorporation of Celerity Systems Incorporated.
**3.34	By-laws of Celerity Systems Incorporated.
**3.35	Certificate of Incorporation of Coleman Research Corporation.
**3.36	By-laws of Coleman Research Corporation.
**3.37	Certificate of Incorporation of EER Systems, Inc.
**3.38	By-laws of EER Systems, Inc.
**3.39	Certificate of Incorporation of Electrodynamics, Inc.
**3.40	By-laws of Electrodynamics, Inc.
**3.41	Certificate of Incorporation of Interstate Electronics Corporation.
**3.42	By-laws of Interstate Electronics Corporation.
**3.43	Certificate of Incorporation of KDI Precision Products, Inc.

EXHIBIT NO.	DESCRIPTION OF EXHIBIT
**3.44	By-laws of KDI Precision Products, Inc.
**3.45	Certificate of Incorporation of L-3 Communications AIS GP Corporation.
**3.46	By-laws of L-3 Communications AIS GP Corporation.
**3.47	Certificate of Incorporation of L-3 Communications Analytics Corporation.
**3.48	By-laws of L-3 Communications Analytics Corporation.
**3.49	Certificate of Incorporation of L-3 Communications Atlantic Science and Technology Corporation.
**3.50	By-laws of L-3 Communications Atlantic Science and Technology Corporation.
**3.51	Certificate of Incorporation of L-3 Communications Aydin Corporation.
**3.52	By-laws of L-3 Communications Aydin Corporation.
**3.53	Certificate of Limited Partnership of L-3 Communications Integrated Systems L.P.
**3.54	Limited Partnership Agreement of L-3 Communications Integrated Systems L.P.
**3.55	Certificate of Incorporation of L-3 Communications Investments, Inc.
**3.56	By-laws of L-3 Communications Investments, Inc.
**3.57	Certificate of Incorporation of Microdyne Communications Technologies Incorporated.
**3.58	By-laws of Microdyne Communications Technologies Incorporated.
**3.59	Certificate of Incorporation of Microdyne Corporation.
**3.60	By-laws of Microdyne Corporation.
**3.61	Certificate of Incorporation of Microdyne Outsourcing Incorporated.
**3.62	By-laws of Microdyne Outsourcing Incorporated.
**3.63	Certificate of Incorporation of MPRI, Inc.
**3.64	By-laws of MPRI, Inc.
**3.65	Certificate of Incorporation of MCTI Acquisition Corporation.
**3.66	Bylaws of MCTI Acquisition Corporation.
**3.67	Certificate of Incorporation of L-3 Communications Security and Detection Systems Corporation Delaware.
**3.68	Bylaws of L-3 Communications Security and Detection Systems Corporation Delaware.
**4.1	Indenture dated as of June 28, 2002 among L-3 Communications Corporation, the Guarantors and The Bank of New York, as Trustee.
4.2	Form of 7 5/8% Senior Subordinated Note due 2012 (included in Exhibit 4.1).
4.3	Form of 7 5/8% Series B Senior Subordinated Note due 2012 (included in Exhibit 4.1).
**4.4	Registration Rights Agreement, dated as of June 28, 2002, among L-3 Communications Corporation, the Guarantors, Lehman Brothers Inc., Banc of America Securities LLC and Credit Suisse First Boston Corporation Communications Holdings' Registration Statement.
**5	Opinion of Simpson Thacher and Bartlett.

EXHIBIT NO.	DESCRIPTION OF EXHIBIT
10.6	Employment Agreement dated April 30, 1997 between Frank C. Lanza and L-3 Communications Holdings, Inc. (incorporated by reference to Exhibit 10.5 to the Registrant's Registration Statement on Form S-1 No. 333-46975).
10.7	Employment Agreement dated April 30, 1997 between Robert V. LaPenta and L-3 Communications Holdings, Inc. (incorporated by reference to Exhibit 10.51 to the Registrant Statement on Form S-1 No. 333-46975).
10.10	Form of Stock Option Agreement of Employee Options (incorporated by reference to Exhibit 10.9 to the Registrant's Registration Statement on Form S-1 No. 333-46975).
10.11	1997 Stock Option Plan for Key Employees (incorporated by reference to Exhibit 10.11 to Registrant's Registration Statement on Form S-1, No. 333-70125).
10.12	Non-Qualified Stock Option Agreement dated as of April 30, 1997 by and between L-3 Communications Holdings, Inc. and Frank C. Lanza (incorporated by reference to Exhibit 10.12 to Registrant's Registration Statement on Form S-1, No. 333-70125).
10.13	Non-Qualified Stock Option Agreement dated as of April 30, 1997 by and between L-3 Communications Holdings, Inc. and Robert V. LaPenta (incorporated by reference to Exhibit 10.13 to Registrant's Registration Statement on Form S-1, No. 333-70125).
10.15	Option Plan for Non-Employee Directors of L-3 Communication's Holdings, Inc. (incorporated by reference to Exhibit 10.15 to Registrant's annual report on Form 10-K filed on March 31, 1999).
10.16	1999 Long Term Performance Plan dated as of April 27, 1999 (incorporated by reference to Exhibit 10.16 to the Registrant's annual report on Form 10-K filed on March 30, 2000).
10.20	L-3 Communications Corporation Pension Plan (incorporated by reference to Exhibit 10.10 to the Registrant's Registration Statement on Form S-1 No. 333-46975).
10.31	Indenture dated as of May 22, 1998 between L-3 Communications and The Bank of New York, as Trustee (incorporated by reference to Exhibit 10.6 to L-3 Communications Corporation's Registration Statement on Form S-4 No. 333-70199).
10.32	Indenture dated as of December 11, 1998 among L-3 Communications Corporation, the Guarantors named therein and The Bank of New York, as Trustee (incorporated by reference to Exhibit 10.32 to Registrant's Registration Statement on Form S-1, No. 333-70125).
10.33	Indenture dated as of November 21, 2000 among L-3 Communications Holdings, Inc., the Guarantors named therein and the Bank of New York, as Trustee (incorporated by reference to Exhibit 10.33 to Registrant's annual report on Form 10-K filed on March 19, 2002).
10.34	Purchase Agreement dated as of November 21, 2000 between L-3 Communications Holdings, Inc. and Lehman Brothers Inc. (incorporated by reference to Exhibit 10.34 to Registrant's annual report on Form 10-K filed on March 19, 2002).
10.35	Registration Rights Agreement dated as of November 21, 2000 between L-3 Communications Holdings, Inc. and Lehman Brothers Inc. (incorporated by reference to Exhibit 10.35 to Registrant's annual report on Form 10-K filed on March 19, 2002).
10.40	Consent, Waiver and First Amendment to Amended and Restated 364 Day Credit Agreement dated as of April 28, 2000 among L-3 Communications Corporation and lenders named therein (incorporated by reference to Exhibit 10.40 to Registrant's annual report on Form 10-K filed on March 19, 2002).

EXHIBIT NO.	DESCRIPTION OF EXHIBIT
10.41	Consent, Waiver and First Amendment to Second Amended and Restated Credit Agreement dated as of April 28, 2000 among L-3 Communications Corporation and lenders named therein (incorporated by reference to Exhibit 10.41 to Registrant's annual report on Form 10-K filed on March 19, 2002).
10.42	Consent, Waiver and First Amendment to New 364 Day Credit Agreement dated as of April 28, 2000 among L-3 Communications Corporation and lenders named therein (incorporated by reference to Exhibit 10.42 to Registrant's annual report on Form 10-K filed on March 19, 2002).
10.43	New 364 Day Credit Agreement dated as of April 24, 2000 among L-3 Communications Corporation and lenders named therein (incorporated by reference to Exhibit 10.43 to Registrant's annual report on Form 10-K filed on March 19, 2002).
10.44	Amended and Restated 364 Day Credit Agreement dated as of April 24, 2000 among L-3 Communications Corporation and lenders named therein (incorporated by reference to Exhibit 10.44 to Registrant's annual report on Form 10-K filed on March 19, 2002).
10.45	Second Amended and Restated Credit Agreement dated as of April 24, 2000 among L-3 Communications Corporation and lenders named therein (incorporated by reference to Exhibit 10.45 to Registrant's annual report on Form 10-K filed on March 19, 2002).
10.91	Asset Purchase Agreement relating to the Honeywell TCAS Business by and among Honeywell Inc., L-3 Communications Corporation and, solely in respect of the Guaranty in Article XIV, Honeywell International Inc. dated as of February 10, 2000 (incorporated by reference to Exhibit 10.91 to Registrant's annual report on Form 10-K filed on March 19, 2002).
10.92	Asset Purchase and Sale Agreement, dated January 7, 2000 by and between L-3 Communications Corporation and Raytheon Company (incorporated by reference to Exhibit 10.92 to Registrant's annual report on Form 10-K filed on March 19, 2002).
*11	L-3 Communications Holdings, Inc. Computation of Basic Earnings Per Share and Diluted Earnings Per Share.
**12	Ratio of Earnings to Fixed Charges.
**21	Subsidiaries of the Registrant.
**23.1	Consent of PricewaterhouseCoopers LLP with respect to the consolidated financial statements of L-3 Communications Holdings, Inc. and L-3 Communications Corporation.
**23.2	Consent of PricewaterhouseCoopers LLP with respect to the combined financial statements of Aircraft Integration Systems Business.
24	Powers of Attorney L-3 Communications Corporation and the Additional Registrants (included on the signature pages hereto).
**25	Form T-1 Statement of Eligibility under the Trust Indenture Act of 1939 of The Bank of New York, as Trustee.
**99.1	Letter of Transmittal.
**99.2	Notice of Guaranteed Delivery.

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* The information required in this exhibit is presented on Note 10 to the Consolidated Financial Statements as of December 31, 2001 in accordance with the provisions of SFAS No. 128, Earnings Per Share.

** Filed herewith.

EXECUTION COPY

L-3 COMMUNICATIONS CORPORATION

7% SENIOR SUBORDINATED NOTES DUE 2012

PURCHASE AGREEMENT

June 25, 2002

LEHMAN BROTHERS INC.
BANC OF AMERICA SECURITIES LLC
CREDIT SUISSE FIRST BOSTON CORPORATION
c/o Lehman Brothers Inc.
745 Seventh Avenue, Third Floor
High Yield Capital Markets
New York, New York 10019

Dear Sirs:

L-3 Communications Corporation, a Delaware corporation (the "Company"), proposes to issue and sell to you (the "Initial Purchasers") $750 million in aggregate principal amount of its 7% Senior Subordinated Notes due 2012 (the "Series A Notes") guaranteed (the "Series A Guarantees;" and, together with the Series A Notes, the "Series A Notes and Guarantees") by Henschel, Inc., a Delaware corporation, Hygienetics Environmental Services, Inc., a Delaware corporation, KDI Precision Products, Inc., a Delaware corporation, L-3 Communications AIS GP Corporation, a Delaware corporation, L-3 Communications Aydin Corporation, a Delaware corporation, L-3 Communications ESSCO, Inc., a Delaware corporation, L-3 Communications ILEX Systems, Inc., a Delaware corporation, L-3 Communications Integrated Systems L.P., a Delaware limited partnership, L-3 Communications Investments Inc., a Delaware corporation, L-3 Communications SPD Technologies, Inc., a Delaware corporation, MPRI, Inc., a Delaware corporation, Pac Ord, Inc., a Delaware corporation, Power Paragon, Inc., a Delaware corporation, SPD Electrical Systems, Inc., a Delaware corporation, SPD Holdings, Inc., a Delaware corporation, SPD Switchgear, Inc., a Delaware corporation (individually a "Delaware Guarantor" and collectively, the "Delaware Guarantors") and AMI Instruments, Inc., an Oklahoma corporation, Apcom, Inc., a Maryland corporation, Celerity Systems Incorporated, a California corporation, Coleman Research Corporation, a Florida corporation, EER Systems, Inc., a Virginia corporation, Electrodynamics, Inc., an Arizona corporation, Interstate Electronics Corporation, a California corporation, L-3 Communications Analytics Corporation, a California corporation, L-3 Communications Atlantic Science and Technology Corporation, a New Jersey corporation, L-3 Communications Storm Control Systems, Inc. a California corporation, Microdyne Communications Technologies Incorporated, a Maryland corporation, Microdyne Corporation, a Maryland corporation,

Microdyne Outsourcing Incorporated, a Maryland corporation and Southern California Microwave, Inc., a California corporation (individually a "Non-Delaware Guarantor," collectively the "Non-Delaware Guarantors" and, together with the Delaware Guarantors, the "Guarantors"), pursuant to the terms of an Indenture (the "Indenture") among the Company, the Guarantors and The Bank of New York, as trustee (the "Trustee"), relating to the Series A Notes. Capitalized terms used but not defined herein shall have the meanings given to such terms in the Indenture.

The Series A Notes will be offered and sold to you pursuant to an exemption from the registration requirements under the Securities Act of 1933, as amended (the "Act"). The Company has prepared a preliminary offering memorandum, dated June 7, 2002 (the "Preliminary Offering Memorandum") and will prepare a final offering memorandum (the "Offering Memorandum"), to be dated June 25, 2002, relating to the Company, the Series A Notes and the Series A Guarantees. As described in the Offering Memorandum, the Company will use the net proceeds from the offering of the Series A Notes to (1) repay its $500.0 million senior subordinated interim loan, and (2) repurchase and/or redeem its $225 million 10-3/8% Senior Subordinated Notes due 2007.

Upon original issuance thereof, and until such time as the same is no longer required under the applicable requirements of the Securities Act, the Series A Notes (and all securities issued in exchange therefor or in substitution thereof) shall bear the following legend:

> "THE SECURITY (OR ITS PREDECESSOR) EVIDENCED HEREBY WAS ORIGINALLY ISSUED IN A TRANSACTION EXEMPT FROM REGISTRATION UNDER SECTION 5 OF THE UNITED STATES SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND THE SECURITY EVIDENCED HEREBY MAY NOT BE OFFERED, SOLD OR OTHERWISE TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION OR AN APPLICABLE EXEMPTION THEREFROM. EACH PURCHASER OF THE SECURITY EVIDENCED HEREBY IS HEREBY NOTIFIED THAT THE SELLER MAY BE RELYING ON THE EXEMPTION FROM THE PROVISION OF SECTION 5 OF THE SECURITIES ACT PROVIDED BY RULE 144A THEREUNDER. THE HOLDER OF THE SECURITY EVIDENCED HEREBY AGREES FOR THE BENEFIT OF L-3 COMMUNICATIONS CORPORATION THAT (A) SUCH SECURITY MAY BE RESOLD, PLEDGED OR OTHERWISE TRANSFERRED, ONLY (1) (a) TO A PERSON WHO THE SELLER REASONABLY BELIEVES IS A QUALIFIED INSTITUTIONAL BUYER (AS DEFINED IN RULE 144A UNDER THE SECURITIES ACT) IN A TRANSACTION MEETING THE REQUIREMENTS OF RULE 144A, (b) IN A TRANSACTION MEETING THE REQUIREMENTS OF RULE 144 UNDER THE SECURITIES ACT, (c) OUTSIDE THE UNITED STATES TO A FOREIGN PERSON IN A TRANSACTION MEETING THE REQUIREMENTS OF RULE 904 UNDER THE SECURITIES ACT OR (d) IN ACCORDANCE WITH ANOTHER EXEMPTION FROM THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT (AND BASED UPON AN OPINION OF COUNSEL IF L-3 COMMUNICATIONS CORPORATION SO REQUESTS), (2) TO

L-3 COMMUNICATIONS CORPORATION OR (3) PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT AND, IN EACH CASE, IN ACCORDANCE WITH ANY APPLICABLE SECURITIES LAWS OF ANY STATE OF THE UNITED STATES OR ANY OTHER APPLICABLE JURISDICTION AND (B) THE HOLDER WILL, AND EACH SUBSEQUENT HOLDER IS REQUIRED TO, NOTIFY ANY PURCHASER FROM IT OF THE SECURITY EVIDENCED HEREBY OF THE RESALE RESTRICTIONS SET FORTH IN (A) ABOVE."

You have advised the Company that you will make offers (the "Exempt Resales") of the Series A Notes purchased by you hereunder on the terms set forth in the Offering Memorandum, as amended or supplemented, solely to (i) persons whom you reasonably believe to be "qualified institutional buyers" as defined in Rule 144A under the Securities Act ("QIBs"), (ii) Frank C. Lanza, who shall have represented to the Company and the Initial Purchasers that he is an "Accredited Investor" referred to in Rule 501(a)(4), (5) or (6) under the Act (the "Accredited Investor"), that he is purchasing the Series A Notes for investment purposes only and with no present intention to resell the Series A Notes and executed and returned to the Initial Purchasers a certificate in the form of Exhibit A hereto and (iii) outside the United States to persons other than U.S. Persons in offshore transactions meeting the requirements of Rule 904 of Regulation S ("Regulations S") under the Securities Act (such persons specified in clauses (i), (ii) and (iii) being referred to herein as the "Eligible Purchasers"). As used herein, the terms "offshore transaction," "United States" and "U.S. person" have the respective meanings given to them in Regulation S. You will offer the Series A Notes to Eligible Purchasers initially at a price equal to 100.0% of the principal amount thereof. Such price may be changed at any time without notice.

Holders (including subsequent transferees) of the Series A Notes will have the registration rights set forth in the registration rights agreement (the "Registration Rights Agreement"), to be dated June 25, 2002 (the "Closing Date"), in the form of Exhibit C hereto, for so long as such Series A Notes constitute "Transfer Restricted Securities" (as defined in the Registration Rights Agreement). Pursuant to the Registration Rights Agreement, the Company and the Guarantors will agree to file with the Securities and Exchange Commission (the "Commission") under the circumstances set forth therein, (i) a registration statement under the Securities Act (the "Exchange Offer Registration Statement") relating to the Company's [__]% Senior Subordinated Notes due 2012 (the "Series B Notes" and, together with the Series A Notes, the "Notes") and the guarantees thereof (the "Series B Guarantees" and, together with the Series A Guarantees, the "Guarantees") to be offered in exchange for the Series A Notes and Guarantees, (such offer to exchange being referred to collectively as the "Registered Exchange Offer") and (ii) a shelf registration statement pursuant to Rule 415 under the Securities Act (the "Shelf Registration Statement") relating to the resale by certain holders of the Series A Notes, and to use all commercially reasonable efforts to cause such Registration Statements to be declared effective. This Agreement, the Notes, the Guarantees (as defined herein), the Indenture and the Registration Rights Agreement are hereinafter referred to collectively as the "Operative Documents." This is to confirm the agreements concerning the purchase of the Series A Notes from the Company by you.

1. Representations, Warranties and Agreements of the Company and the Guarantors. The Company and the Guarantors, jointly and severally represent, warrant and agree that:

(a) The Preliminary Offering Memorandum and Offering Memorandum with respect to the Series A Notes have been prepared by the Company for use by the Initial Purchasers in connection with the Exempt Resales. No order or decree preventing the use of the Offering Memorandum, or any order asserting that the transactions contemplated by this Agreement are subject to the registration requirements of the Securities Act has been issued and no proceeding for that purpose has commenced or is pending or, to the knowledge of the Company and the Guarantors, is contemplated.

(b) The Preliminary Offering Memorandum as of its date and the Offering Memorandum as of its date and as of the Closing Date, will not contain an untrue statement of a material fact or omit to state a material fact necessary, in order to make the statements, in light of the circumstances under which they were made, not misleading, except that this representation and warranty does not apply to statements in or omissions from the Preliminary Offering Memorandum and the Offering Memorandum made in reliance upon and in conformity with information relating to the Initial Purchasers furnished to the Company in writing by or on behalf of the Initial Purchasers expressly for use therein.

(c) The market-related and customer-related data and estimates included or incorporated by reference in the Offering Memorandum are based on or derived from sources which the Company believes to be reliable and accurate.

(d) The Company and each of its subsidiaries (as defined in Section 14 hereof) have been duly organized and are validly existing as corporations, limited partnerships or limited liability companies, as applicable, in good standing under the laws of their respective jurisdictions of organization, are duly qualified to do business and are in good standing as foreign corporations in each jurisdiction in which their respective ownership or lease of property or the conduct of their respective businesses requires such qualification except for such qualification and good standing the failure of which, individually or in the aggregate, would not result in a material adverse effect on the condition (financial or other), business, prospects, properties, stockholders' equity or results of operations of the Company and its subsidiaries taken as a whole (a "Material Adverse Effect"), and have all power and authority necessary to own or hold their respective properties and to conduct the businesses in which they are engaged.

(e) All of the issued shares of capital stock of the Company have been duly and validly authorized and issued, are fully paid and non-assessable; and (i) approximately 70% of the membership interests in Aviation Communications & Surveillance Systems, LLC, (ii) approximately 90% of the capital stock of Electronic Space Systems (UK) Limited, (iii) 99.99% of the capital stock of ESSCO Collins Limited, (iv) approximately 50% of the membership interests in Arbeitmedizinische Betreungsgesellschaft Kieler Bertriebe mbH, (v) approximately 98% of the membership interests in Misure Radioelettriche S.r.l., (vi) approximately 50% of the membership interests in ITel Solutions, LLC, (vii) approximately 53.5% of the capital stock of LogiMetrics, Inc., (viii) approximately 53.5% of the capital stock of Logimetrics FSC, Inc., (ix) approximately 53.5% of the capital stock of mmTECH, Inc. and (x) 100% of the issued shares of capital stock or

membership interests of each other subsidiary of the Company have been duly and validly authorized and issued and are fully paid and non-assessable and (except for directors' qualifying shares) are owned directly or indirectly by the Company or a subsidiary of the Company, free and clear of all liens, encumbrances, equities or claims, other than (A) liens, encumbrances, equities or claims described in the Offering Memorandum or in documents incorporated therein by reference, (B) a pledge of such shares to secure the Senior Credit Facilities and (C) such other liens, encumbrances, equities or claims as do not have a Material Adverse Effect.

(f) The Company has all requisite power and authority to execute, deliver and perform its obligations under this Agreement, the Indenture, the Notes, the Guarantees and the Registration Rights Agreement.

(g) This Agreement has been duly authorized, executed and delivered by the Company and the Guarantors.

(h) The Registration Rights Agreement has been duly authorized by the Company and each of the Guarantors, and when duly executed by the proper officers of the Company and the Guarantors (assuming due execution and delivery by the Initial Purchasers) and delivered by the Company and each Guarantor, will constitute a valid and binding agreement of the Company and each Guarantor, enforceable against the Company and each Guarantor in accordance with its terms, subject to the effects of bankruptcy, insolvency, fraudulent conveyance, reorganization, moratorium and other similar laws relating to or affecting creditors' rights generally, general equitable principles (whether considered in a proceeding in equity or at law) or an implied covenant of good faith and fair dealing and except as rights to indemnity and contribution thereunder may be limited by Federal or state securities laws or principles of public policy.

(i) The Indenture has been duly and validly authorized by the Company and each of the Guarantors, and when duly executed by the proper officers of the Company and each of the Guarantors (assuming due execution and delivery by the Trustee) and delivered by the Company and each of the Guarantors, will constitute a valid and binding agreement of the Company and each of the Guarantors enforceable against the Company and each of the Guarantors in accordance with its terms, subject to the effects of bankruptcy, insolvency, fraudulent conveyance, reorganization, moratorium and other similar laws relating to or affecting creditors' rights generally, general equitable principles (whether considered in a proceeding in equity or at law) or an implied covenant of good faith and fair dealing; no qualification of the Indenture under the Trust Indenture Act of 1939, as amended (the "1939 Act") is required in connection with the Exempt Resales.

(j) The Series A Notes have been duly and validly authorized by the Company and when duly executed by the Company in accordance with the terms of the Indenture and, assuming due authentication of the Series A Notes by the Trustee, upon delivery to the Initial Purchasers against payment therefor in accordance with the terms hereof will constitute valid and binding obligations of the Company entitled to the benefits of the Indenture and enforceable against the Company in accordance with their terms, subject to the effects of bankruptcy, insolvency, fraudulent conveyance, reorganization, moratorium and other similar laws relating to or affecting creditors' rights generally, general equitable principles (whether considered in a proceeding in equity or at law) or an implied covenant of good faith and fair dealing; and the Series A Notes,

when issued and delivered, will conform to the description thereof contained in the Offering Memorandum in all material respects.

(k) The Series A Guarantees have been duly and validly authorized by the Guarantors and when duly endorsed on the Series A Notes in accordance with the terms of the Indenture and, assuming due authentication of the Series A Notes by the Trustee, upon delivery to the Initial Purchasers against payment therefor in accordance with the terms hereof will constitute valid and binding obligations of each of the Guarantors entitled to the benefits of the Indenture and enforceable against in accordance with their terms, subject to the effects of bankruptcy, insolvency, fraudulent conveyance, reorganization, moratorium and other similar laws relating to or affecting creditors' rights generally, general equitable principles (whether considered in a proceeding in equity or at law) or an implied covenant of good faith and fair dealing; and the Series A Guarantees, when issued and delivered, will conform to the description thereof contained in the Offering Memorandum in all material respects.

(l) The Series B Notes have been duly and validly authorized by the Company and if and when duly issued and authenticated in accordance with the terms of the Indenture and delivered in accordance with the Registered Exchange Offer provided for in the Registration Rights Agreement, will constitute valid and binding obligations of the Company entitled to the benefits of the Indenture, enforceable against the Company in accordance with their terms, subject to the effects of bankruptcy, insolvency, fraudulent conveyance, reorganization, moratorium and other similar laws relating to or affecting creditors' rights generally, general equitable principles (whether considered in a proceeding in equity or at law) or an implied covenant of good faith and fair dealing.

(m) The guarantees of the Series B Notes (the "Series B Guarantees" and, together with the Series A Guarantees, the "Guarantees") have been duly and validly authorized by the Guarantors and if and when duly endorsed on the Series A Notes in accordance with the terms of the Indenture and delivered in accordance with the Registered Exchange Offer provided for in the Registration Rights Agreement, will constitute valid and binding obligations of each of the Guarantors entitled to the benefits of the Indenture and enforceable against each of the Guarantors in accordance with their terms, subject to the effects of bankruptcy, insolvency, fraudulent conveyance, reorganization, moratorium and other similar laws relating to or affecting creditors' rights generally, general equitable principles (whether considered in a proceeding in equity or at law) or an implied covenant of good faith and fair dealing.

(n) The execution, delivery and performance of this Agreement and the other Operative Documents by the Company and the Guarantors and the consummation of the transactions contemplated hereby or thereby will not conflict with or constitute a breach or violation of any of the terms or provisions of, or constitute a default under, any indenture, mortgage, deed of trust, loan agreement or other agreement or instrument to which the Company or any of its subsidiaries is a party or by which the Company or any of its subsidiaries is bound or to which any of the properties or assets of the Company or any of its subsidiaries is subject that is material to the financial condition or prospects of the Company and its subsidiaries, taken as a whole (collectively, the "Material Agreements"), except for such breach, violation or default which, individually, or in the aggregate, would not result in a Material Adverse Effect, nor will such actions result in any violation of the provisions of the charter, by-laws or other organizational documents of the Company or any of its subsidiaries or any material law, statute or any order, rule or regulation of

any court or governmental agency or body having jurisdiction over the Company or any of its subsidiaries or any of their properties or assets, provided, that the provisions for indemnification and contribution hereunder and thereunder may be limited by equitable principles and public policy considerations; and except as may be required in connection with the registration under the Securities Act of the Series B Notes and Series B Guarantees in accordance with the Registration Rights Agreement, qualification of the Indenture under the 1939 Act and compliance with the securities or Blue Sky laws of various jurisdictions, no consent, approval, authorization or order of, or filing or registration with, any such court or governmental agency or body is required for the execution, delivery and performance of this Agreement or any of the Operative Documents by the Company and the Guarantors, as applicable, and the consummation of the transactions contemplated hereby and thereby.

(o) Except as described in the Offering Memorandum or in the documents incorporated therein by reference and except as provided by the Registration Rights Agreement, there are no contracts, agreements or understandings between the Company and any person granting such person the right (other than rights which have been waived or satisfied or rights not exercisable in connection with the Offering Memorandum) to require the Company to file a registration statement under the Securities Act with respect to any securities of the Company owned or to be owned by such person or to require the Company to include such securities in the securities registered pursuant to the Exchange Offer Registration Statement or the Shelf Registration Statement; and all such rights to include such securities in the securities being registered pursuant to the Exchange Offer Registration Statement or the Shelf Registration Statement have been waived in a manner consistent with the terms under which they were granted.

(p) Except as described in the Offering Memorandum or in the documents incorporated therein by reference, the Company and the Guarantors have not sold or issued any securities with terms that are substantially similar to the Notes and the Guarantees during the six-month period preceding the date of the Offering Memorandum, including any sales pursuant to Rule 144A under, or Regulations D or S of, the Securities Act.

(q) Neither the Company nor any of its subsidiaries has incurred, since the date of the latest audited financial statements included or incorporated by reference in the Offering Memorandum, any liability or obligation, direct or contingent, or entered into any transaction, in each case not in the ordinary course of business, that would result in a Material Adverse Effect, otherwise than as set forth or contemplated in the Offering Memorandum or in the documents incorporated therein by reference; and, since such date, there has not been any material change in the capital stock or material increase in the short-term or long-term debt of the Company or any of its subsidiaries or any material adverse change, or any development involving or which would reasonably be expected to involve a Material Adverse Effect, otherwise than as described or contemplated in the Offering Memorandum or in the documents incorporated therein by reference.

(r) The historical and pro forma financial statements, together with related notes, set forth or incorporated by reference in the Offering Memorandum comply as to form in all material respects with the requirements of Regulation S-X under the Securities Act applicable to registration statements on Form S-3 under the Securities Act. The historical consolidated financial statements of the Company fairly present the financial position and the results of operations and cash flows of the entities purported to be shown thereby, at the dates and for the periods indicated,

in accordance with generally accepted accounting principles consistently applied throughout such periods. Such pro forma financial statements have been prepared on a basis consistent with such historical statements of the Company, except for the pro forma adjustments specified therein, and give effect to assumptions made on a reasonable basis and in good faith and present fairly the historical and proposed transactions contemplated by the Offering Memorandum and this Agreement. The other financial and statistical information and data included or incorporated by reference in the Offering Memorandum, historical and pro forma, have been derived from the financial records of the Company (or its predecessors) and, in all material respects, have been prepared on a basis consistent with such books and records of the Company (or its predecessor), except as disclosed therein.

(s) PricewaterhouseCoopers LLP, who have certified certain financial statements of the Company, whose report appears in the Offering Memorandum or is incorporated by reference therein and who have delivered the initial letter referred to in Section 7(f) hereof, are independent certified public accountants as required by the Securities Act and the rules and regulations promulgated thereunder during the periods covered by the financial statements on which they reported contained or incorporated by reference in the Offering Memorandum.

(t) The Company and each of its subsidiaries have good and marketable title to all property (real and personal) described in the Offering Memorandum as being owned by them, free and clear of all liens, claims, security interests or other encumbrances except such as are described in the Offering Memorandum (or in the documents incorporated therein by reference) or, to the extent that any such liens, claims, security interests or other encumbrances would not have a Material Adverse Effect (individually or in the aggregate) and all the material property described in the Offering Memorandum as being held under lease by the Company and its subsidiaries is held by them under valid, subsisting and enforceable leases, with only such exceptions as would not have a Material Adverse Effect (individually or in the aggregate).

(u) The Company and each of its subsidiaries own or possess adequate rights to use all material patents, trademarks, service marks, trade names, copyrights, licenses, inventions, trade secrets and other rights, and all registrations or applications relating thereto, described in the Offering Memorandum as being owned by them or necessary for the conduct of their business, except as such would not have a Material Adverse Effect (individually or in the aggregate), and the Company is not aware of any pending or threatened claim to the contrary or any pending or threatened challenge by any other person to the rights of the Company and its subsidiaries with respect to the foregoing which, if determined adversely to the Company and its subsidiaries, would have a Material Adverse Effect (individually or in the aggregate).

(v) Except as described in the Offering Memorandum (or in the documents incorporated therein by reference), there are no legal or governmental proceedings pending or, to the knowledge of the Company, threatened, against the Company or any of its subsidiaries or to which the Company or any of its subsidiaries is a party or of which any property or assets of the Company or any of its subsidiaries is the subject which, if determined adversely to the Company or any of its subsidiaries, are reasonably likely to cause a Material Adverse Effect.

(w) There are no contracts or other documents which would be required to be described in a prospectus contained in a registration statement on Form S-3 by the Securities Act or

by the rules and regulations thereunder which have not been described in the Offering Memorandum or incorporated therein by reference as permitted by the rules and regulations.

(x) No material relationship, direct or indirect, exists between or among the Company on the one hand, and the directors, officers, stockholders, customers or suppliers of the Company on the other hand, except as described in the Offering Memorandum or in the documents incorporated therein by reference.

(y) The Company is not involved in any strike, job action or labor dispute with any group of employees that would have a Material Adverse Effect, and, to the Company's knowledge, no such action or dispute is threatened.

(z) Except as disclosed in the Offering Memorandum or in the documents incorporated therein by reference, the Company is in compliance in all material respects with all presently applicable provisions of the Employee Retirement Income Security Act of 1974, as amended, including the regulations and published interpretations thereunder ("ERISA"); no "reportable event" (as defined in ERISA) has occurred with respect to any "pension plan" (as defined in ERISA) subject to Title IV of ERISA for which the Company would have any material liability; the Company has not incurred and does not expect to incur any material liability under (i) Title IV of ERISA with respect to termination of, or withdrawal from, any such "pension plan" or (ii) Sections 412 or 4971 of the Internal Revenue Code of 1986, as amended, including the regulations and published interpretations thereunder (the "Code") (other than contributions in the normal course which are not in default); and each "pension plan" for which the Company would have any liability that is intended to be qualified under Section 401(a) of the Code is so qualified in all material respects and nothing has occurred, whether by action or by failure to act, which would reasonably be expected to cause the loss of such qualification.

(aa) The Company and its subsidiaries have filed all federal, state and local income and franchise tax returns required to be filed through the date hereof and have paid all taxes due thereon, and no tax deficiency has been determined adversely to the Company or any of its subsidiaries nor does the Company have any knowledge of any tax deficiency which, if determined adversely to the Company and its subsidiaries, might have a Material Adverse Effect.

(bb) Neither the Company nor any of its subsidiaries (i) is in violation of its charter or by-laws or other organizational documents, (ii) is in default in any material respect, and no event has occurred which, with notice or lapse of time or both, would constitute such a default, in the due performance or observance of any term, covenant or condition contained in any Material Agreement or (iii) is in violation in any material respect of any law, ordinance, governmental rule, regulation or court decree to which it or its property or assets may be subject or has failed to obtain any material license, permit, certificate, franchise or other governmental authorization or permit necessary to the ownership of its property or to the conduct of its business, except as would not, individually or in the aggregate, have a Material Adverse Effect.

(cc) To the best of the Company's knowledge, neither the Company nor any of its subsidiaries, nor any director, officer, agent, employee or other person associated with or acting on behalf of the Company or any of its subsidiaries, has used any corporate funds for any unlawful contribution, gift, entertainment or other unlawful expense relating to political activity; made any

direct or indirect unlawful payment to any foreign or domestic government official or employee from corporate funds or violated or is in violation of any provision of the Foreign Corrupt Practices Act of 1977; except as such that would not have a Material Adverse Effect.

(dd) There has been no storage, disposal, generation, manufacture, refinement, transportation, handling or treatment of toxic wastes, medical wastes, hazardous wastes or hazardous substances by the Company or any of its subsidiaries (or, to the knowledge of the Company, any of their predecessors in interest) at, upon or from any of the property now or previously owned or leased by the Company or its subsidiaries in violation of any applicable law, ordinance, rule, regulation, order, judgment, decree or permit or which would require remedial action under any applicable law, ordinance, rule, regulation, order, judgment, decree or permit, except for any violation or remedial action which would not have, or would not be reasonably likely to have, singularly or in the aggregate with all such violations and remedial actions, a Material Adverse Effect; there has been no material spill, discharge, leak, emission, injection, escape, dumping or release of any kind onto such property or into the environment surrounding such property of any toxic wastes, medical wastes, solid wastes, hazardous wastes or hazardous substances due to or caused by the Company or any of its subsidiaries or with respect to which the Company has knowledge, except for any such spill, discharge, leak, emission, injection, escape, dumping or release which would not have or would not be reasonably likely to have, singularly or in the aggregate with all such spills, discharges, leaks, emissions, injections, escapes, dumpings and releases, a Material Adverse Effect; and the terms "hazardous wastes," "toxic wastes," "hazardous substances" and "medical wastes" shall have the meanings specified in any applicable local, state, federal and foreign laws or regulations with respect to environmental protection.

(ee) Neither the Company nor any subsidiary is, and upon the sale of the Series A Notes to be issued and sold thereby in accordance herewith and the application of the net proceeds to the Company of such sale as described in the Offering Memorandum under the caption "Use of Proceeds," will not be, an "investment company" within the meaning of such term under the United States Investment Company Act of 1940 and the rules and regulations of the Commission thereunder.

(ff) Neither the Company nor any affiliate (as defined in Rule 501(b) of Regulation D ("Regulation D") under the Securities Act) of the Company has directly, or through any agent (provided that no representation is made as to the Initial Purchasers or any person acting on its behalf), (i) sold, offered for sale, solicited offers to buy or otherwise negotiated in respect of, any security (as defined in the Securities Act) which is or could be integrated with the offering and sale of the Notes in a manner that would require the registration of the Series A Notes under the Securities Act or (ii) engaged in any form of general solicitation or general advertising (within the meaning of Regulation D, including, but not limited to, advertisements, articles, notices or other communications published in any newspaper, magazine, or similar medium or broadcast over television or radio, or any seminar or meeting whose attendees have been invited by any general solicitation or general advertising) in connection with the offering of the Series A Notes.

(gg) Except as permitted by the Securities Act, the Company has not distributed and, prior to the later to occur of the Closing Date and completion of the distribution of the Series A Notes, will not distribute any offering material in connection with the offering and sale of the Series A Notes other than the Preliminary Offering Memorandum and the Offering Memorandum.

(hh) When the Series A Notes are issued and delivered pursuant to this Agreement, such Series A Notes will not be of the same class (within the meaning of Rule 144A under the Securities Act) as securities of the Company that are listed on a national securities exchange registered under Section 6 of the Securities Exchange Act of 1934, as amended (the "Exchange Act") or that are quoted in a U.S. automated inter-dealer quotation system.

(ii) Assuming (i) that your representations and warranties in Section 2 are true, (ii) compliance by you with your covenants set forth in Section 2 and (iii) that each of the Eligible Purchasers is a QIB or a person who is not a "U.S. person" who acquires the Series A Notes outside the United States in an "offshore transaction" (within the meaning of Rule 904 of Regulation S), the purchase of the Series A Notes by you pursuant hereto and the resale of the Series A Notes pursuant hereto pursuant to the Exempt Resales is exempt from the registration requirements of the Securities Act.

(jj) None of the Company or any of its affiliates or any person acting on its or their behalf has engaged or will engage in any directed selling efforts within the meaning of Regulation S with respect to the Notes, and the Company and its affiliates and all persons acting on its of their behalf have complied with and will comply with the offering restrictions requirements of Regulation S in connection with the offering of the Notes outside of the United States. The sales of the Series A Notes pursuant to Regulation S are "offshore transactions" and are not part of a plan or scheme to evade the registration provision of the Securities Act. The Company makes no representation in this paragraph (jj) with respect to the Initial Purchasers.

(kk) The Company is a "reporting issuer" as defined in Rule 902 under the Securities Act.

2. Representations, Warranties and Agreements of the Initial Purchasers. Each Initial Purchaser represents and warrants with respect to itself that:

(a) Such Initial Purchaser is a QIB under the Securities Act (each, an "Accredited Institution"), in either case with such knowledge and experience in financial and business matters as are necessary in order to evaluate the merits and risks of an investment in the Series A Notes.

(b) Such Initial Purchaser (i) is not acquiring the Series A Notes with a view to any distribution thereof or with any present intention of offering or selling any of the Series A Notes, in each case in a transaction that would violate the Securities Act or the securities laws of any State of the United States or any other applicable jurisdiction; (ii) in connection with the Exempt Resales, will solicit offers to buy the Series A Notes only from, and will offer to sell the Series A Notes only to, the Eligible Purchasers in accordance with this Agreement and on the terms contemplated by the Offering Memorandum; and (iii) will not offer or sell the Series A Notes, nor has it offered or sold the Series A Notes by, or otherwise engaged in, any form of general solicitation or general advertising (within the meaning of Regulation D; including, but not limited to, advertisements, articles, notices or other communications published in any newspaper, magazine, or similar medium or broadcast over television or radio, or any seminar or meeting whose attendees have been invited by any general solicitation or general advertising) in connection with the offering of the Series A Notes.

(c) The Series A Notes have not been and will not be registered under the Securities Act and may not be offered or sold within the United States or to, or for the account or benefit of, U.S. persons except in accordance with Regulation S under the Securities Act or pursuant to an exemption from the registration requirements of the Securities Act. The Initial Purchasers represent that they have not offered, sold or delivered the Series A Notes, and will not offer, sell or deliver the Series A Notes (i) as part of its distribution at any time or (ii) otherwise until 40 days after the later of the commencement of the offering of the Series A Notes and the Closing Date (such period, the "Restricted Period"), within the United States or to, or for the account or benefit of U.S. persons, except in accordance with Rule 144A under the Securities Act or in transactions that are exempt from the registration requirements of the Securities Act. Accordingly, each Initial Purchaser represents and agrees that neither it, nor any of its affiliates nor any persons acting on its or their behalf has engaged or will engage in any directed selling efforts within the meaning of Rule 901(b) of Regulation S with respect to the Series A Notes, and it, its affiliates and all persons acting on its behalf have complied and will comply with the offering restrictions requirements of Regulation S.

(d) Such Initial Purchaser agrees that, at or prior to confirmation of a sale of Series A Notes (other than a sale pursuant to Rule 144A in transactions that are exempt from the registration requirements of the Securities Act), it will have sent to each distributor, dealer or person receiving a selling concession, fee or other remuneration that purchases Series A Notes from it during the Restricted Period a confirmation or notice substantially to the following effect:

> "The Notes covered hereby have not been registered under the U.S. Securities Act of 1933 (the "Securities Act") and may not be offered and sold within the United States or to, or for the account or benefit of, U.S. persons (i) as part of their distribution at any time or (ii) otherwise until 40 days after the later of the commencement of the offering or the closing date, except in either case in accordance with Regulation S (or Rule 144A if available) under the Securities Act. Terms used above have the meanings assigned to them in Regulation S."

Such Initial Purchaser further agrees that it has not entered and will not enter into any contractual arrangement with respect to the distribution or delivery of the Series A Notes, except with its affiliates or with the prior written consent of the Company.

(e) Each Initial Purchaser hereby represents and warrants to, and agrees with, the company that (i) it and each of its affiliates have not offered or sold and will not offer or sell any Notes to persons in the United Kingdom prior to the expiration of the period of six months from the Closing Date, except to persons whose ordinary activities involve them in acquiring, holding, managing or disposing of investments (as principal or agent) for purposes of their businesses or otherwise in circumstances which have not resulted and will not result in an offer to the public in the United Kingdom within the meaning of the Public Offers of Securities Regulations 1995; (ii) it and each of its affiliates have only communicated or caused to be communicated and will only communicate or cause to be communicated any invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000 (the "FSMA") received by it in connection with the issue or sale of any Notes in circumstances in which Section 21(1) of the FSMA does not apply to the Company; and (iii) it and each of its affiliates have

complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the Notes in, from or otherwise involving the United Kingdom.

(f) Such Initial Purchaser agrees not to cause any advertisement of the Series A Notes to be published in any newspaper or periodical or posted in any public place and not to issue any circular relating to the Series A Notes, except such advertisements as include the statements required by Regulation S.

(g) The sales of the Series A Notes pursuant to Regulation S are "offshore transactions" and are not part of a plan or scheme to evade the registration provisions of the Securities Act.

(h) Such Initial Purchaser understands that the Company and, for purposes of the opinions to be delivered to you pursuant to Section 7 hereof, counsel to the Company, General Counsel to the Company and counsel to the Initial Purchasers, will rely upon the accuracy and truth of the foregoing representations and you hereby consent to such reliance.

The terms used in this Section 2 that have meanings assigned to them in Regulation S are used herein as so defined.

Each Initial Purchaser further agrees that, in connection with the Exempt Resales, it will solicit offers to buy the Series A Notes only from, and will offer to sell the Series A Notes only to, the Eligible Purchasers in Exempt Resales.

3. Purchase of the Notes and the Guarantees by the Initial Purchasers. On the basis of the representations and warranties contained in, and subject to the terms and conditions of, this Agreement, the Company agrees to sell the Series A Notes (and cause the Guarantors to issue the Series A Guarantees) to the several Initial Purchasers and each of the Initial Purchasers, severally and not jointly, agrees to purchase the aggregate principal amount of Series A Notes set opposite that Initial Purchaser's name in Schedule 1 hereto. Each Initial Purchaser will purchase such aggregate principal amount of Series A Notes at an aggregate purchase price equal to 97.708% of the principal amount thereof (the "Purchase Price").

The Company shall not be obligated to deliver any of the Series A Notes and the Series A Guarantees to be delivered on the Closing Date (as defined herein), except upon payment for all the Series A Notes to be purchased on the Closing Date as provided herein.

4. Delivery of and Payment for the Notes and the Guarantees.

(a) Delivery of and payment for the Series A Notes and the Series A Guarantees shall be made at the office of Latham & Watkins, 885 Third Avenue New York, New York 10022 at 10:00 A.M., New York City time, on the Closing Date. The place of closing for the Series A Notes and the Closing Date may be varied by agreement between the Initial Purchasers and the Company.

(b) On the Closing Date, one or more Series A Notes in definitive form, registered in the name of Cede & Co., as nominee of The Depository Trust Company ("DTC"), or such other names as the Initial Purchasers may request upon at least one business days' notice to the

Company, having an aggregate principal amount corresponding to the aggregate principal amount of Series A Note sold pursuant to Eligible Resales (collectively, the "Global Note"), shall be delivered by the Company to the Initial Purchasers against payment by the Initial Purchasers of the purchase price thereof by wire transfer of immediately available funds as the Company may direct by written notice delivered to you two business days prior to the Closing Date. The Global Note in definitive form shall be made available to you for inspection not later than 2:00 p.m. on the business day prior to the Closing Date.

(c) Time shall be of the essence, and delivery at the time and place specified pursuant to this Agreement is a further condition of the obligation of each Initial Purchaser hereunder.

5. Further Agreements of the Company. The Company agrees:

(a) To advise you promptly and, if requested by you, to confirm such advice in writing, of (i) the issuance by any state securities commission of any stop order suspending the qualification or exemption from qualification of any Series A Notes or Series A Guarantees for offering or sale in any jurisdiction, or the initiation or threatening of any proceeding for such purpose by the Commission or any state securities commission or other regulatory authority, and (ii) the happening of any event that makes any statement of a material fact made in the Offering Memorandum untrue or which requires the making of any additions to or changes in the Offering Memorandum in order to make the statements therein, in light of the circumstances under which they were made, not misleading. The Company shall use all commercially reasonable efforts to prevent the issuance of any stop order or order suspending the qualification or exemption of the Series A Notes or Series A Guarantees under any state securities or Blue Sky laws and, if at any time any state securities commission shall issue any stop order suspending the qualification or exemption of the Series A Notes or Series A Guarantees under any state securities or Blue Sky laws, the Company shall use every reasonable effort to obtain the withdrawal or lifting of such order at the earliest possible time.

(b) To furnish to you, as many copies of the Offering Memorandum, and any amendments or supplements thereto, as you may reasonably request. Such copies shall be furnished without charge for use in connection with the Exempt Resales for the nine-month period immediately following the Closing Date. The Company consents to the use of the Offering Memorandum, and any amendments and supplements thereto required pursuant to this Agreement, by you in connection with the Exempt Resales that are in compliance with this Agreement.

(c) Not to amend or supplement the Offering Memorandum prior to the Closing Date or during the period referred to in (d) below unless you shall previously have been advised of, and shall not have reasonably objected to, such amendment or supplement within a reasonable time, but in any event not longer than five days after being furnished a copy of such amendment or supplement. The Company shall promptly prepare, upon any reasonable request by you, any amendment or supplement to the Offering Memorandum that may be necessary or advisable in connection with Exempt Resales.

(d) If, in connection with any Exempt Resales or market making transactions after the date of this Agreement and prior to the consummation of the Registered Exchange Offer,

any event shall occur that, in the judgment of the Company or in the judgment of counsel to you, makes any statement of a material fact in the Offering Memorandum untrue or that requires the making of any additions to or changes in the Offering Memorandum in order to make the statements in the Offering Memorandum, in light of the circumstances under which they were made at the time that the Offering Memorandum is delivered to prospective Eligible Purchasers, not misleading, or if it is necessary to amend or supplement the Offering Memorandum to comply with applicable law, the Company shall promptly notify you of such event and prepare an appropriate amendment or supplement to the Offering Memorandum so that (i) the statements in the Offering Memorandum as amended or supplemented will, in light of the circumstances under which they were made at the time that the Offering Memorandum is delivered to prospective Eligible Purchasers, not be misleading and (ii) the Offering Memorandum will comply with applicable law.

(e) Promptly from time to time to take such action as the Initial Purchasers may reasonably request to qualify the Series A Notes and the Series A Guarantees for offering and sale under the securities laws of such jurisdictions as the Initial Purchasers may request (provided, however, that the Company shall not be obligated to qualify as a foreign corporation in any jurisdiction in which it is not now so qualified or to take any action that would subject it to general consent to service of process in any jurisdiction in which it is not now so subject) and to comply with such laws so as to permit the continuance of sales and dealings therein in such jurisdictions for as long as may be necessary to complete the distribution of the Series A Notes and the Series A Guarantees.

(f) Prior to the Closing Date, to furnish to you, as soon as they have been prepared, a copy of any internal consolidated financial statements of the Company for any period subsequent to the period covered by the financial statements appearing in the Offering Memorandum.

(g) To use all commercially reasonable efforts to do and perform all things required to be done and performed under this Agreement by it prior to or after the Closing Date and to satisfy all conditions precedent on its part to the delivery of the Series A Notes and the Series A Guarantees.

(h) Not to sell, offer for sale or solicit offers to buy or otherwise negotiate in respect of any security (as defined in the Securities Act) that would be integrated with the sale of the Series A Notes in a manner that would require the registration under the Securities Act of the sale to you or the Eligible Purchasers of Series A Notes.

(i) During any period in which the Company is not subject to Section 13 or 15(d) of the Exchange Act within the two-year period following the Closing Date, to make available to any registered holder or beneficial owner of Series A Notes in connection with any sale thereof and any prospective purchaser of such Series A Notes from such registered holder or beneficial owner, the information required by Rule 144A(d)(4) under the Securities Act.

(j) To use all commercially reasonable efforts to effect the inclusion of the Notes in the National Association of Securities Dealers, Inc. Automated Quotation System - PORTAL ("PORTAL").

(k) To apply the net proceeds from the sale of the Series A Notes being sold by the Company as set forth in the Offering Memorandum under the caption "Use of Proceeds."

(l) To take such steps as shall be necessary to ensure that neither the Company nor any subsidiary shall become an "investment company" within the meaning of such term under the United States Investment Company Act of 1940 and the rules and regulations of the Commission thereunder.

(m) To take such steps as shall be necessary to ensure that all the subsidiaries of the Company that are not designated as "unrestricted subsidiaries" or "foreign subsidiaries" in accordance with the Indenture will be guarantors of the Notes.

(n) For a period of 90 days from the date of the Offering Memorandum, not to, directly or indirectly, sell, offer to sell, contract to sell, grant any option to purchase, issue any instrument convertible into or exchangeable for, or otherwise transfer or dispose of (or enter into any transaction or device which is designed to, or could be expected to, result in the disposition in the future of), any debt securities of the Company or any of its subsidiaries, except (i) for the Series B Notes in connection with the Registered Exchange Offer or (ii) with the prior consent of Lehman Brothers Inc.

6. Expenses. The Company agrees to pay: (a) the costs incident to the authorization, issuance, sale and delivery of the Notes and the Guarantees and any taxes payable in that connection; (b) the costs incident to the preparation, printing and filing of the Offering Memorandum and any amendments and supplements thereto; (c) the costs of distributing the Offering Memorandum and any amendment or supplement to the Offering Memorandum, all as provided in this Agreement; (d) the fees, disbursements and expenses of the Company's counsel and accountants; (e) all expenses and listing fees in connection with the application for quotation of the Series A Notes in PORTAL; (f) all fees and expenses (including fees and expenses of counsel) of the Company in connection with approval of the Notes by DTC for "book-entry" transfer; (g) the fees and expenses of qualifying the Notes and Guarantees under the securities laws of the several jurisdictions as provided in Section 5(e) and of preparing, printing and distributing a Blue Sky Memorandum (including related fees and expenses of counsel to the Initial Purchasers); (h) any fees charged by securities rating services for rating the Notes and Guarantees; (i) all costs and expenses incident to the performance of the Company's obligations under Section 9; and (j) all other costs and expenses incident to the performance of the obligations of the Company and the Guarantors.

7. Conditions of Initial Purchasers' Obligations. The respective obligations of the Initial Purchasers hereunder are subject to the accuracy, when made and on the Closing Date, of the representations and warranties of the Company and the Guarantors contained herein, to the performance by the Company and the Guarantors of their obligations hereunder, and to each of the following additional terms and conditions:

(a) No Initial Purchaser shall have discovered and disclosed to the Company on or prior to the Closing Date that the Offering Memorandum or any amendment or supplement thereto contains an untrue statement of a fact which, in the opinion of Latham & Watkins, counsel for the Initial Purchasers, is material or omits to state a fact which, in the opinion of such counsel, is

material and is necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

(b) All corporate proceedings and other legal matters incident to the authorization, form and validity of this Agreement, the other Operative Documents, the Offering Memorandum, and all other legal matters relating to this Agreement and the transactions contemplated hereby shall be reasonably satisfactory in all material respects to counsel for the Initial Purchasers, and the Company shall have furnished to such counsel all documents and information that they may reasonably request to enable them to pass upon such matters.

(c) Simpson Thacher & Bartlett shall have furnished to the Initial Purchasers, its written opinion, as counsel to the Company, addressed to the Initial Purchasers and dated the Closing Date, in the form attached hereto as Exhibit A.

(d) Christopher C. Cambria, General Counsel of the Company, shall have furnished to the Initial Purchasers his written opinion, as General Counsel to the Company, addressed to the Initial Purchasers and dated the Closing Date, in the form attached hereto as Exhibit B.

(e) The Initial Purchasers shall have received from Latham & Watkins, counsel for the Initial Purchasers, such opinion or opinions, dated the Closing Date, with respect to the issuance and sale of the Series A Notes, the Series A Guarantees, the Offering Memorandum and other related matters as the Initial Purchasers may reasonably require, and the Company shall have furnished to such counsel such documents as they reasonably request for the purpose of enabling them to pass upon such matters.

(f) At the time of execution of this Agreement, the Initial Purchasers shall have received from PricewaterhouseCoopers LLP, a letter, in accordance with professional standards established by the AICPA and in form and substance satisfactory to the Initial Purchasers, addressed to the Initial Purchasers (i) confirming that they are independent public accountants under Rule 101 of the AICPA's Code of Professional Conduct, and its interpretation and rulings and (ii) stating, as of the date hereof (or, with respect to matters involving changes or developments since the respective dates as of which specified financial information is given in the Offering Memorandum, as of a date not more than five days prior to the date hereof), the conclusions and findings of such firm with respect to the financial information and other matters ordinarily covered by accountants' "comfort letters" to Initial Purchasers in connection with registered public offerings.

(g) With respect to the letter of PricewaterhouseCoopers LLP referred to in the preceding paragraph and delivered to the Initial Purchasers concurrently with the execution of this Agreement (the "initial letter"), the Company shall have furnished to the Initial Purchasers a letter (the "bring-down letter") of such accountants in accordance with professional standards established by the AICPA, addressed to the Initial Purchasers and dated the Closing Date (i) confirming that they are independent public accountants under Rule 101 of the AICPA's Code of Professional Conduct, and its interpretation and rulings and (ii) stating, as of the date of the bring-down letter (or, with respect to matters involving changes or developments since the respective dates as of which specified financial information is given in the Offering Memorandum, as of a date not more than five days prior to the date of the bring-down letter), the conclusions and findings of such firm with

respect to the financial information and other matters covered by the initial letter and (iii) confirming in all material respects the conclusions and findings set forth in the initial letter.

(h) The Company shall have furnished to the Initial Purchasers a certificate, dated the Closing Date, of its Senior Vice President-Finance stating that:

(i) The unaudited financial information included in the column "Acquisitions Historical" in the Offering Memorandum are derived from the accounting records or supporting schedules of each such acquired entity and/or the Company and, to such officer's knowledge, was prepared in accordance with accounting principles generally accepted in the United States of America; and

(ii) The adjustments to EBITDA described in footnote 1 on the Summary Financial Data table contained in the Offering Memorandum are reasonable and, in such officer's opinion or belief, there are no other unusual or non-recurring items affecting the income statement in any of the periods presented that had the effect of increasing EBITDA during any of the periods presented.

(i) The Company and the Guarantors shall have furnished to the Initial Purchasers a certificate, dated the Closing Date, of their respective Chairman of the Board, their respective President or a Vice President and their respective chief financial officer stating that:

(i) The representations and warranties of the Company and the Guarantors in Section 1 are true and correct as of the Closing Date; the Company and the Guarantors have complied with all their agreements contained herein; and the conditions set forth in Sections 7(j) and 7(k) have been fulfilled; and

(ii) They have carefully examined the Offering Memorandum and, in their opinion (A) the Offering Memorandum as of its date and as of the Closing Date, did not include any untrue statement of a material fact and did not omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading, and (B) since the date of the Offering Memorandum, no event has occurred which should have been set forth in a supplement or amendment to the Offering Memorandum.

(j) (i) Neither the Company nor any of its subsidiaries shall have sustained since the date of the latest audited financial statements included or incorporated by reference in the Offering Memorandum any material loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree, otherwise than as set forth or contemplated in the Offering Memorandum (or in the documents incorporated therein by reference) or (ii) since such date there shall not have been any change in the capital stock or long-term debt of the Company or any of its subsidiaries or any change, or any development involving a prospective change, in or affecting the business, management, financial position, stockholders' equity or results of operations of the Company and its subsidiaries taken as a whole, otherwise than as set forth or contemplated in the Offering Memorandum (or in the documents incorporated therein by reference), the effect of which,

in any such case described in clause (i) or (ii), is, in the judgment of the Initial Purchasers, so material and adverse as to make it impracticable or inadvisable to proceed with the public offering or the delivery of the Notes and the Guarantees being delivered on the Closing Date on the terms and in the manner contemplated in the Offering Memorandum.

(k) Subsequent to the execution and delivery of this Agreement (i) no downgrading shall have occurred in the rating accorded the Company's debt securities by any "nationally recognized statistical rating organization," as that term is defined by the Commission for purposes of Rule 436(g)(2) under the Securities Act and (ii) no such organization shall have publicly announced that it has under surveillance or review, with possible negative implications, its rating of any of the Company's debt securities.

(l) Subsequent to the execution and delivery of this Agreement there shall not have occurred any of the following: (i) trading in securities generally on the New York Stock Exchange, the American Stock Exchange, the NASDAQ National Market or the over-the-counter market, or trading in any securities of the Company on any exchange or in the over-the-counter market shall have been suspended or the settlement of such trading generally shall have been materially disrupted or minimum prices shall have been established on any such exchange or such market by the Commission, by such exchange or by any other regulatory body or governmental authority having jurisdiction, (ii) a banking moratorium shall have been declared by Federal or state authorities, (iii) the United States shall have become engaged in hostilities, there shall have been an escalation in hostilities involving the United States or there shall have been a declaration of a national emergency or war by the United States or (iv) there shall have occurred such a material adverse change in general economic, political or financial conditions, including without limitation as a result of terrorist activities after the date hereof, or the effect of international conditions on the financial markets in the United States shall be such, as to make it in the case of (iii) or (iv), in the sole judgment of a majority in interest of the several Initial Purchasers, impracticable or inadvisable to proceed with the public offering or delivery of the Notes being delivered on the Closing Date on the terms and in the manner contemplated in the Offering Memorandum.

All opinions, letters, evidence and certificates mentioned above or elsewhere in this Agreement shall be deemed to be in compliance with the provisions hereof only if they are in form and substance reasonably satisfactory to counsel for the Initial Purchasers.

8. Indemnification and Contribution.

(a) The Company and the Guarantors shall jointly and severally indemnify and hold harmless each Initial Purchaser, its officers and employees and each person, if any, who controls any Initial Purchaser within the meaning of the Securities Act, from and against any loss, claim, damage or liability, joint or several, or any action in respect thereof (including, but not limited to, any loss, claim, damage, liability or action relating to purchases and sales of Notes and Guarantees), to which that Initial Purchaser, officer, employee or controlling person may become subject, under the Securities Act or otherwise, insofar as such loss, claim, damage, liability or action arises out of, or is based upon, (i) any untrue statement or alleged untrue statement of a material fact contained (A) in the Offering Memorandum or in any amendment or supplement thereto or (B) in any blue sky application or other document prepared or executed by the Company (or based upon any written information furnished by the Company) specifically for the purpose of qualifying any or

all of the Series A Notes under the securities laws of any state or other jurisdiction (any such application, document or information being hereinafter called a "Blue Sky Application"), (ii) the omission or alleged omission to state in the Offering Memorandum, or in any amendment or supplement thereto, or in any Blue Sky Application any material fact required to be stated therein or necessary to make the statements therein not misleading or (iii) any act or failure to act or any alleged act or failure to act by any Initial Purchaser in connection with, or relating in any manner to, the Notes or the offering contemplated hereby, and which is included as part of or referred to in any loss, claim, damage, liability or action arising out of or based upon matters covered by clause (i) or (ii) above (provided that the Company and the Guarantors shall not be liable under this clause (iii) to the extent that it is determined in a final judgment by a court of competent jurisdiction that such loss, claim, damage, liability or action resulted directly from any such acts or failures to act undertaken or omitted to be taken by such Initial Purchaser through its gross negligence or willful misconduct), and shall reimburse each Initial Purchaser and each such officer, employee or controlling person promptly upon demand for any legal or other expenses reasonably incurred by that Initial Purchaser, officer, employee or controlling person in connection with investigating or defending or preparing to defend against any such loss, claim, damage, liability or action as such expenses are incurred; provided, however, that the Company and the Guarantors shall not be liable in any such case to the extent that any such loss, claim, damage, liability or action arises out of, or is based upon, any untrue statement or alleged untrue statement or omission or alleged omission made in the Offering Memorandum, or in any such amendment or supplement, or in any Blue Sky Application, in reliance upon and in conformity with written information concerning such Initial Purchaser furnished to the Company by or on behalf of any Initial Purchaser specifically for inclusion therein. The foregoing indemnity agreement is in addition to any liability which the Company and the Guarantors may otherwise have to any Initial Purchaser or to any officer, employee or controlling person of that Initial Purchaser.

(b) Each Initial Purchaser, severally and not jointly, shall indemnify and hold harmless the Company, the Guarantors, their officers and employees, each of their directors, and each person, if any, who controls the Company and the Guarantors within the meaning of the Securities Act, from and against any loss, claim, damage or liability, joint or several, or any action in respect thereof, to which the Company, the Guarantors or any such director, officer or controlling person may become subject, under the Securities Act or otherwise, insofar as such loss, claim, damage, liability or action arises out of, or is based upon, (i) any untrue statement or alleged untrue statement of a material fact contained (A) in the Offering Memorandum or in any amendment or supplement thereto, or (B) in any Blue Sky Application or (ii) the omission or alleged omission to state in the Offering Memorandum, or in any amendment or supplement thereto, or in any Blue Sky Application any material fact required to be stated therein or necessary to make the statements therein not misleading, but in each case only to the extent that the untrue statement or alleged untrue statement or omission or alleged omission was made in reliance upon and in conformity with written information concerning such Initial Purchaser furnished to the Company by or on behalf of that Initial Purchaser specifically for inclusion therein, and shall reimburse the Company, the Guarantors and any such director, officer or controlling person for any legal or other expenses reasonably incurred by the Company, such Guarantor or any such director, officer or controlling person in connection with investigating or defending or preparing to defend against any such loss, claim, damage, liability or action as such expenses are incurred. The foregoing indemnity agreement is in addition to any liability which any Initial Purchaser may otherwise have to the Company, the Guarantors or any such director, officer, employee or controlling person.

(c) Promptly after receipt by an indemnified party under this Section 8 of notice of any claim or the commencement of any action, the indemnified party shall, if a claim in respect thereof is to be made against the indemnifying party under this Section 8, notify the indemnifying party in writing of the claim or the commencement of that action; provided, however, that the failure to notify the indemnifying party shall not relieve it from any liability which it may have under this Section 8 except to the extent it has been materially prejudiced by such failure and, provided further, that the failure to notify the indemnifying party shall not relieve it from any liability which it may have to an indemnified party otherwise than under this Section 8. If any such claim or action shall be brought against an indemnified party, and it shall notify the indemnifying party thereof, the indemnifying party shall be entitled to participate therein and, to the extent that it wishes, jointly with any other similarly notified indemnifying party, to assume the defense thereof with counsel reasonably satisfactory to the indemnified party. After notice from the indemnifying party to the indemnified party of its election to assume the defense of such claim or action, the indemnifying party shall not be liable to the indemnified party under this Section 8 for any legal or other expenses subsequently incurred by the indemnified party in connection with the defense thereof other than reasonable costs of investigation; provided, however, any indemnified party shall have the right to employ separate counsel in any such action and to participate in the defense thereof but the fees and expenses of such counsel shall be at the expense of the indemnified party unless (i) the employment thereof has been specifically authorized by the indemnifying party in writing, (ii) such indemnified party shall have been advised by such counsel that there may be one or more legal defenses available to it which are different from or additional to those available to the indemnifying party and in the reasonable judgment of such counsel it is advisable for such indemnified party to employ separate counsel or (iii) the indemnifying party has failed to assume the defense of such action and employ counsel reasonably satisfactory to the indemnified party, in which case, if such indemnified party notifies the indemnifying party in writing that it elects to employ separate counsel at the expense of the indemnifying party shall not, in connection with any one such action or separate but substantially similar or related actions in the same jurisdiction arising out of the same general allegations or circumstances, be liable for the reasonable fees and expenses of more than one separate firm of attorneys (in addition to one local counsel) at any time for all such indemnified parties, which firm shall be designated in writing by Lehman Brothers Inc., if the indemnified parties under this Section 8 consist of any Initial Purchaser or any of their respective officers, employees or controlling persons, or by the Company, if the indemnified parties under this Section consist of the Company, the Guarantors or any of the Company's or the Guarantors' directors, officers, employees or controlling persons. No indemnifying party shall (i) without the prior written consent of the indemnified parties (which consent shall not be unreasonably withheld), settle or compromise or consent to the entry of any judgment with respect to any pending or threatened claim, action, suit or proceeding in respect of which indemnification or contribution may be sought hereunder (whether or not the indemnified parties are actual or potential parties to such claim or action) unless such settlement, compromise or consent includes an unconditional release of each indemnified party from all liability arising out of such claim, action, suit or proceeding, or (ii) be liable for any settlement of any such action effected without its written consent (which consent shall not be unreasonably withheld), but if settled with the consent of the indemnifying party or if there be a final judgment of the plaintiff in any such action, the indemnifying party agrees to indemnify and hold harmless any indemnified party from and against any loss or liability by reason of such settlement or judgment.

(d) If the indemnification provided for in this Section 8 shall for any reason be unavailable to or insufficient to hold harmless an indemnified party under Section 8(a) or 8(b) in respect of any loss, claim, damage or liability, or any action in respect thereof, referred to therein, then each indemnifying party shall, in lieu of indemnifying such indemnified party, contribute to the amount paid or payable by such indemnified party as a result of such loss, claim, damage or liability, or action in respect thereof, (i) in such proportion as shall be appropriate to reflect the relative benefits received by the Company and the Guarantors on the one hand and the Initial Purchasers on the other from the offering of the Series A Notes and the Series A Guarantees or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company and the Guarantors on the one hand and the Initial Purchasers on the other with respect to the statements or omissions which resulted in such loss, claim, damage or liability, or action in respect thereof, as well as any other relevant equitable considerations. The relative benefits received by the Company and the Guarantors on the one hand and the Initial Purchasers on the other with respect to such offering shall be deemed to be in the same proportion as the total net proceeds from the offering of the Series A Notes purchased under this Agreement (before deducting expenses) received by the Company and the Guarantors, on the one hand, and the total discounts and commissions received by the Initial Purchasers with respect to the Series A Notes and the Series A Guarantees purchased under this Agreement, on the other hand, bear to the total gross proceeds from the offering of the Series A Notes under this Agreement, in each case as set forth in the table on the cover page of the Offering Memorandum. The relative fault shall be determined by reference to whether the untrue or alleged untrue statement of a material fact or omission or alleged omission to state a material fact relates to information supplied by the Company, the Guarantors or the Initial Purchasers, the intent of the parties and their relative knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company, the Guarantors and the Initial Purchasers agree that it would not be just and equitable if contributions pursuant to this Section 8(d) were to be determined by pro rata allocation (even if the Initial Purchasers were treated as one entity for such purpose) or by any other method of allocation which does not take into account the equitable considerations referred to herein. The amount paid or payable by an indemnified party as a result of the loss, claim, damage or liability, or action in respect thereof, referred to above in this Section shall be deemed to include, for purposes of this Section 8(d), any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim. Notwithstanding the provisions of this Section 8(d), no Initial Purchaser shall be required to contribute any amount in excess of the amount by which the total price at which the Series A Notes purchased by it was resold to Eligible Purchasers exceeds the amount of any damages which such Initial Purchaser has otherwise paid or become liable to pay by reason of any untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Initial Purchasers' obligations to contribute as provided in this Section 8(d) are several in proportion to their respective underwriting obligations and not joint.

(e) The Initial Purchasers severally confirm and the Company and the Guarantors acknowledge that the last paragraph on the cover page, the stabilization legend on page ii and the last paragraph and the third to last paragraph under the caption "Plan of Distribution" constitute the only information concerning such Initial Purchasers furnished in writing to the

Company by or on behalf of the Initial Purchasers specifically for inclusion in the Offering Memorandum.

9. Termination. The obligations of the Initial Purchasers hereunder may be terminated by Lehman Brothers Inc. by notice given to and received by the Company prior to delivery of and payment for the Series A Notes and the Series A Guarantees if, prior to that time, any of the events described in Sections 7(j), 7(k) or 7(l), shall have occurred or if the Initial Purchasers shall decline to purchase the Series A Notes for any reason permitted under this Agreement.

10. Reimbursement of Initial Purchasers' Expenses. If the Company and the Guarantors shall fail to tender the Series A Notes and the Series A Guarantees for delivery to the Initial Purchasers by reason of any failure, refusal or inability on the part of the Company and the Guarantors to perform any agreement on its part to be performed, or because any other condition of the Initial Purchasers' obligations hereunder required to be fulfilled by the Company and the Guarantors is not fulfilled, the Company and the Guarantors will reimburse the Initial Purchasers for all reasonable out-of-pocket expenses (including fees and disbursements of counsel) incurred by the Initial Purchasers in connection with this Agreement and the proposed purchase of the Series A Notes and the Series A Guarantees, and upon demand the Company and the Guarantors shall pay the full amount thereof to the Initial Purchasers.

11. Notices, etc. All statements, requests, notices and agreements hereunder shall be in writing, and:

(a) if to the Initial Purchasers, shall be delivered or sent by mail, telex or facsimile transmission to (i) Lehman Brothers Inc., 790 Seventh Avenue, New York, New York 10019, Attention: Syndicate Department (Fax: 212-526-6588), (ii) Banc of America Securities LLC, 9 West 57th Street, New York, New York 10019, Attention: Bruce Thompson (Fax 212-583-8324) and (iii) Credit Suisse First Boston Corporation, 11 Madison Avenue, New York, New York 10010, Attention: Transaction Advisory Group with a copy to Latham & Watkins, 885 Third Avenue, New York, New York 10022, Attention: Kirk A. Davenport (Fax: 212-751-4864) and, in the case of any notice pursuant to Section 8, to the Director of Litigation, Office of the General Counsel, Lehman Brothers Inc., 790 Seventh Avenue, New York, NY 10019; and

(b) if to the Company and the Guarantors, shall be delivered or sent by mail, telex or facsimile transmission to L-3 Communications Corporation, 600 Third Avenue, 34th Floor, New York, New York 10016, Attention: Christopher C. Cambria (Fax: 212-805-5494), with a copy to Simpson Thacher & Bartlett, 425 Lexington Avenue, New York, New York 10017, Attention: Vincent Pagano, Jr. (Fax: (212) 455-2502).

Any such statements, requests, notices or agreements shall take effect at the time of receipt thereof. The Company shall be entitled to act and rely upon any request, consent, notice or agreement given or made on behalf of the Initial Purchasers by Lehman Brothers Inc.

12. Persons Entitled to Benefit of Agreement. This Agreement shall inure to the benefit of and be binding upon the Initial Purchasers, the Company, the Guarantors and their respective successors. This Agreement and the terms and provisions hereof are for the sole benefit of only those persons, except that (A) the representations, warranties, indemnities and agreements of the Company and the Guarantors contained in this Agreement shall also be deemed to be for the benefit of the person or persons, if any, who control any Initial Purchaser within the meaning of Section 15 of the Securities Act and (B) the indemnity agreement of the Initial Purchasers contained in Section 8(b) of this Agreement shall be deemed to be for the benefit of directors of the Company and the Guarantors and any person controlling the Company and the Guarantors within the meaning of Section 15 of the Securities Act. Nothing in this Agreement is intended or shall be construed to give any person, other than the persons referred to in this Section 12, any legal or equitable right, remedy or claim under or in respect of this Agreement or any provision contained herein..

13. Survival. The respective indemnities, representations, warranties and agreements of the Company, the Guarantors and the Initial Purchasers contained in this Agreement or made by or on behalf on them, respectively, pursuant to this Agreement, shall survive the delivery of and payment for the Notes and the Guarantees and shall remain in full force and effect, regardless of any investigation made by or on behalf of any of them or any person controlling any of them.

14. Definition of the Terms "Business Day" and "Subsidiary." For purposes of this Agreement, (a) "business day" means each Monday, Tuesday, Wednesday, Thursday or Friday which is not a day on which banking institutions in New York are generally authorized or obligated by law or executive order to close and (b) "subsidiary" has the meaning set forth in Rule 405 of the rules and regulations of the Commission under the Securities Act.

15. Governing Law. THIS AGREEMENT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF NEW YORK.

16. Counterparts. This Agreement may be executed in one or more counterparts and, if executed in more than one counterpart, the executed counterparts shall each be deemed to be an original but all such counterparts shall together constitute one and the same instrument.

17. Headings. The headings herein are inserted for convenience of reference only and are not intended to be part of, or to affect the meaning or interpretation of, this Agreement.

[Signature pages follow]

If the foregoing correctly sets forth the agreement among the Company, the Guarantors and the Initial Purchasers, please indicate your acceptance in the space provided for that purpose below.

Very truly yours,

L-3 COMMUNICATIONS CORPORATION,
as the Company

By: /s/ Michael T. Strianese

Name: Michael T. Strianese
Title: Senior Vice President -Finance

AMI INSTRUMENTS, INC.
APCOM, INC.
CELERITY SYSTEMS INCORPORATED
COLEMAN RESEARCH CORPORATION
EER SYSTEMS, INC.
ELECTRODYNAMICS, INC.
HENSCHEL, INC.
HYGIENETICS ENVIRONMENTAL SERVICES, INC.
INTERSTATE ELECTRONICS CORPORATION
KDI PRECISION PRODUCTS, INC.
L-3 COMMUNICATIONS AIS GP CORPORATION
L-3 COMMUNICATIONS ANALYTICS CORPORATION
L-3 COMMUNICATIONS ATLANTIC SCIENCE & TECHNOLOGY CORPORATION L-3 COMMUNICATIONS AYDIN CORPORATION L-3 COMMUNICATIONS ESSCO, INC.
L-3 COMMUNICATIONS ILEX SYSTEMS, INC.
L-3 COMMUNICATIONS INVESTMENTS, INC.
L-3 COMMUNICATIONS SPD TECHNOLOGIES, INC.
L-3 COMMUNICATIONS STORM CONTROL SYSTEMS, INC.
MICRODYNE COMMUNICATIONS TECHNOLOGY INCORPORATED
MICRODYNE CORPORATION
MICRODYNE OUTSOURCING INCORPORATED
MPRI, INC.
PAC ORD, INC.
POWER PARAGON, INC.
SOUTHERN CALIFORNIA MICROWAVE, INC.
SPD ELECTRICAL SYSTEMS, INC.
SPD HOLDINGS, INC.

SPD SWITCHGEAR, INC.
as Guarantors

By: /s/ Christopher C. Cambria

Name: Christopher C. Cambria
Title: Vice President and Secretary and
General Counsel

L-3 COMMUNICATIONS INTEGRATED SYSTEMS L.P.

By: L-3 COMMUNICATIONS AIS GP CORPORATION,
as general partner

By: /s/ Christopher C. Cambria

Name: Christopher C. Cambria
Title: Authorized Person

Accepted:

LEHMAN BROTHERS INC.
BANK OF AMERICA SECURITIES LLC
CREDIT SUISSE FIRST BOSTON CORPORATION

For themselves and as Representatives
of the several Initial Purchasers named
in Schedule 1 hereto

By: LEHMAN BROTHERS INC.

By: /s/David Brand

Authorized Representative

SCHEDULE 1

Initial Purchaser:	Principal Amount of Notes
Lehman Brothers Inc.	$338,182,000
Bank of America Securities LLC	$169,091,000
Credit Suisse First Boston Corporation	$169,091,000
Wachovia Securities, Inc.	$ 12,273,000
SG Cowen Securities Corporation	$ 12,273,000
BNY Capital Markets, Inc.	$ 9,818,000
Barclays Capital Inc.	$ 9,818,000
Credit Lyonnais Securities (USA) Inc.	$ 9,818,000
Fleet Securities, Inc.	$ 9,818,000
Scotia Capital (USA) Inc.	$ 9,818,000
Total	$750,000,000

EXHIBIT A

OPINION OF SIMPSON THACHER & BARTLETT

June 28, 2002

LEHMAN BROTHERS INC.
BANC OF AMERICA SECURITIES LLC
CREDIT SUISSE FIRST BOSTON CORPORATION
c/o Lehman Brothers Inc.
745 Seventh Avenue
New York, New York 10019

Ladies and Gentlemen:

We have acted as counsel to L-3 Communications Corporation, a Delaware corporation (the "Company"), in connection with the purchase by you of $750,000,000 aggregate principal amount of its 7 5/8% Senior Subordinated Notes due 2012 (the "Notes") of the Company and the related guarantees (the "Guarantees") by the Delaware subsidiaries of the Company named on Schedule I attached hereto (each, a "Delaware Guarantor" and collectively, the "Delaware Guarantors") and the non-Delaware subsidiaries of the Company named on Schedule II attached hereto (each, a "Non-Delaware Guarantor" and collectively, the "Non-Delaware Guarantors," taken together with the Delaware Guarantors, the "Subsidiary Guarantors"), pursuant to the Purchase Agreement dated June 25, 2002 (the "Purchase Agreement"), among Lehman Brothers Inc., Banc of America Securities LLC and Credit Suisse First Boston Corporation, as initial purchasers (the "Initial Purchasers"), the Company and the Subsidiary Guarantors.

We have examined the Offering Memorandum dated June 25, 2002, relating to the sale of the Notes (the "Offering Memorandum"), which incorporates or is deemed to incorporate by reference the Annual Report on Form 10-K of L-3 Communications Holdings, Inc. ("Holdings") and the Company for the fiscal year ended December 31, 2001, as amended by the Annual Report on Form 10-K/A-1 dated June 19, 2002, the Quarterly Report on Form 10-Q of Holdings and the Company for the fiscal quarter ended March 31, 2002 and Holdings' and the Company's Current Reports on Form 8-K filed March 22, 2002, April 24, 2002, June 6, 2002 and June 19, 2002 (the "Exchange Act Documents"), each as filed under the Securities Exchange Act of 1934; the Indenture dated as of June 28, 2002 (the "Indenture") among the Company, the Subsidiary Guarantors and The Bank of New York, as trustee (the "Trustee"); the Notes; the guarantees indorsed on or annexed to the Notes (the "Guarantees"); the Purchase Agreement; and the Registration Rights Agreement dated as of June 25, 2002 (the "Registration Rights Agreement") among the Company, the Subsidiary Guarantors and the Initial Purchasers pursuant to which the Company's Series B 7 5/8% Senior Subordinated Notes due 2012 (the "Series B Notes") will be registered under the Securities Act of 1933, as amended (the "Securities Act"). The Series B Notes will be guaranteed by each of the Subsidiary Guarantors (the "Series B Guarantees"). In addition, we have examined, and have relied as to matters of fact upon, the documents delivered to you at the closing and upon originals or duplicates or certified or conformed copies, of such corporate records, agreements, documents and other instruments and such certificates or comparable documents of public officials and of officers and representatives of the Company and the Subsidiary Guarantors, and have made such other investigations, as we have deemed relevant and necessary in connection with the opinions hereinafter set forth.

In such examination, we have assumed the genuineness of all signatures, the legal capacity of natural persons, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as duplicates or certified or conformed copies, and the authenticity of the originals of such latter documents.

Based upon the foregoing, and subject to the qualifications and limitations stated herein, we are of the opinion that:

1. Each of the Company and the Delaware Guarantors (other than L-3 Communications Integrated Systems LP (the "LP")) has been duly incorporated and is validly existing as a corporation in good standing under the laws of Delaware, and has all corporate power and authority necessary to conduct its respective businesses as described in the Offering Memorandum.

2. The LP has been duly formed and is validly existing as a limited partnership in good standing under the laws of Delaware, and has all limited partnership power and authority necessary to conduct its business as described in the Offering Memorandum.

3. All of the outstanding shares of Common Stock of the Company have been duly authorized and have been validly issued, fully paid and non-assessable; and all of the issued shares of capital stock of each of the Delaware Guarantors (other than the LP) have been duly and validly authorized and issued, are fully paid and non-assessable

and, based solely on an examination of each such subsidiary's stock ledger and minute book, all such shares are held of record by the Company or one of its subsidiaries.

4. The Indenture has been duly authorized, executed and delivered by the Company and the Delaware Guarantors and, assuming that the Indenture is the valid and legally binding obligation of the Trustee, constitutes a valid and legally binding obligation of the Company and the Delaware Guarantors enforceable against the Company and the Delaware Guarantors in accordance with its terms.

5. Assuming that the Indenture has been duly authorized, executed and delivered by the Non-Delaware Guarantors and assuming that the Indenture is the valid and legally binding obligation of the Trustee, the Indenture constitutes a valid and legally binding obligation of the Non-Delaware Guarantors enforceable against the Non-Delaware Guarantors in accordance with its terms.

6. The Notes have been duly authorized, executed and issued by the Company and, assuming due authentication thereof by the Trustee and upon payment and delivery in accordance with the terms of the Purchase Agreement, will constitute valid and legally binding obligations of the Company enforceable against the Company in accordance with their terms and entitled to the benefits of the Indenture.

7. The Guarantees have been duly authorized, executed and issued by each of the Delaware Guarantors and, assuming due authentication of the Notes by the Trustee, upon payment and delivery of the Notes in accordance with the terms of the Purchase Agreement, will constitute valid and legally binding obligations of the Delaware Guarantors enforceable against the Delaware Guarantors in accordance with their terms.

8. Assuming that the Guarantees have been duly authorized, executed and issued by each of the Non-Delaware Guarantors and, assuming due authentication of the Notes by the Trustee, upon payment and delivery of the Notes in accordance with the terms of the Purchase Agreement, the Guarantees will constitute valid and legally binding obligations of the Non-Delaware Guarantors enforceable against the Non-Delaware Guarantors in accordance with their terms.

9. The Series B Notes have been duly authorized by the Company, and the Series B Guarantees have been duly authorized by the Delaware Guarantors.

10. The statements contained in the Offering Memorandum under the captions "Business--Pension Plans," "Description of Other Indebtedness," and "Description of the Notes," insofar as they describe charter documents, contracts, statutes, rules and regulations and other legal matters, constitute an accurate summary thereof in all material respects.

11. The statements made in the Offering Memorandum under the caption "Certain United States Federal Income Tax Considerations," insofar as they purport to

constitute summaries of matters of United States federal tax law and regulations or legal conclusions with respect thereto, constitute accurate summaries of the matters described therein in all material respects.

12. To our knowledge, there are no contracts or documents of a character required by the Securities Act or the rules and regulations thereunder to be described in a prospectus included in a registration statement on Form S-3 which are not described in the Offering Memorandum or in documents incorporated therein by reference.

13. The Purchase Agreement has been duly authorized, executed and delivered by the Company and the Delaware Guarantors.

14. The Registration Rights Agreement has been duly authorized, executed and delivered by the Company and the Delaware Guarantors and, assuming that the Registration Rights Agreement is the valid and legally binding obligation of the Initial Purchasers, constitutes a valid and legally binding obligation of the Company and the Delaware Guarantors, enforceable against the Company and the Delaware Guarantors in accordance with its terms.

15. Assuming that the Registration Rights Agreement has been duly authorized, executed and delivered by the Non-Delaware Guarantors and, assuming that the Registration Rights Agreement is the valid and legally binding obligation of the Initial Purchasers, the Registration Rights Agreement constitutes a valid and legally binding obligation of the Non-Delaware Guarantors enforceable against the Non-Delaware Guarantors in accordance with its terms.

16. The issue and sale of the Notes by the Company and the Guarantees by the Subsidiary Guarantors and the compliance by the Company or the Subsidiary Guarantors, as applicable, with all of the provisions of the Purchase Agreement, the Indenture, the Notes, the Guarantees and the Registration Rights Agreement will not breach or result in a default under, any indenture, mortgage, deed of trust, loan agreement or other agreement or instrument filed as an exhibit to the Company's Registration Statement on Form S-3 (Registration No. 333-84826), nor will such actions violate the Certificate of Incorporation or By-Laws of the Company or the Delaware Guarantors (or, in the case of the LP, the Limited Partnership Agreement dated February 22, 2002, between L-3 Communications Investments Inc. and L-3 Communications AIS GP Corporation) or any federal or New York statute or the Delaware General Corporation Law or the Delaware Revised Uniform Limited Partnership Act or any rule or regulation that has been issued pursuant to any federal or New York statute or the Delaware General Corporation Law or the Delaware Revised Uniform Limited Partnership Act or any order known to us issued pursuant to any federal or New York statute or the Delaware General Corporation Law or the Delaware Revised Uniform Limited Partnership Act by any court or governmental agency or body or court having jurisdiction over the Company or any of its subsidiaries or any of their respective properties or assets; and no consent, approval, authorization, order, registration or qualification of or with any federal or New York governmental agency or body or any Delaware governmental agency or body acting

pursuant to the Delaware General Corporation Law or the Delaware Revised Uniform Limited Partnership Act or, to our knowledge, any federal or New York court or any Delaware court acting pursuant to the Delaware General Corporation Law or the Delaware Revised Uniform Limited Partnership Act is required for the issuance and sale of the Notes by the Company or the issuance of the Guarantees by the Subsidiary Guarantors, except for the registration under the Securities Act of the Series B Notes and the Series B Guarantees, in accordance with the Registration Rights Agreement, and the qualification of the Indenture under the Trust Indenture Act of 1939, as amended (the "Trust Indenture Act"), and such consents, approvals, authorizations, registrations or qualifications as may be required under state securities or Blue Sky laws in connection with the purchase and distribution of the Notes and the Guarantees by the Initial Purchasers. The opinions set forth in this paragraph are based upon our consideration of only those statutes, rules and regulations which, in our experience, are normally applicable to securities underwriting transactions.

17. No registration of the Notes and the Guarantees under the Securities Act and no qualification of the Indenture under the Trust Indenture Act is required for the offer and sale of the Notes by the Company and the Guarantees by the Subsidiary Guarantors to the Initial Purchasers or the reoffer and resale of the Notes by the Initial Purchasers to the initial purchasers therefrom solely in the manner contemplated by the Offering Memorandum, the Purchase Agreement and the Indenture.

Our opinions set forth in paragraphs 4, 5, 6, 7, 8, 14 and 15 above are subject to the effects of bankruptcy, insolvency, fraudulent conveyance, reorganization, moratorium and other similar laws relating to or affecting creditors' rights generally, general equitable principles (whether considered in a proceeding in equity or at law) and an implied covenant of good faith and fair dealing. Our opinions set forth in paragraphs 14 and 15 are further limited by considerations of public policy.

We express no opinion as to the validity, legally binding effect or enforceability of any provision of the Registration Rights Agreement or any related provisions of the Indenture that requires or relates to payment of any interest at a rate or in an amount which a court would determine in the circumstances under applicable law to be commercially unreasonable or a penalty or a forfeiture. In addition, we express no opinion as to the validity, legally binding effect or enforceability of the waiver of rights and defenses contained in Section 11.07 of the Indenture.

We have not independently verified the accuracy, completeness or fairness of the statements made or included in the Offering Memorandum or the Exchange Act Documents and take no responsibility therefor, except as and to the extent set forth in paragraphs 10 and 11 above. In the course of the preparation by the Company of the Offering Memorandum (excluding the Exchange Act Documents), we participated in conferences with certain officers and employees of the Company, with representatives of PricewaterhouseCoopers L.L.P and with counsel to the Initial Purchasers. We did not prepare the Exchange Act Documents. Based upon our examination of the Offering Memorandum and the Exchange Act Documents, our investigations made in connection with the preparation of the Offering Memorandum (excluding

the Exchange Act Documents) and our participation in the conferences referred to above, we have no reason to believe that the Offering Memorandum (including the Exchange Act Documents) as of its date contained or as of the date hereof contains any untrue statement of a material fact or omits or omitted to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading, except that in each case we express no belief with respect to the financial statements or other financial data contained in the Offering Memorandum or the Exchange Act Documents.

We are members of the Bar of the State of New York and we do not express any opinion herein concerning any law other than the law of the State of New York, the federal law of the United States, the Delaware General Corporation Law and the Delaware Revised Uniform Limited Partnership Act.

This opinion letter is rendered to you in connection with the above described transactions. This opinion letter may not be relied upon by you for any other purpose, or relied upon by, or furnished to, any other person, firm or corporation without our prior written consent.

Very truly yours,

SIMPSON THACHER & BARTLETT

SCHEDULE I

DELAWARE GUARANTORS
- ------------------

HYGIENETICS ENVIRONMENTAL SERVICES, INC., a Delaware Corporation
L-3 COMMUNICATIONS ILEX SYSTEMS, INC., a Delaware Corporation
L-3 COMMUNICATIONS SPD TECHNOLOGIES, INC., a Delaware Corporation
L-3 COMMUNICATIONS ESSCO, INC., a Delaware Corporation
SPD ELECTRICAL SYSTEMS, INC., a Delaware Corporation
SPD SWITCHGEAR, INC., a Delaware Corporation
PAC ORD, INC., a Delaware Corporation
HENSCHEL, INC., a Delaware Corporation
SPD HOLDINGS, INC., a Delaware Corporation
POWER PARAGON, INC., a Delaware Corporation
L-3 COMMUNICATIONS AYDIN CORPORATION, a Delaware Corporation
L-3 COMMUNICATIONS INTEGRATED SYSTEMS L.P., a Delaware Limited Partnership
L-3 COMMUNICATIONS AIS GP CORPORATION, a Delaware Corporation
L-3 COMMUNICATIONS INVESTMENTS, INC., a Delaware Corporation
MPRI, INC., a Delaware Corporation
KDI PRECISION PRODUCTS, INC., a Delaware Corporation

SCHEDULE II

NON-DELAWARE GUARANTORS
- ----------------------

SOUTHERN CALIFORNIA MICROWAVE, INC., a California Corporation
L-3 COMMUNICATIONS STORM CONTROL SYSTEMS, INC., a California Corporation
L-3 COMMUNICATIONS DBS MICROWAVE, INC., a California Corporation
MICRODYNE CORPORATION, a Maryland Corporation
ELECTRODYNAMICS, INC., an Arizona Corporation
INTERSTATE ELECTRONICS CORPORATION, a California Corporation
COLEMAN RESEARCH CORPORATION, a Florida Corporation
EER SYSTEMS, INC., a Virginia Corporation
L-3 COMMUNICATIONS ANALYTICS CORPORATION, a California Corporation
AMI INSTRUMENTS, INC., an Oklahoma Corporation
L-3 COMMUNICATIONS ATLANTIC SCIENCE AND TECHNOLOGY CORPORATION, a New Jersey Corporation
MICRODYNE COMMUNICATIONS TECHNOLOGIES INCORPORATED, a Maryland Corporation
APCOM, INC., a Maryland Corporation
CELERITY SYSTEMS INCORPORATED, a California Corporation
MICRODYNE OUTSOURCING INCORPORATED, a Maryland Corporation

EXHIBIT B

OPINION OF CHRISTOPHER C. CAMBRIA

1. To my knowledge, the Company and each of its subsidiaries have good and marketable title to all property (real and personal) described in the Offering Memorandum as being owned by them, free and clear of all liens, claims, security interests or other encumbrances except such as are described in the Offering Memorandum (or in documents incorporated therein by reference) or, to the extent that any such liens, claims, security interests or other encumbrances would not have a Material Adverse Effect (individually or in the aggregate) and all the material property described in the Offering Memorandum as being held under lease by the Company and its subsidiaries is held by them under valid, subsisting and enforceable leases, with only such exceptions as would not have a Material Adverse Effect (individually or in the aggregate).

2. To my knowledge and except as otherwise disclosed in the Offering Memorandum (or in documents incorporated therein by reference), there are no legal or governmental proceedings pending or threatened, against the Company or any of its subsidiaries or to which the Company or any of its subsidiaries is a party or of which any property or assets of the Company or any of its subsidiaries is the subject which, if determined adversely to the Company or any of its subsidiaries, are reasonably likely to cause a Material Adverse Effect.

3. To my knowledge and except (i) as otherwise disclosed in the Offering Memorandum (or in documents incorporated therein by reference) and (ii) as provided in the Registration Rights Agreement, there are no contracts, agreements or understandings between the Company and any person granting such person the right to require the Company to include such person's securities in the securities registered pursuant to the Exchange Offer Registration Statement or the Shelf Registration Statement.

4. None of the issue and sale of the Notes by the Company and the Guarantees by the Guarantors and the compliance by the Company and the Guarantors, as applicable, with all of the provisions of this Agreement and the consummation of the transactions contemplated hereby and thereby requires any consent, approval, authorization or other order of, or registration or filing with, any federal court, federal regulatory body, federal administrative agency or other federal governmental official having authority over government procurement matters (provided, that the opinion contained in this paragraph (4) may be delivered by other counsel reasonably satisfactory to the Initial Purchasers).

Whenever a statement herein is qualified by "to my knowledge" or a similar phrase, it is intended that I do not have current, actual knowledge of the inaccuracy of such statement; however, except as expressly indicated, I have not undertaken any independent investigation to determine the accuracy of such statement and no inference should be drawn that I have any such knowledge solely from my position with the Company.

I am a member of the Bar of the State of New York, and I do not express any opinion herein concerning any law other than the law of the State of New York, the federal law

of the United States, the Delaware Revised Uniform Limited Partnership Act and the Delaware General Corporation Law.

EXHIBIT C

FORM OF CERTIFICATE FROM
ACQUIRING ACCREDITED INVESTOR

LEHMAN BROTHERS INC.
BANC OF AMERICA SECURITIES LLC
CREDIT SUISSE FIRST BOSTON CORPORATION
c/o Lehman Brothers Inc.
745 Seventh Avenue, Third Floor
High Yield Capital Markets
New York, New York 10019

Re: L-3 Communications Corporation

Reference is hereby made to (i) the Purchase Agreement, dated June 25, 2002 (the "Purchase Agreement") among L-3 Communications Corporation, as issuer (the "Company"), the Guarantors named on the signature pages thereto and you and (ii) the Indenture to be dated as of June 28, 2002 (the "Indenture") relating to the 7% Senior Subordinated Notes due 2012, among the Company, the Guarantors named on the signature pages thereto and The Bank of New York, as Trustee. Capitalized terms used but not defined herein shall have the meanings given to them in the Indenture or the Purchase Agreement.

In connection with my proposed purchase of $5,000,000 aggregate principal amount of Series A Notes, I hereby confirm that:

1. I understand that any subsequent transfer of the Series A Notes, or any interest therein is subject to certain restrictions and conditions set forth in the Indenture and the Series A Notes and the undersigned agrees to be bound by, and not to resell, pledge or otherwise transfer the Series A Notes or any interest therein except in compliance with, such restrictions and conditions and the Securities Act of 1933, as amended (the "Securities Act").

2. I understand that the offer and sale of the Series A Notes has not been registered under the Securities Act, and that the Series A Notes and any interest therein may not be offered or sold except as permitted in the following sentence. I agree that if I should sell the Series A Notes or any interest therein, I will do so only (1) (a) to a person who I reasonably believe is a Qualified Institutional Buyer (as defined in Rule 144A under the Act) in a transaction meeting the requirements of Rule 144A, (b) in a transaction meeting the requirements of Rule 144 under the Securities Act, (c) outside the United States to a foreign person in a transaction meeting the requirements of Rule 904 under the Securities Act or (d) in accordance with another exemption from the registration requirements of the Securities Act (and based on an opinion of counsel if the Company so requests), (2) to the Company or (3) pursuant to an effective registration statement and, in each case, in accordance with any applicable securities laws of any state of the United States or any other applicable jurisdiction, and I further agree to provide to any person purchasing a beneficial interest in a Series A Note from me in a transaction meeting the requirements of clauses (a) through (d) above a notice advising such purchaser that resales thereof are restricted as stated herein.

3. I understand that, on any proposed resale of the Series A Notes or beneficial interest therein, I will be required to furnish to the Company such certifications, legal opinions and other information as the Company may reasonably require to confirm that the proposed sale complies with the foregoing restrictions. I further understand that the Series A Notes purchased by me will bear a legend to the foregoing effect.

4. I am an "accredited investor" (as defined in Rule 501(a)(4), (5) or (6) of Regulation D under the Securities Act) and have such knowledge and experience in financial and business matters as to be capable of evaluating the merits and risks of my investment in the Series A Notes and I am able to bear the economic risk of my investment.

5. I am acquiring the Series A Notes or beneficial interest therein purchased by me for my account.

6. I am acquiring the Series A Notes for investment purposes only with no present intention to resell the Series A Notes, and agree not to sell, transfer, assign, pledge or hypothecate any of the Series A Notes for at least three months following the completion of the offering.

You and the Company are entitled to rely upon this letter and are irrevocably authorized to produce this letter or a copy hereof to any interested party in any administrative or legal proceedings or official inquiry with respect to the matters covered hereby.

[Signature Page to Follow]

By:

 Name:
 Title:

Dated:

AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION
OF
AMI INSTRUMENTS, INC.

SECRETARY OF STATE)
) ss.
STATE OF OKLAHOMA)

Pursuant to Tile 18, Section 1077 and 1080 of the General Corporation Act of the State of Oklahoma, the undersigned President & Chief Executive Officer and Secretary of AMI INSTRUMENTS, INC., a corporation organized and existing under the laws of the State of Oklahoma, hereby certify as follows:

1. The Corporation's present name is AMI Instruments, Inc. The date of filing of the original Certificate of Incorporation with the Secretary of State was June 19, 1981.

2. This Amended and Restated Certificate of Incorporation amends the Amended and Restated Certificate of Incorporation of the Corporation dated April 28, 1987, in order to restate its authorized capital stock, and to repeal the issuance of preferred stock and rescind the rights and preferences thereof. This Amended and Restated Certificate of Incorporation was proposed by the Board of Directors and adopted by the stockholders of the Corporation in the manner and by the vote prescribed by Section 1077 of the General Corporation Act of the State of Oklahoma, and is as follows:

FIRST: The name of the Corporation is AMI Instruments, Inc.

SECOND: The address of the Corporation's registered office in the State of Oklahoma is 735 First National Building, Oklahoma City, OK 73102. The name of its registered agent is The Corporation Company.

THIRD: The duration of the corporation is perpetual.

FOURTH: The nature of the business or purposes to be conducted or promoted is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Act of Oklahoma.

FIFTH: The corporation is authorized to issue one class of stock. The total number of authorized capital stock of the corporation shall be One Hundred Fifty Thousand (150,000) at one dollar ($1.00) par value.

SIXTH: Elections of Directors need not be by ballot unless the by-laws of the Corporation so provide.

SEVENTH: The Board of Directors of the Corporation may make by-laws and from time to time may alter, amend or repeal by-laws.

3. The above Amended and Restated Certificate of Incorporation of AMI Instruments, Inc. was approved by a written consent of the shareholders on February 1, 1991. All of the issued outstanding shares of stock in the Corporation were approved in favor of said Amended and Restated Certificate of Incorporation.

IN WITNESS WHEREOF, the undersigned have signed this instrument on the 30th day of April, 1991.

ATTEST: AMI INSTRUMENTS, INC.

/s/ J.C. Schreiner
J.C. Schreiner, Secretary

/s/ M. Arnott
M. Arnott, President and
Chief Executive Officer

STATE OF OKLAHOMA)
) ss.
COUNTY OF TULSA)

On this 29th day of April, 1991, before me, the undersigned, a Notary Public in and for said County and State, personally appeared M. Arnott, to me known to the identical person who signed the name of AMI INSTRUMENTS, INC., to the within and foregoing instrument as its President and Chief Executive Officer, and acknowledged to me that he executed the same as his free and voluntary act and deed, and as the free and voluntary act and deed of said corporation, for the uses and purposes therein set forth.

Given under my hand and seal of office the day and year last above shown.

/s/ M. Baird
Notary Public

(SEAL)

My Commission Expires: March 26, 1994

TABLE OF CONTENTS

RESTATED AND AMENDED

BY-LAWS OF

AMI INSTRUMENTS, INC.

RESTATED AND AMENDED

BY-LAWS

OF

AMI INSTRUMENTS, INC.

I. OFFICE

The principal office of the Corporation shall be 1914 West Reno, Bldg. A, Broken Arrow, Oklahoma 74012. The Corporation may also have an office or offices at such other place or places as the board of directors may from time to time designate.

II. CORPORATE SEAL

The corporate seal shall have inscribed thereon the name of the Corporation and shall be in such form as may be approved from time to time by the board of directors.

III. MEETINGS OF SHAREHOLDERS

The annual meeting of shareholders for the election of directors and the transaction of such other business as may properly be brought before the meeting shall be held on such date and at such place and time as the president or the board of directors shall designate.

Special meetings of the shareholders may be called at any time by the board of directors or the president and shall be called by the secretary on request in writing at such place, date and time and for such purpose or purposes as shall be set forth in the notice of such meeting.

All meetings of the shareholders shall be held at such place or places, within or without the State of Oklahoma, as may from time to time be fixed by the board of directors or as shall be specified and fixed in the respective notices or waivers of notice thereof.

No change of the time or place of a meeting for the election of directors, as fixed by the by-laws, shall be made within fifteen (15) days next before the day on which such election is to be held. In case of any change in such time or place for such election of directors, notice thereof shall be given to each shareholder entitled to vote in person, or mailed to his last known post office address, at least ten (10) days before the election is held.

Each shareholder entitled to vote shall, at every meeting of the shareholders, be entitled to vote in person or by proxy, signed by him, as hereinafter provided in these by-laws, but no proxy shall be voted on after three years from its date, unless it provides for a longer period. Such right to vote shall be subject to the right of the board of directors to close the transfer books or to fix a record date for voting shareholders as hereinafter provided, and if the directors shall not have exercised such right, no share of stock shall be voted on at any election for directors

which shall have been transferred on the books of the Corporation within ten (10) days next preceding such election.

Notice of all meetings shall be mailed by the secretary to each shareholder of record entitled to vote at its, his, or her last known post office address, for annual meetings ten days, and for special meetings five days prior thereto.

The holders of a majority in voting rights of the stock outstanding and entitled to vote shall constitute a quorum but the holders of a smaller amount may adjourn from time to time without further notice until a quorum is secured.

In case of vacancy occurring among the directors elected by the holders of the common stock as a class, the remaining director or directors may appoint a successor to hold office for the unexpired term of the director whose place shall be vacant. If all directors so elected shall cease to serve as directors before their terms shall expire, the holders of the common stock then outstanding and entitled to vote for such directors may, by written consent or at a special meeting called as provided above, elect successors to hold office for the unexpired terms of the directors whose places shall be vacant,

Except as otherwise provided by the Certificate of Incorporation of the Corporation, the General Corporation Law of the State of Oklahoma, or by any resolution adopted by the board of directors fixing the relative powers, preferences and rights and the qualifications and except as otherwise provided for herein, the entire power of the shares of the Corporation for the election of directors and for all other purposes, as well as all other rights pertaining to shares of the Corporation, shall be vested exclusively in the common stock. Each share of common stock shall have one vote upon all matters to be voted on by the holders of the common stock.

IV. DIRECTORS

The business and affairs of the Corporation shall be managed by or under the direction of a board of directors. The number of directors shall be determined from time to time by resolution of the board of directors, but the total number of directors and shall not be less than three or more than eight. Directors need not be shareholders.

The directors shall hold office until the next annual election and until their successors are elected and qualified. They shall be elected by the shareholders, except that if there be a vacancy in the board of directors by reason of death, resignation or otherwise, such vacancy shall be filled for the unexpired term in accordance with Article III hereof.

V. POWER OF DIRECTORS

The board of directors shall have, in addition to such powers as are hereinafter expressly conferred on it, all such powers as may be exercised by the Corporation, subject to the provisions of statutes, the Articles of Incorporation, and the by-laws.

The board of directors shall have power:

To purchase or otherwise acquire property, rights or privileges for the Corporation, which the Corporation has power to take, at such prices and on such terms as the board of directors may deem proper.

To pay for such property, rights or privileges in whole or in part with money, stock, bonds, debentures, or other securities of the Corporation, or by the delivery of other property of the Corporation.

To create, make and issue mortgages, bonds, deeds of trust, trust agreements and negotiable or transferable instruments and securities, secured by mortgages or otherwise, and to do every act and thing necessary to effectuate the same.

To appoint agents, clerks, assistants, factors, employees, and trustees, and to dismiss them at its discretion, to fix their duties and emoluments and to change them from time to time and to require security as it may deem proper.

To confer on any officer of the Corporation the power of electing, discharging or suspending such employees.

To determine by whom and in what manner the Corporation's bills, notes, receipts, acceptances, endorsements, checks, releases, contracts, or other documents shall be signed.

VI. MEETINGS OF DIRECTORS

After each annual election of directors, the newly elected directors may meet for the purpose of organization, the election of officers, and the transaction of other business, at such place and time as shall be fixed by the shareholders at the annual meeting, and if a majority of directors be present at such place and time, no prior notice of such meeting shall be required to be given to the directors. The place and time of such meeting may also be fixed by the written consent of the directors.

Regular meetings of the directors shall be held as determined by the board of directors, at the office of the Corporation in Broken Arrow, Oklahoma or elsewhere and at other times as may be fixed by resolution of the board. No notice of regular meetings shall be required.

Special meetings of the directors may only be called by the president or by the vote of three (3) directors and may be held within or without the State of Oklahoma at such place as is indicated in the Notice of Special Meeting or waiver of notice thereof, provided, however, no notice executed if all the directors are present in person at any special meeting irrespective of the time or place of such meeting.

A majority of the directors shall constitute a quorum, but a smaller number may adjourn from time to time, without further notice, until a quorum is secured.

VII. COMPENSATION OF DIRECTORS AND MEMBER OF THE COMMITTEES

Directors shall receive such compensation for attendance at either regular or special meetings of the board, as may from time to time be fixed by the board.

VIII. OFFICERS OF THE CORPORATION

The officers of the Corporation shall be a president, a secretary, a treasurer. Each of them shall be appointed by the board of directors. The corporation may also have a chairman of the board, one or more vice presidents, one or more assistant secretaries and assistant treasurers, and such other officers as may be appointed by the board of directors.

Any two offices (but not more than two) may be held by the same person, except that of president and secretary and president and vice president.

The officers of the Corporation shall hold office until their successors are chosen and qualify in their stead. Any officer chosen or appointed by the board of directors may be removed either with or without cause at any time by the affirmative vote of a majority of the whole board of directors. If the office of any officer or officers becomes vacant for any reason, the vacancy shall be filled by the affirmative vote of a majority of the whole board of directors.

A. DUTIES OF THE PRESIDENT

Subject to the direction of the board of directors, the president shall be the chief executive officer of the Corporation and shall direct the policy thereof, he shall preside at meetings of the board of directors and of the shareholders. It shall be his duty to have general and active management of the day-to-day business of the Corporation; to see that all orders and resolutions of the board of directors are carried into effect; and, subject to the direction and approval of the board of directors, to execute all contracts, agreements, deeds, bonds, mortgages and other obligations and instruments in the name of the Corporation and to affix the corporate seal thereto when authorized by the board. He shall have such other powers and perform such other duties as may from time to time be assigned to him by the board of directors.

He shall have general supervision and direction of all officers of the Corporation and shall see that their duties are properly performed.

He shall submit a report of the operations of the Corporation for the year to the directors at their meeting next preceding the annual meeting of the shareholders and to the shareholders at their annual meeting.

B. VICE PRESIDENT

The vice president or vice presidents (if there be such officers appointed), in the order designated by the board of directors, shall be vested with all the powers required to perform all the duties of the president in his absence or disability and shall perform such other duties as may be prescribed by the board of directors.

C. SECRETARY

The Secretary shall attend all meetings of the shareholders and the board of directors. He shall act as clerk thereof and shall record all of the proceedings of such meetings in a book kept for that purpose. He shall perform such other duties as shall be assigned to him by the president or the board of directors.

D. TREASURER

The Treasurer shall have custody of the funds and securities of the Corporation and shall keep full and accurate accounts of receipts and disbursements in books belonging to the Corporation and shall deposit all moneys and other valuable effects in the name and to credit of the Corporation in such depositories as may be designated by the board of directors.

He shall disburse the funds of the Corporation as may be ordered by the board taking proper vouchers for such disbursements, and shall render to the president and directors, whenever they may require it, a report on the financial condition of the Corporation, and at the shareholders' meeting, shall render a like report for the preceding year.

He shall keep an account of the stock registered and transferred in such manner and subject to such regulations as the board of directors may prescribe.

He shall give the Corporation a bond, if required by the board of directors, in such sum and in form and with security satisfactory to the board of directors for the faithful performance of the duties of his office and the restoration to the Corporation, in case of his death, resignation or removal from office, of all books, papers, vouchers, money and other property of whatever kind in his possession, belonging to the Corporation. He shall perform such other duties as the board of directors may from time to time prescribe or require.

E. DUTIES OF OFFICERS MAY BE DELEGATED

In case of the absence or disability of any officer of the Corporation or for any other reason deemed sufficient by a majority of the board, the board of directors may delegate his powers or duties to any other officer or to any director for the time being.

IX. SHARES OF STOCK

A. CERTIFICATE OF THE STOCK

Certificates of stock shall be signed by the president and either the treasurer, secretary or assistant secretary. If a certificate of stock be lost or destroyed, another may be issued in its stead upon proof of such loss or destruction and the giving of a satisfactory bond of indemnity, in an amount sufficient to indemnify the Corporation against any claim. A new certificate may be issued without requiring bond when, in the judgment of the directors, it is proper to do so.

B. TRANSFER OF STOCK

All transfers of stock of the Corporation shall be made upon its books by the holder of the shares in person or by his lawfully constituted representative, upon surrender of certificates of stock for cancellation.

C. CLOSING OF TRANSFER BOOKS

The board of directors shall have power to close the stock transfer books of the Corporation for a period not exceeding fifty days preceding the date of any meeting of shareholders or the date for payment of any dividend or the date for the allotment of rights or the date when any change or conversion or exchange of capital stock shall go into effect or for a period of not exceeding fifty days in connection with obtaining the consent of shareholders for any purpose; provided, however, that in lieu of closing the stock transfer books as aforesaid, the board of directors may fix in advance a date, not exceeding fifty days preceding the date of any meeting of shareholders, or the date for the payment of any dividend, or the date for the allotment of rights, or the date when any change or conversion or exchange of capital stock shall go into effect, or a date in connection with obtaining such consent, as a record date for the determination of the shareholders entitled to notice of, and to vote, at any such meeting and any adjournment thereof, or entitled to receive payment of any such dividend, or to any such allotment of rights, or to exercise the rights in respect of any such change, conversion or exchange of capital stock, or to give such consent, and in such case such shareholders and only such shareholders as shall be shareholders of record on the date so fixed shall be entitled to such notice of, and to vote at such meeting and any adjournment thereof, or to receive payment of such dividend, to receive such allotment of rights, or to exercise such rights, or to give such consent, as the case may be, notwithstanding any transfer of any stock on the books of the Corporation after any such record date fixed as aforesaid.

D. SHAREHOLDERS OF RECORD

The Corporation shall be entitled to treat the holder of record of any share or shares of stock as the holder in fact thereof and accordingly shall not be bound to recognize any equitable or other claim to or interest in such share on the part of any other person whether or not it shall have express or other notice thereof, save as expressly provided by the laws of Oklahoma.

X. FISCAL YEAR

The fiscal year of the Corporation shall be fixed by the board of directors.

XI. DIVIDENDS

Dividends upon the capital stock may be declared by the board of directors at any regular or special meeting and may be paid in cash or in property or in shares of the capital stock. Before paying any dividend or making any distribution of profits, the directors may set apart out of any of the funds of the Corporation available for dividends a reserve or reserves for any proper purpose and may alter or abolish any such reserve or reserves.

XII. CHECKS FOR MONEY

All checks, drafts or orders for the payment of money shall be signed by such officer or officers and other individuals as the board of directors may from time to time designate. No check shall be signed in blank.

XIII. BOOKS AND RECORDS

The books, accounts and records of the Corporation shall be kept at such place or places as may from time to time be designated by the by-laws or by resolution of the directors.

XIV. NOTICES

Notice required to be given under the provisions of these by-laws to any director, officer or shareholder shall not be construed to mean personal notice, but may be given in writing by depositing the same in a post office or letter box, in a postpaid sealed wrapper, addressed to such shareholder, officer or director at such address as appears on the books of the Corporation, and such notice shall be deemed to be given at the time when the same shall be thus mailed. Any shareholder, officer or director may waive, in writing, any notice required to be given under these by-laws, whether before or after the time stated therein.

XV. AMENDMENT OF BY-LAWS

These by-laws may be amended, altered, repealed or added to at any regular meeting of the shareholders or board of directors or at any special meeting called for that purpose, by affirmative vote of a majority in voting rights of the stock issued and outstanding or of a majority of the whole authorized number of directors, as the case may be.

APCOM, INC.

FURTHER ARTICLES OF AMENDMENT BY INTERLINEATION OF

ARTICLES OF AMENDMENT AND RESTATEMENT

The Articles of Amendment and Restatement dated May 4, 1984, are further amended by interlineation as follows:

The language of Paragraph "FIFTH" on page six (6) is deleted and replaced in its entirety by, "FIFTH: The total amount of authorized capital stock of the corporation is Twenty Million (20,000,000) shares of common stock, with $0.01 par value." The total amount of authorized capital stock was Two Million (2,000,000) shares of common stock with $0.01 par value as of immediately before the amendment.

IN WITNESS WHEREOF, APCOM, INC., has caused these presents to be signed in its name and on its behalf by its President and its corporate seal to be hereunder affixed and attested by its Secretary on this 29th day of September, 1995, and its President acknowledges that these Articles of Amendment are the act and deed of APCOM, INC. These Amendments have been duly authorized by the Board of Directors and stockholders of the corporation.

ATTEST:

By: /s/ Susan Basque
Susan Basque, Secretary

[CORPORATE SEAL]

APCOM, INC.

By: /s/ Gary W. Gallupe
Gary W. Gallupe, President

APCOM, INC.

ARTICLES OF AMENDMENT BY INTERLINEATION

OF ARTICLES OF AMENDMENT AND RESTATEMENT

The Articles of Amendment and Restatement amended by interlineation as follows:

On line 2 of page one (1), the principal office of the Corporation is changed to "8-4 Metropolitan Court, Gaithersburg, Maryland 20878."

In Paragraph "THIRD", on page six (6) the language "627 Lofstrand Lane, Rockville, Maryland 20850" is deleted and the language "8-4 Metropolitan Court, Gaithersburg, Maryland 20878" is substituted in its place.

In Paragraph "SIXTH" subparagraph 9 on pages eleven (11) and twelve (12), the language "ninety percent (90%) of the shares of voting stock at the time issued and outstanding (not less than eighty percent (80%) of the shares of voting stock at the time issued and outstanding in the event and after Microdyne Corporation excises a stock option pursuant to Section I E of a Shareholder Agreement of contemporaneous date)" is hereby deleted and the language "sixty percent (60%) of the shares of voting stock at the time issued and outstanding", is substituted in its place.

In Paragraph "SIXTH" subparagraph 10 on page twelve (12) the language, "ninety percent (90%) of the shares of voting stock at the time issued and outstanding (not less than eighty percent (80%) of the shares of voting stock at the time issued and outstanding in the event and after Microdyne Corporation exercises a stock option pursuant to Section I E of a Shareholder Agreement of contemporaneous date)" is hereby deleted and the language "sixty percent (60%) of the shares of voting stock at the time issued and outstanding", is substituted in its place.

IN WITNESS WHEREOF, APCOM, INC., has caused these presents to be signed in its name and on its behalf by its President and its corporate seal to be hereunder affixed and attested by its Secretary on this 20th day of May, 1992, and its President acknowledges that these Articles of Amendment are the act and deed of APCOM, INC.

ATTEST: APCOM, INC.

By: /s/ Susan Basque
Susan Basque, Secretary

By: /s/ Gary W. Gallupe
Gary W. Gallupe, President

[CORPORATE SEAL]

I, Susan Jutila, Corporate Secretary, hereby certify this 30th day of July, 1992, that the foregoing Articles of Amendment by Interlineation of Articles of Amendment and Restatement were advised by the board of directors and unanimously approved by the stockholders. These Articles do not increase the authorized stock of the corporation.

APCOM, INC.

By: /s/ Susan Jutila [SEAL]
Susan Jutila, Secretary

APCOM, INC.

ARTICLES OF AMENDMENT BY INTERLINEATION

OF ARTICLES OF AMENDMENT AND RESTATEMENT

The Articles of Amendment and Restatement amended by interlineation as follows:

In Paragraph "THIRD", on page six (6) the language "627 Lofstrand Lane, Rockville, Maryland 20850" is deleted and the language "8-4 Metropolitan Court, Gaithersburg, Maryland 20878" is substituted in its place.

In Paragraph "SIXTH" subparagraph 9 on pages eleven (11) and twelve (12), the language, "ninety percent (90%) of the shares of voting stock at the time issued and outstanding (not less than eighty percent (80%) of the shares of voting stock at the time issued and outstanding in the event and after Microdyne Corporation exercises a stock option pursuant to Section I E of a Shareholder Agreement of contemporaneous date)" is hereby deleted and the language "seventy-five percent (75%) of the shares of voting stock at the time issued and outstanding", is substituted in its place.

In Paragraph "SIXTH" subparagraph 10 on page twelve (12) the language, "ninety percent (90%) of the shares of voting stock at the time issued and outstanding (not less than eighty percent (80%) of the shares of voting stock at the time issued and outstanding in the event and after Microdyne Corporation exercises a stock option pursuant to Section I E of a Shareholder Agreement of contemporaneous date)" is hereby deleted and the language "seventy-five percent (75%) of the shares of voting stock at the time issued and outstanding", is substituted in its place.

IN WITNESS WHEREOF, APCOM, INC., has caused these presents to be signed in its name and on its behalf by its President and its corporate seal to be hereunder affixed and attested by its Secretary on this 13th day of September, 1991, and its President acknowledges that these Articles of Amendment are the act and deed of APCOM, INC.

ATTEST: APCOM, INC.

By: /s/ Susan Basque
Susan Basque, Secretary

By: /s/ Gary W. Gallupe
Gary W. Gallupe, President

[CORPORATE SEAL]

The preceding Articles of Amendment were advised by the Board of Directors and approved by the stockholders.

APCOM, INC.

By: /s/ Susan Jutila [SEAL]
Susan Jutila, Secretary

AMENDED BY-LAWS

OF

APCOM, INC.

ARTICLE I - PRINCIPAL OFFICE

The principal office of the Corporation shall be located at 625 Lofstrand Lane, Rockville, Maryland 20850.

The Corporation may also maintain offices at such other places as the Board of Directors may from time to time determine.

ARTICLE II - MEETINGS OF STOCKHOLDERS

Section 1. - Annual Meetings

The annual meeting of the stockholders of the Corporation shall be held on a day duly designated by the Board of Directors within three (3) months of the end of the fiscal year of the Corporation, if not a legal holiday, and if a legal holiday then the next succeeding day not a legal holiday for the purpose of electing directors and transacting such other business as may properly come before the meeting.

Section 2. - Special Meetings

Special meetings of the stockholders may be called at any time by the Chairman of the Board, the President or Vice-President and shall be called by the President or Secretary at the written request of a majority of the Board of Directors or upon the request of stockholders holding at least ten percent (10%) of the issued and outstanding stock of the Corporation. Business transacted at all special meetings of stockholders shall be confined to the purpose or purposes stated in the notice of the meeting.

Section 3. - Place of Meetings

All meetings of stockholders shall be held at the principal office of the Corporation, or at such other places as the Board of Directors may select, or as shall be designated in the respective notices or waivers of notice of such meetings.

Section 4. - Notice of Meetings

(a) Except as otherwise provided by statute, written notice or each meeting of stockholders, whether annual or special, stating the purpose for which the meeting is called, and the time when and place where it is to be held, shall be served either personally or by mail, not less than twenty (20) nor more than forty (40) days before the meeting, upon each stockholder of record entitled to vote at such meeting. If mailed, such notice shall be directed to each such stockholder at his

address as it appears on the stock books of the Corporation, unless he shall have previously filed with the Secretary of the Corporation a written request that notices intended for him be mailed to some other address, in which case it shall be mailed to the address designated in such request.

(b) Notice of any meeting need not be given to any person who may become a stockholder of record after the mailing of such notice and prior to the meeting, or to any stockholder who attends such meeting in person or by proxy, or to any stockholder who, in person or by attorney thereunto authorized, waives notice of any meeting in writing either before or after such meeting. Notice of any adjourned meeting of stockholders need not be given, unless otherwise required by statute.

Section 5. - Quorum

(a) Except as otherwise provided herein, or by statute, or in the Certificate of Incorporation (such Certificate and any amendments thereof being hereinafter collectively referred to as the "Certificate of Incorporation"), at all meetings of stockholders of the Corporation, the presence in person or by proxy of stockholders holding of record a majority of the total number of shares of the Corporation, then issued and outstanding and entitled to vote, shall be necessary and sufficient to constitute a quorum for the transaction of any business.

(b) In the absence of a quorum at any annual or special meeting of stockholders, the stockholders present in person or by proxy and entitled to vote thereat or, if by proxy, any officer authorized to preside at or act as Secretary of such meeting, may adjourn the meeting from time to time for a period not exceeding twenty (20) days at such adjourned meeting at any one time until a quorum shall be present. At any such adjourned meeting at which a quorum is present, any business may be transacted which might have been transacted at the meeting as originally called if a quorum has been present.

Section 6. - Conduct of Meeting/Voting

(a) At each meeting of stockholders, a full, true and complete list of all stockholders entitled to vote at such meeting, showing the number and class of shares held by each and certified by the transfer agent for such class or by the Secretary, shall be furnished by the Secretary.

(b) Except as otherwise provided herein, or by statute, or by the Certificate of Incorporation, the affirmative vote of those holding of record in the aggregate at least a majority of the issued and outstanding shares of stock present in person or by proxy and entitled to vote at a meeting of stockholders with respect to a question or matter brought before such meeting shall be necessary and sufficient to decide such question or matter.

(c) Except as otherwise provided by statute, or by the Certificate of Incorporation, at each meeting of stockholders, each holder of record of stock of the Corporation

entitled to vote thereat shall be entitled to one (1) vote for each share of stock held by him and registered in his name on the books of the Corporation.

(d) Notwithstanding the foregoing or any other provision contained in these By-Laws, at each election of directors, every stockholder shall be entitled to as many votes as shall equal the number of votes which (except for this provision as to cumulative voting) he would be entitled to cast for the election of directors with respect to his shares multiplied by the number of directors to be elected, and he may cast all such votes for a single director, or may distribute them among the number to be voted for, or any two or more of them, as he may see fit.

(e) Each stockholder entitled to vote may vote by proxy, provided, however, that the instrument authorizing such proxy to act shall have been executed in writing by the stockholder himself, or by his attorney-in-fact thereunto duly authorized in writing. No proxy shall be valid after the expiration of eleven (11) months from the date of its execution, unless the person executing it shall have specified therein the length of time it is to continue in force. Such instrument shall be exhibited to the Secretary at the meeting and shall be filed with the records of the Corporation.

(f) Any share of stock, title to which is owned by a corporation, may be voted or other action taken with respect to such shares by a duly authorized officer of such corporation owning such stock, or by means of a proxy as provided for in subsection (d). Prior to any meeting, whether annual or special, the proper officer of a corporation owning shares of this Corporation shall certify to the secretary of the meeting that he is an officer of such corporation and such appointment is in full force and effect. This provision may be satisfied by a written certification which shall be issued by the secretary of the corporate shareholder to the secretary of this corporation, attesting to its current officers and the status of their appointment. Such certification shall be continuing in nature until the secretary hereof is otherwise notified to the contrary by a new certification, in writing.

(g) At all meetings of stockholders, unless the voting is conducted by inspectors, the proxies and ballots shall be received, and all questions touching the qualification of voters and the validity of proxies and the acceptance or rejection of votes shall be decided by the Chairman of the meeting. If demanded by stockholders, present in person or by proxy, entitled to cast ten percent (10%) or more in number of votes entitled to be cast, or if ordered by the Chairman, the vote upon any election or question shall be taken by ballot and, upon like demand or order, the voting shall be conducted by two inspectors, in which event the proxies and ballots shall be received, and all questions touching the qualification of voters and the validity of proxies and the acceptance or rejection of votes, shall be decided by such inspectors. Unless so demanded or ordered, no vote need be by ballot and voting need not be conducted by inspectors. The stockholders at any meeting may choose an inspector or inspectors to act at such meeting, and in default of such election the Chairman of the meeting may appoint an inspector or inspectors. No candidate for election as a director at a meeting shall serve as an inspector thereat.

(h) Any resolution in writing, signed by all of the stockholders entitled to vote thereon, shall be and constitute action by such stockholders to the effect therein expressed, with the same force and effect as if the same had been duly passed by unanimous vote at a duly called meeting of such stockholders, and it shall be the duty of the Secretary to place such resolution so signed in the Minute Book of the Corporation under its proper date.

ARTICLE III - BOARD OF DIRECTORS

Section 1. - Number, Election and Term of Office

(a) The number of the directors of the Corporation shall be three, provided that: (i) If there is no stock outstanding the number of directors may be less than three but not less than one; and (ii) If there is stock outstanding and so long as there are less than three stockholders, the number of directors may be less than three but not less than the number of stockholders. A majority of the Board of Directors may increase the number of directors within the maximum limits specified in the Certificate of Incorporation, and, if any such increase shall be deemed to create any vacancies in the Board, they shall be filled in the manner prescribed in Section 8 of this Article III.

(b) Except as herein or in the Certificate of Incorporation otherwise provided, the members of the Board of Directors of the Corporation, who need not be stockholders, shall be elected by the vote of stockholders holding of record in the aggregate at least a plurality of the shares of stock of the Corporation present in person or by proxy and entitled to vote at the annual meeting of stockholders.

(c) Each director shall hold office until the annual meeting of the stockholders next succeeding his election and until his successor is elected and qualified or until his prior death, resignation or removal.

Section 2. - Duties, Powers and Committees

(a) The Board of Directors shall be responsible for the control and management of the affairs, property and interests of the Corporation, and may exercise all powers of the Corporation except as herein provided, in the Certificate of Incorporation, or by statute expressly conferred upon or reserved to the stockholders.

(b) The Board of Directors may create and appoint committees to assist the directors in the conduct of the Corporation's affairs.

Section 3. - Annual and Regular Meetings - Notice

(a) A regular annual meeting of the Board of Directors shall be held immediately following the annual meeting of the stockholders at the place of such annual meeting of stockholders.

(b) The Board of Directors from time to time may provide by resolution for the holding of other regular meetings of the Board of Directors, and may fix the time and place thereof.

(c) Notice of any regular meeting of the Board of Directors shall not be required to be given; provided, however, that in case the Board of Directors shall fix or change the time or place of any regular meeting, notice of such action shall be mailed promptly to each director who shall not have been present at the meeting at which such action was taken, addressed to him at his residence or usual place of business, unless such notice shall be waived in the manner set forth in paragraph (c) of Section 4 of this Article III.

Section 4. - Special Meetings - Notice

(a) Special meetings of the Board of Directors shall be held whenever called by the President, or by one of the directors, at such time and place as may be specified in the respective notices or waivers of notice thereof.

(b) Except as otherwise required by statute, notice of such special meetings shall be mailed directly to each director, addressed to him at his residence or usual place of business, at least five (5) days before the date on which the meeting is to be held, or shall be sent to him at such place by telegram, radio or cable, or shall be delivered to him personally not later than seventy-two (72) hours before the time the meeting is to be held.

(c) Notice of any special meeting shall not be required to be given to any director who shall attend such meeting in person or to any director who shall waive notice of such meeting in writing or by telegram, radio or cable, whether before or after the time of such meetings; and any such meeting shall be a legal meeting without any notice thereof having been given, if all the directors shall be present thereat. Notice of any adjourned meeting shall not be required to be given.

Section 5. - Chairman

At all meetings of the Board of Directors, the Chairman of the Board shall preside or in the event no Chairman has previously been selected, then the President of the Corporation shall preside, or in his absence, a Chairman chosen by the directors for such meeting shall preside.

Section 6. - Quorum

(a) At all meetings of the Board of Directors, the presence of a majority of the total number of directors shall be necessary and sufficient to constitute a quorum for the trans action of business, except as otherwise provided by law, by the Articles of Incorporation, or by these By-Laws.

(b) A majority of the directors present at the time and place of any regular or special meeting, although less than a quorum, may adjourn the same from time to time without further notice, until a quorum shall be present.

Section 7. - Manner of Acting

(a) At all meetings of the Board of Directors, each director present shall have one (1) vote, irrespective of the number of shares of stock, if any, which he may hold.

(b) Except as otherwise provided by statute, by the Certificate of Incorporation, or by these By-Laws, the action of a majority of the directors present at any meeting at which a quorum is present shall be the act of the Board of Directors.

(c) Any action required or permitted to be taken at a meeting of the Board of Directors or of a committee of the Board may be taken without a meeting, if an unanimous written consent which sets forth the action is signed by each member of the Board or committee and filed with the minutes of the proceedings of the Board or committee.

(d) Members of the Board of Directors may participate in a meeting by means of a conference telephone or similar communications equipment if all persons participating in the meeting can hear each other at the same time. Participation in a meeting by these means constitutes presence in person at a meeting.

Section 8. - Vacancies

Any vacancy in the Board of Directors occurring by reason of an increase in the number of directors or by reason of the death, resignation, disqualification, removal or inability to act of any director, or otherwise, shall be filled with respect to the unexpired portion of the term of such former director by a majority vote of the remaining directors, though less than a quorum, at any regular meeting or special meeting of the Board of Directors called for that purpose.

Similarly, and in the event that number of directors is increased pursuant to these by-laws, the additional directors so provided shall be elected by a majority of the entire Board of Directors already in office, and shall hold office until the next annual meeting of the stockholders and thereafter until his or their successors are duly elected and qualified.

Section 9. - Resignation

Any director may resign at any time by giving written notice to the Board of Directors, the President or the Secretary of the Corporation. Unless otherwise specified in such written notice, such resignation shall take effect upon receipt thereof by the Board of Directors or such officer, and the acceptance of such resignation shall not be necessary to make it effective.

Section 10. - Removal

Subject to any provision of law, any director may be removed with or without cause at any time by the affirmative vote of stockholders holding of record in the aggregate at least a majority of the outstanding shares of stock of the Corporation, given at a special meeting of the stockholders called for the purpose.

Section 11. - Compensation

By resolution of the Board of Directors a fixed sum and expenses, if any, for attendance at each regular or special meeting of the Board of Directors or of committees thereof, and other compensation for their services as such or on committees of the Board of Directors, may be paid to directors. A director who serves the Corporation in any other capacity may not also receive compensation for such other services.

Section 12. - Contracts

(a) No contract or other transaction between this Corporation and any other corporation shall be impaired, affected or invalidated, nor shall any director be liable in any way by reason of the fact that any one or more of the directors of this Corporation is or are interested in, or is a director or officer, or are directors or officers of such other corporation, provided that such facts are disclosed or made known to the Board of Directors and approved in the manner set forth in Subsection (b) below.

(b) Any director, personally and individually, may be a party to or may be interested in any contract or transaction of this Corporation, and no director shall be liable in any way by reason of such interest, provided that the fact of such interest be disclosed or made known to the Board of Directors, and provided that the Board of Directors shall authorize, approve or ratify such contract or transaction by the vote (not counting the vote of any such director) of a majority of a quorum, notwithstanding the presence of any such director at the meeting at which such action is taken. Such director or directors may be counted in determining the presence of a quorum at such meeting. This Section shall not be construed to impair or invalidate or in any way affect any contract or other transaction which would otherwise be valid under the law (common, statutory or otherwise applicable thereto).

ARTICLE IV - OFFICERS

Section 1. - Number, Qualifications, Election and Term of Office

(a) The officers of the Corporation shall consist of a President, one or more Vice-Presidents, a Secretary, a Treasurer, and such number of Assistant Secretaries and Assistant Treasurers as the Board of Directors may from time to time deem advisable. The President shall be and remain a director of the Corporation during the term of his office. Any other officer may, but is not required to, be a director of the Corporation. Any two or more offices, except the offices of President and Vice-President, may be held by the same person.

(b) The officers of the Corporation shall be elected by the Board of Directors at the regular annual meeting of the Board following the annual meeting of stockholders.

(c) Each officer shall hold office until the annual meeting of the Board of Directors next succeeding his election and until his successor shall have been elected and qualified, or until his death, resignation or removal.

Section 2. - Resignation

Any officer may resign at any time by giving written notice of such resignation to the Board of Directors or to the President or the Secretary of the Corporation. Unless otherwise specified in such written notice, such resignation shall take effect upon receipt thereof by the Board of Directors or by such officer, and the acceptance of such resignation shall not be necessary to make it effective.

Section 3. - Removal

(a) Any officer specifically designated in Section 1 of this Article IV may be removed, either with or without cause, and a successor elected, by a majority vote of the Board of Directors, at a regular or special meeting.

(b) The officers and agents appointed in accordance with the provisions of Section 11 of this Article IV may be removed, either with or without cause, by a majority vote of the Board of Directors, at a regular or special meeting, or by any superior officer or agent upon whom such power of removal shall have been conferred by the Board of Directors.

Section 4. - Vacancies

(a) A vacancy in any office specifically designated in Section 1 of this Article IV, by reason of death, resignation, inability to act, disqualification removal, or any other cause, shall be filled for the unexpired portion of the term by a majority vote of the board of Directors at any regular or special meeting.

(b) In the case of a vacancy occurring in the office of an officer or agent appointed in accordance with the provisions of Section 11 of this Article IV, such vacancy may be filled by vote of the Board of Directors or by any officer or agent upon whom such power shall have been conferred by the Board of Directors.

Section 5. - President

The President shall be the chief executive officer of the Corporation and, subject to the direction of the Board of Directors, shall have general charge of the business affairs and property of the Corporation and general supervision over its officers and agents. He shall, if present, preside at all meetings of the Board of Directors and at all meetings of stockholders. In general, he shall perform all

duties incident to the office of President, and shall see that all orders and resolutions of the Board of Directors are carried into effect.

Section 6. - Vice-President

During the absence or disability of the President, the Vice-President or, if there be more than one, the Vice-President designated by the Board of Directors as Executive Vice-President shall exercise all the functions of the President, and when so acting, shall have all the powers of and be subject to all the restrictions upon the President. Each Vice-President shall have such powers and discharge such duties as may be assigned to him from time to time by the Board of Directors.

Section 7. - Secretary

The Secretary shall:

(a) Record all of the proceedings of the meetings of the stockholders and Board of Directors in a book to be kept for that purpose;

(b) Cause all notices to be duly given in accordance with the provisions of these By-Laws and as required by statute;

(c) Be custodian of the records and of the seal of the Corporation, and cause such seal to be affixed to all certificates representing stock of the Corporation prior to their issuance, and to all instruments, the execution of which on behalf of the Corporation under its seal shall have been duly authorized in accordance with these By-Laws;

(d) If required to do so by these By-Laws, prepare or cause to be prepared, and submit at each meeting of the stockholders, a certified list in alphabetical order of the names of the stockholders entitled to vote at such meeting, together with the number of shares of the respective class of stock held by each;

(e) See that the books, reports, statements, certificates and all other documents and records of the Corporation required by statute are properly kept and filed; and

(f) In general, perform all duties incident to the office of Secretary and such other duties as are given to him by these By-Laws, or as from time to time may be assigned to him by the Board of Directors or the President.

Section 8. - Assistant Secretaries

Whenever requested by or in the absence or disability of the Secretary, the Assistant Secretary designated by the Secretary (or in the absence of such designation, the Assistant Secretary designated by the Board of Directors) shall perform all the duties of the Secretary, and when so acting shall have all the powers of, and be subject to all the restrictions upon, the Secretary.

Section 9._- Treasurer
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The Treasurer shall:

(a) Have charge of and supervision over and be responsible for the funds, securities, receipts and disbursements of the Corporation;

(b) Cause the monies and other valuable effects of the Corporation to be deposited in the name and to the credit of the Corporation in such banks or trust companies as the Board of Directors may select; or as may be selected by any officer or officers or agent or agents authorized to do so by the Board of Directors;

(c) Cause the funds of the Corporation to be disbursed by checks or drafts, with such signatures as may be authorized by the Board of Directors, upon the authorized depositories of the Corporation, and cause to be taken and preserved proper vouchers for all monies disbursed;

(d) Render to the President or the Board of Directors, whenever requested, a statement of the financial condition of the Corporation and all of his transactions as Treasurer; and render a full financial report at the annual meeting of the stockholders if called upon to do so;

(e) Keep the books of account of all the business and transactions of the Corporation;

(f) Be empowered to require from all officers or agents of the Corporation reports or statements giving such information as he may desire with respect to any and all financial transactions of the Corporation; and

(g) In general, perform all duties incident to the office of Treasurer and such other duties as are given to him by these By-Laws or as from time to time may be assigned to him by the Board of Directors or the President.

Section 10. - Assistant Treasurers
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Whenever requested by or in the absence or disability of the Treasurer, the Assistant Treasurer designated by the Treasurer (or in the absence of such designation, the Assistant Treasurer designated by the Board of Directors) shall perform all the duties of the Treasurer, and when so acting, shall have all the powers of, and be subject to all the restrictions upon, the Treasurer.

Section 11. - Subordinate Officers and Agents
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The Board of Directors may from time to time appoint other officers and agents as it may deem necessary or advisable to hold office for such period, have such authority and perform such duties as the Board of Directors may from time to time determine. The Board of Directors may delegate to any officer or agent the power to appoint any such subordinate officers or agents, and to prescribe their respective terms of office, authorizations and duties.

Section 12. - Salaries

Except as otherwise provided in the Certificate of Incorporation, the salaries or other compensation of the officers shall be fixed from time to time by the Board of Directors, and no officer shall be prevented from receiving such salary or any compensation by reason of the fact that he is also a director of the Corporation. The Board of Directors may delegate to any officer or agent the power to fix from time to time the salaries or other compensation of officers or agents appointed in accordance with the provisions of Section 11 of this Article IV.

Section 13. - Sureties and Bonds

In case the Board of Directors shall so require, any officer or agent of the Corporation shall execute to the Corporation a bond in such sum and with such surety or sureties as the Board of Directors may direct, conditioned upon the faithful performance of his duties to the Corporation, including responsibility for negligence and for the accounting for all property, funds or securities of the Corporation which may come into his hands.

ARTICLE V - SHARES OF STOCK

Section 1. - Certificates of Stock

(a) The certificates of stock of the Corporation shall be numbered and shall be entered in the books of the Corporation as they are issued. They shall exhibit the holder's name and the number of shares, and shall be signed by (i) the President or a Vice-President, and (ii) the Secretary or Treasurer, or any Assistant Secretary or Assistant Treasurer, and may bear the corporate seal.

(b) There shall be entered on the stock books of the Corporation, at the time of the issuance of each share, the number of the certificate issued, the kind of certificate issued, the name of the person owning the shares represented thereby, the number of such shares, and the date of issuance thereof. Every certificate exchanged or returned to the Corporation shall be marked "cancelled" with the date of cancellation.

Section 2. - Lost or Destroyed Certificates

The holder of any shares of stock of the Corporation shall immediately notify the Corporation of any loss or destruction of the certificate representing the same. The Corporation may issue a new certificate in the place of any certificate theretofore issued by it alleged to have been lost or destroyed, and the Board of Directors may require the owner of the lost or destroyed certificate, or his legal representatives, to give the Corporation a bond in such sum as the Board may direct, and with such surety or sureties as may be satisfactory to the Board, to indemnify the Corporation against any claim that may be made against it on account of the alleged loss or destruction of any such certificate. A new certificate

may be issued without requiring any bond when, in the judgment of the Board of Directors, it is proper so to do.

Section 3. - Transfers of Shares

(a) Transfers of shares of the capital stock of the Corporation shall be made on the transfer books of the Corporation by the holder of record thereof, in person or by his duly authorized attorney, upon surrender. and cancellation of the certificate or certificates representing such shares.

(b) The Corporation shall be entitled to treat the holder of record of any share or shares of stock as the absolute owner thereof for all purposes and, accordingly, shall not be bound to recognize any legal, equitable or other claim to, or interest in such share or shares on the part of any other person, whether or not they shall have express or other notice thereof, except as otherwise expressly provided by law.

Section 4. - Closing of Transfer Books

The Board of Directors may set a record date or direct that the stock transfer books be closed for a stated period for the purpose of making any proper determination with respect to stockholders, including which stockholders are entitled to notice of a meeting, vote at a meeting, receive a dividend, or be allotted other rights. The record date may not be more than ninety (90) days before the date on which the action requiring the determination will be taken; the transfer books may not be closed for a period longer than twenty (20) days; and, in the case of a meeting of stockholders, the record date of the closing of the transfer books shall be at least ten (10) days before the date of the meeting.

Section 5. - Agreements

Whenever two or more stockholders shall enter into a written agreement respecting their shares of stock in the Corporation, and shall deposit such agreement with the Corporation, the Board of Directors shall have the power to provide by resolution that the shares of capital stock owned by the signatory stockholders shall be transferable only in accordance with the provisions of such agreement, and may direct that a reference to such agreement be endorsed upon every certificate of stock affected thereby.

ARTICLE VI - DIVIDENDS

Subject to applicable law, dividends may be declared and paid out of any funds available therefor, as often, in such amounts, and at such time or times as the Board of Directors may determine. However, notwithstanding the above, in addition to any other dividends that may be declared, the holders of the common stock of the Corporation shall be entitled, within eight and one-half (8-1/2) months after the end of each fiscal year of the Corporation, to receive and the Board of Directors shall declare dividends as and for such fiscal year then ended, as follows: in the event the accumulated surplus of the Corporation for years prior to the year most recently

ended exceeds the sum of Fifty Thousand Dollars ($50,000.00), then no less than one-half (1/2) of the amount of such after tax earnings for such fiscal year shall be declared and paid as a dividend in the shares of common stock pro-rata in proportion to the then holdings of each stockholder; provided, however that such dividend shall otherwise comply with the provisions of law regulating the declaration and payment of dividends. The terms "net income" and `accumulated surplus" shall have the meanings normally given such terms and shall be determined by the accounting firm regularly employed by the Corporation using the full accrual method of accounting under generally accepted accounting principles consistently applied from year to year. The right to receive all or a portion of the dividends required to be declared and paid hereby may be waived for any particular year by the approval of the holders of not less than ninety percent of the issued and outstanding shares of stock of the Corporation (not less than, eighty percent (80%) of the issued and outstanding shares of stock of the Corporation in the event and after Microdyne Corporation exercises a stock option pursuant to Section I E of a Shareholder Agreement dated May 4, 1984). This provision shall become effective for fiscal years of the Corporation ending after October 31, 1986.

ARTICLE VII - EXECUTION OF INSTRUMENTS

All checks, drafts, bills of exchange, acceptances, bonds, endorsements, notes or other obligations, or evidences of indebtedness of the Corporation, and all deeds, mortgages, indentures, bills of sale, conveyances, endorsements, assignments, transfers, block powers or other instruments of transfer, contracts, agreements, dividend or other orders, powers of attorney, proxies, waivers, consents, returns, reports, certificates, demands, notices or documents, and other instruments or rights of any nature, shall be signed, executed, verified, acknowledged and delivered by the President, Vice-President or an assistant Vice-President and countersigned by the Treasurer, and assistant Treasurer, Secretary or an assistant Secretary.

ARTICLE VIII - FINANCE

Section 1. Annual Statement of Affairs.

There shall be prepared annually a full and correct statement of the affairs of the Corporation, to include a balance sheet and a financial statement of operations for the preceding fiscal year. The statement of affairs shall be submitted at the annual meeting of the stockholders and, within twenty (20) days after the meeting, placed on file at the Corporation's principal office. Such statement shall be prepared or caused to be prepared by such executive officer of the Corporation as may be designated in an additional or supplementary by-law adopted by the Board of Directors. If no other executive officer is so designated, it shall be the duty of the President to prepare or cause to be prepared such statement.

Section 2. Stockholders' Right of Inspection.

In addition to any other rights granted stockholders by law, any stockholder holding ten percent (10%) or more of the issued and outstanding shares of common stock of the Corporation shall be entitled to examine, inspect and copy during normal business hours all financial and business records of the

Corporation, including by way of illustration and not by way of limitation, all accounting books, ledgers and records, bank statements, payroll records, contracts, insurance policies, correspondence files, and customer files. Such inspection shall be preceded by twenty-four hours notice to an officer of the Corporation, either in written form, by telephone, telegram, or other such means and may be undertaken by an agent or representative of such stockholder.

Section 3.- Fiscal Year.

The fiscal year of the Corporation shall be fixed by the Board of Directors from time to time as the needs of the corporate business require.

ARTICLE IX - CORPORATE SEAL

The corporate seal shall be circular in form, and shall bear the name of the Corporation, the words "Corporate Seal", and words and figures denoting its organization under the laws of this State, and the year thereof, and otherwise shall be in such form as shall be approved from time to time by the Board of Directors.

ARTICLE X - AMENDMENTS

All By-Laws of the Corporation shall be subject to alteration or repeal, and new By-Laws may be made, by the affirmative vote of stockholders holding of record in the aggregate at least ninety percent (90%) of the outstanding shares of stock of the Corporation entitled to vote (not less than eighty percent (80%) of the issued and outstanding stock of the Corporation in the event and after Microdyne exercises a stock option pursuant to Section I E of a Shareholder Agreement dated May 9, 1984), given at any annual or special meeting, the notice or waiver of notice of which shall have summarized or set forth in full the proposed amendment.

ARTICLE XI - INDEMNITY

Any person made a party to any action, suit or proceeding, by reason of the fact that he, his testator or intestate representative is or was a director, officer or employee of the Corporation, or of any corporation in which he served as such at the request of the Corporation, shall be indemnified by the Corporation against the reasonable expenses, including attorneys' fees, actually and necessarily incurred by him in connection with the defense of such action, suit or proceeding, or in connection with any appeal therein, except in relation to matters as to which it shall be adjudged in such action, suit or proceeding, or in connection with any appeal therein that such officer, director or employee is liable for negligence or misconduct in the performance of his duties.

The foregoing right of indemnification shall not be deemed exclusive of any other rights to which an officer or director or employee may be entitled apart from the provisions of this Section.

The amount of indemnity to which any officer or any director may be entitled shall be fixed by the Board of Directors, except that in any case where there is no disinterested majority

of the Board available, the amount shall be fixed by arbitration pursuant to the then existing rules of the American Arbitration Association.

ARTICLE XII - VOTING UPON SHARES IN OTHER CORPORATIONS

Stock of other corporations or associations, registered in the name of the Corporation, may be voted by the President, a Vice-President, or a proxy appointed by either of them. The Board of Directors, however, may by resolution appoint some other person to vote such shares, in which case such person shall be entitled to vote such shares upon the production of a certified copy of such resolution.

ARTICLES OF INCORPORATION

OF

CELERITY SYSTEMS INCORPORATED

ARTICLE I

NAME

The name of the Corporation is Celerity Systems Incorporated.

ARTICLE II

PURPOSES

The purpose of the Corporation is to engage in any lawful act or activity for which a corporation may be organized under the General Corporation Law of California other than the banking business, the trust company business or the practice of a profession permitted to be incorporated by the California Corporations Code.

ARTICLE III

INITIAL AGENT FOR SERVICE OF PROCESS

The name and address in the State of California of the Corporation's initial agent for service of process are John Anderson, 4991 Engelwood Drive, San Jose, California 95129.

ARTICLE IV

STOCK

A. Authorization. The total number of shares which the Corporation is authorized to issue is five million (5,000,000), all of the same class, designated "Common Stock."

B. Protective Provisions. So long as any shares of Common Stock are outstanding and until the occurrence of a Termination Event, as defined in that certain Shareholder Agreement dated February 1994 between John Anderson, John Covele and Gary Gallupe, this Corporation shall not, without first obtaining the approval (by vote or written consent, as provided by law) of the holders of at least eighty percent (80%) of all of the then outstanding shares of Common Stock (voting together as a class, except as otherwise required by law).

(1) alter or change the rights, preferences or privileges of the Common Stock so as to affect adversely the shares;

(2) issue more than 300,000 shares of Common Stock or options to acquire more than 300,000 shares of Common Stock (as adjusted for stock splits, stock dividends, stock combinations and the like) in the aggregate to employees or consultants of the Corporation;

(3) repurchase any shares of capital stock of the Corporation except for repurchases from employees and consultants of the Corporation pursuant to agreements entered into with such employees and consultants at the time of issuance of the Corporation's stock to these employees and consultants;

(4) sell, convey, or otherwise dispose of all or substantially all of its property or business or merge into or consolidate with any other corporation (other than a wholly owned subsidiary corporation) or effect any transaction or series of related transactions resulting in the disposition of more than fifty percent (50%) of the voting power of the Corporation;

(3) acquire an entity, division or business unit for consideration exceeding twenty-five percent (25%) of the Corporation's then-outstanding stock or net assets;

(4) make loans or advances to employees or consultants that, in the aggregate for any one individual, exceed $2,000;

(5) file a petition in bankruptcy or for reorganization or rehabilitation under the Federal bankruptcy law or any state law for the relief of debtors, have an order for relief entered against it under the Federal bankruptcy law or otherwise have the Corporation adjudicated bankrupt or insolvent, make an assignment for the benefit of creditors, or suffer the appointment of a receiver, trustee or custodian for a substantial portion of its business or properties by virtue of an allegation of insolvency;

(6) alter, amend or repeal this Article IV.B.

ARTICLE V

DIRECTORS' LIABILITY AND INDEMNIFICATION OF AGENTS

The liability of the directors of this Corporation for monetary damages shall be eliminated to the fullest extent permissible under California law.

This Corporation is authorized to provide indemnification of agents (as defined in Section 317 of the California Corporations Code) through bylaw provisions, agreements with agents, vote of shareholders or disinterested directors or otherwise, to the fullest extent permissible under California law.

Any amendment, repeal or modification of any provision of this Article V shall not adversely affect any right or protection of an agent of this Corporation existing at the time of such amendment, repeal or modification.

IN WITNESS WHEREOF, the undersigned incorporator has executed these Articles of Incorporation of February 8, 1994.

/s/ Paula A. Ivers

Paula A. Ivers, Incorporator

AMENDED AND RESTATED BYLAWS

OF

CELERITY SYSTEMS INCORPORATED

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AMENDED AND RESTATED BYLAWS

OF

CELERITY SYSTEMS INCORPORATED

ARTICLE I

CORPORATE OFFICES

1.1 Principal Office.

The Board of Directors shall fix the location of the principal executive office of the corporation at any place within or outside the State of California. If the principal executive office is located outside California and the corporation has one or more business offices in California, then the Board of Directors shall fix and designate a principal business office in California.

1.2 Other Offices.

The Board of Directors may at any time establish branch or subordinate offices at any place or places.

ARTICLE II

MEETINGS OF SHAREHOLDERS

2.1 Place of Meetings.

Meetings of shareholders shall be held at any place within or outside the State of California designated by the Board of Directors. In the absence of any such designation, shareholders' meetings shall be held at the principal executive office of the corporation or at any place consented to in writing by all persons entitled to vote at such meeting, given before or after the meeting and filed with the Secretary of the corporation.

2.2 Annual Meeting.

An annual meeting of shareholders shall be held each year on a date and at a time designated by the Board of Directors. At that meeting, directors shall be elected. Any other proper business may be transacted at the annual meeting of shareholders.

2.3 Special Meetings.

Special meetings of the shareholders may be called at any time, subject to the provisions of Sections 2.4 and 2.5 of these Bylaws, by the Board of Directors, the Chairman of the Board, the President or the holders of shares entitled to cast not less than ten percent (10%) of the votes at that meeting.

If a special meeting is called by anyone other than the Board of Directors or the President or the Chairman of the Board, then the request shall be in writing, specifying the time of such meeting and the general nature of the business proposed to be transacted, and shall be delivered personally or sent by registered mail or by other written communication to the Chairman of the Board, the President, any Vice President or the Secretary of the corporation. The officer receiving the request forthwith shall cause notice to be given to the shareholders entitled to vote, in accordance with the provisions of Sections 2.4 and 2.5 of these Bylaws, that a meeting will be held at the time requested by the person or persons calling the meeting, so long as that time is not less than thirty-five (35) nor more than sixty (60) days after the receipt of the request. If the notice is not given within twenty (20) days alter receipt of the request, then the person or persons requesting the meeting may give the notice. Nothing contained in this paragraph of this Section 2.3 shall be construed as limiting, fixing or affecting the time when a meeting of shareholders called by action of the Board of Directors may be held.

2.4 Notice of Shareholders' Meetings.

All notices of meetings of shareholders shall be sent or otherwise given in accordance with Section 2.5 of these Bylaws not less than ten (10) (or, if sent by third-class mail pursuant to Section 2.5 of these Bylaws, not less than thirty (30)) nor more than sixty (60) days before the date of the meeting to each shareholder entitled to vote thereat. Such notice shall state the place, date, and hour of the meeting and (i) in the case of a special meeting, the general nature of the business to be transacted, and no business other than that specified in the notice may be transacted, or (ii) in the case of the annual meeting, those matters which the Board of Directors, at the time of the mailing of the notice, intends to present for action by the shareholders, but, subject to the provisions of the next paragraph of this Section 2.4, any proper matter may be presented at the meeting for such action. The notice of any meeting at which Directors are to be elected shall include the names of nominees intended at the time of the notice to be presented by the Board for election.

If action is proposed to be taken at any meeting for approval of (i) a contract or transaction in which a director has a direct or indirect financial interest, pursuant to Section 310 of the California General Corporation Law (the "GCL"), (ii) an amendment of the Articles of Incorporation, pursuant to Section 902 of the GCL, (iii) a reorganization of the corporation, pursuant to Section 1201 of the GCL, (iv) a voluntary dissolution of the corporation, pursuant to Section 1900 of the GCL, or (v) a distribution in dissolution other than in accordance with the rights of any outstanding preferred shares, pursuant to Section 2007 of the GCL, then the notice shall also state the general nature of that proposal.

2.5 Manner of Giving Notice; Affidavit of Notice.

Notice of a shareholders' meeting shall be given either personally or by first-class mail, or, if the corporation has outstanding shares held of record by five hundred (500) or more persons (determined as provided in Section 605 of the GCL) on the record date for the shareholders' meeting, notice may be sent by third-class mail, or other means of written communication, addressed to the shareholder at the address of the shareholder appearing on the books of the corporation or given by the shareholder to the corporation for the purpose of notice; or if no such address appears or is given, at the place where the principal executive office of the

corporation is located or by publication at least once in a newspaper of general circulation in the county in which the principal executive office is located. The notice shall be deemed to have been given at the time when delivered personally or deposited in the mail or sent by other means of written communication.

If any notice (or any report referenced in Article VII of these Bylaws) addressed to a shareholder at the address of such shareholder appearing on the books of the corporation is returned to the corporation by the United States Postal Service marked to indicate that the United States Postal Service is unable to deliver the notice to the shareholder at that address, all future notices or reports shall be deemed to have been duly given without further mailing if the same shall be available to the shareholder upon written demand of the shareholder at the principal executive office of the corporation for a period of one (1) year from the date of the giving of the notice.

An affidavit of mailing of any notice or report in accordance with the provisions of this Section 2.5, executed by the Secretary, Assistant Secretary or any transfer agent, shall be prima facie evidence of the giving of the notice or report.

2.6 Quorum.

Unless otherwise provided in the Articles of Incorporation of the corporation, a majority of the shares entitled to vote, represented in person or by proxy, shall constitute a quorum at a meeting of the shareholders. The shareholders present at a duly called or held meeting at which a quorum is present may continue to transact business until adjournment notwithstanding the withdrawal of enough shareholders to leave less than a quorum, if any action taken (other than adjournment) is approved by at least a majority of the shares required to constitute a quorum.

In the absence of a quorum, any meeting of shareholders may be adjourned from time to time by the vote of a majority of the shares represented either in person or by proxy, but no other business may be transacted, except as provided in the last sentence of the preceding paragraph.

2.7 Adjourned Meeting; Notice.

Any shareholders' meeting, annual or special, whether or not a quorum is present, may be adjourned from time to time by the vote of the majority of the shares represented at that meeting, either in person or by proxy.

When any meeting of shareholders, either annual or special, is adjourned to another time or place, notice need not be given of the adjourned meeting if its time and place are announced at the meeting at which the adjournment is taken. However, if the adjournment is for more than forty-five (45) days from the date set for the original meeting or if a new record date for the adjourned meeting is fixed, a notice of the adjourned meeting shall be given to each shareholder of record entitled to vote at the adjourned meeting in accordance with the provisions of Sections 2.4 and 2.5 of these Bylaws. At any adjourned meeting the corporation may transact any business which might have been transacted at the original meeting.

2.8 Voting.

The shareholders entitled to vote at any meeting of shareholders shall be determined in accordance with the provisions of Section 2.11 of these Bylaws, subject to the provisions of Sections 702 through 704 of the GCL (relating to voting shares held by a fiduciary, in the name of a corporation, or in joint ownership).

Elections for directors and voting on any other matter at a shareholders' meeting need not be by ballot unless a shareholder demands election by ballot at the meeting and before the voting begins.

Except as provided in the last paragraph of this Section 2.8, or as may be otherwise provided in the Articles of Incorporation, each outstanding share, regardless of class, shall be entitled to one vote on each matter submitted to a vote of the shareholders. Any holder of shares entitled to vote on any matter may vote part of the shares in favor of the proposal and refrain from voting the remaining shares or may vote them against the proposal other than elections to office, but, if the shareholder fails to specify the number of shares such shareholder is voting affirmatively, it will be conclusively presumed that the shareholder's approving vote is with respect to all shares which the shareholder is entitled to vote.

The affirmative vote of the majority of the shares represented and voting at a duly held meeting at which a quorum is present (which shares voting affirmatively also constitute at least a majority of the required quorum) shall be the act of the shareholders, unless the vote of a greater number or voting by classes is required by the GCL or by the Articles of Incorporation.

At a shareholders' meeting at which directors are to be elected, a shareholder shall be entitled to cumulate votes either (i) by giving one candidate a number of votes equal to the number of directors to be elected multiplied by the number of votes to which that shareholder's shares are normally entitled or (ii) by distributing the shareholder's votes on the same principle among as many candidates as the shareholder thinks fit, if the candidate or candidates' names have been placed in nomination prior to the voting and the shareholder has given notice prior to the voting of the shareholder's intention to cumulate the shareholder's votes. If any one shareholder has given such a notice, then every shareholder entitled to vote may cumulate votes for candidates in nomination. The candidates receiving the highest number of affirmative votes, up to the number of directors to be elected, shall be elected; votes against any candidate and votes withheld shall have no legal effect.

2.9 Validation of Meetings; Waiver of Notice; Consent.

The transactions of any meeting of shareholders, either annual or special, however called and noticed, and wherever held, are as valid as though they had been taken at a meeting duly held after regular call and notice, if a quorum be present either in person or by proxy, and if, either before or after the meeting, each of the persons entitled to vote, not present in person or by proxy, signs a written waiver of notice or a consent to the holding of the meeting or an approval of the minutes thereof. Neither the business to be transacted at nor the purpose of any annual or special meeting of shareholders need be specified in any written waiver of notice or consent to

the holding of the meeting or approval of the minutes thereof, except that if action is taken or proposed to be taken for approval of any of those matters specified in the second paragraph of Section 2.4 of these Bylaws, the waiver of notice or consent or approval shall state the general nature of the proposal. All such waivers, consents, and approvals shall be filed with the corporate records or made a part of the minutes of the meeting.

Attendance of a person at a meeting shall constitute a waiver of notice of and presence at that meeting, except when the person objects, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened and except that attendance at a meeting is not a waiver of any right to object to the consideration of matters required by the GCL to be included in the notice of such meeting but not so included, if such objection is expressly made at the meeting.

2.10 Shareholder Action by Written Consent Without A Meeting.

Any action which may be taken at any annual or special meeting of shareholders may be taken without a meeting and without prior notice, if a consent in writing, setting forth the action so taken, shall be signed by the holders of outstanding shares having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted.

Directors may not be elected by written consent except by unanimous written consent of all shares entitled to vote for the election of directors. However, a director may be elected at any time to fill any vacancy on the Board of Directors, provided that it was not created by removal of a director and that it has not been filled by the directors, by the written consent of the holders of a majority of the outstanding shares entitled to vote for the election of directors.

All such consents shall be maintained in the corporate records. Any shareholder giving a written consent, or the shareholder's proxy holders, or a transferee of the shares, or a personal representative of the shareholder, or their respective proxy holders, may revoke the consent by a writing received by the Secretary of the corporation before written consents of the number of shares required to authorize the proposed action have been filed with the Secretary.

If the consents of all shareholders entitled to vote have not been solicited in writing, the Secretary shall give prompt notice of any corporate action approved by the shareholders without a meeting by less than unanimous written consent to those shareholders entitled to vote who have not consented in writing. Such notice shall be given in the manner specified in Section 2.5 of these Bylaws. In the case of approval of (i) a contract or transaction in which a director has a direct or indirect financial interest, pursuant to Section 310 of the GCL, (ii) indemnification of a corporate "agent," pursuant to Section 317 of the GCL, (iii) a reorganization of the corporation, pursuant to Section 1201 of the GCL, and (iv) a distribution in dissolution other than in accordance with the rights of outstanding preferred shares, pursuant to Section 2007 of the GCL, the notice shall be given at least ten (10) days before the consummation of any action authorized by that approval, unless the consents of all shareholders entitled to vote have been solicited in writing.

2.11 Record Date for Shareholder Notice; Voting; Giving Consents.

In order that the corporation may determine the shareholders entitled to notice of any meeting or to vote, the Board of Directors may fix, in advance, a record date, which shall not be more than sixty (60) days nor less than ten (10) days prior to the date of such meeting nor more than sixty (60) days before any other action. Shareholders at the close of business on the record date are entitled to notice and to vote, as the case may be, notwithstanding any transfer of any shares on the books of the corporation after the record date, except as otherwise provided in the Articles of Incorporation or the GCL.

A determination of shareholders of record entitled to notice of or to vote at a meeting of shareholders shall apply to any adjournment of the meeting unless the Board of Directors fixes a new record date for the adjourned meeting, but the Board of Directors shall fix a new record date if the meeting is adjourned for more than forty-five (45) days from the date set for the original meeting.

If the Board of Directors does not so fix a record date:

(a) The record date for determining shareholders entitled to notice of or to vote at a meeting of shareholders shall be at the close of business on the business day next preceding the day on which notice is given or, if notice is waived, at the close of business on the business day next preceding the day on which the meeting is held.

(b) The record date for determining shareholders entitled to give consent to corporate action in writing without a meeting, (i) when no prior action by the Board has been taken, shall be the day on which the first written consent is given, or (ii) when prior action by the Board has been taken, shall be at the close of business on the day on which the Board adopts the resolution relating thereto, or the sixtieth (60th) day prior to the date of such other action, whichever is later.

The record date for any other purpose shall be as provided in Section 8.1 of these Bylaws.

2.12 Proxies.

Every person entitled to vote for directors, or on any other matter, shall have the right to do so either in person or by one or more agents authorized by a written proxy signed by the person and filed with the Secretary of the corporation. A proxy shall be deemed signed if the shareholder's name or other authorization is placed on the proxy (whether by manual signature, typewriting, telegraphic or electronic transmission or otherwise) by the shareholder or the shareholder's attorney-in-fact. A validly executed proxy which does not state that it is irrevocable shall continue in full force and effect unless (i) the person who executed the proxy revokes it prior to the time of voting by delivering a writing to the corporation stating that the proxy is revoked or by executing a subsequent proxy and presenting it to the meeting or by attendance at such meeting and voting in person, or (ii) written notice of the death or incapacity of the maker of that proxy is received by the corporation before the vote pursuant to that proxy is counted; provided, however, that no proxy shall be valid after the expiration of eleven (11) months from the date thereof, unless otherwise provided in the proxy. The dates contained on the forms of proxy presumptively determine the order of execution, regardless of the postmark dates

on the envelopes in which they are mailed. The revocability of a proxy that states on its face that it is irrevocable shall be governed by the provisions of Sections 705(e) and 705(f) of the GCL.

2.13 Inspectors of Election.

In advance of any meeting of shareholders, the Board of Directors may appoint inspectors of election to act at the meeting and any adjournment thereof. If inspectors of election are not so appointed or designated or if any persons so appointed fail to appear or refuse to act, then the Chairman of the meeting may, and on the request of any shareholder or a shareholder's proxy shall, appoint inspectors of election (or persons to replace those who so fail to appear) at the meeting. The number of inspectors shall be either one (1) or three (3). If appointed at a meeting on the request of one (1) or more shareholders or proxies, the majority of shares represented in person or by proxy shall determine whether one (1) or three (3) inspectors are to be appointed.

The inspectors of election shall determine the number of shares outstanding and the voting power of each, the shares represented at the meeting, the existence of a quorum, and the authenticity, validity, and effect of proxies, receive votes, ballots or consents, hear and determine all challenges and questions in any way arising in connection with the right to vote, count and tabulate all votes or consents, determine when the polls shall close, determine the result and do any other acts that may be proper to conduct the election or vote with fairness to all shareholders.

ARTICLE III

DIRECTORS

3.1 Powers.

Subject to the provisions of the GCL and any limitations in the Articles of Incorporation and these Bylaws relating to action required to be approved by the shareholders or by the outstanding shares, the business and affairs of the corporation shall be managed and all corporate powers shall be exercised by or under the direction of the Board of Directors. The Board may delegate the management of the day-to-day operation of the business of the corporation to a management company or other person provided that the business and affairs of the corporation shall be managed and all corporate powers shall be exercised under the ultimate direction of the Board.

3.2 Number of Directors.

The authorized number of directors of the corporation shall be one (1). Subject to the provisions of Section 212 of the GCL, the number of directors may be changed from time to time by an amendment of these Bylaws. No reduction of the authorized number of directors shall have the effect of removing any director before that director's term of office expires.

3.3 Election and Term of Office of Directors.

At each annual meeting of shareholders, directors shall be elected to hold office until the next annual meeting. Each director, including a director elected to fill a vacancy, shall hold

office until the expiration of the term for which elected and until a successor has been elected and qualified, except in the case of the death, resignation, or removal of such a director.

3.4 Removal.

The entire Board of Directors or any individual director may be removed from office without cause by the affirmative vote of a majority of the outstanding shares entitled to vote on such removal; provided, however, that unless the entire Board is removed, no individual director may be removed when the votes cast against such director's removal, or not consenting in writing to such removal, would be sufficient to elect the director if voted cumulatively at an election at which the same total number of votes cast were cast (or, if such action is taken by written consent, all shares entitled to vote were voted) and the entire number of directors authorized at the time of such director's most recent election were then being elected.

3.5 Resignation and Vacancies.

Any director may resign effective upon giving oral or written notice to the Chairman of the Board, the President, the Secretary or the Board of Directors, unless the notice specifies a later time for the effectiveness of such resignation. If the resignation of a director is effective at a future time, the Board of Directors may elect a successor to take office when the resignation becomes effective.

Vacancies on the Board of Directors may be filled by a majority of the remaining directors, or if the number of directors then in office is less than a quorum by (i) unanimous written consent of the directors then in office, (ii) the affirmative vote of a majority of the directors then in office at a meeting held pursuant to notice or waivers of notice, or (iii) a sole remaining director; however, a vacancy created by the removal of a director by the vote or written consent of the shareholders or by court order may be filled only by the affirmative vote of a majority of the shares represented and voting at a duly held meeting at which a quorum is present (which shares voting affirmatively also constitute at least a majority of the required quorum), or by the unanimous written consent of all shares entitled to vote thereon. Each director so elected shall hold office until the next annual meeting of the shareholders and until a successor has been elected and qualified, or until his or her death, resignation or removal.

A vacancy or vacancies in the Board of Directors shall be deemed to exist (i) in the event of the death, resignation or removal of any director, (ii) if the Board of Directors by resolution declares vacant the office of a director who has been declared of unsound mind by an order of court or convicted of a felony, (iii) if the authorized number of directors is increased, or (iv) if the shareholders fail, at any meeting of shareholders at which any director or directors are elected, to elect the full authorized number of directors to be elected at that meeting.

The shareholders may elect a director or directors at any time to fill any vacancy or vacancies not filled by the directors, but any such election by written consent, other than to fill a vacancy created by removal, shall require the consent of the holders of a majority of the outstanding shares entitled to vote thereon. A director may not be elected by written consent to fill a vacancy created by removal except by unanimous consent of all shares entitled to vote for the election of directors.

3.6 Place of Meetings; Meetings by Telephone.

Regular meetings of the Board of Directors may be held at any place within or outside the State of California that has been designated from time to time by resolution of the Board. In the absence of such a designation, regular meetings shall be held at the principal executive office of the corporation. Special meetings of the Board may be held at any place within or outside the State of California that has been designated in the notice of the meeting or, if not stated in the notice or if there is no notice, at the principal executive office of the corporation.

Members of the Board may participate in a meeting through the use of conference telephone or similar communications equipment, so long as all directors participating in such meeting can hear one another. Participation in a meeting pursuant to this paragraph constitutes presence in person at such meeting.

3.7 Regular Meetings.

Regular meetings of the Board of Directors may be held without notice if the time and place of such meetings are fixed by the Board of Directors.

3.8 Special Meetings; Notice.

Subject to the provisions of the following paragraph, special meetings of the Board of Directors for any purpose or purposes may be called at any time by the Chairman of the Board, the President, any Vice President, the Secretary or any two (2) directors.

Notice of the time and place of special meetings shall be delivered personally or by telephone to each director or sent by first-class mail, telegram, charges prepaid, or by telecopier, addressed to each director at that director's address as it is shown on the records of the corporation. If the notice is mailed, it shall be deposited in the United States mail at least four (4) days before the time of the holding of the meeting. If the notice is delivered personally or by telephone or by telecopier or telegram, it shall be delivered personally or by telephone or by telecopier or to the telegraph company at least forty-eight (48) hours before the time of the holding of the meeting. Any oral notice given personally or by telephone may be communicated either to the director or to a person at the office of the director who the person giving the notice has reason to believe will promptly communicate it to the director. The notice need not specify the purpose of the meeting.

3.9 Quorum.

A majority of the authorized number of directors shall constitute a quorum for the transaction of business, except to adjourn as provided in Section 3.11 of these Bylaws. Every act or decision done or made by a majority of the directors present at a meeting duly held at which a quorum is present is the act of the Board of Directors, subject to the provisions of Section 310 of the GCL (as to approval of contracts or transactions in which a director has a direct or indirect material financial interest), Section 311 of the GCL (as to appointment of committees), Section 3 17(e) of the GCL (as to indemnification of directors), the Articles of Incorporation, and other applicable law.

A meeting at which a quorum is initially present may continue to transact business notwithstanding the withdrawal of directors, if any action taken is approved by at least a majority of the required quorum for such meeting.

3.10 Waiver of Notice.

Notice of a meeting need not be given to any director who signs a waiver of notice or a consent to holding the meeting or an approval of the minutes thereof, whether before or after the meeting, or who attends the meeting without protesting, prior thereto or at its commencement, the lack of notice to such director. All such waivers, consents, and approvals shall be filed with the corporate records or made a part of the minutes of the meeting. A waiver of notice need not specify the purpose of any regular or special meeting of the Board of Directors.

3.11 Adjournment.

A majority of the directors present, whether or not a quorum is present, may adjourn any meeting to another time and place.

3.12 Notice of Adjournment.

If the meeting is adjourned for more than twenty-four (24) hours, notice of any adjournment to another time and place shall be given prior to the time of the adjourned meeting to the directors who were not present at the time of the adjournment.

3.13 Board Action by Written Consent Without A Meeting.

Any action required or permitted to be taken by the Board of Directors may be taken without a meeting, if all members of the Board individually or collectively consent in writing to such action. Such written consent or consents shall be filed with the minutes of the proceedings of the Board. Such action by written consent shall have the same force and effect as a unanimous vote of the Board of Directors.

3.14 Fees and Compensation of Directors.

Directors and members of committees may receive such compensation, if any, for their services and such reimbursement of expenses as may be fixed or determined by resolution of the Board of Directors. This Section 3.14 shall not be construed to preclude any director from serving the corporation in any other capacity as an officer, agent, employee or otherwise and receiving compensation for those services.

ARTICLE IV

COMMITTEES

4.1 Committees of Directors.

The Board of Directors may, by resolution adopted by a majority of the authorized number of directors, designate one or more committees, each consisting of two (2) or more

directors, to serve at the pleasure of the Board. The Board may designate one or more directors as alternate members of any committee, who may replace any absent member at any meeting of the committee. The appointment of members or alternate members of a committee requires the vote of a majority of the authorized number of directors. Any such committee shall have authority to act in the manner and to the extent provided in the resolution of the Board and may have all the authority of the Board, except with respect to:

(a) The approval of any action which, under the GCL, also requires shareholders' approval or approval of the outstanding shares.

(b) The filling of vacancies on the Board of Directors or in any committee.

(c) The fixing of compensation of the directors for serving on the Board or on any committee.

(d) The amendment or repeal of these Bylaws or the adoption of new Bylaws.

(e) The amendment or repeal of any resolution of the Board of Directors which by its express terms is not so amendable or repealable.

(f) A distribution to the shareholders of the corporation, except at a rate, in a periodic amount or within a price range set forth in the Articles of Incorporation or determined by the Board of Directors.

(g) The appointment of any other committees of the Board of Directors or the members thereof.

4.2 Meetings and Action of Committees.

Meetings and actions of committees shall be governed by, and held and taken in accordance with, the provisions of Article III of these Bylaws, Section 3.6 (place of meetings), Section 3.7 (regular meetings), Section 3.8 (special meetings and notice), Section 3.9 (quorum), Section 3.10 (waiver of notice), Section 3.11 (adjournment), Section 3.12 (notice of adjournment), and Section 3.13 (action without meeting), with such changes in the context of those Bylaws as are necessary to substitute the committee and its members for the Board of Directors and its members; provided, however, that the time of regular meetings of committees may be determined either by resolution of the Board of Directors or by resolution of the committee, that special meetings of committees may also be called by resolution of the Board of Directors, and that notice of special meetings of committees shall also be given to all alternate members, who shall have the right to attend all meetings of the committee. The Board of Directors may adopt rules for the government of any committee not inconsistent with the provisions of these Bylaws.

ARTICLE V

OFFICERS

5.1 Officers.

The officers of the corporation shall be a President, a Secretary, and a Treasurer. The corporation may also have, at the discretion of the Board of Directors, a Chairman of the Board, one or more Vice Presidents, one or more Assistant Secretaries, one or more Assistant Treasurers, and such other officers as may be appointed in accordance with the provisions of Section 5.3 of these Bylaws. Any number of offices may be held by the same person.

5.2 Appointment of Officers.

The officers of the corporation, except such officers as may be appointed in accordance with the provisions of Section 5.3 or Section 5.5 of these Bylaws, shall be chosen by the Board and serve at the pleasure of the Board, subject to the rights, if any, of an officer under any contract of employment.

5.3 Subordinate Officers.

The Board of Directors may appoint, or may empower the Chairman of the Board or the President to appoint, such other officers as the business of the corporation may require, each of whom shall hold office for such period, have such authority, and perform such duties as are provided in these Bylaws or as the Board of Directors may from time to time determine.

5.4 Removal and Resignation of Officers.

Subject to the rights, if any, of an officer under any contract of employment, all officers serve at the pleasure of the Board of Directors and any officer may be removed, either with or without cause, by the Board of Directors at any regular or special meeting of the Board or, except in case of an officer chosen by the Board of Directors, by any officer upon whom such power of removal may be conferred by the Board of Directors.

Any officer may resign at any time by giving written notice to the corporation. Any resignation shall take effect at the date of the receipt of that notice or at any later time specified in that notice; and, unless otherwise specified in that notice, the acceptance of the resignation shall not be necessary to make it effective. Any resignation is without prejudice to the rights, if any, of the corporation under any contract to which the officer is a party.

5.5 Vacancies in Offices.

A vacancy in any office because of death, resignation, removal, disqualification or any other cause shall be filled in the manner prescribed in these Bylaws for regular appointments to that office.

5.6 Chairman of the Board.

The Chairman of the Board, if such an officer be elected, shall, if present, preside at meetings of the Board of Directors and exercise and perform such other powers and duties as may from time to time be assigned by the Board of Directors or as may be prescribed by these Bylaws. If there is no President, then the Chairman of the Board shall also be the chief executive officer of the corporation and shall have the powers and duties prescribed in Section 5.7 of these Bylaws.

5.7 President.

Subject to such supervisory powers, if any, as may be given by the Board of Directors to the Chairman of the Board, if there be such an officer, the President shall be the chief executive officer of the corporation and shall, subject to the control of the Board of Directors, have general supervision, direction, and control of the business and the officers of the corporation. The President shall preside at all meetings of the shareholders and, in the absence or nonexistence of a Chairman of the Board, at all meetings of the Board of Directors. The President shall have the general powers and duties of management usually vested in the office of President of a corporation, and shall have such other powers and duties as may be prescribed by the Board of Directors or these Bylaws.

5.8 Vice Presidents.

In the absence or disability of the President, the Vice Presidents, if any, in order of their rank as fixed by the Board of Directors or, if not ranked, a Vice President designated by the Board of Directors, shall perform all the duties of the President and when so acting shall have all the powers of, and be subject to all the restrictions upon, the President. The Vice Presidents shall have such other powers and perform such other duties as from time to time may be prescribed for them respectively by the Board of Directors, these Bylaws, the President or the Chairman of the Board.

5.9 Secretary.

The Secretary shall keep or cause to be kept, at the principal executive office of the corporation or such other place as the Board of Directors may direct, a book of minutes of all meetings and actions of Directors, committees of directors and shareholders. The minutes shall show the time and place of each meeting, whether regular or special (and, if special, how authorized and the notice given), the names of those present at directors' meetings or committee meetings, the number of shares present or represented at shareholders' meetings, and the proceedings thereof.

The Secretary shall keep, or cause to be kept, at the principal executive office of the corporation or at the office of the corporation's transfer agent or registrar, as determined by resolution of the Board of Directors, a share register, or a duplicate share register, showing the names of all shareholders and their addresses, the number and classes of shares held by each, the number and date of certificates evidencing such shares, and the number and date of cancellation of every certificate surrendered for cancellation.

The Secretary shall give, or cause to be given, notice of all meetings of the shareholders and of the Board of Directors required to be given by law or by these Bylaws. The Secretary shall keep the seal of the corporation, if one be adopted, in safe custody and shall have such other powers and perform such other duties as may be prescribed by the Board of Directors or by these Bylaws.

5.10 Chief Financial Officer.

The Chief Financial Officer shall keep and maintain, or cause to be kept and maintained, adequate and correct books and records of accounts of the properties and business transactions of the corporation, including accounts of its assets, liabilities, receipts, disbursements, gains, losses, capital, retained earnings, and shares. The books of account shall at all reasonable times be open to inspection by any director.

The Chief Financial Officer shall deposit all money and other valuables in the name and to the credit of the corporation with such depositaries as may be designated by the Board of Directors. The Chief Financial Officer shall disburse the funds of the corporation as may be ordered by the Board of Directors, shall render to the President and directors, whenever they request it, an account of all of his or her transactions as Chief Financial Officer and of the financial condition of the corporation, and shall have such other powers and perform such other duties as may be prescribed by the Board of Directors or these Bylaws.

ARTICLE VI

INDEMNIFICATION OF DIRECTORS, OFFICERS, EMPLOYEES, AND OTHER AGENTS

6.1 Indemnification of Directors.

The corporation shall, to the maximum extent and in the manner permitted by the GCL, indemnify each of its directors against expenses (as defined in Section 317(a) of the GCL), judgments, fines, settlements, and other amounts actually and reasonably incurred in connection with any proceeding (as defined in Section 317(a) of the GCL), arising by reason of the fact that such person is or was a director of the corporation. For purposes of this Article VI, a "director" of the corporation includes any person (i) who is or was a director of the corporation, (ii) who is or was serving at the request of the corporation as a director of another foreign or domestic corporation, partnership, joint venture, trust or other enterprise, or (iii) who was a director of a corporation which was a predecessor corporation of the corporation or of another enterprise at the request of such predecessor corporation.

6.2 Indemnification of Others.

The corporation shall have the power, to the extent and in the manner permitted by the GCL, to indemnify each of its employees, officers, and agents (other than directors) against expenses (as defined in Section 317(a) of the GCL), judgments, fines, settlements, and other amounts actually and reasonably incurred in connection with any proceeding (as defined in Section 317(a) of the GCL), arising by reason of the fact that such person is or was an employee, officer, or agent of the corporation. For purposes of this Article VI, an "employee" or "officer" or "agent" of the corporation (other than a director) includes any person (i) who is or was an employee, officer, or agent of the corporation, (ii) who is or was serving at the request of the corporation as an employee, officer, or agent of another foreign or domestic corporation, partnership, joint venture, trust or other enterprise, or (iii) who was an employee, officer, or

agent of a corporation which was a predecessor corporation of the corporation or of another enterprise at the request of such predecessor corporation.

6.3 Payment of Expenses in Advance.

Expenses and attorneys' fees incurred in defending any civil or criminal action or proceeding for which indemnification is required pursuant to Section 6.1, or if otherwise authorized by the Board of Directors, shall be paid by the corporation in advance of the final disposition of such action or proceeding upon receipt of an undertaking by or on behalf of the indemnified party to repay such amount if it shall ultimately be determined that the indemnified party is not entitled to be indemnified as authorized in this Article VI.

6.4 Indemnity Not Exclusive.

The indemnification provided by this Article VI shall not be deemed exclusive of any other rights to which those seeking indemnification may be entitled under any Bylaw, agreement, vote of shareholders or directors or otherwise, both as to action in an official capacity and as to action in another capacity while holding such office. The rights to indemnity hereunder shall continue as to a person who has ceased to be a director, officer, employee, or agent and shall inure to the benefit of the heirs, executors, and administrators of the person.

6.5 Insurance Indemnification.

The corporation shall have the power to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation against any liability asserted against or incurred by such person in such capacity or arising out of that person's status as such, whether or not the corporation would have the power to indemnify that person against such liability under the provisions of this Article VI.

6.6 Conflicts.

No indemnification or advance shall be made under this Article VI, except where such indemnification or advance is mandated by law or the order, judgment or decree of any court of competent jurisdiction, in any circumstance where it appears:

(1) That it would be inconsistent with a provision of the Articles of Incorporation, these Bylaws, a resolution of the shareholders or an agreement in effect at the time of the accrual of the alleged cause of the action asserted in the proceeding in which the expenses were incurred or other amounts were paid, which prohibits or otherwise limits indemnification; or

(2) That it would be inconsistent with any condition expressly imposed by a court in approving a settlement.

6.7 Right to Bring Suit.

If a claim under this Article is not paid in full by the corporation within 90 days after a written claim has been received by the corporation (either because the claim is denied or because

no determination is made), the claimant may at any time thereafter bring suit against the corporation to recover the unpaid amount of the claim and, if successful in whole or in part, the claimant shall also be entitled to be paid the expenses of prosecuting such claim. The corporation shall be entitled to raise as a defense to any such action that the claimant has not met the standards of conduct that make it permissible under the GCL for the corporation to indemnify the claimant for the claim. Neither the failure of the corporation (including its Board of Directors, independent legal counsel, or its shareholders) to have made a determination prior to the commencement of such action that indemnification of the claimant is permissible in the circumstances because he or she has met the applicable standard of conduct, if any, nor an actual determination by the corporation (including its Board of Directors, independent legal counsel, or its shareholders) that the claimant has not met the applicable standard of conduct, shall be a defense to such action or create a presumption for the purposes of such action that the claimant has not met the applicable standard of conduct.

6.8 Indemnity Agreements.

The Board of Directors is authorized to enter into a contract with any director, officer, employee or agent of the corporation, or any person who is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, including employee benefit plans, or any person who was a director, officer, employee or agent of a corporation which was a predecessor corporation of the corporation or of another enterprise at the request of such predecessor corporation, providing for indemnification rights equivalent to or, if the Board of Directors so determines and to the extent permitted by applicable law, greater than, those provided for in this Article VI.

6.9 Amendment, Repeal or Modification.

Any amendment, repeal or modification of any provision of this Article VI shall not adversely affect any right or protection of a director or agent of the corporation existing at the time of such amendment, repeal or modification.

ARTICLE VII

RECORDS AND REPORTS

7.1 Maintenance and Inspection of Share Register.

The corporation shall keep either at its principal executive office or at the office of its transfer agent or registrar (if either be appointed), as determined by resolution of the Board of Directors, a record of its shareholders listing the names and addresses of all shareholders and the number and class of shares held by each shareholder.

A shareholder or shareholders of the corporation holding at least five percent (5%) in the aggregate of the outstanding voting shares of the corporation or who hold at least one percent (1%) of such voting shares and have filed a Schedule 14B with the United States Securities and Exchange Commission relating to the election of directors, shall have an absolute right to do either or both of the following (i) inspect and copy the record of shareholders' names, addresses, and shareholdings during usual business hours upon five (5) days' prior written demand upon the

corporation, or (ii) obtain from the transfer agent for the corporation, upon written demand and upon the tender of such transfer agent's usual charges for such list (the amount of which charges shall be stated to the shareholder by the transfer agent upon request), a list of the shareholders' names and addresses who are entitled to vote for the election of directors, and their shareholdings, as of the most recent record date for which it has been compiled or as of a date specified by the shareholder subsequent to the date of demand. The list shall be made available on or before the later of five (5) business days after the demand is received or the date specified therein as the date as of which the list is to be compiled.

The record of shareholders shall also be open to inspection and copying by any shareholder or holder of a voting trust certificate at any time during usual business hours upon written demand on the corporation, for a purpose reasonably related to the holder's interests as a shareholder or holder of a voting trust certificate.

Any inspection and copying under this Section 7.1 may be made in person or by an agent or attorney of the shareholder or holder of a voting trust certificate making the demand.

7.2 Maintenance and Inspection of Bylaws.

The corporation shall keep at its principal executive office or, if its principal executive office is not in the State of California, at its principal business office in California, the original or a copy of these Bylaws as amended to date, which shall be open to inspection by the shareholders at all reasonable times during office hours. If the principal executive office of the corporation is outside the State of California and the corporation has no principal business office in such state, then it shall, upon the written request of any shareholder, furnish to such shareholder a copy of these Bylaws as amended to date.

7.3 Maintenance and Inspection of Other Corporate Records.

The accounting books and records and the minutes of proceedings of the shareholders and the Board of Directors, and committees of the Board of Directors shall be kept at such place or places as are designated by the Board of Directors or, in absence of such designation, at the principal executive office of the corporation. The minutes shall be kept in written form, and the accounting books and records shall be kept either in written form or in any other form capable of being converted into written form.

The minutes and accounting books and records shall be open to inspection upon the written demand on the corporation of any shareholder or holder of a voting trust certificate at any reasonable time during usual business hours, for a purpose reasonably related to such holder's interests as a shareholder or as the holder of a voting trust certificate. Such inspection by a shareholder or holder of a voting trust certificate may be made in person or by an agent or attorney and the right of inspection includes the right to copy and make extracts. Such rights of inspection shall extend to the records of each subsidiary corporation of the corporation.

7.4 Inspection by Directors.

Every director shall have the absolute right at any reasonable time to inspect and copy all books, records, and documents of every kind and to inspect the physical properties of the

corporation and each of its subsidiary corporations, domestic or foreign. Such inspection by a director may be made in person or by an agent or attorney and the right of inspection includes the right to copy and make extracts.

7.5 Annual Report to Shareholders; Waiver.

The Board of Directors shall cause an annual report to be sent to the shareholders not later than one hundred twenty (120) days after the close of the fiscal year adopted by the corporation. Such report shall be sent to the shareholders at least fifteen (15) (or, if sent by third-class mail, thirty-five (35)) days prior to the annual meeting of shareholders to be held during the next fiscal year and in the manner specified in Section 2.5 of these Bylaws for giving notice to shareholders of the corporation.

The annual report shall contain a balance sheet as of the end of the fiscal year and an income statement and statement of changes in financial position for the fiscal year, accompanied by any report thereon of independent accountants or, if there is no such report, the certificate of an authorized officer of the corporation that the statements were prepared without audit from the books and records of the corporation.

The foregoing requirement of an annual report shall be waived so long as the shares of the corporation are held by fewer than one hundred (100) holders of record.

7.6 Financial Statements.

If no annual report for the fiscal year has been sent to shareholders, then the corporation shall, upon the written request of any shareholder made more than one hundred twenty (120) days after the close of such fiscal year, deliver or mail to the person making the request, within thirty (30) days thereafter, a copy of a balance sheet as of the end of such fiscal year and an income statement and statement of changes in financial position for such fiscal year.

A shareholder or shareholders holding at least five percent (5%) of the outstanding shares of any class of the corporation may make a written request to the corporation for an income statement of the corporation for the three-month, six-month or nine-month period of the current fiscal year ended more than thirty (30) days prior to the date of the request and a balance sheet of the corporation as of the end of that period. The statements shall be delivered or mailed to the person making the request within thirty (30) days thereafter. A copy of the statements shall be kept on file in the principal office of the corporation for twelve (12) months and it shall be exhibited at all reasonable times to any shareholder demanding an examination of the statements or a copy shall be mailed to the shareholder. If the corporation has not sent to the shareholders its annual report for the last fiscal year, the statements referred to in the first paragraph of this Section 7.6 shall likewise be delivered or mailed to the shareholder or shareholders within thirty (30) days after the request.

The quarterly income statements and balance sheets referred to in this section shall be accompanied by the report thereon, if any, of any independent accountants engaged by the corporation or the certificate of an authorized officer of the corporation that the financial statements were prepared without audit from the books and records of the corporation.

7.7 Representation of Shares of Other Corporations.

The Chairman of the Board, the President, any Vice President, the Chief Financial Officer, the Secretary or Assistant Secretary of this corporation, or any other person authorized by the Board of Directors or the President or a Vice President, is authorized to vote, represent, and exercise on behalf of this corporation all rights incident to any and all shares of any other corporation or corporations standing in the name of this corporation. The authority herein granted may be exercised either by such person directly or by any other person authorized to do so by proxy or power of attorney duly executed by such person having the authority.

ARTICLE VIII

GENERAL MATTERS

8.1 Record Date for Purposes Other Than Notice and Voting.

For purposes of determining the shareholders entitled to receive payment of any dividend or other distribution or allotment of any rights or entitled to exercise any rights in respect of any other lawful action (other than with respect to notice or voting at a shareholders meeting or action by shareholders by written consent without a meeting), the Board of Directors may fix, in advance, a record date, which shall not be more than sixty (60) days prior to any such action. Only shareholders of record at the close of business on the record date are entitled to receive the dividend, distribution or allotment of rights, or to exercise the rights, as the case may be, notwithstanding any transfer of any shares on the books of the corporation after the record date, except as otherwise provided in the Articles of Incorporation or the GCL.

If the Board of Directors does not so fix a record date, then the record date for determining shareholders for any such purpose shall be at the close of business on the day on which the Board adopts the resolution relating thereto or the sixtieth (60th) day prior to the date of that action, whichever is later.

8.2 Checks; Drafts; Evidences of Indebtedness.

From time to time, the Board of Directors shall determine by resolution which person or persons may sign or endorse all checks, drafts, other orders for payment of money, notes or other evidences of indebtedness that are issued in the name of or payable to the corporation, and only the persons so authorized shall sign or endorse those instruments.

8.3 Corporate Contracts and Instruments: How Executed.

The Board of Directors, except as otherwise provided in these Bylaws, may authorize any officer or officers, or agent or agents, to enter into any contract or execute any instruments in the name of and on behalf of the corporation; such authority may be general or confined to specific instances. Unless so authorized or ratified by the Board of Directors or within the agency power of an officer, no officer, agent or employee shall have any power or authority to bind the corporation by any contract or engagement or to pledge its credit or to render it liable for any purpose or for any amount.

8.4 Certificates for Shares.

A certificate or certificates for shares of the corporation shall be issued to each shareholder when any of such shares are fully paid. The Board of Directors may authorize the issuance of certificates for shares partly paid provided that these certificates shall state the total amount of the consideration to be paid for them and the amount actually paid. All certificates shall be signed in the name of the corporation by the Chairman of the Board or the Vice Chairman of the Board or the President or a Vice President and by the Chief Financial Officer or an Assistant Treasurer or the Secretary or an Assistant Secretary, certifying the number of shares and the class or series of shares owned by the shareholder. Any or all of the signatures on the certificate may be by facsimile.

In case any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed on a certificate has ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the corporation with the same effect as if that person were an officer, transfer agent or registrar at the date of issue.

8.5 Lost Certificates.

Except as provided in this Section 8.5, no new certificates for shares shall be issued to replace a previously issued certificate unless the latter is surrendered to the corporation or its transfer agent or registrar and cancelled at the same time. The Board of Directors may, in case any share certificate or certificate for any other security is lost, stolen or destroyed (as evidenced by a written affidavit or affirmation of such fact), authorize the issuance of replacement certificates on such terms and conditions as the Board may require; the Board may require indemnification of the corporation secured by a bond or other adequate security sufficient to protect the corporation against any claim that may be made against it, including any expense or liability, on account of the alleged loss, theft or destruction of the certificate or the issuance of the replacement certificate.

8.6 Construction; Definitions.

Unless the context requires otherwise, the general provisions, rules of construction, and definitions in the GCL shall govern the construction of these Bylaws. Without limiting the generality of this provision, the singular number includes the plural, the plural number includes the singular, and the term "person" includes both a corporation and a natural person.

ARTICLE IX

AMENDMENTS

9.1 Amendment by Shareholders.

New Bylaws may be adopted or these Bylaws may be amended or repealed by the vote or written consent of holders of a majority of the outstanding shares entitled to vote; provided, however, that if the Articles of Incorporation of the corporation set forth the number of authorized Directors of the corporation, then the authorized number of Directors may be changed only by an amendment of the Articles of Incorporation.

9.2 Amendment by Directors.

Subject to the rights of the shareholders as provided in Section 9.1 of these Bylaws, Bylaws, other than a Bylaw or an amendment of a Bylaw changing the authorized number of directors (except to fix the authorized number of directors pursuant to a Bylaw providing for a variable number of directors), may be adopted, amended or repealed by the Board of Directors.

9.3 Record of Amendments.

Whenever an amendment or new Bylaw is adopted, it shall be copied in the book of minutes with the original Bylaws. If any Bylaw is repealed, the fact of repeal, with the date of the meeting at which the repeal was enacted or written consent was filed, shall be stated in said book.

ARTICLE X

INTERPRETATION

Reference in these Bylaws to any provision of the California General Corporation Law shall be deemed to include all amendments thereof.

STATE OF FLORIDA

AMENDED AND RESTATED
ARTICLES OF INCORPORATION
OF
COLEMAN RESEARCH CORPORATION
(BY VOTE OF SHAREHOLDERS)

Pursuant to Sections 607.1006 and 607.1007 of the Florida Business Corporation Act, the undersigned corporation hereby adopts these Amended and Restated Articles of Incorporation.

ARTICLE I. NAME, PRINCIPAL OFFICE AND MAILING ADDRESS

(a) The name of this corporation is COLEMAN RESEARCH CORPORATION.

(b) The principal office of the corporation is located at 201 South Orange Avenue, Suite 1300, Orlando, Florida 32801, and the mailing address of the corporation is 201 South Orange Avenue, Suite 1300, Orlando, Florida 32801.

ARTICLE II. DURATION

The Corporation shall have perpetual existence.

ARTICLE III. PURPOSE

This Corporation is organized for the following purposes:

(a) To operate a business engaged in studies, consultation, planning, engineering and other support efforts of a high technology nature involving defense, space, energy, and similar programs; to operate necessary facilities in support of such activities and to carry on any and all operations related thereto.

(b) To transact any and all lawful business.

ARTICLE IV. POWERS

This corporation shall have all of the corporate powers enumerated in the Florida Business Corporation Act.

ARTICLE V. CAPITAL STOCK

(a) The total number of shares which the Corporation shall have authority to issue is 50,000,000 shares of Common of the par value of $.001 per share, constituting a total authorized capital of $50,000, and consisting of such one class only.

(b) Except as otherwise provided by law or in the by-laws of the corporation, the entire voting power for the election of directors and for all other purposes shall be vested

exclusively in the holders of the outstanding Common Stock of the corporation, and each shareholder shall have one vote per share of Common Stock.

ARTICLE VI .PRE-EMPTIVE RIGHTS

The shareholders of this corporation shall have no preemptive right to acquire unissued or treasury shares of the corporation or securities of the corporation convertible into or carrying a right to subscribe to or acquire shares.

ARTICLE VII. REGISTERED OFFICE AND AGENT

The street address of the registered office of this corporation is 201 South Orange Avenue, Suite 1300, Orlando, Florida 32801, and the name of the registered agent of this corporation at that address is James B. Morrison.

ARTICLE VIII. INITIAL BOARD OF DIRECTORS

This article has been deleted and no substitution made.

ARTICLE IX. INCORPORATOR

The name and address of the person signing the initial articles of incorporation was:

Thomas Jefferson Coleman
6123 Parawood Drive
Orlando, FL 32811

ARTICLE X. BY-LAWS

The power to adopt, alter, amend or repeal by-laws shall be vested in the Board of Directors and the shareholders.

ARTICLE XI. OFFICERS

The officers of the corporation shall be a president and such other officers as shall be determined by the Board of Directors.

The Board of Directors may provide for the election or appointment and prescribe the duties of all officers and agents as the board may deem desirable and proper, and may take such action not inconsistent with the Articles of Incorporation and the by-laws of the corporation and the laws of the State of Florida as such board may deem advisable for the conduct and operation of the business of the corporation.

ARTICLE XII. MEETINGS

Meetings of shareholders and directors, including the time, place, and manner of calling such meetings, shall be fixed by the by-laws of the corporation.

ARTICLE XIII. AMENDMENT

This corporation reserves the right to amend or repeal any provisions contained in these Articles of Incorporation, or any amendment hereto, and any right conferred upon the shareholders is subject to this reservation.

ARTICLE XIV. STOCK RESTRICTION

This article has been deleted and no substitution made.

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The Articles of Incorporation, as amended, have been further amended by these Amended and Restated Articles of Incorporation as follows:

1. Article VII has been amended to reflect the current address of the registered office and to name a new registered agent, which amendment does not require shareholder approval.

2. Article VIII setting forth the names and addresses of the initial directors has been deleted in its entirety and no substitution made, which amendment does not require shareholder approval.

3. Article XIV restricting stock ownership to employees of the Corporation, the Corporation, a trust qualified under (Section)401(a) of the Internal Revenue Code of 1986, as amended, or the Coleman Family has been deleted in its entirety and no substitution made, which amendment could be deemed to require shareholder approval.

The amendments to the Articles of Incorporation of the Corporation set forth above were adopted on the 15th day of March, 1995, by a vote of the Board of Directors and the Common shareholders of the Corporation, on which date there were 13,255,528 shares outstanding and entitled to vote thereon; and the number of votes cast for the amendments by the shareholders was sufficient for approval.

Signed this 15th day of March, 1995

COLEMAN RESEARCH CORPORATION

By /s/ James B. Morrison

James B. Morrison
President

By /s/ Harriett C. Coleman

Harriett C. Coleman
Secretary

VERIFICATION

I, the undersigned, as President of Coleman Research Corporation, do hereby verify that the above and foregoing instrument represents an amendment to the Articles of Incorporation of Coleman Research Corporation, a Florida corporation, as set forth in these Amended and Restated Articles of Incorporation, duly approved and adopted by a vote of the directors and the shareholders of the Corporation and that the statements contained therein are true and correct.

This 15th day of March, 1995

/s/ James B. Morrison

James B. Morrison,
President

Sworn to and subscribed before me on this 15th day of March, 1995

/s/ C. L. Van Dermark

Notary Public
My Commission Expires:

June 27, 1995

ACCEPTANCE OF REGISTERED AGENT

The undersigned hereby accepts the designation and appointment of registered agent for service of process.

Signed this 15th day of March, 1995

/s/ James B. Morrison
James B. Morrison

DOMESTIC CORPORATION AND FOREIGN CORPORATION

ARTICLES OF MERGER

The undersigned Corporations, pursuant to Section 607.1107 of the Florida General Corporation Act, hereby execute the following Articles of Merger:

FIRST: The names of the corporations proposing to merge and the names of the States under the laws of which such corporations are organized are as follows:

Name of Corporation	State of Incorporation
Coleman Research Corporation	Florida
CRC Acquisition Corp.	Delaware

SECOND: The laws of the State under which such foreign corporation is organized permit such merger and foreign corporation is complying with those laws in effecting the merger.

THIRD: The name of the Surviving Corporation is Coleman Research Corporation, a Florida corporation, and it is complying with the applicable provisions of Sections 607.1101 - 607.1105 F.S.

FOURTH: The Plan of Merger is as follows:

1. The name of each of the constituent corporations of the merger is as follows: Coleman Research Corporation, a Florida corporation, and CRC Acquisition Corp., a Delaware corporation, a wholly-owned subsidiary of Thermo Electron Corporation, a Delaware corporation (hereinafter referred to as "Thermo").

2. Effective upon issuance of the Certificates of Merger by the Secretary of State of Florida and the Secretary of State of Delaware, CRC Acquisition Corp. (hereinafter referred to as "Acquisition" or the "Merging Corporation") hereby merges into the Coleman Research Corporation (hereinafter referred to as "CRC" or the "Surviving Corporation"), and the Surviving Corporation shall be the surviving corporation resulting from said merger.

The Articles of Incorporation of CRC are being Amended and Restated simultaneously herewith to delete a provision which limits stock ownership to employees of CRC.

Until altered, amended or repealed, as therein provided, the By-Laws of the Surviving Corporation in effect as of the date of these Articles of Merger, shall continue to be the By-Laws of the Surviving Corporation.

The principal office of the Surviving Corporation shall be the principal office of the Surviving Corporation as of the date of the Articles of Merger.

The Surviving Corporation shall pay all the expenses of carrying the Articles of Merger into effect and of accomplishing the merger.

Upon the date when the Articles of Merger shall become effective (hereinafter referred to as the "Effective Date"), the separate existence of the Merging Corporation shall cease, and the Merging Corporation shall be merged into the Surviving Corporation, which shall possess all the rights, privileges, powers and franchises, and be subject to all of the restrictions, liabilities and duties of the corporation party to the Merger, and all and singular, the rights, privileges, powers and franchises of said corporation, and all property, real, personal and mixed, and all debts due to said corporation shall be vested in the Surviving Corporation; and all property, rights and privileges, powers and franchises, and all and every other interest, shall thereafter be as effectively the property of the Surviving Corporation as they were of the constituent corporation, and the title to any real estate, whether by deed or otherwise, vested in said corporation party hereto, shall not revert or be in any way impaired by reason of this merger, provided that all the rights of creditors and all liens upon the property of the corporation party hereto shall be preserved unimpaired, and all debts, liabilities and duties of the Merging Corporation shall forthwith attach to the said Surviving Corporation and may be enforced against it to the same extent as if said debts, liabilities and duties had been incurred or contracted by it.

If, at any time, the Surviving Corporation shall consider or be advised that any further actions are necessary or desirable to vest in said Surviving Corporation, according to the terms hereof, the title to any property or rights of the said Merging Corporation, the proper officers and directors of said Merging Corporation shall and will execute and make all such proper assignments and assurances, and do all things necessary or proper to vest title in such property or rights in the Surviving Corporation, and otherwise to carry out the purposes of the Merger.

3. The manner of converting the outstanding capital shares of the merging corporations shall be as follows:

(a) Conversion of CRC's Shares. Upon the effective date of the merger, each share of the CRC's common stock outstanding immediately prior thereto (hereinafter referred to as the "CRC Shares") shall, by virtue of the Merger and without any action on the part of the holder thereof, be canceled and converted into the right to receive .19138 (hereinafter referred to as the "Exchange Ratio") shares of Thermo common stock. $1.00 per value (hereinafter referred to as the "Thermo Shares")

(b) CRC Stock Options. At or prior to the Effective Date, Thermo and CRC shall take all action necessary to cause the assumption by Thermo of the options to purchase CRC common stock outstanding as of the effective date (the "CRC Options"). Each of the CRC Options shall be converted without any action on the part of the holder thereof into an option to purchase shares of Thermo common stock as of the Effective Date (hereinafter referred to as the "Thermo Options"). The number of shares of Thermo common stock that each record holder of an option agreement which represents CRC Options (the "Optionholders") shall be

entitled to receive upon the exercise of such option shall be a number of whole and fractional shares determined by multiplying the number of shares of CRC common stock subject to such option, determined immediately before the Effective Date, by the Exchange Ratio. The assumption and conversion of CRC Options to Thermo Options shall not give the Optionholders additional benefits which they did not have immediately prior to eh Effective Date, result in any acceleration of any vesting schedule for any CRC Option, other than the acceleration of the vesting schedules pursuant to the terms of the CRC Nonqualified Stock Option Plan dated January 2, 1990. To relieve the Optionholders of any obligations or restrictions applicable to their options of the shares obtainable upon exercise of the options. Only whole shares of Thermo common stock shall be issued upon exercise of any Thermo option and in lieu of receiving any fractional share of Thermo common stock, the holder of such option shall receive in cash the fair market value of the fractional share, net of the applicable exercise price of the fractional share and applicable withholding taxes.

(c) Limit on Issuance of Thermo Shares. Anything to the contrary herein notwithstanding, the total number of Thermo Shares which shall be required to be issued pursuant to the paragraph (a) above and upon the exercise of CRC Options that are converted into Thermo Options pursuant to paragraph (b) above shall not (except as such number of shares shall be required to be adjusted pursuant to paragraph (h) hereof) exceed 2.669.158. In the event that the application of the Exchange Ratio set forth in paragraph (a) above could result in the issuance of more than 2.669.158 Thermo Shares, such Exchange Ratio shall be automatically adjusted such that the total number of Thermo Shares will not exceed 2.669.158.

(d) Dissenting Shares. Each outstanding CRC Share held by a CRC shareholder who has demanded and perfected his or her right to an appraisal of his or her CRC Shares in accordance with Sections 607.1301, 607.1302 and 607.1320 of the Florida Business Corporation Act and who has not effectively withdrawn or lost his or her right to such appraisal ("Dissenting Shares") shall not be converted into or represent the right to receive the Thermo Shares represented by such CRC Shares pursuant to paragraph (a) above, but the holder thereof shall be entitled only to such rights as are granted by Sections 607.1301, 607.1302 and 607.1320 of the Florida Business Corporation Act.

(e) Payment for the CRC Shares. Promptly following the effective date of the merger, The First National Bank of Boston, Thermo's stock transfer agent (hereinafter referred to as the "Exchange Agent"), shall transmit to each record holder of an outstanding certificate which prior thereto represented CRC Shares (the "Shareholders") a form of letter of transmittal and instructions for use in effecting the surrender of such certificate and/or option agreement in exchange for the Thermo Shares represented by such CRC Shares. Upon the proper surrender of such certificates and a duly executed letter of transmittal and any required tax certifications, in accordance with such instructions, to the Exchange Agent, the Exchange Agent shall deliver a certificate for the Thermo Shares that such person is entitled to receive, minus the deduction specified in paragraph (f) hereof. It shall be a condition of such payment and delivery that the surrendered certificate by properly endorsed or otherwise in proper form for transfer and that the person requesting such shall pay any transfer or other taxes required by reason of such payment or delivery or establish to the satisfaction of the Transfer Agent, Thermo and/or the Surviving Corporation that such tax has been paid or is not applicable. Until so surrendered for exchange, each certificate heretofore representing CRC Common stock

(other than Dissenting Shares) shall, subject to paragraph (f) hereof, be deemed for all purposes to evidence the right to receive the consideration as described in accordance with paragraph (a) above; provided, however, that unless and until any such outstanding certificate is so surrendered, the holder of such outstanding certificate shall cease to have any rights as a stockholder of CRC, except such rights, if any, as such holder may have with respect to Dissenting Shares and shall not be entitled to receive any consideration from the Surviving Corporation and/or Thermo with respect to the CRC Shares represented by such certificate. Each Shareholder, upon surrender of each such certificate to the Exchange Agent, shall receive promptly in exchange for each such certificate the Thermo Shares and cash (if any) to which such holder is entitled pursuant to paragraphs (a), (g) and (h) hereof. Unless and until any such outstanding certificates for CRC Shares shall be so surrendered, no dividend (cash or stock) payable to holders of record of shares of Thermo common stock as of any date subsequent to the Effective Date shall be paid to the holder of any such outstanding certificate and his other rights as a stockholder of Thermo shall be suspended, but upon such surrender of such outstanding certificate there shall be paid to the record holder of the certificate of shares of Thermo common stock issued in exchange therefore the amount of dividends, if any, without interest and less any taxes which may have been imposed thereon, that have theretofore become payable with respect to the number of those shares of Thermo common stock represented by such certificate issued upon such surrender and exchange, and his other rights as a stockholder of Thermo shall thereafter be restored.

(f) Escrow Account. For the purpose of providing support of the representations and warranties contained herein and to induce Thermo to enter into the Agreement and Plan of Merger, ten percent (10%) of Thermo Shares each CRC shareholder has the right to beneficially receive pursuant to paragraph (a) above (including Thermo Shares to be issued to the CRC 401(k) Employee Stock Ownership Plan (the "KSOP")) shall be withheld from payment to such CRC shareholder pursuant to paragraph (a) and shall be set aside in escrow pursuant to the terms of the Indemnification and Stock Escrow Agreement (the "Escrow Agreement") entered into by and among Thermo, CRC, the shareholder representative (as defined in the Escrow Agreement) and The First National Bank of Boston, as escrow agent. The amount of shares place in escrow pursuant to this paragraph (f) shall be considered the "Escrowed Shares." The Escrowed Shares shall be held as a trust fund and shall not be subject to any lien, attachment, trustee process or any other judicial process of any creditor of any party, and shall be held and disbursed by the Escrow Agent solely for the purposes and in accordance with the terms of the Escrow Agreement. It is intended that the assets held in escrow as above provided shall facilitate Thermo's and the Surviving Corporation's ability to recover amounts to which they are entitled under the Agreement and Plan of Merger dated February 8, 1995 (hereinafter referred to as the "Agreement and Plan of Merger") or the Escrow Agreement as a result of misrepresentations, breaches of warranties and breaches of covenants contained in the Agreement and Plan of Merger and to satisfy claims of Thermo and Acquisition arising as a result of the Agreement and Plan of Merger or the Escrow Agreement. Accordingly, and to the extent necessary to provide such protection to Thermo and the Surviving Corporation, property held in escrow thereunder shall be available to satisfy claims of Thermo and the Surviving Corporation under the Agreement and Plan of Merger or the Escrow Agreement to the extent provided in such agreements.

(g) No Fractional Shares of Thermo Common Stock. Notwithstanding any other provision, neither certificates nor scrip for fractional shares of Thermo common stock shall be issued to any holder of CRC common stock in the Merger and the holder thereof shall not be entitled to any voting or other rights of a holder of shares or a fractional share interest. Each CRC shareholder who otherwise would have been entitled to receive a fraction of a share of Thermo common stock shall receive in lieu thereof cash, without interest, in an amount determined by multiplying such shareholder's fractional interest by the closing price of Thermo common stock as reported on the New York Stock Exchange on the Effective Date. All amounts of cash in respect of fractional interests which have not been claimed at the end of three years from the Effective Date by surrender of certificates for shares of CRC common stock shall be repaid to the Surviving Corporation, subject to the provisions of applicable escheat or similar laws, for the account of the holders entitled thereto.

(h) Adjustments. In the event Thermo shall declare, pay, make or effect between the date the Agreement and Plan of Merger and the Effective Date hereof (i) any stock dividend or other distribution in respect of Thermo common stock payable in shares of capital stock of Thermo, (ii) any stock split or other subdivision of outstanding shares of Thermo common stock into a larger number of shares, (iii) any combination of outstanding shares of Thermo common stock into a smaller number of shares, (iv) any reclassification of Thermo common stock into other shares of capital sock or securities, or (v) any exchange of the outstanding shares of Thermo common stock, in connection with a merger or consolidation of Thermo or sale by Thermo of all or part of its assets, for a different number or class of shares of stock or securities of Thermo or for the shares of the capital stock or other securities of any corporation, appropriate adjustment shall be made in the ratio for the conversion of CRC Shares into Thermo Shares as may be required to put the CRC shareholders in the same position as if the record date, with respect to any such transaction or transactions which shall so occur, had been immediately after the Effective Date, or otherwise to carry out the intents and purposes of the Agreement and Plan of Merger.

(i) Closing of Stock Transfer Books. The stock transfer books of CRC shall be closed at the close of business on the day immediately preceding the Effective Date. In the event of a transfer of ownership of CRC common stock, the shares of Thermo common stock and cash (if any) to be issued in the Merger as provided herein may be delivered to a transferee, if the certificate representing such CRC common stock is presented to the Exchange Agent, accompanied by all documents required to evidence and effect such transfer and by payment of any applicable stock transfer taxes.

(j) Lost Certificates. In the event any certificate representing a shareholder's CRC Shares shall have been lost, stolen or destroyed, upon the making of an affidavit of that fact by the person claiming such certificate or option instrument to be lost, stolen or destroyed, the Exchange Agent or the Surviving Corporation shall issue in exchange for such lost, stolen or destroyed certificate or option instrument the consideration payable in exchange therefore pursuant to this Section 3. The Board of directors of the Exchange Agent or the Surviving Corporation, may, in its discretion and as a condition precedent to the issuance thereof, require the owner of such lost, stolen or destroyed certificate to give the Exchange Agent or the Surviving Corporation a bond in such sum as it may direct as indemnity against any claim

that may be made against the Surviving Corporation with respect to the certificate or option instrument alleged to have been lost, stolen or destroyed.

(k) Conversion of Acquisition Shares. Upon the effective date hereof, each share of Acquisition's common stock outstanding immediately prior thereto shall, by virtue of the Merger and without any action on the part of the holder thereof, be canceled and converted into one (1) fully paid and nonassessable common share of the Surviving Corporation, which shares shall be registered in the name of and beneficially owned by Thermo.

The following sets forth the Board of Directors of the Surviving Corporation after the effective date of the merger who shall hold office until their successors are duly elected and qualified:

Name	Address
Marshall J. Armstrong	81 Wyman Street Waltham, Massachusetts 02254
James B. Morrison	201 South Orange Avenue Orlando, Florida 32801
Richard H. Levine	201 South Orange Avenue Orlando, Florida 32801
Martin R. Adams	950 L'Enfant Plaza Center, SW Eighth Floor Washington, D.C. 20026
Buddy G. Beck	950 L'Enfant Plaza Center, SW Eighth Floor Washington, D.C. 20026
Robert V. Wells	201 South Orange Avenue Orlando, Florida 32801

The following sets forth the officers of the Surviving Corporation after the effective date of the merger who shall hold office until their successors are duly elected and qualified:

Name	Address
Marshall J. Armstrong Chairman of the Board	81 Wyman Street Waltham, Massachusetts 02254
James B. Morrison President	201 South Orange Avenue Orlando, Florida 32801

Name	Address
Richard H. Levine Corporate Vice President and Chief Financial Officer	201 South Orange Avenue Orlando, Florida 32801
Martin R. Adams Corporate Vice President	950 L'Enfant Plaza Center, SW Eighth Floor Washington, D.C. 20026
Buddy G. Beck Corporate Vice President	950 L'Enfant Plaza Center, SW Eighth Floor Washington, D.C. 20026
Robert V. Wells Corporate Vice President	201 South Orange Avenue Orlando, Florida 32801
Jonathan W. Painter Treasurer	81 Wyman Street Waltham, Massachusetts 02254
Sandra L. Lambert Secretary	81 Wyman Street Waltham, Massachusetts 02254
Seth H. Hoogasian Assistant Secretary	81 Wyman Street Waltham, Massachusetts 02254
Robert V. Aghababian Assistant Secretary	81 Wyman Street Waltham, Massachusetts 02254

FIFTH: The effective date of this Certificate of Merger shall be the 15th day of March, 1995.

SIXTH: The Agreement and Plan of Merger was adopted by the Shareholders of Coleman Research Corporation, the undersigned Florida Corporation, on the 15th day of March, 1995, and was adopted by the sole Shareholder of CRC Acquisition Corp., the undersigned foreign corporation, on the 15th day of March, 1995.

SIGNED this 15th day of March, 1995.

COLEMAN RESEARCH CORPORATION

By: /s/ James B. Morrison

James B. Morrison
Its President

By: /s/ Harriett C. Coleman

Harriett Coleman,
Its Secretary, who by
This signature also attests

(CORPORATE SEAL)

(THE "SURVIVING CORPORATION")

CRC ACQUISITION CORP.

By /s/ Marshall J. Armstrong

Its President

By /s/

Its Secretary, who by
This signature also attests

(CORPORATE SEAL)

(THE "MERGING CORPORATION")

STATE OF MA)

COUNTY OF Middlesex)

The foregoing instrument was acknowledged before me this 15th day of March, 1995, by Marshall J. Armstrong, President of CRC Acquisition Corp., on behalf of the Corporation.

My commission expires: November 25, 1999

/s/

Notary Public

(SEAL)

STATE OF Florida)

COUNTY OF Orange)

The foregoing instrument was acknowledged before me this 15th day of March, 1995, by James B. Morrison, President of Coleman Research Corporation, on behalf of the Corporation.

My commission expires: June 27, 1995

/s/ C. L. Van Dermark

Notary Public

(SEAL)

ARTICLES OF MERGER

The undersigned domestic Corporations, pursuant to Section 607.1101 of the Florida Business Corporation, hereby execute the following Articles of Merger:

First: The names of the corporations proposing to merger and the names of the States under the laws of which such corporations are organized are as follows:

Name of Corporation	State of Incorporation
Coleman Research Corporation	Florida
Aegis Engineering, Inc.	Florida

SECOND: The laws of the State of Florida under which both corporations are organized under permit such merger and both corporations are complying with the applicable provisions of the Florida Business Corporation Act in effecting the merger.

THIRD: The name of the Surviving Corporation is Coleman Research Corporation.

FOURTH: The Plan of Merger is as follows:

1. The name of each of the domestic corporations of the merger is as follows: Coleman Research Corporation, a wholly-owned subsidiary of Thermo Electron Corporation, a Delaware corporation, and Aegis Engineering, Inc.

2. Effective upon issuance of the Certificate of Merger by the Secretary of State of Florida, Aegis Engineering, Inc. (hereinafter referred to as the "Merging Corporation") will merge into Coleman Research Corporation (the "Surviving Corporation), and Coleman Research Corporation shall be the surviving corporation resulting from the merger.

3. Until altered, amended or repealed, as therein provided, the Bylaws of the Surviving Corporation in effect as of the date of these Articles of Merger, shall continue to be the Bylaws of the Surviving Corporation.

4. The principal office of the Surviving Corporation shall be the principal office of the Surviving Corporation as of the date of the Articles of Merger.

5. The Surviving Corporation shall pay all the expenses of carrying the Articles of Merger into effect and of accomplishing the merger.

6. Upon the date when the Articles of Merger shall become effective (hereinafter referred to as the "Effective Date"), the separate existence of the Merging Corporation shall cease, and the Merging Corporation shall be merged into the Surviving Corporation, which shall possess all the rights, privileges, powers and franchises, and be subject to all of the restrictions, liabilities and duties of the corporation party to the Merger, and all and

singular, the rights, privileges, powers and franchises of said corporation, and all property, real, personal and mixed, and all debts due to said corporation shall be vested in the Surviving Corporation; and all property, rights and privileges, powers and franchises, and all and every other interest, shall thereafter be as effectively the property of the Surviving Corporation as they were of the constituent corporation, and the title to any real estate, whether by deed or otherwise, vested in said corporation party hereto, shall not revert or be in any way impaired by reason of this merger, provided that all the rights of creditors and all liens upon the property of the corporation party hereto shall be preserved unimpaired, and all debts, liabilities and duties of the Merging Corporation shall forthwith attach to the said Surviving Corporation and may be enforced against it to the same extent as if said debts, liabilities and duties had been incurred or contracted by it.

7. If, at any time, the Surviving Corporation shall consider or be advised that any further actions are necessary or desirable to vest in said Surviving Corporation, according to the terms hereof, the title to any property or rights of the said Merging Corporation, the proper officers and directors of said Merging Corporation shall and will execute and make all such proper assignments and assurances, and do all things necessary or proper to vest title in such property or rights in the Surviving Corporation, and otherwise to carry out the purposes of the Merger.

8. The manner of converting the outstanding capital shares of the merging corporations shall be as follows:

(a) Conversion of Shares. Upon the Effective Date, all of the outstanding common shares of the Surviving Corporation shall remain issued and outstanding to its sole shareholder Thermo Electron Corporation, the parent corporation of the Surviving Corporation. Upon the Effective Date, all of the outstanding common shares of the Merging Corporation shall be transferred, exchanged and/or converted for or into a number of shares of common stock of Thermo Electron Corporation ("Thermo Shares") which, when multiplied by the average closing per share price of the common stock of Thermo Electron Corporation on the New York Stock Exchange for the five (5) trading days preceding the Closing Date would equal $460,000. The Thermo Shares shall be delivered as soon as practicable after the Effective Date, but in no event more than sixty (60) days from the Closing Date. The Thermo Shares shall be subject to the Forfeiture Agreement signed on the Closing Date and pending the expiration of the period of forfeiture as described in the Forfeiture Agreement, the Thermo Shares, subject to forfeiture, shall be held in escrow pursuant to the terms of an Escrow Agreement. The issuance of the Thermo Shares shall not be registered under the Securities Act of 1933 (the "Securities Act), however, the Thermo Shares will be registered under the Securities Act before the first anniversary of the Closing Date, if an exemption from register under the Securities Act does not otherwise exist.

FIFTH: The effective date of this Certificate of Merger shall be the 31st day March, 1996.

SIXTH: The Agreement and Plan of Merger was adopted by the Board of Directors of Coleman Research Corporation on the 5th day of April, 1996 and no action was required by the sole shareholder of the Surviving Corporation, Thermo Electron Corporation.

The sole Shareholder and Board of Directors of Aegis Engineering adopted the Plan of Merger on the 5th day of April, 1996.

Signed this 5th day of April, 1996.

COLEMAN RESEARCH CORPORATION

By: /s/ James B. Morrison

James B. Morrison
Its President

By: /s/

Its Secretary, who by
This signature also attests

(CORPORATE SEAL)

(THE "SURVIVING CORPORATION")

Signed this 5th day of April, 1996.

AEGIS ENGINEERING, INC.

By /s/ Michael G. Stelling

Michael G. Stelling
Its President

By /s/ Michael G. Stelling

Its Secretary, who by
This signature also attests

(CORPORATE SEAL)

(THE "MERGING CORPORATION")

STATE OF Florida)

COUNTY OF Orange)

The foregoing instrument was acknowledged before me this 5th day of April, 1996, by James B. Morrison, President of Coleman Research Corporation, on behalf of the Corporation.

My commission expires: June 27, 1995

/s/ C.L. Van Dermark
Notary Public

(SEAL)

STATE OF Virginia)

COUNTY OF Fairfax)

The foregoing instrument was acknowledged before me this 5th day of April, 1996, by Michael G. Stelling, President of Aegis Engineering Corporation, on behalf of the Corporation.

My commission expires: July 30, 1999

/s/
Notary Public

(SEAL)

BY-LAWS

OF

COLEMAN RESEARCH CORPORATION

ARTICLE I

OFFICES

Section 1. Location of Offices. The registered office shall be located in Orlando, Florida. The Corporation may also have offices at such other places both within and without the State of Florida as the Board of Directors may from time to time determine or the business of the Corporation may require.

ARTICLE II

SHAREHOLDERS

Section 1. Place and Time for Annual Meeting. The annual meeting of the shareholders shall be held at the registered office of the Corporation unless otherwise agreed upon by the shareholders or specified in appropriate notice. The meeting shall be held during the second calendar quarter of each year or at such time and place as the Board of Directors shall decide. The annual meeting shall be held for the purpose of electing Directors and for the transaction of such other business as may come before the meeting. Failure to elect the Board of Directors at the annual meeting shall not cause a dissolution of the Corporation, but the Directors thereof shall continue to hold office until their successors are elected and qualified. A meeting for the purpose of holding such election shall be called as soon thereafter as convenient.

Section 2. Special Meeting. Special meetings of the shareholders, for any purpose other than the election of Directors, may be called by the Chief Executive Officer,

President, the Chairman of the Board, the Board of Directors or as otherwise provided in the Florida Business Corporation Act.

Section 3. Notice of Meeting. Written or printed notice of the annual meeting stating the place, day and hour of the meeting and, in case of a special meeting, the purpose or purposes of the meeting, shall be delivered, by or at the direction of the Chief Executive Officer, President, Secretary, or the officer or person calling the annual or special meeting, not less than ten (10) nor more than sixty (60) days before the date of the meeting, either personally (including delivery to shareholder/employees by inter-company memorandum), or by telegraph, teletype, other form of electronic communication or by mail, to each shareholder of record entitled to vote at such meeting. If mailed, such notice shall be deemed to have been given when deposited in the United States mail, addressed to the shareholder at his address as it appears on the stock transfer books of the Corporation, with postage thereon prepaid. Notice may be waived in writing, signed by the shareholder entitled to such notice, and shall be delivered to the Corporation for inclusion in the minutes or filing with the corporate records. The business transacted at any special meeting of shareholders shall be limited to the purposes stated in the notice.

Section 4. Closing of Transfer Books and Fixing Record Date. For the purpose of determining shareholders entitled to notice of or to vote at any meeting of the shareholders, or any adjournment thereof, or entitled to receive payment of any dividend, or in order to make a determination of shareholders for any other proper purpose, the Board of Directors of the Corporation may provide that the stock transfer books shall be closed for a stated period, but not to exceed, in any case, sixty (60) days. If the stock transfer books shall be closed for the purpose of determining shareholders entitled to notice of or to vote at a meeting of shareholders, such

books shall be closed for at least ten (10) days immediately preceding such meeting. In lieu of closing the stock transfer books, the Board of Directors may fix in advance a date as the record date for any such determination of shareholders, such date in any case to be not more than sixty (60) nor less than ten (10) days prior to the date of the meeting or action requiring a determination of the shareholders. If the stock transfer books are not closed and no record date is fixed for the determination of shareholders entitled to notice of or to vote at a meeting of shareholders or receive payment of a dividend, the date on which notice of the meeting is mailed or the date on which the resolution of the Board of Directors declaring such dividend is adopted, as the case may be, shall be the record date for such determination of shareholders. When a determination of shareholders entitled to vote at any meeting of shareholders has been made as provided in this Section 4, such determination shall apply to any adjournment not exceeding 120 days from the date fixed for the original meeting.

Section 5. Quorum. A majority of the outstanding shares of the Corporation entitled to vote, represented in person or by proxy, shall constitute a quorum at a meeting of the shareholders. No business may be transacted without a quorum. Any business may be transacted at any meeting of the shareholders at which a quorum is present, except that no business at a special meeting of shareholders shall be transacted unless notice thereof is given as required by the provisions of Section 3 hereof. If a quorum is present, the affirmative vote of the majority of the shares represented at the meeting and entitled to vote on the subject matter shall be the act of the shareholders.

Section 6. Proxies. A shareholder may vote either in person or by proxy executed in writing by the shareholder or by his duly authorized attorney-in-fact. The proxy shall be voted only for the meeting specified in said proxy and in no event shall a proxy be valid

after eleven (11) months from the date of its execution, unless otherwise provided in the proxy. A proxy is revocable at the pleasure of the shareholder executing it and is revocable by the transfer of shares by the shareholder executing it.

Section 7. Voting of Shares. Each outstanding share, regardless of class, shall be entitled to one vote on each matter submitted to a vote at a meeting of shareholders, except to the extent that the voting rights of the shares are limited or denied by Statute, by the Articles of Incorporation of the Corporation or any amendments thereto, or by the certificate representing such shares.

Section 8. Action Without Meeting. Any action required or permitted to be taken at any meeting of the shareholders may be taken without a meeting, without notice, and without a vote, if the action is taken by the holders of the outstanding stock of each voting group entitled to vote thereon having not less than the minimum number of votes with respect to each voting group that would be necessary to authorize or to take the action at a meeting at which all voting groups and shares entitled to vote thereon were present and voted. In order to be effective the action of the shareholders must be evidenced by one or more written consents describing the action taken, dated and signed by the shareholders taking the action, and the written consents must be delivered to the corporate secretary of the Corporation, within 60 days of the earliest consent, at the Corporation's principal place of business in the State of Florida. Within 10 days after the Corporation's receipt of the written consents, notice must be given to those shareholders who did not consent, fairly summarizing the material features of the authorized actions.

ARTICLE III

BOARD OF DIRECTORS

Section 1. General Powers. The business and affairs of the Corporation shall be managed by its Board of Directors which may exercise all such powers of the Corporation and

do all such lawful acts and things as are not by Statute or by the Articles of Incorporation or by these By-laws directed or required to be exercised or done by the shareholders.

Section 2. Number, Tenure and Qualifications. The number of directors that shall constitute the board of directors shall be determined by resolution of the board of directors, but in no event shall be less than two (2). The number of directors may be increased at any time and from time to time by resolution of the stockholders and the board of directors. The number of directors may be decreased at any time and from time to time by the stockholders or a majority of the directors then in office, but only to eliminate vacancies existing by reason of the death, resignation, removal or expiration of the term of one or more directors. A director need not be a resident of the State of Florida or a shareholder of the Corporation.

Section 3. Regular Meeting. A first meeting of each newly elected Board of Directors shall be held, either within or without the State of Florida, immediately after, and at the same place as, the annual meeting of the shareholders and no notice of such meeting shall be necessary to the newly elected Board of Directors in order legally to constitute the meeting provided a quorum shall be present, or it may convene at such place and time as shall be fixed by consent in writing of all the members of the Board of Directors. The Board of Directors may provide, by resolution, the time and place for the holding of additional regular meetings without other notice than such resolution. Meetings of the Board of Directors may be called by the Chairman of the Board, Chief Executive Officer, or President, and may be conducted by any means of communication by which all members of the Board of Directors participating may simultaneously hear each other during the meeting.

Section 4. Special Meetings. Special meetings of the Board of Directors may be called by or at the request of the President, Chief Executive Officer, or the Board of Directors,

and may be conducted by any means of communication by which all members of the Board of Directors participating may simultaneously hear each other during the meeting.

Section 5. Notice. Regular meetings of the Board of Directors may be held without notice of the date, time, place or purpose of the meeting. Notice of special meetings shall be given not less than five (5) days in advance of said meeting. Notice may be delivered by mail, inter-company memorandum, facsimile transmission, telegram, telegraph, teletype, telephone or other form of electronic communication, or oral notice may be given, if communicated directly to Director. Any Director may waive notice of any meeting. The attendance of a Director at a meeting shall constitute a waiver of notice of such meeting, except where a Director attends a meeting for the express purpose of objecting to the transaction of any business because the meeting is not lawfully called or convened. The business to be transacted, or the purpose of, any regular or special meeting of the Board of Directors need not be specified in the notice or waiver of notice of such meeting.

Section 6. Quorum. A majority of the Board of Directors shall constitute a quorum for the transaction of business. The act of a majority of the Directors present at a meeting at which a quorum is present shall be the act of the Board of Directors. If a quorum is present when a meeting is convened, the Directors present may continue to do business, taking action by a vote of the quorum, until adjournment, notwithstanding the withdrawal of enough Directors to leave less than a quorum, or the refusal of any Director present to vote.

Section 7. Vacancies and Removal. Any vacancy occurring in the Board of Directors may be filled for the unexpired term by majority vote of the remaining Directors, if any, or by the shareholders at any meeting of the Board of Directors or the shareholders. Any directorship to be filled by reason of an increase in the number of Directors shall be filled by

election at an annual or special meeting of the shareholders called for that purpose. The shareholders may remove any Director or the entire Board of Directors, with or without cause, at a meeting of the shareholders expressly called for that purpose, by a vote of the holders of a majority of the shares present at said meeting and entitled to vote at an election of Directors.

Section 8. Compensation. By resolution of the Board of Directors, a Director may be paid his expenses, if any, of attendance at each meeting of the Board of Directors, and may be paid a fixed sum for attendance at each meeting of the Board of Directors or a stated salary as a Director. No such payment shall preclude a Director form serving the Corporation in any other capacity and receiving compensation therefor. The Board of Directors shall fix the compensation of the officers of the Corporation.

Section 9. Committees. The Board of Directors shall have power, by resolution or resolutions passed by a majority of the Board, to designate one or more committees, each committee to consist of one or more Directors of the Corporation, which to the extent provided in the resolutions shall have and may, during the intervals between the meetings of the Board, exercise the powers of the Board of Directors in the management of the business and affairs of the Corporation, and may have power to authorize the seal of the Corporation to be affixed to all papers which may require it. Such committee or committees shall have such name or names as may be determined from time to time by resolution of the Board of Directors.

Section 10. Unanimous Consent. Any action required or permitted to be taken at any meeting of the Board of Directors, or of a committee thereof, may be taken without a meeting, if a consent in writing, setting forth the action so taken, shall be signed by all of the Directors, or all of the members of a committee, as the case may be. Such consent shall have the same effect as a unanimous vote of the Board of Directors.

ARTICLE IV

NOTICES

Section 1. Whenever any notice whatever is required to be given under the provisions of the Florida Business Corporation Act or under the provisions of the Articles of Incorporation or these By-laws, a waiver of the notice in writing, signed by the person or persons entitled to such notice, whether before or after the time stated therein, shall be deemed equivalent to the giving of such notice.

ARTICLE V

OFFICERS

Section 1. Number. The officers of the Corporation shall be a President and a Secretary, both of whom shall be elected by the Board of Directors. The Board may also elect or appoint a Chief Executive Officer, one or more Corporate Vice Presidents, Vice Presidents, a Treasurer and such other officers and assistant officers, as the Board of Directors may deem necessary. Any number of offices may be held by the same person.

Section 2. Election and Term of Office. The officers of the Corporation shall be elected annually by the Board of Directors at the regular meeting of the Board held pursuant to ARTICLE III, Section 3, of these By-Laws. A failure to elect officers annually shall not affect the authority of the officers and once elected, an officer shall hold office at the pleasure of the Board of Directors until a successor is elected and qualified. In its discretion, the Board of Directors by a vote of a majority thereof may leave unfilled for such period as it may fix by resolution any offices except those of President and Secretary.

Section 3. Vacancies and Removal. Vacancies in any office arising from any cause may be filled by the Board of Directors at any regular or special meeting. The Board of

Directors may remove any officer or assistant officer, with or without cause, at any time by an affirmative vote of a majority of the board.

Section 4. Chief Executive Officer. The Chief Executive Officer shall be the principal executive officer of the Corporation and shall have in his charge the general direction and promotion of its affairs with authority to do such acts and to make such contracts as are necessary or proper to carry on the business of the Corporation, and shall preside over all official meetings of the Board of Directors. He may sign, execute, and deliver, in the name of the Corporation, powers of attorney, contracts, bonds and other obligations and shall perform such other duties as may be prescribed from time to time by the Board of Directors or the By-laws.

Section 5. President. The President, in the absence or disability of the Chief Executive Officer, shall perform the duties of the Chief Executive Officer. In addition, he shall preside over all official meetings of the Corporation in the absence of the Chief Executive Officer or the Chairman of the Board, and shall also perform those duties which usually devolve upon a president of a corporation under the laws of the State of Florida. The President may, during the absence of any officer, delegate said officer's duties to any other officer or member of the Board of Directors. He may sign, execute, and deliver, in the name of the Corporation, powers of attorney, contracts, bonds and other obligations and shall perform such other duties as may be prescribed from time to time by the Board of Directors or the By-laws.

Section 6. Corporate Vice-President. A Corporate Vice-President, in the absence or disability of the President, shall perform the duties of the President and shall perform such other duties as may be delegated to him from time to time by the Board of Directors, Chief Executive Officer, or the President.

Section 7. Vice-President. A Vice-President shall only have the specific authority and duties granted to him by the Board of Directors, the Chief Executive Officer or the President. A Vice-President shall not in the absence or disability of the President, have the authority to perform the duties of the President.

Section 8. Secretary. The Secretary shall issue notices of all meetings of shareholders and all meetings of the Board of Directors, shall keep the minutes of all such meetings, shall have charge of the seal of the Corporation, shall serve as custodian for all corporate records, and shall make such reports and perform such duties as are incident to his office or which may be delegated to him by the Chief Executive Officer, President, or Board of Directors.

Section 9. Treasurer. The Treasurer shall render to the Chief Executive Officer, President, and Board of Directors at such times as may be requested an account of all transactions as Treasurer and of the financial condition of the Corporation. The Treasurer shall perform such other duties as are incident to the office or as may be delegated to that office by the President or by the Board of Directors. If required by the Board of Directors, he shall give the Corporation a bond in such sum and with such surety or sureties as shall be satisfactory to the Board for the faithful performance of the duties of his office and for the restoration to the Corporation, in case of his death, resignation, retirement or removal from office, of all books, papers, vouchers, money and other property of whatever kind in his possession or under his control belonging to the Corporation.

Section 10. Assistant Officer. An Assistant Officer shall perform the duties of an absent of disabled officer and shall perform such other duties as may be delegated from time to time by the Board of Directors, the Chief Executive Officer, or the President.

Section 11. Salaries. The salaries of the officers may be fixed from time to time by the Board of Directors, and no officers shall be prevented from receiving such salary by reason of the fact that he is also a Director or shareholder of the Corporation.

ARTICLE VI

CONTRACTS, LOANS, CHECKS AND DEPOSITS

Section 1. Contracts. The Board of Directors may authorize any officer or officers, agent or agents, to enter into any contract or execute and deliver any instrument in the name of and on behalf of the Corporation, and such authority may be general or confined to specific instances.

Section 2. Loans. No loans shall be contracted on behalf of the Corporation and no evidences of indebtedness shall be issued in its name unless authorized by a resolution of the Board of Directors. Such authority may be general or confined to specific instances.

Section 3. Checks, Drafts, etc. All checks, drafts or other orders for the payment of money, notes or other evidences of indebtedness issued in the name of the Corporation shall be signed by such officer or officers, agent or agents of the Corporation and in such manner as shall from time to time be determined by resolution of the Board of Directors.

Section 4. Deposits. All funds of the Corporation not otherwise employed shall be deposited from time to time to the credit of the Corporation in such banks, trust companies or other depositories as the Board of Directors may select.

ARTICLE VII

CERTIFICATES FOR SHARES

Section 1. Certificates. Ownership of the capital shares of the Corporation shall be represented by certificates, in such form as shall be determined by the Board of Directors. Each certificate shall be signed by the Chief Executive Officer, President, or a duly authorized

Corporate Vice President and countersigned by the Secretary of the Corporation and be sealed with the seal of the Corporation or a facsimile thereof. A record of such certificates shall be kept.

Section 2. Cancellation. All certificates transferred on the books of the Corporation shall be surrendered and cancelled. No new certificates shall be issued until the former certificate, or certificates, for the same number of shares have been surrendered and cancelled, except in case of lost or destroyed certificates, when new certificates therefor may be issued under such conditions as the Board of Directors may prescribe to protect the Corporation from any claim that may be made against it with respect to any such certificate alleged to have been lost, destroyed, or wrongfully taken.

Section 3. Transfer. Transfer of shares of the Corporation shall be made only on the stock transfer books of the Corporation by the holder of record thereof or by his legal representatives, who shall furnish proper evidence of their authority in writing, upon the surrender for cancellation of the certificate for such shares duly endorsed or accompanied by proper evidence of succession, assignment or authority to transfer said shares. No transfer shall be made upon the books of the Corporation within ten (10) days next preceding the annual meeting of the Shareholders. Any state or federal taxes or fees payable in connection with the transfer of any such stock shall be paid by the transferor or the transferee of said stock before said assignment and transfer shall be made on the books of the Corporation.

ARTICLE VIII

FISCAL YEAR

The fiscal year end of the Corporation shall be fixed by resolution of the Board of Directors.

ARTICLE IX

SEAL

The Corporate seal shall have inscribed thereon the name of the Corporation, the year of its organization and the words "Corporate Seal, Florida". The seal may be used by causing it or a facsimile thereof to be impressed or affixed or in any manner reproduced.

ARTICLE X

DIVIDENDS

The Board of Directors may from time to time declare, and the Corporation may pay in cash or property, dividends on the outstanding shares of the Corporation in the manner and upon the terms and conditions provided by Statute and by the Articles of Incorporation of the Corporation or any amendments thereto. Share dividends may be issued pro rata and without consideration to the Corporation's shareholders or the shareholders of one or more classes or series, subject to the provisions of the Articles of Incorporation. Before distribution, however, the Board of Directors may, in their discretion, set aside out of any funds available for distribution such sum or sums as is deemed proper to meet the debts of the Corporation as they become due in the usual course of business, or for such other purpose as the Board of Directors shall think conductive to the interest of the Corporation.

ARTICLE XI

AMENDMENTS

These By-Laws may be altered, amended or repealed and new By-Laws may be adopted by the Shareholders or by the Board of Directors at any meeting of the Board of Directors. However, the Board of Directors may not alter, amend or repeal Section 5 of ARTICLE II establishing what constitutes a quorum at shareholders' meetings, amendment of which shall require the affirmative vote of a majority of the stock issued and outstanding and

entitled to vote at any annual meeting of the shareholders or at any special meeting of the shareholders if notice of the proposed alteration or repeal be contained in the notice of such special meeting.

ARTICLE XII

EMERGENCY BY-LAWS

Section 1. The Emergency By-Laws provided in this ARTICLE XII shall be operative during any emergency in the conduct of the business of the Corporation resulting from an attack on the United States or any nuclear or atomic disaster or during the existence of any catastrophe or other similar emergency condition, as a result of which a quorum of the Board of Directors or a standing committee thereof cannot readily be convened for action, notwithstanding any different provision in these By-Laws or in the Articles of Incorporation of the Corporation or any amendments thereto or in the Florida Statutes. To the extent not inconsistent with the provisions of this ARTICLE XII, the By-Laws provided in all other Articles shall remain in effect during such emergency and upon its termination the Emergency By-Laws shall cease to be operative.

During any such emergency:

(a) A meeting of the Board of Directors may be called by any officer or Director of the Corporation. Notice of the time and place of the meeting shall be given by the person calling the meeting to such members of the Board of Directors as it may be feasible to reach by any available means of communication. Such notice shall be given at such time in advance of the meeting as circumstances permit in the judgment of the person calling the meeting.

(b) At any such meeting of the Board of Directors, a quorum shall consist of such number of Directors as are present at such meeting.

(c) The Board of Directors, either before or during any such emergency, may provide, and from time to time modify, lines of succession in the event that during such an emergency any or all officers or agents of the Corporation shall for any reason be rendered incapable of discharging their duties.

(d) The Board of Directors, either before or during any such emergency, may, effective in the emergency, change the head office or designate several alternative head offices or regional offices, or authorize the officers so to do.

Section 2. No officer, Director, or employee acting in accordance with these Emergency By-Laws shall be liable except for willful misconduct.

Section 3. These Emergency By-Laws shall be subject to repeal or change by further action of the Board of Directors or by action of the shareholders, but no such repeal or change shall modify the provisions of the next preceding paragraph with regard to action taken prior to the time of such repeal or change. Any amendment of these Emergency By-Laws may make any further or different provision that may be practical and necessary for the circumstances of the emergency.

ARTICLE XIII

MISCELLANEOUS

In the event the Board of Directors shall consist of only one Director, or in the event there shall be only one shareholder of the Corporation, then all references to more than one Director or shareholder or a majority of Directors or shareholders shall be inapplicable, such references in such events being deemed to refer to the sole Director or sole shareholder. In the event there shall be only one shareholder who shall be the sole Director of the Corporation, then upon the death of such shareholder, the personal representatives of the estate of such deceased shareholder shall elect a successor Director.

In the event the Board of Directors shall consist of only two Directors, then all references in these By-Laws to a majority of the Directors shall be inapplicable.

ARTICLES OF INCORPORATION

OF

EER SYSTEMS CORPORATION

We hereby associate to form a stock corporation under the provisions of Chapter 1 of Title 13.1 of the Code of Virginia and to that end set forth the following:

1. The name of the corporation is EER Systems Corporation.

2. The corporation is organized:

a. To engage in any lawful act or activity for which corporations may be organized in the Commonwealth of Virginia.

b. In addition, the corporation shall have the power to enter into partnership agreements with other corporations and individuals, and also to carry on business of any character whatsoever that is not prohibited by law or required to be stated in these Articles.

3. The aggregate number of shares which the corporation shall have the authority to issue and the par value per share are as follows:

CLASS	NO. OF SHARES	PAR VALUE PER SHARE
Common	100,000	$0.01

4. If at any time the holders of a majority or more of the shares of the corporation shall enter into an agreement restricting or limiting the sale, transfer, assignment, pledge or hypothecation of the shares of the corporation or any part thereof to which agreement the corporation shall become a party, the corporation shall thereupon observe and carry out on its part the terms of any such agreement, and shall refuse to recognize any sale, transfer, assignment, pledge or hypothecation, or any attempted sale, transfer, assignment, pledge or hypothecation, of any of the shares covered by such agreement, unless the same be in conformity

with the terms and conditions of such agreement, provided that a copy of such agreement be filed in the principal office of the corporation, and provided further that notice of the existence of such provision be noted conspicuously on the face or back of each and every certificate of shares subject to the terms and conditions of any such agreement.

5. The post office address of the initial registered office of the corporation is 8401 Old Courthouse Road, Suite 300, Vienna, Virginia 22180. The name of the county in which the initial registered office is located is the County of Fairfax, Virginia. The name of its initial registered agent is William R. Chambers, who is a resident of Virginia, a member of the Virginia State Bar, and whose business address is the same as the address of the initial registered office of the corporation.

6. The number of Directors constituting the initial Board of Directors is one (1), there being initially only one (1) stockholder of the corporation, and the name and address of the person who is to serve as the initial Director is:

NAME	ADDRESS
Dr. Jai N. Gupta	1951 Kidwell Drive, Suite 300 Vienna, Virginia 22180

7. Each person now or hereafter a Director or officer of the corporation (and his heirs, executors and administrators) shall be indemnified by the corporation against all claims, liabilities, judgments, settlements, costs and expenses, including all attorneys' fees, imposed upon or reasonably incurred by him in connection with or resulting from any action, suit, proceeding or claim to which he is or may be made a party by reason of his being or having been a Director or officer of the corporation (whether or not a Director or officer at the time such costs or expenses are incurred by or imposed upon him), except in relation to matters as to which he shall have been finally adjudged in such action, suit or proceeding to be liable for gross

negligence or wilful misconduct in the performance of his duties as such Director or officer. In the event of any other judgment against such Director or officer or in the event of a settlement, the indemnification shall be made only if the corporation shall be advised, in case none of the persons involved shall be or have been a Director by the Board of Directors of the corporation, and otherwise by independent counsel to be appointed by the Board of Directors, that in its or his opinion such Director or officer was not guilty of gross negligence or willful misconduct in the performance of his duty, and in the event of a settlement, that such settlement was or is in the best interest of the corporation. If the determination is to be made by the Board of Directors, it may rely as to all questions of law on the advice of independent counsel. Such right of indemnification shall not be deemed exclusive of any rights to which he may be entitled under any by-law, agreement, vote of stockholders, or otherwise.

Dated: December 6, 1985

/s/ William R. Chambers
William R. Chambers

/s/ Thomas B. Newell
Thomas B. Newell

COMMONWEALTH OF VIRGINIA

COUNTY OF FAIRFAX, to wit:

I, _____, a Notary Public in and for Virginia, do certify that William R. Chambers, Thomas B. Newell, and _____, whose names are signed to the foregoing Articles of Incorporation, bearing date on the 6th day of December, 1985, have acknowledged the name before me in the jurisdiction aforesaid.

GIVEN under my hand this 6th day of December, 1985.

/s/_____
NOTARY PUBLIC

My Commission Expires: 02/13/99

ARTICLES OF AMENDMENT

OF

EER SYSTEMS CORPORATION

Pursuant to the provisions of Section 13.1-710 of the Code of Virginia, 1950, as amended, the undersigned corporation, by its President and Secretary, sets forth as follows:

(a) The name of the corporation is:
EER SYSTEMS CORPORATION

(b) The amendment adopted is that paragraph 3 of the Articles of Incorporation dated the 12th day of December, 1985, is deleted and the following is substituted therefor:

The aggregate number of shares which the corporation shall have the authority to issue and the par value per share are as follows:

CLASS	NO. OF SHARES	PAR VALUE PER SHARE
Common	5,000	$0.01

(c) The Board of Directors, by unanimous written consent effective as of November 24, 1986, found the amendment to be in the best interests of the Corporation and directed it to be submitted to a vote of the stockholders. The proposed amendment was adopted by unanimous written consent of all of the stockholders entitled to vote, as provided by Section 13.1-657 of the said Code, effective as of the 24th day of November, 1986.

(d) The amendment does not affect a restatement of Articles of Incorporation.

By: /s/ Jai N. Gupta

President

ATTEST:

/s/ Jai N. Gupta
- ---
Secretary

EER SYSTEMS CORPORATION

ARTICLES OF AMENDMENT

Pursuant to the provisions of Section 13.1-710 of the Virginia Stock Corporation Act of the Code of Virginia, 1950, as amended, the undersigned Corporation, by its President and Secretary, sets forth the following:

1. The name of the Corporation is:

EER SYSTEMS CORPORATION

2. The amendment adopted is that paragraph 3 of the Articles of Incorporation dated the 12th day of December, 1985, as amended by Articles of Amendment dated November 24, 1986, is deleted and the following is substituted therefore:

The aggregate number of shares which the corporation shall have the authority to issue and the par value per share are as follows:

CLASS	NO. OF SHARES	PAR VALUE PER SHARE
Common	25,000	$0.01

3. The Board of Directors, by unanimous written consent effective as of March 18, 1991, found this Amendment to be in the best interests of the Corporation, and recommended its passage to the Shareholders of the Corporation.

4. The Shareholders of the Corporation, by unanimous written consent effective as of March 18, 1991, approved and adopted this Amendment and directed the Board of Directors to so amend the Corporation's Articles of Incorporation.

[Signatures Begin on Next Page]

5. This Amendment does not affect a restatement of the Corporation's Articles of Incorporation.

By: /s/ Jai N. Gupta

Jai N. Gupta
President

ATTEST

/s/ Harpal S. Dhillon
- ---
Harpal S. Dhillon
Secretary

ARTICLES OF AMENDMENT OF
EER SYSTEMS CORPORATION

ONE

The name of the corporation is EER Systems Corporation.

TWO

The Articles of Incorporation of the corporation are amended by deleting Article 1 in its entirety and replacing it with the following Article 1:

The name of the corporation is EER Systems, Inc.

THREE

The foregoing amendment was adopted on April 14, 1995.

FOUR

The amendment was adopted by unanimous written consent of the shareholders of the corporation.

The undersigned President of the corporation declares that the facts herein stated are true as of April 14, 1995.

EER SYSTEMS CORPORATION

By: /s/ Jai N Gupta

Dr. Jai N. Gupta, President

BY-LAWS

OF

EER Systems Corporation

ARTICLE I - OFFICES

The principal office of the corporation shall be located in the Commonwealth of Virginia. The corporation may have such other offices, either within or without the Commonwealth of Virginia as the Board of Directors may designate or as the business of the corporation may from time to time dictate.

ARTICLE II - STOCKHOLDERS

1. ANNUAL MEETING.

The annual meeting of the stockholders shall be held each year beginning with the year 1986 on a date to be established by the Board of Directors for the purpose of electing directors and for the transaction of such other business as may come before the meeting. If the day fixed for the annual meeting shall be a legal holiday, such meeting shall be held on the next succeeding business day. If the election of directors shall not be held on the day designated herein for any annual meeting of the shareholders, or at any adjournment thereof, the Board of Directors shall cause the election to be held at a special meeting of the shareholders as soon thereafter as conveniently may be.

2. SPECIAL MEETINGS.

Special meetings of the stockholders, for any purpose or purposes, unless otherwise prescribed by statute, may be called by the president at the request of the holders of not less than ten percent (10%) of all the outstanding shares of the corporation entitled to vote at the meeting.

3. PLACE OF MEETING.

The directors may designate any place, either within or without the Commonwealth unless otherwise prescribed by statute, as the place of meeting for any annual meeting or for any special meeting called by the directors. A waiver of notice signed by all stockholders entitled to vote at a meeting may designate any place, whether within or without the Commonwealth unless otherwise prescribed by statute, as the place for holding such meeting. If no designation is made, or if a special meeting be otherwise called, the place of meeting shall be the principal office of the corporation.

4. NOTICE OF MEETING.

Written or printed notice stating the place, day and hour of the meeting and, in case of a special meeting, the purpose or purposes for which the meeting is called, shall be delivered not less than 10 nor more than 50 days before the date of the meeting, either personally

or by mail, by or at the direction of the president, or the secretary, or the officer or persons calling the meeting, to each stockholder of record entitled to vote at such meeting. If mailed, such notice shall be deemed to be delivered when deposited in the United States mail, addressed to the stockholder at his address as it appears on the stock transfer books of the corporation, with postage thereon prepaid.

5. CLOSING OF TRANSFER BOOKS OR FIXING OF RECORD DATE.

For the purpose of determining stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, or stockholders entitled to receive payment of any dividend, or in order to make a determination of stockholders for any other proper purpose, the directors of the corporation may provide that the stock transfer books shall be closed for a stated period but not to exceed, in any case, 50 days. If the stock transfer books shall be closed for the purpose of determining stockholders entitled to notice of or to vote at a meeting of stockholders, such books shall be closed for at least 10 days immediately preceding such meeting. In lieu of closing the stock transfer books, the directors may fix a date in advance as the record date for any such determination of stockholders, such date in any case to be not more than 50 days and, in case of a meeting of stockholders, not less than 10 days prior to the date on which the particular action requiring such determination of stockholders is to be taken. If the stock transfer books are not closed and no record date is fixed for the determination of stockholders entitled to notice of or to vote at a meeting of stockholders, or stockholders entitled to receive payment of a dividend, the date on which notice of the meeting is mailed or the date on which the resolution of the directors declaring such dividend is adopted, as the case may be, shall be the record date for such determination of stockholders. When a determination of stockholders entitled to vote at any meeting of the stockholders has been made as provided in this section, such determination shall apply to any adjournment thereof.

6. VOTING LISTS.

The officer or agent having charge of the stock transfer books for shares of the corporation shall make, at least 10 days before each meeting of stockholders, a complete list of the stockholders entitled to vote at such meeting, or any adjournment thereof, arranged in alphabetical order, with the address of and the number of shares held by each, which list, for a period of 10 days prior to such meeting, shall be kept on file at the principal office of the corporation and shall be subject to inspection by any stockholder at any time during usual business hours. Such list shall also be produced and kept open at the time and place of the meeting and shall be subject to the inspection of any stockholder during the whole time of the meeting. The original stock transfer book shall be prima facie evidence as to who are the stockholders entitled to examine such list or transfer books or to vote at the meeting of stockholders. The meeting shall, on the demand of any stockholder, in person or by proxy, be adjourned until the requirements are complied with.

7. QUORUM.

At any meeting of stockholders a majority of the outstanding shares of the corporation entitled to vote, represented in person or by proxy, shall constitute a quorum at a meeting of stockholders. If less than said number of the outstanding shares are represented at a

meeting, a majority of the shares so represented may adjourn the meeting from time to time without further notice. At such adjourned meeting at which a quorum shall be present or represented, any business which might have been transacted at the meeting as originally notified may be transacted. The stockholders present at a duly organized meeting may continue to transact business until adjournment, notwithstanding the withdrawal of enough stockholders to leave less than a quorum.

8. PROXIES.

At all meetings of stockholders, a stockholder may vote by proxy executed in writing by the stockholder or by his duly authorized attorney in fact. Such proxy shall be filed with the secretary of the corporation before or at the time of the meeting. No proxy shall be valid after 11 months from the date of its execution, unless otherwise provided in the proxy.

9. VOTING.

Each stockholder entitled to vote in accordance with the terms and provisions of the certificate of incorporation and these by-laws shall be entitled to one vote, in person or by proxy, for each share of stock entitled to vote held by such stockholders. Upon the demand of any stockholder, the vote for directors and any question before the meeting shall be by ballot. All elections for directors and all other questions shall be decided by majority vote except as otherwise provided by the Articles of Incorporation or the laws of this State.

10. VOTING OF SHARES BY CERTAIN HOLDERS.

Shares standing in the name of another corporation may be voted by such officer, agent or proxy as the by-laws of such corporation may prescribe, or, in the absence of such pro- vision, as the Board of Directors of such corporation may determine.

Shares held by an administrator, executor, guardian or conservator may be voted by him, either in person or by proxy, without a transfer of such shares into his name. Shares standing in the name of a trustee may be voted by him, either in person or by proxy, but no trustee shall be entitled to vote shares held by him without a transfer of such shares into his name.

Shares standing in the name of a receiver may be voted by such receiver, and shares held by or under the control of a receiver may be voted by such receiver without the transfer thereof into his name if authority so to do be contained in an appropriate order of the court by which such receiver was appointed.

A shareholder whose shares are pledged shall be entitled to vote such shares until the shares have been transferred into the name of the pledgee, and thereafter the pledgee shall be entitled to vote the shares so transferred.

Shares of its own stock belonging to the corporation shall not be voted, directly or indirectly, at any meeting, and shall not be counted in determining the total number of outstanding shares at any given time.

11. ORDER OF BUSINESS.

The order of business at all meetings of the stockholders shall be as follows:

1. Roll call

2. Proof of notice of meeting or waiver of notice.

3. Reading of minutes of preceding meeting.

4. Reports of officers.

5. Reports of committees.

6. Election of directors.

7. Unfinished business.

8. New business.

12. INFORMAL ACTION BY SHAREHOLDERS.

Unless otherwise provided by law, any action required to be taken at a meeting of the shareholders, or any other action which may be taken at a meeting of the shareholders, may be taken without a meeting if a consent in writing, setting forth the action so taken, shall be signed by all of the shareholders entitled to vote with respect to the subject matter thereof.

ARTICLE III - BOARD OF DIRECTORS

1. GENERAL POWERS.

The business and affairs of the corporation shall be managed by its Board of Directors. The directors shall in all cases act as a Board, and they may adopt such rules and regulations for the conduct of their meetings and the management of the corporation, as they may deem proper, not inconsistent with these by-laws and the laws of this State.

2. NUMBER, TENURE AND QUALIFICATIONS.

The number of directors of the corporation shall be at least one (1). Each director shall hold office until the next annual meeting of stockholders and until his successor shall have been elected and qualified.

3. REGULAR MEETING.

A regular meeting of the directors shall be held without other notice than this by-law immediately after, and at the same place as, the annual meeting of stockholders. The directors may provide, by resolution, the time and place for the holding of additional regular meetings without other notice than such resolution.

4. SPECIAL MEETINGS.

Special meetings of the directors may be called at the request of the president or any director. The person or persons authorized to call special meetings of the directors may fix the place for holding any special meeting of the directors called by them.

5. NOTICE.

Notice of any special meeting shall be given at least 10 days previous thereto by written notice delivered personally, by telegram or by mail to each director at his business address. If mailed, such notice shall be deemed to be delivered when deposited in the United States mail so addressed, with postage thereon prepaid. If notice be given by telegram, such notice shall be deemed to be delivered when the telegram is delivered to the telegraph company. The attendance of a director at a meeting shall constitute a waiver of notice of such meeting, except where a director attends a meeting for the express purpose of objecting to the transaction of any business because the meeting is not lawfully called or convened.

6. QUOROM.

At any meeting of the directors a majority shall constitute a quorum for the transaction of business, but if less than said number is present at a meeting, a majority of the directors present may adjourn the meeting from time to time without further notice.

7. MANNER OF ACTING.

The act of the majority of the directors present at a meeting at which a quorum is present shall be the act of the directors.

8. ACTION TAKEN WITHOUT A MEETING.

Any action that may be taken by the Board of Directors at a meeting may be taken without a meeting if a consent in writing, setting forth the action so to be taken, shall be signed before such action by all of the directors.

9. NEWLY CREATED DIRECTORSHIPS AND VACANCIES.

Newly created directorships resulting from an increase in the number of directors and vacancies occurring in the Board for any reason except the removal of directors with cause may be filled by a vote of a majority of the directors then in office, although less than a quorum exists. Vacancies occurring by reason of the removal of directors without cause shall be filled by vote of the stockholders. A director elected to fill a vacancy caused by resignation, death or removal shall be elected to hold office for the unexpired term of his predecessor.

10. REMOVAL OF DIRECTORS.

Any or all of the directors may be removed for cause by vote of the stockholders or by action of the Board. Directors may be removed without cause only by vote of the stockholders.

11. RESIGNATION.

A director may resign at any time by giving written notice to the Board, the president or the secretary of the corporation. Unless otherwise specified in the notice, the resignation shall take effect upon receipt thereof by the Board or such officer, and the acceptance of the resignation shall not be necessary to make it effective.

12. COMPENSATION.

No compensation shall be paid to directors, as such, for their services, but by resolution of the Board a fixed sum and expenses for actual attendance at each regular or special meeting of the Board may be authorized. Nothing herein contained shall be construed to preclude any director from serving the corporation in any other capacity and receiving compensation therefor.

13. PRESUMPTION OF ASSENT.

A director of the corporation who is present at a meeting of the directors at which action on any corporate matter is taken shall be presumed to have assented to the action taken unless his dissent shall be entered in the minutes of the meeting or unless he shall file his written dissent to such action with the person acting as the secretary of the meeting before the adjournment thereof or shall forward such dissent by registered mail to the secretary of the corporation immediately after the adjournment of the meeting. Such right to dissent shall not apply to a director who voted in favor of such action.

14. EXECUTIVE AND OTHER COMMITTEES.

The Board, by resolution, may designate from among its members an executive committee and other committees, each consisting of three or more directors. Each such committee shall serve at the pleasure of the Board.

ARTICLE IV - OFFICERS.

1. NUMBER.

The officers of the corporation shall be a president, secretary and treasurer, each of whom shall be elected by the directors. Such other officers and assistant officers as may be deemed necessary may be elected or appointed by the directors.

2. ELECTION AND TERM OF OFFICE.

The officers of the corporation to be elected by the directors shall be elected annually at the first meeting of the directors held after each annual meeting of the stockholders. If the election of officers shall not be held at such meeting, such election shall be held as soon thereafter as conveniently may be. Each officer shall hold office until his successor shall have been duly elected and shall have qualified or until his death or until he shall resign or shall have been removed in the manner hereinafter provided.

3. REMOVAL.

Any officer or agent elected or appointed by the directors may be removed by the directors whenever in their judgment the best interests of the corporation would be served thereby, but such removal shall be without prejudice to the contract rights, if any, of the person so removed. Election or appointment of an officer or agent shall not of itself create contract rights.

4. VACANCIES.

A vacancy in any office because of death, resignation, removal, disqualification or otherwise, may be filled by the directors for the unexpired portion of the term.

5. PRESIDENT.

The president shall be the principal executive officer of the corporation and, subject to the control of the directors, shall supervise and control the technical operation of the corporation. He may sign any deeds, mortgages, bonds, contracts, or other instruments which the directors have authorized to be executed, except in cases where the signing and execution thereof shall be expressly delegated by the directors or by these by-laws to some other officer or agent of the corporation, or shall be required by law to be otherwise signed or executed; and in general shall perform all duties incident to the office of president and such other duties as may be prescribed by the directors from time to time.

6. SECRETARY.

The secretary shall keep the minutes of the stockholders' and of the directors' meetings in one or more books provided for that purpose, see that all notices are duly given in accordance with the provisions of these by-laws or as required, be custodian of the corporate records and of the seal of the corporation and keep a register of the post office address of each stockholder, have general charge of the stock transfer books of the corporation and in general perform all duties incident to the office of secretary and such other duties as from time to time may be assigned to him by the president or by the directors.

7. TREASURER.

If required by the directors, the treasurer shall give a bond for the faithful discharge of his duties in such sum and with such surety or sureties as the directors shall determine. He shall have charge and custody of and be responsible for all funds and securities of the corporation; receive and give receipts for monies due and payable to the corporation from any source whatsoever, and deposit all such monies in the name of the corporation in such banks, trust companies or other depositories as shall be selected in accordance with these by-laws and in general perform all of the duties incident to the office of treasurer and such other duties as from time to time may be assigned to him by the president or by the directors.

8. SALARIES.

The salaries of the officers shall be fixed from time to time by the directors and no officer shall be prevented from receiving such salary by reason of the fact that he is also a director of the corporation.

ARTICLE V - CONTRACTS, LOANS, CHECKS AND DEPOSITS

1. CONTRACTS.

The president or any vice president may enter into any contract or execute and deliver any instrument in the name of and on behalf of the corporation, except as confined by the directors.

2. LOANS.

No loans shall be contracted on behalf of the corporation and no evidences of indebtedness shall be issued in its name without the endorsement of either the president or the vice president unless expressly authorized by a resolution of the directors. The corporation shall have the power to borrow funds on the personal credit of its officers and directors if authorized by a resolution of the directors and shall be empowered to lend funds to its officers and directors.

3. CHECKS, DRAFTS, ETC.

All checks, drafts or other orders for the payment of money, notes or other evidences of indebtedness issued in the name of the corporation, shall be signed by the president or vice president of the corporation unless and until specifically changed by resolution of the directors.

4. DEPOSITS.

All funds of the corporation not otherwise employed shall be deposited from time to time to the credit of the corporation in such banks, trust companies or other depositories as the directors may select.

ARTICLE VI - CERTIFICATES FOR SHARES AND THEIR TRANSFER

l. CERTIFICATES FOR SHARES.

Certificates representing shares of the corporation shall be in such form as shall be determined by the directors. Such certificate shall be signed by the president and by the secretary or by such other officers authorized by law and by the directors. All certificates for shares shall be consecutively numbered or otherwise identified. The name and address of the stockholders, the number of shares and date of issue, shall be entered on the stock transfer books of the corporation. All certificates surrendered to the corporation for transfer shall be canceled and no new certificate shall be issued until the former certificate for a like number of shares shall

have been surrendered and canceled, except that in case of a lost, destroyed or mutilated certificate a new one may be issued therefor upon such terms and indemnity to the corporation as the directors may prescribe.

2. TRANSFERS OF SHARES.

(a) Upon surrender to the corporation or the transfer agent of the corporation of a certificate for shares duly endorsed or accompanied by proper evidence of succession, assignment or authority to transfer, it shall be the duty of the corporation to issue a new certificate to the person entitled thereto, and cancel the old certificate; every such transfer shall be entered on the transfer books of the corporation which shall be kept at its principal office.

(b) The corporation shall be entitled to treat the holder of record of any share as the holder in fact thereof, and, accordingly, shall not be bound to recognize any equitable or other claim to or interest in such share on the part of any other person whether or not it shall have express or other notice thereof, except as expressly provided by the laws of this Commonwealth.

ARTICLE VII - FISCAL YEAR.

The fiscal year of the corporation shall begin on the 1st day of July and end on the 30th day of June in each year.

ARTICLE VIII - DIVIDENDS.

The directors may from time to time declare, and the corporation may pay, dividends on its outstanding shares in the manner and upon the terms and conditions provided by law.

ARTICLE IX - SEAL.

The directors shall provide a corporate seal which shall be circular in form and shall have inscribed thereon the name of the corporation, the state of incorporation, year of incorporation and the words, "Corporate Seal."

ARTICLE X - WAIVER OF NOTICE.

Unless otherwise provided by law, whenever any notice is required to be given to any stockholder or director of the corporation under the provisions of these by-laws or under the provisions of the articles of incorporation, a waiver thereof in writing, signed by the person or persons entitled to such notice, whether before or after the time stated therein, shall be deemed equivalent to the giving of such notice.

ARTICLE XI - AMENDMENTS.

The power to alter, amend or repeal the by-laws or adopt new by-laws shall be vested in the board of directors; provided, however, that by-laws made by the board of directors may be repealed or changed, and new by-laws made, by the stockholders and the stockholders

may provide that any by-law made by them shall not be altered, amended or repealed by the board of directors.

The foregoing by-laws were adopted by the board of directors on December 30, 1985.

/s/ Jai N. Gupta

Secretary

ARTICLES OF INCORPORATION

OF

ELECTRODYNAMICS, INC.

KNOW ALL MEN BY THESE PRESENTS:

That the undersigned hereby adopt the following Articles of Incorporation pursuant to the laws of the State of Arizona:

ARTICLE I

NAME

The name of the corporation shall be ELECTRODYNAMICS, INC.

ARTICLE II

KNOWN PLACE OF BUSINESS

The known place of business of the corporation, shall be:

3500 North Greenfield Road
Mesa, Arizona, 85201

but other offices and places for conducting business within the State of Arizona may be established from time to time by the Board of Directors.

ARTICLE III

PURPOSES, POWERS, AND INITIAL BUSINESS

The objects and purposes for which the corporation is organized, and the general nature of the business which it intends to transact, are as follows:

(a) To manufacture and sell products for aerospace, military and industrial applications, including, but not limited to video mappers, counting accelerometers, elapsed time indicators, precision timing motors, electronic timers, electronic switches, electromagnetic fault indicators, potentiometers, and other electronic devices.

(b) To engage in any lawful business permitted to a private corporation under the laws of the State of Arizona, and to do all of the corporate powers enumerated in the Arizona Business Corporation Act;

(c) To do all things necessary or convenient for the accomplishment or furtherance of any of the purposes stated herein, and to do all things necessary or convenient for the protection and the benefit of the corporation.

ARTICLE IV

AUTHORIZED CAPITAL

The authorized capital of the corporation shall be One Thousand Dollars ($1,000.00), consisting of 1,000 shares of Common Stock, one dollar ($1.00) par value.

ARTICLE V

BOARD OF DIRECTORS

The business and affairs of the corporation shall be managed and conducted by a Board of Directors consisting of such number of persons as shall be fixed by the By-Laws. The initial Board of Directors shall consist of five (5) directors. The persons who are to serve as directors until the first annual meeting of shareholders or until their successors are elected are:

B. Paul Barnes
3500 North Greenfield Road
Mesa, Arizona 85205

Thomas A. Dickey
3500 North Greenfield Road
Mesa, Arizona 85205

Gerard G. Ellis
3500 North Greenfield Road
Mesa, Arizona 85205

William H. Mallender
3500 North Greenfield Road
Mesa, Arizona 85205

Ralph A. Rockow
3500 North Greenfield Road
Mesa, Arizona 85205

ARTICLE VI

INCORPORATORS

The incorporators of the corporation are:

Mark S. Dickerson
3500 North Greenfield Road
Mesa, Arizona 85205

Laura Gallup
3500 North Greenfield Road
Mesa, Arizona 85205

ARTICLE VII

STATUTORY AGENT

The initial statutory agent of the corporation, who may be replaced at any time by the Board of Directors is:

Mark S. Dickerson
3500 North Greenfield Road
Mesa, Arizona 85205

IN WITNESS WHEREOF, we, the undersigned, have hereunto set our hands this 10th day of September, 1981.

/s/ Mark S. Dickerson

Mark S. Dickerson

/s/ Laura Gallup

Laura Gallup

STATE. OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

On this, the 10th day of September, 1981, before me, the undersigned Notary Public, personally appeared Mark S. Dickerson and Laura Gallup, known to me (or satisfactory proven) to be the persons whose names are subscribed to the within instrument, and acknowledged that they executed the same for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

/s/ Leona Shiever

Notary Public

My Commission Expires:

August 15, 1984
- ---

STATEMENT OF CHANGE OF ADDRESS OF STATUTORY AGENT
AND OF KNOWN PLACE OF BUSINESS

BY

STATUTORY AGENT

Pursuant to the provisions of Section 10-013 of the Arizona General Corporation Law, the undersigned statutory agent, submits the following statement for the purpose of changing the known place of business of Electrodynamics, Inc. for which it is the statutory agent in the State of Arizona:

FIRST: The corporation for which it is the statutory agent is ELECTRODYNAMICS, INC.

SECOND: The address of the present known place of business of the corporation is 3500 North Greenfield Road, Mesa, Arizona, 85201.

THIRD: The address to which the known place of business is to be changed is 2702 North 44th Street, Phoenix, Arizona, 85008.

FOURTH: The name and present address of the statutory agent of the corporation is Mark S. Dickerson, c/o Talley Industries, Inc., 3500 North Greenfield Road, Mesa, Arizona, 85201.

FIFTH: Notice of this change has been mailed to the corporation.

DATED: July 14, 1983.

/s/ Mark S. Dickerson

Mark S. Dickerson
Statutory Agent

ARTICLES OF MERGER
OF
MINELCO, INC.,
(a Delaware corporation)

INTO

ELECTRODYNAMICS, INC.
(an Arizona corporation)

Pursuant to Section 10-074 of Arizona Revised Statutes, Minelco, Inc., a Delaware corporation ("Minelco") and Electrodynamics, Inc. ("Electrodynamics), an Arizona corporation, each hereby certifies to the following information relating to the merger of Minelco with and into Electrodynamics, Inc.

1. The name of the surviving corporation is Electrodynamics, Inc., an Arizona corporation. The name of the merging corporation is Minelco, Inc., a Delaware corporation.

2. The Agreement and Plan of Merger is set forth as Exhibit A attached hereto and incorporated herein by this reference.

3. The number of outstanding shares of Minelco is 1,000 shares of common stock with a par value of $1 per share, and the number of outstanding shares of Electrodynamics is 1,000 shares of common stock with a par value of $1 per share.

4. All issued and outstanding shares of Minelco were voted in favor of the Agreement and Plan of Merger.

5. The Agreement and Plan of Merger was approved by the board of directors of the surviving corporation, Electrodynamics, Inc. and no vote of the shareholders of such surviving corporation was required because of the applicability of Section 10-073(C) of the Arizona Revised Statutes.

IN WITNESS WHEREOF, the Articles of Merger has been executed this 15th day of October, 1993.

ELECTRODYNAMICS, INC.,
an Arizona corporation

By:/s/ John W. Kravcik

Its: President

By:/s/ Mark S. Dickerson

Its: Secretary

MINELCO, INC.,
a Delaware corporation

By:/s/ John W. Kravcik

Its: President

By:/s/ Mark S. Dickerson

Its: Secretary

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

On this, the 16th day of October, 1993, before me, the undersigned Notary Public, personally appeared Mark S. Dickerson, know to me (or satisfactory proven) to be the person whose name is subscribed to the within instrument, and acknowledged that he executed the same of for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

/s/ Laura Gallup

Notary Public

My Commission Expires:

9/4/97
- ---

STATE OF ILLINOIS)
) ss.
STATE OF COOK)

On this, the 15th day of October, 1993, before me, the undersigned Notary Public, personally appeared John W. Kravcik, know to me (or satisfactory proven) to be the person whose name is subscribed to the within instrument, and acknowledged that executed the same of for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

/s/ Janis B. Noble

Notary Public

My Commission Expires:

10/31/96
- ---

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

On this, the 16th day of October, 1993, before me, the undersigned Notary Public, personally appeared Mark S. Dickerson, know to me (or satisfactory proven) to be the person whose name is subscribed to the within instrument, and acknowledged that he executed the same of for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

/s/ Laura Gallup

Notary Public

My Commission Expires:

9/4/97
- ---

STATE OF ILLINOIS)
) ss.
STATE OF COOK)

On this, the 15 day of October, 1993, before me, the undersigned Notary Public, personally appeared John W. Kravcik, know to me (or satisfactory proven) to be the person whose name is subscribed to the within instrument, and acknowledged that he executed the same of for the purposes therein contained.

IN WITNESS THEREOF, I -hereunto -set -my -hand and official; seal.

/s/ Janis B. Noble

Notary Public

Commission Expires:

10/31/96
- ---

Exhibit A

AGREEMENT AND PLAN OF MERGER

Agreement and Plan of Merger, dated as of October 15, 1993, between Electrodynamics, Inc., an Arizona corporation (the "Surviving Corporation") and Minelco, Inc., a Delaware corporation (the "Disappearing Corporation") (the Disappearing Corporation and the Surviving Corporation hereinafter sometimes collectively referred to as the "Constituent Corporations").

R E C I T A L S

WHEREAS. each of the Surviving Corporation and the Disappearing Corporation is a wholly-owned subsidiary of Talley Industries, Inc. ("Talley") which owns 100% of the capital stock of each such corporation; and

WHEREAS, Talley, the Surviving Corporation and the Disappearing Corporation have determined that it is in the best interest of all of such corporations that the organizational structure of these wholly-owned subsidiaries of Talley be restructured and simplified; and

WHEREAS, the Surviving Corporation and the Disappearing Corporation wish to provide for the terms and conditions upon which a merger of the Disappearing Corporation with and into the Surviving Corporation would be consummated;

NOW, THEREFORE, in consideration of the premises and of the mutual covenants, provisions and agreements herein contained, and other good and lawful consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto have adopted a Plan of Merger as follows:

ARTICLE I

THE MERGER

1.1. At the Effective Time as defined in Section 4.1 hereof, the Disappearing Corporation shall be merged with and into the surviving Corporation, which shall be the surviving corporation (the "Merger"). The corporate existence of the Surviving Corporation with all its purposes, powers, and objects shall continue unaffected and unimpaired by the Merger. The Surviving Corporation shall, from and after the Effective Time, possess all of the rights, privileges, powers and franchises of a public, as well as a private, nature and be subject to and liable for all the restrictions, disabilities, debts, liabilities, obligations, penalties and duties of each of the Constituent Corporations; and all and singular, the rights, privileges, powers, and franchises of each of the Constituent Corporations in all property, real, personal, and mixed, and all debts due either of the Constituent Corporations on whatever account, including stock subscriptions and other things in action and all or every other interest of or belonging to either of the Constituent Corporations shall be vested in the Surviving Corporation without further act or deed; and the title to any real estate, whether vested by deed or otherwise in either of the Constituent Corporations, shall not revert or be in any way impaired by reason of the Merger, and no liability or obligation due or to become due at the Effective Time or any claim or demand

for any cause then existing or action or proceeding pending by or against either of the Constituent Corporations or any shareholder, officer or director thereof shall be released or impaired by the Merger; and all rights of creditors and liens upon property, of either of the Constituent Corporations, shall be preserved unimpaired, all in accordance with, and with the effect stated in the applicable provisions of the General Corporation Law of the State of Delaware ("DGCL") and the General Corporation Law of the State of Arizona ("AGCL"). The separate existence and corporate organization of the Disappearing Corporation shall cease upon the Effective Time, and thereupon the Disappearing Corporation and the Surviving Corporation shall be a single corporation -- to wit, the Surviving Corporation.

1.2. If at any time after the Effective Time the Surviving Corporation shall consider or be advised that any further assignment, assurances in law, or any other things are necessary or desirable to vest, perfect, or confirm of record or otherwise in the Surviving Corporation the title to any property or right of the Disappearing Corporation acquired or to be acquired by reason of or as a result of the Merger, the Disappearing Corporation and its proper officers and directors, will, upon notice, execute and deliver such proper deeds, assignments, and assurances reasonably requested by the Surviving Corporation and do all things necessary or advisable to vest, perfect, or confirm title to such property or rights in the Surviving Corporation and otherwise to carry out the intent and purposes of this Agreement and the proper officers and directors of the Surviving Corporation are fully authorized in the name of this Disappearing Corporation or otherwise to take any and all such action.

ARTICLE II

ARTICLES OF INCORPORATION; BY-LAWS; BOARD OF DIRECTORS; OFFICERS

2.1. The Articles of Incorporation of the Surviving Corporation as in effect at the Effective Time shall be the Articles of Incorporation of the Surviving Corporation until the same shall be amended as provided by law.

2.2. The By-Laws of the Surviving Corporation as in effect at Effective Time shall be the By-Laws of the Surviving Corporation until the same shall hereafter be altered, amended, or repealed in accordance with law, the Articles of Incorporation of the Surviving Corporation, or said By-Laws.

2.3. From and after the Effective Time the officers and directors of the Surviving Corporation immediately prior to the Effective Time shall serve in their respective capacities as the officers and directors of the Surviving Corporation, each to serve until his respective successor shall have been duly elected and qualified.

2.4. The laws which are to govern the Surviving Corporation are the laws of the State of Arizona.

ARTICLE III

CONVERSION OF SHARES

3.1. At the Effective Time:

(a) The Merger shall effect no change in any of the shares of the Surviving Corporation's capital stock and none of its shares shall be converted as a result of the Merger.

(b) Each share of the Disappearing Corporation's capital stock issued and outstanding at the Effective Time shall by virtue of the Merger be cancelled and retired without any further action and no shares of stock or other securities of the Surviving Corporation or any other corporation shall be issuable with respect thereto.

ARTICLE IV

pROCEDURE TO EFFECT MERGER

4.1. Subject to the prior approval of the Merger by the sole stockholder of the Disappearing Corporation, the Constituent Corporations shall cause Articles of Merger (the "Articles of Merger") to be filed with the Secretary of State of Arizona as provided in the AGCL and this Plan of Merger to be filed with the Secretary of State of Delaware as provided in the DGCL. The Merger shall become effective at the time and the date as provided in the AGCL and DGCL. The date and time when the Merger shall become effective is herein referred to as the "Effective Time". Each of the Constituent Corporations hereby agrees to do promptly all of such acts, and to take promptly all such measures as may be appropriate to enable it to perform as early as practicable the covenants and agreements herein provided to be performed by it.

4.2. This Agreement may be terminated by the mutual consent of the Boards of Directors of the Constituent Corporations whether before or after approval of this Agreement by Talley.

ARTICLE V

MISCELLANEOUS

5.1. This Agreement may be executed in several counterparts each of which shall be deemed an original but all of which counterparts collectively shall constitute one instrument representing the agreement between the parties hereto.

5.2. Except as otherwise provided in this Agreement, nothing herein expressed or implied is intended or shall be construed to confer upon or give any person, firm or corporation, other than the parties hereto or their respective successors and assigns, any rights or remedies under or by reason of this Agreement.

5.3. This Agreement and legal relations between the parties hereto shall be governed by and construed in accordance with the laws of the State of Arizona.

5.4. Pursuant to Section 252(d) of the DGCL, the Surviving Corporation hereby irrevocably agrees that:

(a) it may be served with process in the State of Delaware in any proceeding for the enforcement of any obligation of the Disappearing Corporation, as well as for any enforcement of any obligation of the Surviving Corporation arising from the Merger, including any suit or other proceeding to enforce the right of any shareholders as determined in appraisal proceedings pursuant to the provisions of Section 262 of the DGCL;

(b) The Secretary of State of Delaware as its agent may accept service of process in any such suit or other proceedings; and

(c) the Secretary of State should mail a copy of such process to the Surviving Corporation at the following address:

Talley Manufacturing and Technology, Inc.
2702 N. 44th Street
Phoenix, AZ 85008
Attention: General Counsel

IN WITNESS WHEREOF, each of the parties hereto has caused this Agreement and Plan of Merger to be signed in its corporate name its duly authorized officers all of the date first above written..

ATTEST: ELECTRODYNAMICS, INC.

/s/ Mark S. Dickerson By:/s/ John W. Kravcik
Secretary Title: President

ATTEST: MINELCO, INC.

/s/ Mark S. Dickerson By:/s/ John W. Kravcik
Secretary Title: President

MINELCO, INC.

SECRETARY CERTIFICATE

The undersigned, being the Secretary of Minelco, Inc. ("Minelco"), hereby certifies that the sole shareholder of Minelco approved by written consent the Agreement and Plan of Merger, dated as of October 15, 1993, between Electrodynamics, Inc. and Minelco to which this Certificate is attached.

DATED: October 15, 1993

By: /s/ Mark S. Dickerson
Secretary

ELECTRODYNAMICS, INC.

OFFICERS' CERTIFICATE

The undersigned, being the President and Secretary of Electrodynamics, Inc., each hereby certifies that (i) no vote of the shareholders of Electrodynamics, Inc. was required for the Agreement and Plan of Merger, dated as of October 15, 1993, between Electrodynamics, Inc. and Minelco, Inc., to which this certificate is attached, because of the applicability of Section 10-073(c) of the Arizona Revised Statutes as of the date hereof; and (ii) the outstanding shares of Electrodynamics, Inc. were such as to render Section 10-073(C) of the Arizona Revised Statutes applicable.

DATED: October 15, 1993 By:/s/ John W. Kravcik

President

DATED: October 15, 1993 By: /s/ Mark S. Dickerson

Secretary

BY-LAWS

OF

ELECTRODYNAMICS, INC.
(An Arizona Corporation)

ARTICLE I

OFFICES

SECTION 1. Principal Office. The principal office shall be at 3500 North Greenfield Road, in the City of Mesa, County of Maricopa, State of Arizona.

SECTION 2. Other Offices. The corporation may also have an office or offices at such other place or places, within or outside the State of Arizona, as the Board of Directors may from time to time designate or as the business of the corporation requires.

ARTICLE II

STOCKHOLDERS' MEETINGS

SECTION 1. Annual Meetings. The annual meeting of stockholders of the corporation, commencing with the year 1981, shall be held at the principal office of the corporation in the State of Arizona and at such other place within or outside the State of Arizona and at such hour as may be determined by the Board of Directors and as shall be designated in the notice of said meeting, on the last Monday in August of each year (or if said day be a legal holiday, then on the next succeeding day not a legal holiday), for the purpose of electing directors and for the transaction of such other business as may properly be brought before the meeting.

If the election of directors shall not be held on the day designated herein for any annual meeting, or at any adjournment thereof, the Board of Directors shall cause the election to be held at a special meeting of the stockholders as soon thereafter as conveniently may be. At such meeting the stockholders may elect the directors and transact other business with the same force and effect as at an annual meeting duly called and held.

ARTICLE II, SECTION 1 is amended to provide for the annual meeting date as the first Tuesday in December.

SECTION 2. Special Meetings. Special meetings of the stockholders shall be held at the principal office of the corporation in the State of Arizona, or at such other place within or outside the State of Arizona as may be designated in the notice of said meeting, upon call of the Board of Directors or the Chairman of the Board of Directors, the President or any Vice-President, and shall be called by the President or any Vice-President or the Secretary at the request in writing of stockholders owning at least thirty percent of the issued and outstanding capital stock of the corporation entitled to vote thereat.

SECTION 3. Notice and Purpose of Meetings. Notice of the purpose or purposes and of the time and place within or outside the State of Arizona of every meeting of stockholders shall be given by the Chairman of the Board of Directors, the President or Vice-President or the Secretary or an Assistant Secretary either personally or by mail or by telegraph or by any other means of communication not less than ten days before the meeting, to each stockholder of record entitled to vote at such meeting. If mailed, such notice shall be directed to each stockholder at his address as it appears on the stock book unless he shall have filed with the Secretary of the corporation a written request that notices intended for him be mailed to some other address, in which case it shall be mailed or transmitted to the address designated in such request. Such further notice shall be given as may be required by law. Except as otherwise expressly provided by statute, no notice of a meeting of stockholders shall be required to be given to any stockholder who shall attend such meeting in person or by proxy, or who shall, in person or by attorney thereunto authorized, waive such notice in writing or by telegraph, cable, radio, or wire either before or after such meeting. Except where otherwise required by law, notice of any adjourned meeting of the stockholders of the corporation shall not be required to be given.

SECTION 4. Quorum. A quorum of all meetings of stockholders shall consist of the holders of record of a majority of the shares of the capital stock of the corporation, issued and outstanding, entitled to vote at the meeting, present in person or by proxy, except as otherwise provided by law or the Certificate of Incorporation. In the absence of a quorum at any meeting or any adjournment thereof, a majority of those present in person or by proxy and entitled to vote may adjourn such meeting from time to time. At any such adjourned meeting at which a quorum is present any business may be transacted which might have been transacted at the meeting as originally called.

SECTION 5. Organization. Meetings of the stockholders shall be presided over by the Chairman of the Board of Directors, if any, or if he is not present by the President, or if neither the Chairman of the Board of Directors nor the President is present, by a Vice President, or if none of these is present, by a chairman to be chosen by a majority of the stockholders entitled to vote who are present in person or by proxy at the meeting. The Secretary of the corporation, or in his absence, an Assistant Secretary, shall act as secretary of every meeting, but if neither the Secretary nor an Assistant Secretary is present, the meeting shall choose any person present to act as secretary of the meeting.

At the annual meeting of stockholders the order of business shall be as follows:

1. Calling meeting to order.

2. Proof of notice of meeting.

3. Reading of minutes of last previous annual meeting or waiver thereof.

4. Reports of officers.

5. Reports of committees, if any.

6. Election of directors.

7. Miscellaneous business.

SECTION 6. Voting. Except as otherwise provided in the By-Laws, the Certificate of Incorporation, or in the laws of the State of Arizona, at every meeting of the stockholders, each stockholder of the corporation entitled to vote at such meeting shall have one vote in person or by proxy for each share of stock having voting rights held by him and registered in his name on the books of the corporation. Any vote on stock of the corporation may be given by the stockholder entitled thereto in person or by his proxy appointed by an instrument in writing, subscribed by such stockholder or by his attorney thereunto authorized and delivered to the secretary of the meeting; provided, however, that no proxy shall be voted on after three years from its date unless said proxy provides for a longer period. Except as otherwise required by statute, by the Certificate of Incorporation or these By-Laws, or in electing directors, all matters coming before any meeting of the stockholders shall be decided by the vote of a majority in interest of the stockholders of the corporation present in person or by proxy at such meeting and entitled to vote thereat, a quorum being present. At all elections of directors the voting may but need not be by ballot and a plurality of the votes cast thereat shall elect.

SECTION 7. List of Stockholders. A complete list of the stockholders entitled to vote at the ensuing election, arranged in alphabetical order, and showing the address of each stockholder and the number of shares registered in the name of each stockholder shall be prepared by the Secretary, or other officer of the corporation having charge of said stock ledger. Such list shall be open to the examination of any stockholder during ordinary business hours, for a period of at least ten days prior to the election, either at a place within the city, town or village where the election is to be held, which place shall be specified in the notice of the meeting, or, if not so specified, at the place where said meeting is to be held, and the list shall be produced and kept at the time and place of election during the whole time thereof, and subject to the inspection of any stockholder who may be present.

ARTICLE II is amended adding a new SECTION 8 to read as follows:

"SECTION 8. Consent of Stockholders. Any action required or permitted to be taken at any meeting of the stockholders of the corporation may be taken without a meeting without prior notice and without a vote if a consent in writing setting forth the action so taken shall be signed by the holders of the outstanding stock having not less than the minimum number of votes that would be necessary to authorize to take such action at a meeting at which all shares entitled to vote thereon were present and voted. Prompt notice of the taking of the corporate action without a meeting by less than unanimous written consent shall be given to those stockholders who have not consented in writing."

ARTICLE III

DIRECTORS

SECTION 1. Powers, Number, Qualification, Term, Quorum, and Vacancies. The property, affairs and business of the corporation shall be managed by its Board of Directors, consisting of not less than three (3) nor more than twelve (12) persons. The first Board of Directors shall consist of two or more persons to be elected by the incorporators. Except as hereinafter provided, directors shall be elected at the annual meeting of the stockholders and each director shall be elected to serve for one year and until his successor shall be elected and shall qualify. The directors shall have power from time to time, and at any time, when the stockholders as such are not assembled in a meeting, regular or special, to increase or decrease their own number to the extent provided in these By-Laws. If the number of directors be increased, the additional directors may be elected by a majority of the directors in office at the time of the increase, or if not so elected prior to the next annual meeting of the stockholders, they shall be elected by the stockholders. The number of directors shall never be less than three.

Directors need not be stockholders.

A majority of the members of the Board of Directors then acting at a meeting shall constitute a quorum for the transaction of business, and the act of a majority of the directors present at such meeting shall be the act of the Board. If at any meeting of the Board of Directors there shall be less than a quorum present, a majority of those present may adjourn the meeting, without further notice, from time to time until a quorum shall have been obtained.

In case one or more vacancies shall occur in the Board of Directors by reason of death, resignation, or otherwise, except insofar as otherwise provided in the case of a vacancy or vacancies occurring by reason of removal by the stockholders, the remaining directors, although less than a quorum, may, by a majority vote, elect a successor or successors for the unexpired term or terms.

SECTION 2. Meetings. Meetings of the Board of Directors shall be held at such place within or outside the State of Arizona as may from time to time be fixed by resolution of the Board of Directors, or as may be specified in the notice of the meeting. Regular meetings of the Board of Directors shall be held at such times as may from time to time be fixed by resolution of the Board of Directors, and special meetings may be held at any time upon the call of the Chairman of the Board of Directors, the President or any Vice-President or the Secretary or any two directors by oral, telegraphic, or written notice duly served on or sent or mailed to each director not less than two days before such meeting. A meeting of the Board of Directors may be held without notice immediately after the annual meeting of stockholders. Notice need not be given of regular meetings of the Board of Directors. Meetings may be held at any time without notice if all the directors are present, or if at any time before or after the meeting those not present waive notice of the meeting in writing.

SECTION 3. Committees. The Board of Directors may, in its discretion, by the affirmative vote of a majority of the whole Board of Directors, appoint committees which shall have and may exercise such powers as shall be conferred or authorized by the resolutions appointing them. A majority of any such committee, if the committee be composed of more than

two members, may determine its action and fix the time and place of its meetings, unless the Board of Directors shall otherwise provide. The Board of Directors shall have power at any time to fill vacancies in, to change the membership of, or to discharge any such committee.

SECTION 4. Dividends. Subject always to the provisions of the law and the Certificate of Incorporation, the Board of Directors shall have full power to determine whether any, and if any, what part of any, funds legally available for the payment of dividends shall be declared in dividends and paid to stockholders; the division of the whole or any part of such funds of the corporation shall rest wholly within the lawful discretion of the Board of Directors, and it shall not be required at any time, against such discretion, to divide or pay any part of such funds among or to the stockholders as dividends or otherwise; and the Board of Directors may fix a sum which may be set aside or reserved over and above the capital paid in of the corporation as working capital for the corporation or as a reserve for any proper purpose, and from time to time may increase, diminish, and vary the same in its absolute judgment and discretion.

SECTION 5. Removal of Directors. At any special meeting of the stockholders, duly called as provided in these By-Laws, any director or directors may by the affirmative vote of the holders of a majority of all the shares of stock outstanding and entitled to vote for the election of directors be removed from office, either with or without cause, and his successor or their successors may be elected at such meeting; or the remaining directors may, to the extent vacancies are not filled by such election, fill any vacancy or vacancies created by such removal.

SECTION 6. Informal Action. Any action required or permitted to be taken at any meeting of the Board of Directors or any committee thereof may be taken without a meeting if prior to such action a written consent thereto is signed by all members of the Board or the committee, as the case may be, and such written consent is filed with the minutes of proceedings of the Board or the committee.

SECTION 7. Compensation. The members of the Board of Directors shall be entitled to reasonable fees, salaries, or other compensation for their services and to reimbursement for their expenses as such members. Nothing contained herein shall preclude any director from serving the corporation, or any parent, subsidiary or affiliated corporation, as officer or in any other capacity and receiving proper compensation therefor.

ARTICLE IV

OFFICERS

SECTION 1. Number. The Board of Directors, as soon as may be after the election thereof held in each year, shall elect a President, a Secretary and a Treasurer, may elect a Chairman of the Board of Directors and from time to time may appoint one or more Vice-Presidents and such Assistant Secretaries, Assistant Treasurers and such other officers, agents, and employees as it may deem proper. More than two offices other than the offices of Chairman of the Board of Directors, President and Secretary may be held by the same person.

SECTION 2. Term and Removal. The term of office of all officers shall be until their respective successors are elected and qualify, and any officer may be removed from office,

either with or without cause, at any time by the affirmative vote of a majority of the members of the Board of Directors then in office. A vacancy in any office arising from any cause may be filled for the unexpired portion of the term by the Board of Directors.

SECTION 3. Chairman of the Board of Directors - Powers and Duties. The Chairman of the Board of Directors, if any, shall preside at all meetings of the stockholders and the Board of Directors. He shall exercise such other functions and perform such other duties as may be properly required by him by the Board of Directors.

SECTION 4. President - Powers and Duties. The President shall, in the absence of the Chairman of the Board of Directors preside at all meetings of stockholders and directors, shall have general supervision of the affairs of the corporation, shall sign or countersign all certificates, contracts, and other instruments of the corporation as authorized by the Board of Directors, shall make reports to the Board of Directors and stockholders, and perform all such other duties as are incident to his office or are properly required of him by the Board of Directors.

SECTION 5. Vice-Presidents - Powers and Duties. During the absence or disability of the President, the Vice-Presidents, in the order designated by the Board of Directors, shall exercise all the functions of the President. Each Vice-President shall have such powers and discharge such duties as may be assigned to him from time to time by the Board of Directors.

SECTION 6. Secretary - Powers and Duties. The Secretary shall issue notices for all meetings except that notice for special meetings of directors called at the request of two directors may be issued by such directors, shall keep minutes of all meetings, shall have charge of the seal and the corporate minute books, and shall make such reports and perform such other duties as are incident to his office, or are properly required of him by the Board of Directors.

SECTION 7. Assistant Secretaries - Powers and Duties. The Assistant Secretaries in order of their seniority shall, in the absence or disability of the Secretary, perform the duties and exercise the powers of the Secretary, and shall perform such other duties as the Board of Directors shall prescribe.

SECTION 8. Treasurer - Powers and Duties. The Treasurer shall have the custody of all moneys and securities of the corporation and shall keep regular books of account. He shall disburse the funds of the corporation in payment of the just demands against the corporation or as may be ordered by the Board of Directors, taking proper vouchers for such disbursements, and shall render to the Board of Directors from time to time as may be required of him, an account of all his transactions as Treasurer and of the financial condition of the corporation. He shall perform all duties incident to his office or that are properly required of him by the Board of Directors.

SECTION 9. Assistant Treasurers - Powers and Duties. The Assistant Treasurers in the order of their seniority shall, in the absence or disability of the Treasurer, perform the duties and exercise the powers of the Treasurer, and shall perform such other duties as the Board of Directors shall prescribe.

SECTION 10. Voting Corporation's Securities. Unless otherwise ordered by the Board of Directors, the President, or in the event of his inability to act, the Vice-President

designated by the Board of Directors to act in the absence of the President, shall have full power and authority on behalf of the corporation to attend and to act and to vote at any meetings of security holders of corporations in which the corporation may hold securities, and at such meetings shall possess and may exercise any and all rights and powers incident to the ownership of such securities, and which as the owner thereof the corporation might have possessed and exercised, if present. The Board of Directors by resolution from time to time may confer like powers upon any other person or persons.

SECTION 11. Divisional Officers. The Board of Directors may from time to time establish and abolish one or more operating divisions of the corporation. The Board of Directors may assign one of the Vice-Presidents of the corporation to any such division who shall, subject to the direction of the Board of Directors and the President of the corporation, supervise and control the business of such division and all officers, agents, and employees of the corporation whose principal duties are in connection with the business of such division. The Vice-Presidents so assigned to any such division may be appointed as the President of such division in connection with the operation of its business. The Board of Directors may also appoint one or more Vice-Presidents, a Secretary, a Treasurer, and one or more Assistant Treasurers or Secretaries of any such division, who shall hold their offices for such terms and exercise such powers and perform such duties as shall be determined by the Board or by the President of such division. Persons so appointed by the Board of Directors as Vice-President, Treasurer, Secretary, Assistant Treasurer, or Assistant Secretary of a division need not also be officers of the corporation.

ARTICLE V

CERTIFICATES OF STOCK

SECTION 1. Form and Transfers. The interest of each stockholder of the corporation shall be evidenced by certificates for shares of stock, certifying the number of shares represented thereby and in such form not inconsistent with the Certificate of Incorporation as the Board of Directors may from time to time prescribe.

Transfers of shares of the capital stock of the corporation shall be made only on the books of the corporation by the registered holder thereof, or by his attorney thereunto authorized by power of attorney duly executed and filed with the Secretary of the corporation, or with a transfer clerk or a transfer agent appointed as in Section 4 of this Article provided, and on surrender of the certificate or certificates for such shares properly endorsed and the payment of all taxes thereon. The person in whose name shares of stock stand on the books of the corporation shall be deemed the owner thereof for all purposes as regards the corporation; provided that whenever any transfer of shares shall be made for collateral security, and not absolutely, such fact, if known to the Secretary of the corporation, shall be so expressed in the entry of transfer. The Board may, from time to time, make such additional rules and regulations as it may deem expedient, not inconsistent with these By-Laws, concerning the issue, transfer, and registration of certificates for shares of the capital stock of the corporation.

The certificates of stock shall be signed by the Chairman of the Board of Directors, the President or a Vice President and by the Secretary or an Assistant Secretary or the Treasurer or an Assistant Treasurer, and sealed with the seal of the corporation. Such seal may be

facsimile, engraved or printed. Where any such certificate is signed by a transfer agent or a transfer clerk and by a registrar, the signatures of the Chairman of the Board of Directors, President, Vice-President, Secretary, Assistant Secretary, Treasurer or Assistant Treasurer upon such certificates may be facsimiles, engraved or printed. In case any such officer who has signed or whose facsimile signature has been placed upon such certificate shall have ceased to be such before such certificate is issued, it may be issued by the corporation with the same effect as if such officer had not ceased to be such at the time of its issue.

SECTION 2. Closing of Transfer Books. The Board of Directors shall have power to close the stock transfer books of the corporation for a period not exceeding fifty days before any stockholders' meeting, or the last day on which the consent or dissent of stockholders may be effectively expressed for any purpose without a meeting, or the date fixed for the payment of any dividend or the making of any distribution, or for the delivery of evidences of rights or evidences of interests arising out of any change, conversion, or exchange of capital stock. Provided, however, that in lieu of closing the stock transfer books as aforesaid the Board of Directors may in its discretion fix a time not more than fifty days before the date of any meeting of stockholders, or the last day on which the consent or dissent of stockholders may be effectively expressed for any purpose without a meeting, or the date fixed for the payment of any dividend or for the delivery of evidences of rights or evidences of interests arising out of any change, conversion, or exchange of capital stock, at the time as of which stockholders entitled to notice of and to vote at such meeting or whose consent or dissent is required or may be expressed for any purpose or entitled to receive any such dividend, distribution, rights, or interests shall be determined; and all persons who are holders of record of voting stock at such time and no others shall be entitled to notice of and to vote at such meeting or to express their consent or dissent, as the case may be, and only stockholders of record at the time so fixed shall be entitled to receive such dividend, distributions, rights, or interests.

SECTION 3. Lost, Stolen, Destroyed, or Mutilated Certificates. No certificate for shares of stock in the corporation shall be issued in place of any certificate alleged to have been lost, destroyed, or stolen, except on production of such evidence of such loss, destruction, or theft and on delivery to the corporation, if the Board of Directors shall so require, of a bond of indemnity in such amount (not exceeding twice the value of the shares represented by such certificate), upon such terms and secured by such surety as the Board of Directors may in its discretion require.

SECTION 4. Transfer Agent and Registrar. The Board of Directors may appoint one or more transfer clerks or one or more transfer agents and one or more registrars, and may require all certificates of stock to bear the signature or signatures of any of them.

ARTICLE VI

FISCAL YEAR

The fiscal year of the corporation shall begin on the first day of April in each year and shall end on the thirty-first day of March next following, unless otherwise determined by the Board of Directors.

ARTICLE VI is amended in its entirety so that it shall hereafter be and read:

"ARTICLE VI

FISCAL YEAR

The fiscal year of the corporation shall begin on the first day of January in each year and shall end on the thirty-first day of December next following, unless otherwise determined by the Board of Directors."

ARTICLE VII

CORPORATE SEAL

The corporate seal of the corporation shall have inscribed thereon the name of the corporation, the year of its organization and the words, "Incorporated, Arizona." The Seal may be used by causing it or a facsimile thereof to be impressed or affixed or reproduced or otherwise.

ARTICLE VIII

AMENDMENTS

The By-Laws of the corporation shall be subject to alteration, amendment, or repeal, and new By-Laws not inconsistent with any provision of the Certificate of Incorporation or statute, may be made, either by the affirmative vote of the holders of a majority in interest of the stockholders of the corporation present in person or by proxy at any annual or special meeting of the stockholders and entitled to vote thereat a quorum being present, or by the affirmative vote of a majority of the whole Board, given at any regular or special meeting of the Board, provided that notice of the proposal so to make, alter, amend, or repeal such By-Laws be included in the notice if required, of such meeting of the Board or the stockholders, as the case may be. By-Laws made, altered, or amended by the Board may be altered, amended, or repealed by the stockholders at any annual or special meeting thereof.

ARTICLE IX

INDEMNIFICATION OF DIRECTORS, OFFICERS AND EMPLOYEES

The corporation shall indemnify to the full extent authorized or permitted by the General Corporation Law of the State of Arizona (and in the manner provided therein) any person made, or threatened to be made, a party to an action, suit or proceeding (whether civil, criminal, administrative or investigative) by reason of the fact that he, his testator or intestate is or was a director, officer or employee of the corporation or serves or served any other enterprise at the request of the corporation.

ARTICLES OF INCORPORATION

OF

INTERSTATE ELECTRONICS CORPORATION

I

The name of this corporation is:

INTERSTATE ELECTRONICS CORPORATION

II

The purposes for which this corporation is formed are:

(a) To engage initially in the primary business of developing, manufacturing, assembling, distributing and selling products utilizing electrons and involving the science of electronics.

(b) To act as a partner and joint venturer and to enter into copartnership and joint venture agreements with other corporations and with individuals.

(c) To engage in any business or activity permitted under the Corporations Code of the State of California.

III

The principal office for the transaction of the business of this corporation is to be located in the County of Los Angeles, State of California.

IV

The number of directors of this corporation is three, and the names and addresses of the persons who are appointed to act as the first directors are:

H. W. Darling	Beverly Hills, California
D. K. Hall	Los Angeles, California

T. F. Call Los Angeles, California

V

The total number of shares which this corporation is authorized to issue is 25,000. The aggregate par value of all shares is $25,000.00, and the par value of each share is $1.00.

Executed on May 19, 1955.

/s/ H. W. Darling

H. W. Darling

/s/ D. K. Hall

D. K. Hall

/s/ T. F. Call

T. F. Call

STATE OF CALIFORNIA)
) ss.
COUNTY OF LOS ANGELES)

On this 19th day of May, 1955, before me, the undersigned, a notary public in and for the County of Los Angeles, State of California, personally appeared H. W. DARLING, D. K. HALL and T. F. CALL, known to me to be the persons named as the first directors in the foregoing Articles of Incorporation and whose names are subscribed thereto, and severally acknowledged to me that they executed the same.

/s/ June M. Lane

Notary Public in and for said County and State.

(Notarial Seal)

Original filed with California Secretary of State - May 20, 1955.

Certified Copy filed with Los Angeles County Clerk - August 3, 1956.

Certified Copy filed with Orange County Clerk - August 3, 1956.

CERTIFICATE OF AMENDMENT

OF ARTICLES OF INCORPORATION OF

INTERSTATE ELECTRONICS CORPORATION

D. K. HALL and T. F. CALL, as incorporators of INTERSTATE ELECTRONICS CORPORATION, certify:

1. The signatories constitute two of the three incorporators of INTERSTATE ELECTRONICS CORPORATION, a California corporation.

2. By adoption the signatories amend Article IV of the Articles of Incorporation of INTERSTATE ELECTRONICS CORPORATION by amending so much thereof as reads:

"The number of directors of this corporation is three . . . "

to read as follows:

"The number of directors of this corporation is five . . ."

3. The corporation has issued no shares and has accepted no subscriptions for shares since the filing of its Articles with the Secretary of State of the State of California on May 20, 1955.

EXECUTED on July 30, 1956.

/s/ D. K. Hall

D. K. Hall

/s/ T. F. Call

T. F. Call

STATE OF CALIFORNIA)
) ss.
COUNTY OF LOS ANGELES)

D. K. HALL and T. F. CALL, being first duly sworn, each for himself states:

The matters set forth in the foregoing Certificate of Amendment are true of his own knowledge.

/s/ D. K. Hall

D. K. Hall

T. F. Call

T. F. Call

Subscribed and sworn to before
me this 30th day of July, 1956.

June M. Lane

Notary Public in and for said
County and State

(SEAL)

My Commission Expires Aug. 30, 1958

Original filed with California Secretary of State - July 31, 1956.

Certified Copy filed with Los Angeles County Clerk - August 3, 1956.

Certified Copy filed with Orange County Clerk - August 3, 1956.

CERTIFICATE OF AMENDMENT

OF ARTICLES OF INCORPORATION OF

INTERSTATE ELECTRONICS CORPORATION

H. W. DARLING, D. K. HALL and T. F. CALL, as the incorporators of INTERSTATE ELECTRONICS CORPORATION, certify:

1. The signatories constitute all of the incorporators of INTERSTATE ELECTRONICS CORPORATION, a California corporation.

2. By adoption the signatories amend Article V of the Articles of Incorporation to read:

"V

The total number of shares which this corporation is authorized to issue is 1,000,000. The aggregate par value of all shares is $1,000,000.00, and the par value of each share is $1.00."

3. The corporation has issued no shares and has accepted no subscriptions for shares since the filing of its Articles with the Secretary of State of the State of California on May 20, 1955.

EXECUTED on May 17, 1956.

/s/ H. W. Darling

H. W. Darling

/s/ D. K. Hall

D. K. Hall

/s/ T. F. Call

T. F. Call

STATE OF CALIFORNIA)
) ss.
COUNTY OF LOS ANGELES)

H. W. DARLING, D. K. HALL and T. F. CALL, being first duly sworn, each for himself states:

The matters set forth in the foregoing Certificate of Amendment are true of his own knowledge.

/s/ H. W. Darling

H. W. Darling

/s/ D. K. Hall

D. K. Hall

/s/ T. F. Call

T. F. Call

Subscribed and sworn to before me
this 17th day of May, 1956

/s/ June M. Lane

Notary Public in and for said
County and State

(SEAL)

My Commission Expires Aug. 30, 1958

Original filed with California Secretary of State - May 22, 1956.

Certified Copy filed with Los Angeles County Clerk - August 3, 1956.

Certified Copy filed with Orange County Clerk - August 3, 1956.

CERTIFICATE OF AMENDMENT

OF ARTICLES OF INCORPORATION OF

INTERSTATE ELECTRONICS CORPORATION

PAUL H. REEDY, as the President, and JOHN A. COLEGROVE, as the Secretary, of Interstate Electronics Corporation, a California corporation, certify:

1. At a special meeting of the Board of Directors of Interstate Electronics Corporation held on May 5, 1958, the following resolution was adopted:

"RESOLVED, that the Articles of Incorporation of this corporation be and they are amended by amending Article V to read:

'V

The total number of shares which this corporation is authorized to issue is 5,000,000. The aggregate par value of all shares is $5,000,000.00 and the par value of each share is $1.00.'"

2. Subsequent to the adoption of the above resolution and prior to the execution of this Certificate, all the shareholders of Interstate Electronics Corporation executed and filed with the Secretary of the corporation their written consent to the foregoing amendment of the Articles of the corporation. A conformed copy of the written consent is attached to this Certificate.

WRITTEN CONSENT OF SHAREHOLDERS TO

AMENDMENT OF ARTICLES OF INCORPORATION OF

INTERSTATE ELECTRONICS CORPORATION

WHEREAS, at a special meeting of the Board of Directors of Interstate Electronics Corporation held on May 5, 1958, the following resolution was adopted:

"RESOLVED, that the Articles of Incorporation of this corporation be and they are amended by amending Article V to read:

'V

The total number of shares which this corporation is authorized to issue is 5,000,000. The aggregate par value of all shares is $5,000,000.00 and the par value of each share is $1.00.'"

NOW, THEREFORE, the undersigned shareholders of Interstate Electronics Corporation, and each of them, by the execution of this instrument adopt, approve and consent to the amendment of Article V of the Articles of Incorporation of Interstate Electronics Corporation to read as set forth in the resolution of the corporation's Board of Directors.

Name of Shareholder	Date of Signing	Number of Shares Held
Interstate Engineering Corporation		
By /s/ Frank E. Booth, President	May 5, 1958	200,000

CERTIFICATE OF AMENDMENT

OF ARTICLES OF INCORPORATION OF

INTERSTATE ELECTRONICS CORPORATION

ALFRED V. GANGNES and DONALD W. HIGBEE certify:

1. They are the President and the Secretary, respectively, of Interstate Electronics Corporation, a California corporation.

2. By unanimous written consent of the board of directors of the Corporation without a meeting, the directors being authorized to so act by the By-laws of the Corporation, the following resolution was adopted as of April 28, 1971:

"RESOLVED, that the Articles of Incorporation of this corporation be and they are amended by amending Article III to read:

'III

The county in the State of California where the principal office for the transaction of business of this corporation is located is Orange County.'"

3. The sole shareholder of the Corporation has adopted the amendment by written consent. The wording of the amended article, as set forth in the shareholder's written consent, is the same as that set forth in the directors' resolution.

4. The number of shares represented by written consent is 428,590. The total number of shares entitled to vote or consent to the amendment is 428,590.

/s/ Alfred V. Gangnes

Alfred V. Gangnes, President

/s/ Donald W. Higbee

Donald W. Higbee, Secretary

Each of the undersigned declares under penalty of perjury that the matters set forth in the foregoing Certificate are true and correct.

EXECUTED at Anaheim, California, on May 25, 1971.

/s/ Alfred V. Gangnes

Alfred V. Gangnes

/s/ Donald W. Higbee

Donald W. Higbee

WRITTEN CONSENT OF SOLE SHAREHOLDER TO

AMENDMENT OF ARTICLES OF INCORPORATION OF

INTERSTATE ELECTRONICS CORPORATION

WHEREAS, by unanimous written consent of the board of directors of Interstate Electronics Corporation without a meeting, the directors being authorized to so act by the By-laws of the Corporation, the following resolution was adopted as of April 28, 1971:

"RESOLVED, that the Articles of Incorporation of this corporation be and they are amended by amending Article III to read:

'III

The county in the State of California where the principal office for the transaction of business of this corporation is located is Orange County.'"

NOW, THEREFORE, the undersigned, as sole shareholder of Interstate Electronics Corporation, by the execution of this instrument, adopts, approves and consents to the amendment of Article III of the Articles of Incorporation of Interstate Electronics Corporation to read as set forth in the foregoing directors' resolution.

EXECUTED as of April 28, 1971.

A-T-O INC., an Ohio corporation,

By /s/

President

By /s/

Secretary

CERTIFICATE OF OWNERSHIP

MERGING

CONRAC SCD, INC.

INTO

INTERSTATE ELECTRONICS CORPORATION

We, Lawrence A. LaCotti, the President, and Cheri A. Costello, the Assistant Secretary, of Interstate Electronics Corporation, do hereby certify:

1. That they are the President and Assistant Secretary of this Corporation.

2. That this corporation is duly organized and existing under the laws of the State of California.

3. That this corporation owns 100 percent of the outstanding shares of Conrac SCD, Inc., a corporation duly organized and existing under the laws of the State of Delaware, the provisions of which permit a merger in the same manner provided by Section 1110 of the California Corporations Code.

4. That the following resolution was duly adopted and approved by the board of directors of this corporation:

RESOLVED that Interstate Electronics Corporation merge, and does hereby merge into itself Conrac SCD, Inc., its subsidiary, and assumes all of its obligations pursuant to Section 1110 of the California Corporations Code.

Each of the undersigned declares under penalty of perjury that the statements contained in the foregoing certificate are true of their own knowledge. Executed at Willoughby, Ohio, on March 18, 1992.

/s/ Lawrence A. LaCotti

Lawrence A. LaCotti

/s/ Cheri A. Costello

Cheri A. Costello

AMENDED AND RESTATED
BY-LAWS
OF
INTERSTATE ELECTRONICS CORPORATION

ARTICLE I
SHAREHOLDERS

Section 1. PLACE OF MEETING. All meetings of shareholders shall be held at the principal office of the corporation. The Board of Directors shall have the authority to designate a different place within or without the State of California at which any meeting of shareholders shall be held.

Section 2. ANNUAL MEETING. The annual meeting of shareholders shall be held without notice on the third Monday of September in each year, at the hour of 10:00 a.m. If that day should be a legal holiday in any year, the regular annual meeting of shareholders in such year shall be held at the same hour on the next business day.

Section 3. NOTICE OF MEETINGS. Notice of special meetings of shareholders, or of any annual meeting requiring notice, shall be given in the manner and form required by law not less than one day before the meeting.

ARTICLE II
DIRECTORS

Section 1. NUMBER AND POWERS. All powers of this corporation shall be exercised by or under authority of, and the business and affairs of this corporation shall be controlled by a Board of five Directors.

Section 2. VACANCY. The Board of Directors may declare vacant the office of any Director who fails to accept the office within five days after he shall have been notified of his election, or who fails to attend the next meeting of the Board of Directors after his election.

Section 3. ANNUAL MEETING. The annual meeting of the Board of Directors shall be held, without notice, immediately following the adjournment of the annual meeting of shareholders.

Section 4. NOTICE OF SPECIAL MEETINGS. Notice of special meetings of the Board of Directors shall be mailed, telegraphed or personally delivered to each Director by the Secretary or by any person authorized by him or by the President, at least one day before the date of the special meeting.

Section 5. EXECUTIVE AND OTHER COMMITTEES. The Board of Directors may appoint an Executive Committee composed of two or more Directors and may delegate to the Executive Committee any of the powers and duties of the Board of Directors which shall not be inconsistent with these by-laws or with applicable laws. In compliance with

applicable laws, the Board of Directors may appoint other committees and may delegate to such other committees such special or general powers and duties as shall not be inconsistent with these by-laws or with applicable laws. The Executive Committee and any other committee appointed by the Board of Directors shall choose a Chairman from its own members and may adopt rules and regulations which shall not be inconsistent with these by-laws or with applicable.

Section 6. FEES AND COMPENSATION. The Board of Directors by a resolution or resolutions may (a) fix, and from time to time change, a fee as compensation to each Director for attendance at regular and special meetings of the Board or of any committee composed of Directors, or (b) fix, and from time to time change, a lump sum as compensation for attendance at regular and special meetings of the Board or of any committee composed of Directors, which lump sum fee shall be divided among the Directors in attendance at the meeting, and (c) authorize the reimbursement to each Director of expenses incurred in attending such meetings. The provisions of this section shall not be construed to preclude any Director from serving the corporation and receiving compensation in any other capacity.

Section 7. INDEMNIFICATION OF DIRECTORS AND OFFICERS. Each Director and officer, whether or not then in office, shall be indemnified by the corporation against all damages, liabilities, costs and expenses reasonably incurred or imposed in connection with or arising out of any action, suit or proceeding threatened or filed in which he may be involved or be made a party by reason of being or having been a Director or officer of the corporation, which expenses shall include the amount contributed by each Director and officer to a voluntary settlement reasonably made for the purpose of minimizing costs of litigation. The provisions of this section shall not be construed to authorize the corporation to indemnify any former or existing Director or officer against any damage, liability, cost and expense incurred in any action, suit or proceeding in which he shall be finally adjudged to have been derelict in the performance of his duty as a Director or officer or in any action in which the officer or Director shall appear or participate directly or indirectly as a party plaintiff against the corporation or against other Directors and officers, or in any matter, whether or not carried to litigation, in which the Director or officer had been guilty of misfeasance, bad faith, inexcusable negligence or inexcusable disregard of his duties. The right of indemnification authorized by this section shall not be exclusive of other rights to which any existing or former Director or officer may be entitled as a matter of law.

Section 8. CONSENT ACTION. Any action required or permitted to be taken by the Board of Directors may be taken without a meeting, provided all members of the Board shall individually or collectively consent in writing to such action, which written consent or consents shall be inserted in the current Book of Minutes of the corporation.

ARTICLE III

OFFICERS

Section 1. OFFICERS. The executive officers of the corporation shall be a President, a Vice President, a Secretary and a Treasurer. The executive officers also shall include a Chairman of the Board, a Vice Chairman of the Board, an Executive Vice President, a General

Manager and any number of Assistant Vice Presidents, Assistant Secretaries and Assistant Treasurers.

Section 2. ELECTION OF PRESIDENT. The Board of Directors annually shall elect a President who shall be a Director and who shall hold office for one year and until his successor is elected and has qualified, subject to removal by the Board of Directors at any time, with or without cause.

Section 3. ELECTION OF VICE PRESIDENT, SECRETARY AND TREASURER. The Board of Directors annually shall elect a Vice President, a Secretary and a Treasurer, who shall hold office for one year and until their successors are elected and have qualified, subject to removal by the Board of Directors at any time, with or without cause.

Section 4. ELECTION OF CHAIRMAN OF THE BOARD, VICE CHAIRMAN OF THE BOARD, EXECUTIVE VICE PRESIDENT AND GENERAL MANAGER. The Board of Directors at any time may elect a Chairman of the Board, a Vice Chairman of the Board, an Executive Vice President and a General Manager, who shall hold office until the next annual meeting of the Board of Directors and until their successors are elected and have qualified, subject to removal by the Board of Directors at any time, with or without cause.

Section 5. ELECTION OF ASSISTANT VICE PRESIDENTS, ASSISTANT SECRETARIES AND ASSISTANT TREASURERS. The Board of Directors at any time may elect one or more Assistant Vice Presidents, one or more Assistant Secretaries and one or more Assistant Treasurers, who shall hold office until the next annual meeting of the Board of Directors and until their successors are elected and have qualified, subject to removal by the Board of Directors at any time, with or without cause.

Section 6. APPOINTMENT OF OTHER OFFICERS. The Board of Directors may appoint and remove such other officers and such agents and employees of the corporation as may be deemed expedient and fix their duties and tenure of office.

Section 7. COMPENSATION OF OFFICERS. The compensation of the President, the Vice President, the Secretary, the Treasurer, the Chairman of the Board, the Vice Chairman of the Board, the Executive Vice President, the General Manager and any Assistant Vice Presidents, Assistant Secretaries or Assistant Treasurers shall be fixed, and may be changed from time to time, by the Board of Directors. The compensation of other officers, agents and employees of the corporation may be fixed and from time to time changed by the Board of Directors.

Section 8. PRESIDENT. The President shall be the chief executive officer of the corporation. He shall preside at all meetings of the shareholders and of the Board of Directors, unless there be a Chairman of the Board present. He shall have general charge of the business of the corporation, subject to the control of the Board of Directors. Unless otherwise ordered by the Board of Directors, he shall sign all deeds, contracts, stock certificates and other documents requiring execution by the corporation. The President also shall have such other powers and shall perform such other duties as may be assigned to him by the Board of Directors.

Section 9. VICE PRESIDENT. The Vice President, unless restricted by the Board of Directors, shall be vested with all of the powers and shall perform all of the duties of the President in case of the absence or disability of the President. The Vice President also shall have such other powers and shall perform such other duties as may be assigned to him by the Board of Directors.

Section 10. SECRETARY. The Secretary shall perform all of the duties incident to the office of Secretary, subject to the control of the Board of Directors. He shall keep or cause to be kept the minutes of all meetings of shareholders and of the Board of Directors, and shall have charge of the minute books, the journal and ledger of share certificates and such other books and papers as the Board of Directors may direct. Unless otherwise ordered by the Board of Directors, he shall sign with the President all deeds, contracts, stock certificates and other documents requiring execution by the corporation. The Secretary also shall have such other powers and shall perform such other duties as may be assigned to him by the Board of Directors.

Section 11. TREASURER. The Treasurer shall keep, or cause to be kept, full and accurate accounts of receipts and disbursements in books to be kept for that purpose. He shall submit to the President and to the Board of Directors, whenever required, accounts of all of his transactions as Treasurer, and of the financial condition of the corporation. The Treasurer also shall have such other powers and shall perform such other duties as may be assigned to him by the Board of Directors.

Section 12. CHAIRMAN OF THE BOARD. The Chairman of the Board, if one be elected by the Board of Directors, shall preside at all meetings of the Board of Directors and of the shareholders and shall have such other powers and shall perform such other duties as may be assigned to him by the Board of Directors.

Section 13. VICE CHAIRMAN OF THE BOARD. The Vice Chairman of the Board, if one be elected by the Board of Directors, shall be vested with all the powers and shall perform all of the duties of the Chairman of the Board in case of the absence or disability of the Chairman. The Vice Chairman of the Board also shall have such other power and such other duties as may be assigned to him by the Board of Directors.

Section 14. EXECUTIVE VICE PRESIDENT. The Executive Vice President, if one be elected by the Board of Directors, shall be the ranking executive officer next to the President and shall be vested with all of the powers and shall perform all of the duties of the President in preference to the Vice President in case of the absence or disability of the President. The Executive Vice President also shall have such other powers and shall perform such other duties as may be assigned to him by the Board of Directors.

adopted or ratified by the Board of Directors and approved by a majority of a quorum of the shareholders.

AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION
OF
KDI PRECISION PRODUCTS, INC.

1. The present name of the corporation is KDI PRECISION PRODUCTS, INC. The corporation was originally incorporated under the name KDI PRECISION MANUFACTURING CORPORATION pursuant to the original Certificate of Incorporation filed on November 28, 1967.

2. The address of the corporation's registered office in Delaware in 1209 Orange Street, City of Wilmington, County of New Castle. The Corporation Trust Company is the corporation's registered agent at that address.

3. The purpose of the corporation is to engage in any lawful act or activity for which corporations may be organized under the Delaware General Corporation Law.

4. The corporation shall have authority to issue 12,000 shares of common stock, with $.01 par value per share. Each share shall be entitled to one vote per share.

5. The Board of Directors shall have the power to make, alter or repeal the by-laws of the corporation.

6. The shareholders of the corporation shall have preemptive rights to subscribe for and to purchase any shares of the corporation of any series or class, whether now or hereafter authorized.

7. To the full extent permitted by Section 145 of the Delaware General Corporation Law, as the same may be amended from time to time, the corporation shall indemnify all persons whom it may indemnify pursuant thereto.

8. On December 29, 1995, this Amended And Restated Certificate of Incorporation was duly adopted by written consent of the stockholders in accordance with the applicable

provisions of Sections 228, 242 and 245 of the General Corporation Law of the State of Delaware and written notice of the adoption of this Amended And Restated Certificate of Incorporation has been given as provided by Section 228 of the General Corporation Law of the State of Delaware to every stockholder entitled to such notice.

The undersigned, does make this Amended And Restated Certificate, hereby declaring and certifying that this is the corporation's act and deed and the facts herein stated are true, and accordingly have hereunto set my hand this 29th day of December, 1995.

/s/ Salvatore J. Mira

Salvatore J. Mira, President

STATE OF DELAWARE
CERTIFICATE OF AMENDMENT TO
AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION

KDI Precision Products, Inc. (the "Corporation"), a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware.

DOES HEREBY CERTIFY:

FIRST: That pursuant to a unanimous consent action without a meeting, the Board of Directors of the Company adopted certain resolutions setting forth a proposed amendment to the Certificate of Incorporation of the Corporation, declaring said amendment to be advisable and calling a meeting of the stockholders of the Corporation for consideration thereof. The resolution setting forth the proposed amendment is as follows:

RESOLVED, that the Certificate of Incorporation of this Corporation be amended by deleting Article 4 thereof and inserting in lieu thereof the following:

> "4. The corporation shall have authority to issue 25,000 shares of common stock, with $.01 par value per share. Each share shall be entitled to one vote per share."

SECOND: That thereafter, pursuant to resolution of its Board of Directors and Section 228 of the General Corporation Law of the State of Delaware, the holders of the necessary number of shares as required by statute to authorize the amendment consented in writing to the approval and adoption of the amendment.

THIRD: That said amendment was duly adopted in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware.

FOURTH: That the capital of the Corporation shall not be reduced under or by reason of said amendment.

IN WITNESS WHEREOF, said KDI Precision Products, Inc. has caused this certificate to be signed by James C. Gitzinger, an Authorized Officer, this 18th day of November, 1997.

BY: /s/ James C. Gitzinger

TITLE OF OFFICER: President

STATEMENT OF ORGANIZATION

OF

KDI PRECISION PRODUCTS, INC.

1. The attached By-Laws are adopted as the Corporation's By-Laws.

2. The following persons are elected directors of the Corporation:

Walter G. Cox

Cecil B. Akers

Patrick J. Lyons

Charles F. Hartsock

Erwin A. Kaestner

Henry Carlish

Dated: November 29, 1967 at 2:00 p.m.

/s/ Farrell O'Brien

Farrell O'Brien

BY-LAWS

of

KDI PRECISION PRODUCTS, INC.

ARTICLE I

Offices

The principal office of the Corporation in Delaware shall be in the City of Wilmington, County of Newcastle.

ARTICLE II

Seal

The corporate seal shall have inscribed thereon the name of the Corporation, the year of its organization, and the words "Corporate Seal, Delaware."

ARTICLE III

Meetings of Stockholders

Section 1. Annual Meetings. An annual meeting of stockholders for the election of Directors shall be held at such place within or without Delaware as the Board of Directors may designate in accordance with these By-Laws, in each year on the second Monday of December, if not a legal holiday, or, if a legal holiday, then on the next succeeding business day not a legal holiday.

Section 2. Special Meetings. A special meeting of stockholders may be held for any purpose at such place as shall be stated in the notice of meeting. Such meetings may be called by the President and shall be called by the President or by the Secretary at the request in writing of a majority of the Board of Directors, or at the request in writing of stockholders owning 20% of the outstanding capital stock, and shall be held at such time as may be fixed by

the President or by the Board of Directors or by the stockholders in such written request. Such written request shall state the purpose or purposes of the proposed meeting and business transacted thereat shall be confined to those purposes.

Section 3. Time and Place of Meetings. Each meeting of stockholders shall be held at such place, and with respect to special meetings on such date, as the Board of Directors shall determine.

Section 4. Notice of Meetings. The notice of each meeting of stockholders shall be in writing and signed by the Chairman of the Board, the President, a Vice-President, the Secretary or an Assistant Secretary. Such notice shall state the purpose or purposes for which the meeting is called and the time and place it is to be held.

Section 5. Inspectors of Election. At each meeting of stockholders at which an election of Directors is to be held, the chairman of the meeting shall, if requested by any stockholder, appoint two persons to act as inspectors of election. The inspectors so appointed shall take and subscribe an oath or affirmation faithfully to execute the duties of inspectors at such meeting with strict impartiality and according to the best of their ability, and thereupon the inspectors shall take charge of the polls, canvass the votes and make a certificate of the results of the vote taken. No Director or candidate for the office of Director shall be appointed an inspector.

Section 6. Quorum. At all meetings of stockholders, the presence, in person or by proxy, of the holders of record of a majority of the capital stock issued and outstanding and entitled to vote thereat, shall constitute a quorum for the transaction of business. In the absence of a quorum, the holders of record of a majority of the capital stock present in person or by proxy, and entitled to vote thereat, or if no such stockholder is present, any officer entitled to

preside at, or act as secretary of, such meeting may adjourn the meeting until the requisite amount of voting stock shall be present.

Section 7. Voting. Upon the demand of any stockholder the vote upon any question before the meeting shall be by ballot. Except as otherwise provided by law, all elections shall be had and all questions decided by a plurality of the votes cast.

ARTICLE IV
Board of Directors

Section 1. Number. The number of Directors which shall constitute the whole board shall be as from time to time shall be fixed by the Board of Directors.

Section 2. Regular Meetings. A regular meeting of the Board of Directors shall be held without other notice than this By-Law immediately after, and at the same place as, the annual meeting of stockholders.

Section 3. Special Meetings. Special meetings of the Board of Directors may be called at any time by the President and shall be called by the President or the Secretary on the written request of two Directors, and shall be held at such time and place as may be fixed by the President or by such Directors in such request. Notice of the time and place of each special meeting of the Board of Directors shall be sent to each Director by mail, telegram, cablegram or radiogram; addressed to him at his address as it appears on the records of the Corporation, or telephoned or delivered to him personally at least two days before the day on which the meeting is to be held. Such notice need not state the purposes of the meeting.

Section 4. Quorum and Vote. At all meetings of the Board of Directors the presence in person of a majority of the Directors shall be requisite for and shall constitute a quorum for the transaction of business. In the absence of a quorum, a majority of the Directors

present, or if no Director is present, any officer entitled to preside at, or act as secretary of, such meeting may adjourn the meeting from time to time until a quorum shall be present.

Section 5. Removal. Any Director may at any time be removed, either with or without cause, by the affirmative vote of the holders of record of a majority of the capital stock issued and outstanding and entitled to vote, given at a special meeting of stockholders, duly called and held for that purpose. Any vacancy in the Board of Directors thereby created may be filled in the same manner by the stockholders at said meeting; provided, however, that if the stockholders do not fill such vacancy at such meeting, a majority of the Directors then in office, though less than a quorum, may fill such vacancy.

Section 6. Compensation. The Directors, by resolution of the Board of Directors, may receive a fixed sum and expenses for attendance at any meeting of the Board of Directors. Nothing herein shall be construed to preclude any Director from serving the Corporation and receiving compensation in any other capacity.

ARTICLE V
Standing Committees

Section 1. Executive Committee. The Board of Directors may designate an Executive Committee. The Executive Committee shall not have power to make, alter or repeal these By-Laws, to fill vacancies in the Board of Directors, or to dissolve, remove members or change the number of, or (except as provided in Section 3 of this Article V) fill vacancies in, the Executive Committee.

Section 2. Committees. The chairman of any committee may call a meeting thereof at any time on notice to members of the committee and he, or the Secretary, shall call such meeting when requested by any member of the committee.

Section 3. Vacancies. In the absence or disqualification of any member of any committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not he or they constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member.

ARTICLE VI

Officers, Subordinates and Agents

Section 1. Number. The officers of the Corporation shall be a President, a Chairman of the Board, one or more Vice-Presidents, a Secretary and a Treasurer, and such other officers as may be appointed by resolution of the Board of Directors. The Board of Directors may designate one or more of the Vice-Presidents as Executive, Senior, Financial, or Administrative Vice-President, or by such title as it may deem fit and appropriate.

Section 2. Election, Term of Office and Qualifications. Each officer specifically designated in Section 1 of this Article VI shall be elected by the Board of Directors at its first meeting after each annual meeting of stockholders and shall hold office until the first meeting of the Board of Directors following the next annual meeting of stockholders and until his successor shall be elected and shall qualify, or until his death, disqualification, resignation or removal. The President and the Chairman of the Board must be Directors, and, if either of such officers shall cease to be a Director, he shall forthwith cease to be such officer.

Section 3. Resignation, Removal and Vacancy. Any officer may resign at any time, unless otherwise provided in any contract with the Corporation, by giving written notice to the President or the Secretary. Any officer elected or appointed by the Board of Directors may be removed at any time, with or without cause, by the affirmative vote of the Directors then in

office, but such removal shall be without prejudice to the contract rights, if any, of the persons so removed.

Section 4. Powers and Duties of Officers. (a) President. The President shall be the chief executive officer of the Corporation subject to the control of the Board of Directors and the Executive Committee. He shall have active executive management of the operations of the Corporation.

(b) Chairman of the Board. The Chairman of the Board of Directors shall be ex officio a member and chairman of all standing committees, and in general shall perform all duties incident to the office of Chairman. All meetings of stockholders and of the Board of Directors shall be presided over by the Chairman of the Board or the President, if one of them is present.

(c) Vice-Presidents. The Vice-Presidents shall have such powers and perform such duties as may from time to time be assigned to them by the Board of Directors, the President or the Chairman of the Board. At the request of the President, or, in his absence or his disability, the Vice-Presidents in their order of seniority shall perform all of the duties of the President.

(d) Secretary. The Secretary shall attend all meetings of the Board of Directors and stockholders and record all votes and proceedings, and shall perform like duties for any committee of the Board when required. He shall (except as provided in these By-Laws) give or cause to be given notice of all meetings of the stockholders and of the Board of Directors. He shall keep in safe custody the seal of the Corporation and when authorized by the Board of Directors or any committee affix the same to any instrument requiring it and when so affixed it shall be attested by the signature of the Secretary or such other officer or agent as may be

designated by the Board of Directors. He shall keep or cause to be kept a stock book containing the names alphabetically arranged of all persons who are stockholders of the Corporation, showing their places of residence, the number of shares of stock held by them, respectively, the time when they, respectively, became the owners thereof and the amount paid therefor,

(e) Treasurer. The Treasurer shall have the custody of all the corporate funds and securities and shall keep full and accurate accounts of receipts and disbursements in books belonging to the Corporation and shall deposit all moneys and other valuable effects in the same and to the credit of the Corporation in such depositaries as may be designated by the Board of Directors. He shall disburse the funds of the Corporation only as may be ordered by the Board, taking proper vouchers for such disbursements and shall render to the President and Directors, at the regular meetings of the Board, or whenever they may require it, an account of all his transactions as Treasurer and of the financial condition of the Corporation,

Section 5. Additional Powers. The Board of Directors may from time to time impose or confer upon any officer such additional duties and powers as the Board may see fit, and the Board of Directors may from time to time impose or confer any or all of the duties and powers hereinabove specifically prescribed for any officer upon any other officer or officers.

ARTICLE VII
Capital Stock

Section 1. Certificates of Stock. Each stock certificate shall be sealed with the seal of the Corporation. There shall be entered on the stock books of the Corporation the number of each certificate issued, the number of shares represented thereby, the name of the person to whom such certificate was issued and the date of issuance thereof.

Section 2. Transfer of Stock. Transfers of shares of the stock of the Corporation shall be made only on the books of the Corporation by the holder of record thereof, or by his attorney thereunto duly authorized by a power of attorney executed in writing and filed with the Secretary, upon the surrender of the certificate or certificates for such shares properly endorsed, with such evidence of the authenticity of such transfer, authorization and other matters as the Corporation or its agents may reasonably require, and accompanied by all necessary federal and state stock transfer tax stamps.

Section 3. Regulations, Transfer Agents and Registrars. The Board of Directors may make such rules and regulations as it may deem expedient concerning the issuance and transfer of certificates for shares of the stock of the Corporation and may appoint transfer agents or registrars, or both, and may require all certificates of stock to bear the signature of either or both. Nothing herein shall be construed to prohibit the Corporation from acting as its own transfer agent at any of its offices.

Section 4. Record Ownership. The Corporation shall be entitled to recognize the exclusive right of a person registered as such on the books of the Corporation as the owner of shares of the Corporation's stock to receive dividends, and to vote as such owner, and shall not be bound to recognize any equitable or other claim to or interest in such shares on the part of any other person, whether or not the Corporation shall have express or other notice thereof, except as otherwise provided by law.

ARTICLE VIII
Fiscal Year

The fiscal year of the Corporation shall end September 30 of each year, unless and until otherwise determined by resolution duly adopted by the Board of Directors.

CERTIFICATE OF INCORPORATION

OF

L-3 Communications Ancot Corporation

1. The name of the Corporation is L-3 Communications Ancot Corporation.

2. The address of its registered office in the State of Delaware is Corporation Trust Center, 1209 Orange Street, in the city of Wilmington, County of New Castle. The name of the registered agent at such address is The Corporation Trust Company.

3. The nature of the business or purposed to be conducted or promoted is:

To engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of Delaware,

4. The total number of common shares of stock, which the corporation shall have authority to issue, is 1500, without par value.

5. The name and mailing address of the incorporator is as follows:

Name	Mailing Address
Magdalena Charlotten	c/o CT Corporation System 111 Eighth Avenue New York, NY 10011

6. The name and mailing address of each person who is to serve as a director until the first annual meeting of the stockholders or until a successor is elected and qualified, is as follows:

Christopher C. Cambria, c/o L-3 Communications Corporation, 600 3rd Ave., New York, New York 10016

THE UNDERSIGNED, being the incorporator hereinbefore named, for the purpose of forming a corporation pursuant to the General Corporation Law of the State of Delaware, do make this Certificate, hereby declaring and certifying that this is our act and deed and the facts herein stated are true, and accordingly have hereunto set our hands this 14th day of July 2000.

/s/ Magdalena Charlotten

Magdalena Charlotten, Incorporator

CERTIFICATE OF AMENDMENT

OF THE

CERTIFICATE OF INCORPORATION

OF

L-3 COMMUNICATIONS ANCOT CORPORATION

*****

Pursuant to Section 242 of the General Corporation Law
of the State of Delaware

*****

L-3 Communications Ancot Corporation, a corporation duly organized and existing under and by virtue of the General Corporation Law of the State of Delaware (the "Corporation"), DOES HEREBY CERTIFY:

First: That Article First of the Certificate of Incorporation of the Corporation be, and hereby is, amended and restated to read as follows:

> "FIRST: The name of the Corporation is L-3 Communications AIS GP Corporation."

Second: That such amendment and restatement was consented to and adopted by the sole stockholder of the Corporation acting without a meeting by written consent pursuant to Section 228 of the General Corporation Law of the State of Delaware.

Third: That such amendment and restatement was duly adopted in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware.

IN WITNESS WHEREOF, the Corporation has caused this Certificate to be signed by Christopher C. Cambria, its Vice President, on this 22nd day of February, 2002.

L-3 COMMUNICATIONS ANCOT CORPORATION

By: /s/ Christopher C. Cambria

Name: Christopher C. Cambria
Title: Vice President

BYLAWS

OF

L-3 COMMUNICATIONS ANCOT CORPORATION

(Effective Date: January 1, 2002)

ARTICLE I

OFFICES

Section 1. Registered Office. The registered office of L-3 Communications Ancot Corporation (hereinafter, the "Corporation") shall be in the City of Wilmington, State of Delaware.

Section 2. Other Offices. The Corporation also may have offices at such other places both within and outside the State of Delaware as the Board of Directors may from time to time determine.

ARTICLE II

MEETING OF STOCKHOLDERS

Section 1. Place of Meetings. Meetings of the stockholders for the election of directors or for any other purpose shall be held at such time and place, either within or outside the State of Delaware, as shall be designated from time to time by the Board of Directors and stated in the notice of the meeting or in a duly executed waiver of notice thereof.

Section 2. Annual Meetings. The Annual Meeting of Stockholders shall be held on such date and at such time as shall be designated from time to time by the Board of Directors and stated in the notice of the meeting, at which meeting the stockholders shall elect a Board of Directors by a plurality vote, and transact such other business as may properly be brought before the meeting.

Section 3. Special Meetings. Special Meetings of Stockholders, for any purpose or purposes, may be called by the President, Secretary, Treasurer or Vice President, and shall be called by any such officer at the request in writing of a majority of the Board of Directors. Such request shall state the purpose or purposes of the proposed meeting.

Section 4. Notice of Meetings. Written notice of an Annual Meeting or Special Meeting stating the place, date, and hour of the meeting and in the case of a Special Meeting, the purpose or purposes for which the meeting is called, shall be given not less than ten nor more than sixty days before the date of the meeting to each stockholder entitled to vote at such meeting.

Section 5. Quorum. Except as otherwise provided by law or by the Certificate of Incorporation, the holders of a majority of the capital stock issued and outstanding and entitled to vote thereat, present in person or represented by proxy, shall constitute a quorum at all meetings of the stockholders for the transaction of business. If, however, such quorum shall not be present or represented at any meeting of the stockholders, the stockholders entitled to vote thereat, present in person or represented by proxy, shall have power to adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum shall be present or represented.

Section 6. Voting. Any questions brought before any meeting of stockholders shall be decided by a majority vote of the number of shares entitled to vote, present in person or represented by proxy. Such votes may be cast in person or by proxy, but no proxy shall be voted on or after three years from its date, unless such proxy provides for a longer period.

Section 7. Action by Consent. Any action required to be taken at any annual or special meeting of stockholders, or any action which may be taken at any annual or special meeting of such stockholders, may be taken without a meeting, without prior notice and without a vote, if a consent in writing shall be signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted. Prompt notice of the taking of the corporate action without a meeting by less than unanimous written consent shall be given to those stockholders who have not consented in writing.

ARTICLE III

DIRECTORS

Section 1. Number and Election of Directors. The first Board of Directors shall consist of one director. Thereafter the number of directors shall be determined by the Board of Directors or by the stockholders. Except as provided in Section 2 of this Article, directors shall be elected by a plurality of the votes cast at Annual Meetings of Stockholders, and each director so elected shall hold office until the next Annual Meeting and until his successor is duly elected and qualified, or until his earlier resignation or removal.

Section 2. Vacancies. Vacancies and newly created directorships resulting from any increase in the authorized number of directors may be filled by a majority vote of all directors, or by a sole remaining director, and the directors so chosen shall hold office until the next annual election and until their successors are duly elected and qualified, or until their earlier resignation or removal.

Section 3. Committees. The Board of Directors may designate one or more committees, which committees shall, to the extent provided in the resolution of the Board of Directors establishing such a committee, have all authority and may exercise all the powers of the Board of Directors in the management of the business and affairs of the Corporation to the extent lawful under the General Corporation Law of the State of Delaware.

Section 4. Duties and Powers. The business of the Corporation shall be managed by or under the direction of the Board of Directors which may exercise all such powers of the Corporation and do all such lawful acts and things as are not by statute or by the Certificate of Incorporation or by these Bylaws directed or required to be exercised or done by the stockholders.

Section 5. Meetings. The Board of Directors of the Corporation may hold meetings, both regular and special, either within or outside the State of Delaware. Regular meetings of the Board of Directors may be held without notice at such time and at such place as may from time to time be determined by the Board of Directors. Special meetings of the Board of Directors may be called by the president or any one director with one day's notice to each director, either personally or by mail, telephone or facsimile transmission.

Section 6. Quorum; Board Action. Except as may be otherwise specifically provided by law, the Certificate of Incorporation or these Bylaws, at all meetings of the Board of Directors, a majority of the entire Board of Directors shall constitute a quorum for the transaction of business, and the act of a majority of the entire Board of Directors shall be the act of the Board of Directors. If a quorum shall not be present at any meeting of the Board of Directors, the directors present thereat may adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum shall be present.

Section 7. Actions of Board. Unless otherwise provided by the Certificate of Incorporation or these Bylaws, any action required or permitted to be taken at any meeting of the Board of Directors or of any committee thereof may be taken without a meeting, if all the members of the Board of Directors or committee, as the case may be, consent thereto in writing, and the writing or writings are filed with the minutes of proceedings of the Board of Directors or committee.

Section 8. Compensation. The Corporation shall reimburse the reasonable expenses incurred by members of the Board of Directors in connection with attendance at meetings of the Board of Directors and of any committee on which such member serves; provided, that the foregoing shall not preclude any director from serving the Corporation in any other capacity and receiving compensation therefor.

Section 9. Removal. Unless otherwise restricted by the Certificate of Incorporation or these Bylaws, any director or the entire Board of Directors may be removed, with or without cause, by the holders of a majority of shares entitled to vote at an election of directors.

ARTICLE IV

OFFICERS

The officers of the Corporation shall consist of a President, a Secretary, a Treasurer, a Vice President and such other additional officers with such titles as the Board of Directors shall determine, all of whom shall be chosen by and shall serve at the pleasure of the Board of Directors. Such officers shall have the usual powers and shall perform all the usual duties incident to their respective offices. All officers shall be subject to the supervision and direction

of the Board of Directors. The authority, duties or responsibilities of any officer of the Corporation may be suspended by the President with or without cause. Any officer elected or appointed by the Board of Directors may be removed by the Board of Directors with or without cause.

ARTICLE V

NOTICES

Section 1. Notices. Whenever written notice is required by law, the Certificate of Incorporation or these Bylaws, to be given to any director, member of a committee or stockholder, such notice may be given by mail, addressed to such director, member of a committee or stockholder, at his address as it appears on the records of the Corporation, with postage thereon prepaid, and such notice shall be deemed to be given at the time when the same shall be deposited in the United States mail. Written notice may also be given personally or by telegram, telex or cable.

Section 2. Waivers of Notice. Whenever any notice is required by law, the Certificate of Incorporation or these Bylaws, to be given to any director, member of a committee or stockholder, a waiver thereof in writing, signed by the person entitled to notice, whether before or after the time stated therein, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened.

ARTICLE VI

GENERAL PROVISIONS

Section 1. Dividends. Dividends upon the capital stock of the Corporation, subject to the provisions of the Certificate of Incorporation, may be declared by the Board of Directors at any regular or special meeting, and may be paid in cash, in property, or in shares of the capital stock. Before payment of any dividend, there may be set aside out of any funds of the Corporation available for dividends such sum or sums as the Board of Directors from time to time, in its absolute discretion, deems proper as a reserve or reserves to meet contingencies, or for equalizing dividends, or for repairing or maintaining any property of the Corporation, or for any proper purpose, and the Board of Directors may modify or abolish any such reserve.

Section 2. Fiscal Year. The fiscal year of the Corporation shall be fixed by resolution of the Board of Directors.

Section 3. Corporate Seal. The corporate seal shall have inscribed thereon the name of the Corporation, the year of its organization and the words "Corporate Seal, Delaware". The seal may be used by causing it or a facsimile thereof to be impressed or affixed or reproduced or otherwise.

ARTICLE VII

INDEMNIFICATION

To the fullest extent permitted by the Delaware General Corporation Law, the Corporation shall indemnify any current or former Director or officer of the Corporation and may, at the discretion of the Board of Directors, indemnify any current or former employee or agent of the Corporation against all expenses, judgments, fines and amounts, paid in settlement actually and reasonably incurred by him in connection with any threatened, pending or completed action, suit or proceeding brought by or in the right of the Corporation or otherwise, to which he was or is a party by reason of his current or former position with the Corporation or by reason of the fact that he is or was serving, at the request of the Corporation, as a director, officer, partner, trustee, employee or agent of another corporation, partnership, joint venture, trust or other enterprise. Expenses incurred by a person who is or was a Director or officer of the Corporation in appearing at, participating in or defending any such action, suit or proceeding shall be paid by the Corporation at reasonable intervals in advance of the final disposition of such action, suit or proceeding upon receipt of an undertaking by or on behalf of the Director or officer to repay such amount if it shall ultimately be determined that he is not entitled to be indemnified by the Corporation as authorized by this Article. If a claim undo this Article VII is not paid in full by the Corporation within ninety days after a written claim has been received by the Corporation, the claimant may at any time thereafter bring suit against the Corporation to recover the unpaid amount of the claim and, if successful in whole or in part, the claimant shall be paid also the expense of prosecuting such claim. It shall be a defense to any such action (other than an action brought to enforce a claim for expenses incurred in defending any proceeding in advance of its final disposition where the required undertaking, if any is required, has been tendered to the Corporation) that the claimant has not met the standards of conduct which make it permissible under the Delaware General Corporation Law or other applicable law for the Corporation to indemnify the claimant for the amount claimed, but the burden of proving such defense shall be on the Corporation. Neither the failure of the Corporation (including its Board of Directors, independent legal counsel or its stockholders) to have made a determination prior to the commencement of such action that indemnification of the claimant is proper in the circumstances because he has met the applicable standard of conduct set forth in the Delaware General Corporation Law or other applicable law, nor an actual determination by the Corporation (including its Board of Directors, independent legal counsel, or its stockholders) that the claimant has not met the applicable standard of conduct, shall be a defense to the action or create a presumption that the claimant has not met the applicable standard of conduct.

ARTICLE VIII

AMENDMENTS

Section 1. Amending and Repealing. These Bylaws may be altered, amended or repealed, in whole or in part, or new Bylaws may be adopted by the majority vote of the entire Board of Directors.

Section 2. Entire Board of Directors. As used in this Article VIII and in these Bylaws generally, the term "entire Board of Directors" means the total number of the directors which the Corporation would have if there were no vacancies.

AMENDED AND RESTATED

ARTICLES OF INCORPORATION

OF

DECISION-SCIENCE APPLICATIONS, INC.

I

The name of the Corporation is:

DECISION-SCIENCE APPLICATIONS, INC.

II

The purpose of the Corporation is to engage in any lawful act or activity for which a corporation may be organized under the General Corporation Law of California, other than the banking business, the trust company business or the practice of a profession permitted to be incorporated by the California Corporations Code.

III

This Corporation is authorized to issue only one class of shares of stock which shall be designated as common stock; the total number of shares which the Corporation is authorized to issue is 1,000,000.

IV

The liability of the directors of the Corporation for monetary damages shall be eliminated to the fullest extent permissible under California law.

V

The Corporation is authorized to provide indemnification of agents (as defined in Section 317 of the California Corporations Code) through bylaw provisions, agreements with agents, vote of shareholders or disinterested directors or otherwise, in excess of the indemnification otherwise permitted by Section 317 of the California Corporations Code, subject only to the applicable limits set forth in Section 204 of the California Corporation Code with respect to actions for breach of duty to the Corporation and its shareholders.

DECISION-SCIENCE APPLICATIONS, INC.

CERTIFICATE OF APPROVAL
OF
AGREEMENT OF MERGER

Guy A. Ackerson and Theresa McGrath certify that:

1. They are the President and the Secretary, respectively, of Decision-Science Applications, Inc., a Virginia corporation.

2. The Agreement of Merger in the form attached was duly approved by the Board of Directors and shareholders of the corporation.

3. The shareholder approval was by the holders of 100% of the outstanding shares of the corporation.

4. There is only one class of shares and the number of shares outstanding is 107.589.

We further declare under penalty of perjury under the laws of the State of California that the matters set forth in this Certificate are true and correct of our own knowledge.

Date: August 19, 1998

/s/ Guy A. Ackerson

Guy A. Ackerson, President

/s/ Theresa McGrath

Theresa McGrath, Secretary

DSA ACQUISITION, INC.

CERTIFICATE OF APPROVAL
OF
AGREEMENT OF MERGER

Kenneth W. Colbaugh and Ronald A. Hunn certify that:

1. They are the President and the Secretary, respectively, of DSA Acquisition, Inc., a California corporation.

2. The Agreement of Merger in the form attached was duly approved by the Board of Directors and shareholders of the corporation.

3. The shareholder approval was by the holders of 100% of the outstanding shares of the corporation.

4. There is only one class of shares and the number of shares outstanding is 100.

5. No approval of the shareholders of SM&A Corporation, the parent of DSA Acquisition, Inc., was required in connection with the approval of the Agreement of Merger.

We further declare under penalty of perjury under the laws of the State of California that the matters set forth in this Certificate are true and correct of our own knowledge.

Date: August 18, 1998

/s/ Kenneth W. Colbaugh

Kenneth W. Colbaugh, President

/s/ Ronald A. Hunn

Ronald A. Hunn, Secretary

CERTIFICATE OF AMENDMENT
OF ARTICLES OF INCORPORATION
OF
DECISION-SCIENCE APPLICATIONS, INC.
a California corporation

Calvin Gegner and Steven Mast certify that:

1. They are the duly elected and acting President and Secretary, respectively, of said Corporation.

2. The Articles of Incorporation of said Corporation shall be amended to amend and restate Article I to read in its entirety as follows:

I

THE NAME OF THE CORPORATION SHALL BE:

SM&A CORPORATION (EAST)

3. The foregoing amendment has been approved by the Board of Directors of said Corporation.

4. The foregoing amendment was approved by the required vote of the shareholders of said Corporation in accordance with Section 902 of the California General Corporation Law; the total number of outstanding shares of each class entitled to vote with respect to the foregoing amendments was 100 common shares; and the number of shares of each class voting in favor of the foregoing amendment equaled or exceeded the vote required, such required vote being a majority of the outstanding shares of common stock.

IN WITNESS WHEREOF, the undersigned have executed this Certificate on November 17, 1998.

/s/ Calvin Gegner

Calvin Gegner, President

/s/ Steven Mast

Steven Mast, Secretary

VERIFICATION

The undersigned, Calvin Gegner and Steven Mast, the President and Secretary, respectively, of Decision-Science Applications, Inc., declare under penalty of perjury that the matters set out in the foregoing certificate are true of their own knowledge.

Executed at Arlington, Virginia, on November 17, 1998.

/s/ Calvin Gegner

Calvin Gegner

/s/ Steven Mast

Steven Mast

November 13, 1998

Secretary of State
State of California
P.O. Box 944230
Sacramento, CA 94244-0230

Re: Authorization to Use Name

Ladies and Gentlemen:

The undersigned, SM&A Corporation, does hereby authorize its wholly-owned subsidiary, Decision-Science Applications, Inc., to change its name to "SM&A Corporation (East)" and to make use of the name, "SM&A Corporation" as part of its new name.

The undersigned has executed this instrument duly authorized.

SM&A Corporation

/s/ Kenneth W. Colbaugh

Kenneth W. Colbaugh
Chief Operating Officer and
Executive Vice President

AGREEMENT OF MERGER
OF
SPACE APPLICATIONS CORPORATION
AND
SM&A CORPORATION (EAST)

This Agreement of Merger is dated November 24, 1998, by and among SPACE APPLICATIONS CORPORATION, a California corporation ("SAC") and SM&A CORPORATION (EAST), a California corporation ("SMAE").

R E C I T A L S

WHEREAS, SAC is a California corporation and has 100 shares of its common stock outstanding as of the date hereof, all of which are owned by SM&A Corporation, a California corporation ("SM&A");

WHEREAS, SMAE is a California corporation and has 100 shares of its common stock outstanding as of the date hereof, all of which are owned by SM&A;

NOW, THEREFORE, for good and valuable consideration, the parties hereto agree as follows:

1. SAC shall be merged with and into SMAE, and SMAE shall be the surviving corporation.

2. Upon such merger, all outstanding shares of common stock of SAC shall be cancelled and no shares of SMAE shall be issued in exchange therefor. SMAE shares shall remain outstanding.

3. Upon such merger, the separate existence of SAC shall cease and SMAE shall succeed, without other transfer, to all the rights and property of SAC and shall be subject to all the debts and liabilities thereof in the same manner as if SMAE had itself incurred them. All rights of creditors and all liens upon the property of each corporation shall be preserved unimpaired, provided that such liens upon property of SAC shall be limited to the property affected thereby immediately prior to the time the merger is effective.

4. After the merger becomes effective, SAC, through the persons who were its officers immediately prior to the merger, shall execute or cause to be executed such further assignments, assurances or other documents as may be necessary or desirable to confirm title to properties, assets and rights in SMAE.

5. The effective date of the merger is the date upon which a copy of this Agreement of Merger is filed with the Secretary of State of California.

IN WITNESS WHEREOF, the parties have executed this Agreement of Merger on the date first set forth above.

SPACE APPLICATIONS CORPORATION,
a California corporation

By: /s/ Thomas Amrhein

Thomas Amrhein, President

By: /s/ Steven Mast

Steven Mast, Secretary

SM&A CORPORATION (EAST),
a California corporation

By: /s/ Calvin Gegner

Calvin Gegner, President

By: /s/ Steven Mast

Steven Mast, Secretary

SPACE APPLICATIONS CORPORATION

CERTIFICATE OF APPROVAL
OF
AGREEMENT OF MERGER

Thomas Amrhein and Steven Mast certify that:

1. They are the President and the Secretary, respectively, of Space Applications Corporation, a California corporation.

2. The Agreement of Merger in the form attached was duly approved by the Board of Directors and shareholders of the corporation.

3. The shareholder approval was by the holders of 100% of the outstanding shares of the corporation.

4. There is only one class of shares and the number of shares outstanding is 100.

We further declare under penalty of perjury under the laws of the State of California that the matters set forth in this Certificate are true and correct of our own knowledge.

Date: November 24, 1998

/s/ Thomas Amrhein

Thomas Amrhein, President

/s/ Steven Mast

Steven Mast, Secretary

SM&A CORPORATION (EAST)

CERTIFICATE OF APPROVAL
OF
AGREEMENT OF MERGER

Calvin Gegner and Steven Mast certify that:

1. They are the President and the Secretary, respectively, of SM&A Corporation (East), a California corporation.

2. The Agreement of Merger in the form attached was duly approved by the Board of Directors and shareholders of the corporation.

3. The shareholder approval was by the holders of 100% of the outstanding shares of the corporation.

4. There is only one class of shares and the number of shares outstanding is 100.

We further declare under penalty of perjury under the laws of the State of California that the matters set forth in this Certificate are true and correct of our own knowledge.

Date: November 24, 1998

/s/ Calvin Gegner

Calvin Gegner, President

/s/ Steven Mast

Steven Mast, Secretary

CERTIFICATE OF OWNERSHIP

Calvin Gegner and Steven Mast certify that:

1. They are the President and Secretary, respectively, of SM&A Corporation (East), a California corporation.

2. This corporation owns all the outstanding shares of DSA Systems, Inc., a Virginia corporation.

3. The Board of Directors of this corporation duly adopted the following resolution:

> RESOLVED, that this corporation merge DSA Systems, Inc., its wholly owned subsidiary corporation, into itself and assume all of its obligations pursuant to Section 1110, California Corporations Code.

We further declare under penalty of perjury under the laws of the State of California that the matters set forth in this certificate are true and correct of our own knowledge.

Date: March 12, 1998

/s/ Calvin Gegner

Calvin Gegner, President

/s/ Steven Mast

Steven Mast, Secretary

CERTIFICATE OF AMENDMENT
OF
ARTICLES OF INCORPORATION
OF
SM&A CORPORATION (EAST)

Michael A. Piraino hereby certifies that:

1. He is the President and Secretary of SM&A CORPORATION (EAST), a California corporation (the "Corporation").

2. Article I of the Articles of Incorporation of the Corporation is amended to read in full as follows:

I

THE NAME OF THIS CORPORATION SHALL BE:

EMERGENT INFORMATION TECHNOLOGIES - EAST

3. The foregoing amendment of the Articles of Incorporation of the Corporation has been duly approved by the Board of Directors of the Corporation.

4. The foregoing amendment of the Articles of Incorporation of the Corporation has been duly approved by the required vote of shareholders entitled to vote on such matter, pursuant to and in accordance with Section 902 of the General Corporation Law of the State of California. The total number of outstanding shares of the Corporation is 100 shares of Common Stock. The number of shares entitled to vote on the foregoing matter is 100 shares of Common Stock. The number of outstanding shares voting in favor of the foregoing amendment was 100 (100%), which equaled or exceeded the vote required. The percentage vote required to approve the foregoing amendment of the Articles of Incorporation of the Corporation was a majority of the outstanding shares of Common Stock.

I further declare under penalty of perjury under the laws of the State of California that the matters set forth in this Certificate of Amendment are true and correct of my own knowledge.

Date: April 26, 2000

/s/ Michael A. Piraino

Michael A. Piraino, President

/s/ Michael A. Piraino

Michael A. Piraino, Secretary

Dated: April 26, 2000

Secretary of State
Corporations Division
1500 11th Street
Sacramento, CA 95814

Ladies and Gentlemen:

Presented herewith for filing are the following documents:

(1) Certificate of Amendment of Articles of Incorporation of SM&A Corporation (East), changing the corporation's name to Emergent Information Technologies - East; and

(2) Certificate of Amendment of Address of Incorporation of Systems Integration Software, Inc., changing the corporation's name to Emergency Information Technologies - Central.

The undersigned affirms that both SM&A Corporation (East) and Systems Integration Software, Inc. are affiliates of, and are under common ownership and control with the undersigned corporation, and the undersigned corporation hereby consents to use of the corporate names "Emergent Information Technologies - East" and "Emergent Information Technologies - Central" for the business operations of SM&A Corporation (East) and Systems Integration Software, Inc., respectively.

Very truly yours,

EMERGENT INFORMATION TECHNOLOGIES, INC.

By: /s/ Michael A. Piraino

Michael A. Piraino, President

CERTIFICATE OF OWNERSHIP

Michael A. Piraino hereby certifies that:

1. He is the President and Secretary of EMERGENT INFORMATION TECHNOLOGIES - EAST, a California corporation ("EMERGENT EAST").

2. This Corporation owns all of the outstanding shares of SYSTEM SIMULATION SOLUTIONS, INC., a Virginia corporation ("S3I").

3. The board of directors of this Corporation duly adopted the following resolution:

> RESOLVED, that EMERGENT - EAST, which is a business corporation of the State of California and is the owner of all of the outstanding shares of S3I, which is a business corporation of the Commonwealth of Virginia, hereby merges S3I into EMERGENT - EAST pursuant to the provisions of the Virginia Stock Corporation Act and pursuant to the provisions of Section 1110 of the California Corporations Code, and EMERGENT - EAST hereby assumes all of the obligations of S31 pursuant to Section 1110 of the California Corporations Code.

I further declare under penalty of perjury under the laws of the State of California that the matters set forth in this certificate are true and correct of my own knowledge.

May 4, 2000

/s/ Michael A. Piraino

Michael A. Piraino, President and Secretary

CERTIFICATE OF AMENDMENT
OF
ARTICLES OF INCORPORATION
OF
EMERGENT INFORMATION TECHNOLOGIES - EAST

(Pursuant to Section 905 of the California General Corporation Law)

- ---

Christopher C. Cambria hereby certifies that:

1. He is the Vice President and Secretary of Emergent Information Technologies - East, a California corporation (the "Corporation").

2. Article I of the Articles of Incorporation of the Corporation is hereby amended to read in full as follows:

" I

The name of this corporation shall be:

L-3 Communications Analytics Corporation"

3. The foregoing amendment of the Articles of Incorporation of the Corporation has been duly approved by the Board of Directors of the Corporation.

4. The foregoing amendment of the Articles of Incorporation of the Corporation has been duly approved by the required vote of shareholders entitled to vote on such matter, pursuant to and in accordance with Section 902 of the California General Corporation Law. The total number of shares entitled to vote on the foregoing matter is 100 shares of Common Stock. The number of outstanding shares voting in favor of the foregoing amendment was 100 (100%), which equaled or exceeded the vote required. The percentage vote required to approve the foregoing amendment of the Articles of Incorporation of the Corporation was a majority of the outstanding shares of Common Stock.

I further declare under penalty of perjury under the laws of the State of California that the matters set forth in this Certificate of Amendment are true and correct of my own knowledge.

February 26, 2002 /s/ Christopher C. Cambria

Christopher C. Cambria, Vice President and Secretary

BYLAWS

OF

SM&A CORPORATION (EAST)

(formerly, DSA ACQUISITION, INC.)
a California corporation

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BYLAWS

Bylaws for the regulation, except as
otherwise provided by statute or its Articles of Incorporation
of
SM&A CORPORATION (EAST)
(formerly, DSA ACQUISITION, INC.)
a California corporation

ARTICLE I

OFFICES

Section 1. Principal Executive Office. The principal executive office of the Corporation shall be located at 4695 MacArthur Court, Eighth Floor, Newport Beach, California 92660. The Board of Directors (herein called the "Board") is granted full power and authority to change said principal executive office from one location to another.

Section 2. Other Offices. Branch or subordinate offices may be established at any time by the Board at any place or places.

ARTICLE II.

SHAREHOLDERS

Section 1. Place of Meetings. Meetings of shareholders shall be held either at the principal executive office of the Corporation or at any other place within or without the State of California which may be designated either by the Board or by the written consent of all persons entitled to vote thereat, given either before or after the meeting and filed with the Secretary.

Section 2. Annual Meetings. The annual meetings of the shareholders shall be held on such date and at such time as may be fixed by the Board. At such meetings, Directors shall be elected and any other proper business may be transacted.

Section 3. Special Meetings. Special meetings of the shareholders may be called at any time by the Board, the Chairman of the Board, the President, or by the holders of shares entitled to cast not less than ten percent (10%) of the votes at such meeting. Upon request in writing to the Chairman of the Board, the President, any Vice President or the Secretary by any person (other than the Board) entitled to call a special meeting of shareholders, the officer forthwith shall cause notice to be given to the shareholders entitled to vote that a meeting will be held at a time requested by the person or persons calling the meeting, not less than thirty-five nor more than sixty days after the receipt of the request. If the notice is not given within twenty days after receipt of the request, the persons entitled to call the meeting may give the notice.

Section 4. Notice of Annual or Special Meeting. Written notice of each annual or special meeting of shareholders shall be given not less than ten nor more than sixty days before

the date of the meeting to each shareholder entitled to vote thereat. Such notice shall state the place, date and hour of the meeting and (i) in the case of a special meeting, the general nature of the business to be transacted, and no other business may be transacted, or (ii) in the case of the annual meeting, those matters which the Board, at the time of the mailing of the notice, intends to present for action by the shareholders, but, subject to the provisions of applicable law, any proper matter may be presented at the meeting for such action. The notice of any meeting at which directors are to be elected shall include the names of nominees intended at the time of the notice to be presented by management for election.

Notice of a shareholders' meeting shall be given either personally or by mail or by other means of written communication, addressed to the shareholder at the address of such shareholder appearing on the books of the Corporation or given by the shareholder to the Corporation for the purpose of notice; or, if no such address appears or is given, at the place where the principal executive office of the Corporation is located or by publication at least once in a newspaper of general circulation in the county in which the principal executive office is located. Notice by mail shall be deemed to have been given at the time a written notice is deposited in the United States mails, postage prepaid. Any other written notice shall be deemed to have been given at the time it is personally delivered to the recipient or is delivered to a common carrier for transmission, or actually transmitted by the person given the notice by electronic means, to the recipient.

Section 5. Quorum, A majority of the shares entitled to vote, represented in person or by proxy, shall constitute a quorum at a meeting of shareholders. The shareholders present at a duly called or held meeting at which a quorum is present may continue to do business until adjournment, notwithstanding the withdrawal of enough shareholders to have less than a quorum, if any action taken (other than adjournment) is approved by at least a majority of the shares required to constitute a quorum.

Section 6. Adjourned Meeting and Notice Thereof. Any shareholders' meeting, whether or not a quorum is present, may be adjourned from time to time by the vote of a majority of the shares, the holders of which are either present in person or represented by proxy thereat, but in the absence of a quorum (except as provided in Section 5 of this Article) no other business may be transacted at such meeting.

It shall not be necessary to give any notice of the time and place of the adjourned meeting or of the business to be transacted thereat, other than by announcement at the meeting at which such adjournment is taken; provided, however, when any shareholders' meeting is adjourned for more than 45 days or, if after adjournment a new record date is fixed for the adjourned meeting, notice of the adjourned meeting shall be given as in the case of an original meeting.

Section 7. Voting. The shareholders entitled to notice of any meeting or to vote at any such meeting shall be only persons in whose name shares stand on the stock records of the Corporation on the record date determined in accordance with Section 8 of this Article.

Voting shall in all cases be subject to the provisions of Chapter 7 of the California General Corporation Law, and to the following provisions:

(a) Subject to clause (g), shares held by an administrator, executor, guardian, conservator or custodian may be voted by such holder either in person or by proxy, without a transfer of such shares into the holder's name; and shares standing in the name of a trustee may be voted by the trustee, either in person or by proxy, but no trustee shall be entitled to vote shares held by such trustee without a transfer of such shares into the trustee's name.

(b) Shares standing in the name of a receiver may be voted by such receiver; and shares held by or under the control of a receiver may be voted by such receiver without the transfer thereof into the receiver's name if authority to do so is contained in the order of the court by which such receiver was appointed.

(c) Subject to the provisions of Section 705 of the California General Corporation Law and except where otherwise agreed in writing between the parties, a shareholder whose shares are pledged shall be entitled to vote such shares until the shares have been transferred into the name of the pledgee, and thereafter the pledgee shall be entitled to vote the shares so transferred.

(d) Shares standing in the name of a minor may be voted and the Corporation may treat all rights incident thereto as exercisable by the minor, in person or by proxy, whether or not the Corporation has notice, actual or constructive, of the nonage, unless a guardian of the minor's property has been appointed and written notice of such appointment given to the Corporation.

(e) Shares standing in the name of another corporation, domestic or foreign, may be voted by such officer, agent or proxyholder as the bylaws of such other corporation may prescribe or, in the absence of such provision, as the Board of Directors of such other corporation may determine or, in the absence of such determination, by the chairman of the board, president or any vice president of such other corporation. Shares which are purported to be voted or any proxy purported to be executed in the name of a corporation (whether or not any title of the person signing is indicated) shall be presumed to be voted or the proxy executed in accordance with the provisions of this subdivision, unless the contrary is shown.

(f) Shares of the Corporation owned by any subsidiary shall not be entitled to vote on any matter.

(g) Shares held by the Corporation in a fiduciary capacity, and shares of the issuing corporation held in a fiduciary capacity by any subsidiary, shall not be entitled to vote on any matter, except to the extent that the settlor or beneficial owner possesses and exercises a right to vote or to give the Corporation binding instructions as to how to vote such shares.

(h) If shares stand of record in the names of two or more persons, whether fiduciaries, members of a partnership, joint tenants, tenants in common, husband and wife as community property, tenants by the entirety, voting trustees, persons entitled to vote under a shareholder voting agreement or otherwise, or if two or more persons (including

proxyholders) have the same fiduciary relationship respecting the same shares, unless the secretary of the Corporation is given written notice to the contrary and is furnished with a copy of the instrument or order appointing them or creating the relationship wherein it is so provided, their acts with respect to voting shall have the following effect:

(i) If only one votes, such act binds all;

(ii) If more than one vote, the act of the majority so voting binds all;

(iii) If more than one vote, but the vote is evenly split on any particular matter, each faction may vote the securities in question proportionately.

If the instrument so filed or the registration of the shares shows that any such tenancy is held in unequal interests, a majority or even split for the purpose of this section shall be a majority or even split in interest.

Subject to the following sentence and to the provisions of Section 708 of the California General Corporation Law, every shareholder entitled to vote at any election of directors may cumulate such shareholder's votes and give one candidate a number of votes equal to the number of directors to be elected multiplied by the number of votes to which the shareholder's shares are normally entitled, or distribute the shareholder's votes on the same principle among as many candidates as the shareholder thinks fit. No shareholder shall be entitled to cumulate votes for any candidate or candidates pursuant to the preceding sentence unless such candidate or candidates' names have been placed in nomination prior to the voting and the shareholder has given notice at a meeting prior to the voting of the shareholder's intention to cumulate the shareholder's votes. If any one shareholder has given such notice, all shareholders may cumulate their votes for candidates in nomination.

Elections need not be by ballot; provided, however, that all elections for directors must be by ballot upon demand made by a shareholder at the. meeting and before the voting begins.

In any election of directors, the candidates receiving the highest number of votes of the shares entitled to be voted for them up to the number of directors to be elected by such shares are elected.

Section 8. Record Date. The Board may fix, in advance, a record date for the determination of the shareholders entitled to notice of any meeting to vote or entitled to receive payment of any dividend or other distribution, or any allotment of rights, or to exercise rights in respect of any other lawful action. The record date so fixed shall be not more than 60 days nor less than 10 days prior to the date of the meeting nor more than 60 days prior to any other action. When a record date is so fixed, only shareholders of record on that date are entitled to notice of and to vote at the meeting or to receive the dividend, distribution, or allotment of rights, or to the exercise of the rights, as the case may be, notwithstanding any transfer of shares on the books of the Corporation after the record date. A determination of shareholders of record entitled to notice of or to vote at a meeting of shareholders shall apply to any adjournment of the meeting unless the Board fixes a new record date for the adjourned meeting. The Board shall fix a new record date if the meeting is adjourned for more than 45 days.

If no record date is fixed by the Board, the record date for determining shareholders entitled to notice of or to vote at a meeting of shareholders shall be at the close of business on the business day next preceding the day on which notice is given or, if notice is waived, at the close of business on the next business day next preceding the day on which the meeting is held. The record date for determining shareholders for any purpose other than set forth in this Section 8 or Section 10 of this Article shall be at the close of business on the day on which the Board adopts the resolution relating thereto, or the sixtieth day prior to the date of such other action, whichever is later.

Section 9. Consent of Absentees. The transactions of any meeting of shareholders, however called and noticed, and wherever held, are as valid as though had at a meeting duly held after regular call and notice, if a quorum is present either in person or by proxy, and if, either before or after the meeting, each of the persons entitled to vote, not present in person or by proxy, signs a written waiver of notice, or a consent to the holding of the meeting or an approval of the minutes thereof. All such waivers, consents or approvals shall be filed with the corporate records or made a part of the minutes of the meeting. Neither the business to be transacted at nor the purpose of any regular or special meeting of shareholders need be specified in any written waiver of notice, except as provided in Section 601(f) of the California General Corporation Law.

Section 10. Action Without Meeting. Subject to Section 603 of the California General Corporation Law, any action which, under any provision or the California General Corporation Law, may be taken at any annual or special meeting of shareholders, may be taken without a meeting and without prior notice if a consent in writing, setting forth the action so taken, shall be signed by the holders of outstanding shares having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted. Unless a record date for voting purposes be fixed as provided in Section 8 of this Article, the record date for determining shareholders entitled to give consent shall be the day on which the first written consent is given.

Section 11. Proxies. Every person entitled to vote shares has the right to do so either in person or by one or more persons authorized by a written proxy executed by such shareholder and filed with the Secretary. Every proxy duly executed shall continue in full force and effect until revoked by the person executing it prior to the vote pursuant thereto effected by a writing delivered to the Corporation stating that the proxy is revoked or by a subsequent proxy executed by the person executing the prior proxy and presented to the meeting, or by attendance at the meeting and voting in person by the person executing the proxy; provided, however, that no proxy shall be valid after the expiration of eleven months from the date of its execution unless otherwise provided in the proxy.

Section 12. Inspectors of Election. In advance of any meeting of shareholders, the Board may appoint any persons, other than nominees for office inspectors of election to act at such meeting and any adjournment thereof. If inspectors of election are not so appointed, or if any persons so appointed fail to appear or refuse to act, the chairman of any such meeting may, and on the request of any shareholder or shareholder's proxy shall, make such appointment at the meeting. The number of inspectors shall be either one or three. If appointed at a meeting on the

request of one or more shareholders or proxies, the majority of shares present shall determine whether one or three inspectors are to be appointed.

The duties of such inspectors shall be as prescribed by Section 707(b) of the California General Corporation Law and shall include: determining the number of shares outstanding and the voting power of each; the shares represented at the meeting; the existence of a quorum; the authenticity, validity and effect of proxies; receiving votes, ballots or consents; hearing and determining all challenges and questions in any way arising in connection with the right to vote; counting and tabulating all votes or consents; determining (when the polls shall close; determining the result; and doing such acts as may be proper to conduct the election or vote with fairness to all shareholders. If there are three inspectors of election, the decision, act or certificate of a majority is effective in all respects as the decision, act or certificate of all.

ARTICLE III

DIRECTORS

Section 1. Powers. Subject to limitations of the Articles of Incorporation, of these Bylaws and of the California General Corporation Law relating to action required to be approved by the shareholders or by the outstanding shares, the business and affairs of the Corporation shall be managed and all corporate powers shall be exercised by or under the direction of the Board. The Board may delegate the management of the day-to-day operation of the business of the Corporation to a management company or other person provided that the business and affairs of the Corporation shall be managed and all corporate powers shall be exercised under the ultimate direction of the Board. Without prejudice to such general powers, but subject to the same limitations, it is hereby expressly declared that the Board shall have the following powers in addition to the other powers enumerated in these Bylaws:

(a) To select and remove all the other officers, agents and employees of the Corporation, prescribe the powers and duties for them as may not be inconsistent with applicable law, with the Articles of the Corporation or these Bylaws, fix their compensation and require from them security for faithful service.

(b) To conduct, manage and control the affairs and business of the Corporation and to make such rules and regulations therefor not inconsistent with applicable law, or with the Articles of the Corporation or these Bylaws, as they may deem best.

(c) To adopt, make and use a corporate seal, and to prescribe the forms of certificates of stock, and to alter the form of such seal and of such certificates from time to time as in their judgment they may deem best.

(d) To authorize the issuance of shares of stock of the Corporation from time to time, upon such terms and for such consideration as may be lawful.

(e) To borrow money and incur indebtedness for the purposes of the Corporation, and to cause to be executed and delivered therefor, in the corporate name,

promissory notes, bonds, debentures, deeds of trust, mortgages, pledges, hypothecation or other evidences of debt and securities thereof.

Section 2. Number of Directors. The authorized number of directors shall be three (3), until changed by amendment of the Articles or by a Bylaw duly adopted by the shareholders.

Section 3. Election and Term of Office. The directors shall be elected at each annual meeting of the shareholders, but if any such annual meeting is not held or the directors are not elected thereat, the directors may be elected at any special meeting of shareholders held for that purpose. Each director shall hold office until the next annual meeting and until a successor has been elected and qualified.

Section 4. Vacancies. Any director may resign effective upon giving written notice to the Chairman of the Board, the President, Secretary or the Board, unless the notice specifies a later time for the effectiveness of such resignation. if the resignation is effective at a future time, a successor may be elected to take office when the resignation becomes effective.

Vacancies in the Board, except those existing as a result of a removal of a director, may be filled by a majority of the remaining directors, though less than a quorum, or by a sole remaining director, and each director so elected shall hold office until the next annual meeting and until such director's successor has been elected and qualified.

A vacancy or vacancies in the Board shall be deemed to exist in the case of the death, resignation or removal of any director, or if the authorized number of directors be increased, or if the shareholders fail, at any annual or special meeting of shareholders at which any director or directors are elected, to elect the full authorized number of directors to be voted for at that meeting.

The Board may declare vacant the office of a director who has been declared of unsound mind by an order of court or convicted of a felony.

The shareholders may elect a director or directors at any time to fill any vacancy or vacancies not filled by the directors. Any such election by written consent other than to fill a vacancy created by removal requires the consent of a majority of the outstanding shares entitled to vote. If the Board accepts the resignation of a director tendered to take effect at a future time, the Board or the shareholders shall have power to elect a successor to take office when the resignation is to become effective.

No reduction of the authorized number of directors shall have the effect of removing any director prior to the expiration of the director's term of office.

Section 5. Place of Meeting. Regular or special meetings of the Board shall be held at any place within or without the State of California which has been designated from time to time by the Board. In the absence of such designation, regular meetings shall be held at the principal executive office of the corporation.

Section 6. Regular Meetings. Immediately following each annual meeting of shareholders, the Board shall hold a regular meeting for the purpose of organization, election of

officers and the transaction of other business. Call and notice of all such regular meetings of the Board of Directors is hereby dispensed with. Other regular meetings of the Board shall be held without call on such dates and at such times as may be fixed by the Board, and shall be subject to the notice requirements set forth in Section 7 hereof.

Section 7. Special Meetings. Special meetings of the Board for any purpose or purposes may be called at any time by the Chairman of the Board, the President or the Secretary or by any two directors.

Special meetings of the Board shall be held upon four days' written notice or 48 hours' notice given personally or by telephone, telegraph, telecopier, telex or other similar means of communication. Any such notice shall be addressed or delivered to each director at such director's address as it is shown upon the records of the Corporation or as may have been given to the Corporation by the director for purposes of notice or, if such address is not shown on such records or is not readily ascertainable, at the place in which the meetings of the directors are regularly held.

Notice by mail shall be deemed to have been given at the time a written notice is deposited in the United States mails, postage prepaid. Any other written notice shall be deemed to have been given at the time it is personally delivered to the recipient or is delivered to a common carrier for transmission, or actually transmitted by the person giving the notice by electronic means, to the recipient. Oral notice shall be deemed to have been given at the time it is communicated in person or by telephone or wireless, to the recipient or to a person at the office or residence of the recipient who the person giving the notice has reason to believe will promptly communicate it to the recipient.

Section 8. Quorum. One third of the authorized number of directors or two directors, whichever is larger, constitutes a quorum of the Board for the transaction of business, except to adjourn as hereinafter provided. Every act or decision done or made by a majority of the directors present at a meeting duly held at which a quorum is present shall be regarded as the act of the Board, unless a greater number be required by law or by the Articles. A meeting at which a quorum is initially present may continue to transact business notwithstanding the withdrawal of directors, if any action taken is approved by at least a majority of the required quorum for such meeting.

Section 9. Participation in Meetings by Conference Telephone. Members of the Board may participate in a meeting through use of conference telephone or similar communications equipment, so long as all members participating in such meeting can hear one another.

Section 10. Waiver of Notice. The transactions of any meeting of the Board, however called and noticed or wherever held, are as valid as though had at a meeting duly held after regular call and notice if a quorum be present and if, either before or after the meeting, each of the directors not present signs a written waiver of notice, a consent to holding such a meeting or an approval of the minutes thereof. All such waivers, consents or approvals shall be filed with the corporate records or made a part of the minutes of the meeting.

Section 11. Adjournment. A majority of the directors present; whether or not a quorum is present, may adjourn any directors' meeting to another time and place. Notice of the time and place of holding an adjourned meeting need not be given to absent directors if the time and place be fixed at the meeting adjourned. If the meeting is adjourned for more than 24 hours, notice of any adjournment to another time or place shall be given prior to the time of the adjourned meeting to the directors who were not present at the time of the adjournment.

Section 12. Fees and Compensation. Directors and members of committees may receive such compensation, if any, for their services, and such reimbursement for expenses, as may be fixed or determined by the Board.

Section 13. Action Without Meeting. Any action required or permitted to be taken by the Board may be taken without a meeting if all members of the Board shall individually or collectively consent in writing to such action. Such consent or consents shall have the same effect as a unanimous vote of the Board and shall be filed with minutes of the proceedings of the Board.

Section 14. Rights and Inspection. Every director shall have the absolute right at any reasonable time to inspect and copy all books, records and documents of every kind and to inspect the physical properties of the Corporation and also of its subsidiary corporations, domestic or foreign. Such inspection by a director may be made in person or by agent or attorney and includes the right to copy and obtain extracts.

Section 15. Committees. The Board may appoint one or more committees, each consisting of two or more directors, and delegate to such committees any of the authority of the Board except with respect to:

(i) The approval of any action for which the California General Corporation Law also requires shareholders' approval of the outstanding shares.

(ii) The filling of vacancies on the Board or in any committee;

(iii) The fixing of compensation of the directors for serving on the Board or on any committee;

(iv) The amendment or repeal of Bylaws or the adoption of new Bylaws;

(v) The amendment or repeal of any resolution of the Board which by its express terms is not so amendable or repealable;

(vi) A distribution to the shareholders of the Corporation except at a rate or in a periodic amount or within a price range determined by the Board; or

(vii) The appointment of other committees of the Board or the members thereof.

Any such committee must be appointed by resolution adopted by a majority of the authorized number of directors and may be designated an Executive Committee or by such other name as the Board shall specify. The Board shall have the power to prescribe the manner in which proceedings of any such committee shall be conducted. In the absence of any such prescription, such committee shall have the power to prescribe the manner in which its proceedings shall be conducted. Unless the Board or such committee shall otherwise provide, the regular and special meetings and other actions of any such committee shall be governed by the provisions of this Article applicable to meetings and actions of the Board. Minutes shall be kept of each meeting of each committee.

ARTICLE IV

OFFICERS

Section 1. Officers. The officers of the Corporation shall be a President, a Secretary and a Chief Financial Officer. The Corporation may also have, at the discretion of the Board, a Chairman of the Board, one or more Vice Presidents, one or more Assistant Secretaries, one or more Assistant Financial Officers and such other officers as may be elected or appointed in accordance with the provisions of Section 3 of this Article.

Section 2. Election. The officers of the Corporation, except such officers as may be elected or appointed in accordance with the provisions of Section 3 or Section 5 of this Article, shall be chosen annually by, and shall serve at the pleasure of the Board, and shall hold their respective offices until their resignation, removal or other disqualification from service, or until their respective successors shall be elected.

Section 3. Subordinate Officers. The Board may elect, and may empower the President to appoint such other officers as the business of the Corporation may require, each of whom shall hold office for such period, have such authority and perform such duties as are provided in these Bylaws or as the Board may from time to time determine.

Section 4. Removal and Resignation. Any officer may be, removed, either with or without cause, by the Board of Directors at any time or, except in the case of an officer chosen by the Board, by any officer upon whom such power of removal may be conferred by the Board. Any such removal shall be without prejudice to the rights, if any, of the officer under any contract of employment.

Any officer may resign at any time by giving written notice to the Corporation, but without prejudice to the rights, if any, of the Corporation under any contract to which the officer is a party. Any such resignation shall take effect at the date of the receipt of such notice or at any later time specified therein and, unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective.

Section 5. Vacancies. A vacancy in any office because of death, resignation, removal, disqualification or any other cause shall be filled in the manner prescribed in these Bylaws for regular election or appointment to such office.

Section 6. Chairman of the Board. The Chairman of the Board, if there shall be such an officer, shall, if present, preside at all meetings of the Board and exercise and perform such other powers and duties as may be from time to time assigned by the Board.

Section 7. President. Subject to such powers, if any, as may be given by the Board to the Chairman of the Board, if there be such an officer, the President is the general manager and chief executive officer of the Corporation and has, subject to the control of the Board, general supervision, direction and control of the business and officers of the Corporation. The President shall preside at all meetings of the shareholders and in the absence of the Chairman of the Board, or if there be none, at all meetings of the Board. The President has the general powers and duties of management usually vested in the office of president and general manager of a corporation and such other powers and duties as may be prescribed by the Board.

Section 8. Vice President. In the absence or disability of the President, the Vice Presidents in order of their rank as fixed by the Board or, if not ranked, the Vice President designated by the Board, shall perform all the duties of the President and, when so acting, shall have all the powers of, and be subject to all the restrictions upon, the President. The Vice Presidents shall have such other powers and perform such other duties as from time to time may be prescribed for them respectively by the Board.

Section 9. Secretary. The Secretary shall keep or cause to be kept, at the principal executive office and such other place as the Board may order, a book of minutes of all meetings of shareholders, the Board and its committees, with the time and place of holding, whether regular or special, and if special, how authorized, the notice thereof given, the names of those present at Board and committee meetings, the number of shares present or represented at shareholders' meetings, and the proceedings thereof. The Secretary shall keep, or cause to be kept, a copy of the Bylaws of the Corporation at the principal executive offices or business office in accordance with Section 213 of the California General Corporation Law.

The Secretary shall keep, or cause to be kept, at the principal executive office or at the office of the Corporation's transfer agent or registrar, if one be appointed, a share register, or a duplicate share register, showing the names of the shareholders and their addresses, the number and classes of shares held by each, the number and date of certificates issued for the same and the number and date of cancellation of every certificate surrendered for cancellation.

The Secretary shall give, or cause to be given, notice of all meetings of the shareholders of the Board and of any committees thereof required by these Bylaws or by law to be given, shall keep the seal of the Corporation in safe custody, and shall have such other powers and perform such other duties as may be prescribed by the Board.

Section 10. Chief Financial Officer. The Chief Financial Officer is the chief financial officer of the Corporation and shall keep and maintain, or cause to be kept and maintained, adequate and correct accounts of the properties and business transactions of the Corporation, and shall send or cause to be sent to the shareholders of the Corporation such financial statements and reports as are by law or these Bylaws required to be sent to them. The books of account shall at all times be open to inspection by any director.

The Chief Financial Officer shall deposit all monies and other valuables in the name and to the credit of the Corporation with such depositories as may be designated by the Board. The Chief Financial Officer shall disburse the funds of the Corporation as may be ordered by the Board, shall render to the President and directors, whenever they request it, an account of all transactions entered into as Chief Financial Officer and of the financial condition of the Corporation, and shall have such other powers and perform such other duties as may be prescribed by the Board.

ARTICLE V

OTHER PROVISIONS

Section 1. Inspection of Corporate Records.

(a) A shareholder or shareholders holding at least five percent (5%) in the aggregate of the outstanding voting shares of the Corporation shall have an absolute right to do either or both of the following:

(i) Inspect and copy the record of shareholders' names and addresses and shareholdings during usual business hours upon five business days' prior written demand upon the Corporation or

(ii) Obtain from the transfer agent, if any, for the Corporation, upon five business days' prior written demand and upon the tender of its usual charges for such a list (the amount of which charges shall be stated to the shareholder by the transfer agent upon request), a list of the shareholders' names and addresses who are entitled to vote for the election of directors and their shareholdings as of the most recent record date for which it has been compiled or as of a date specified by the shareholder subsequent to the date of demand.

(b) The record of shareholders shall also be open to inspection and copying by any shareholder or holder of a voting trust certificate at any time during usual business hours upon written demand on the Corporation, for a purpose reasonably related to such holder's interest as a shareholder or holder of a voting trust certificate.

(c) The accounting books and records and minutes of proceedings of the shareholders and the Board and committees of the Board shall be open to inspection upon written demand on the Corporation of any shareholder or holder of a voting trust certificate at any reasonable time during usual business hours, for a purpose reasonably related to such holder's interests as a shareholder or as a holder of such voting trust certificate.

(d) Any inspection and copying under this Article may be made in person or by agent or attorney.

Section 2. Inspection of Bylaws. The Corporation shall keep in its principal executive office the original or a copy of these Bylaws as amended to date, which shall be open to inspection by shareholders at all reasonable times, during office hours. If the principal executive

office of the Corporation is located outside the State of California and the Corporation has no principal business office in such state, it shall upon the written notice of any shareholder furnish to such shareholder a copy of these Bylaws as amended to date.

Section 3. Endorsement of Documents; Contracts. Subject to the provisions of applicable law, any note, mortgage, evidence of indebtedness, contract, share certificate, conveyance or other instrument in writing and any assignment or endorsements thereof executed or entered into between the Corporation and any other person, when signed by the Chairman of the Board, the President or any Vice President and the Secretary, any Assistant Secretary, the Chief Financial Officer or any Assistant Financial Officer of the Corporation shall be valid and binding on the Corporation in the absence of actual knowledge on the part of the other person that the signing officers had no authority to execute the same. Any such instruments may be signed by another person or persons and in such manner as from time to time shall be determined by the Board, and, unless so authorized by the Board, no officer, agent or employee shall have any power or authority to bind the Corporation by any contract or engagement or to pledge its credit or to render it liable for any purpose or amount.

Section 4. Certificates of Stock. Every holder of shares of the Corporation shall be entitled to have a certificate signed in the name of the Corporation by the Chairman of the Board, the president or a Vice President and by the Chief Financial Officer or an Assistant Financial Officer or the Secretary or an Assistant Secretary, certifying the number of shares and the class or series of shares owned by the shareholder. Any or all of the signatures on the certificate may be facsimile. If any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed upon a certificate shall have ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the Corporation with the same effect as if such person were an officer, transfer agent or registrar at the date of issue.

Certificates for shares may be issued prior to full payment under such restrictions and for such purposes as the Board may provide; provided, however, that on any certificate issued to represent any partly paid shares, the total amount of the consideration to be paid therefor and the amount paid thereon shall be stated.

Except as provided in this Section, no new certificate for shares shall be issued in lieu of an old one unless the latter is surrendered and cancelled at the same time. The Board may, however, if any certificate for shares is alleged to have been lost, stolen or destroyed, authorize the issuance of a new certificate in lieu thereof, and the Corporation may require that the Corporation be given a bond or other adequate security sufficient to indemnify it against any claim that may be made against it (including expense or liability) on account of the alleged loss, theft or destruction of such certificate or the issuance of such new certificate.

Section 5. Representation of Shares of other Corporations. The President or any other officer or officers authorized by the Board or the President are each authorized to vote, represent and exercise on behalf of the Corporation all rights incident to any and all shares of any other corporation or corporations standing in the name of the corporation. The authority herein granted may be exercised either by any such officer in person or by any other person authorized so to do by proxy or power of attorney duly executed by said officer.

Section 6. Stock Purchase Plans. The Corporation may adopt and carry out a stock purchase plan or agreement or stock option plan or agreement providing for the issue and sale for such consideration as may be fixed of its unissued shares, or of issued shares acquired or to be acquired, to one or more of the employees or directors of the Corporation or of a subsidiary or to a trustee on their behalf and for the payment for such shares in installments or at one time, and may provide for aiding any such persons in paying for such shares by compensation for services rendered, promissory notes or otherwise.

Any such stock purchase plan or agreement or stock option plan or agreement may include, among other features, the fixing of eligibility for participation therein, the class and price of shares to be issued or sold under the plan or agreement, the number of shares which may be subscribed for, the method of payment therefor, the reservation of title until full payment therefor, the effect of the termination of employment and option or obligation on the part of the Corporation to repurchase the shares upon termination of employment, restrictions upon transfer of the shares, the time limits of and termination of the plan, and any other matters, not in violation of applicable law, as may be included in the plan as approved or authorized by the Board or any committee of the Board.

Section 7. Annual Report to Shareholders. The annual report to shareholders referred to in Section 1501 of the California General Corporation Law is expressly waived, but nothing herein shall be interpreted as prohibiting the Board from issuing annual or other periodic reports to shareholders.

Section 8. Construction and Definitions. Unless the context otherwise requires, the general provisions, rules of construction and definitions contained in the General Provisions of the California Corporations Code and in the California General Corporation Law shall govern the construction of these Bylaws.

ARTICLE VI

INDEMNIFICATION

Section 1. Definitions. For the purposes of this Article, "agent" means any person who is or was a director, officer, employee or other agent of the Corporation, or is or was serving at the request of the Corporation as a director, officer, employee or agent of another foreign or domestic corporation, partnership, joint venture, trust or other enterprise, or was a director, officer, employee or agent of a foreign or domestic corporation which was a predecessor corporation of the Corporation or of another enterprise at the request of such predecessor corporation. "Proceeding" means any threatened, pending or completed action or proceeding, whether civil, criminal, administrative or investigative and "expenses" includes without limitation attorneys' fees and any expenses of establishing a right to indemnification under Sections 4 or 5(d).

Section 2. Indemnification in Actions by Third Parties. The Corporation shall have power to indemnify any person who was or is a party or is threatened to be made a party to any proceeding (other than an action by or in the right of the Corporation to procure a judgment in its favor) by reason of the fact that such person is or was an agent of the Corporation, against

expenses, judgments, fines, settlements and other amounts actually and reasonably incurred in connection with such proceeding if such person acted in good faith and in a manner such person reasonably believed to be in the best interests of the Corporation and, in the case of a criminal proceeding, had no reasonable cause to believe the conduct of such person was unlawful. The termination of any proceeding by judgment, order, settlement, conviction or upon a plea of nolo contendere or its equivalent shall not, of itself, create a presumption that the person did not act in good faith and in a manner which the person reasonably believed to be in the best interests of the Corporation or that the person had reasonable cause to believe that the person's conduct was unlawful.

Section 3. Indemnification in Actions by or in the Right of the Corporation. The Corporation shall have the power to indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action by or in the right of the Corporation to procure a judgment in its favor by reason of the fact that such person is or was an agent of the Corporation, against expenses actually and reasonably incurred by such person in connection with the defense or settlement of such action, provided that no such person shall be indemnified for acts, omissions or transactions for which California Corporations Code Section 204(a)(10) disallows eliminating or limiting the personal liability of a director. No indemnification shall be made under this Section 3 for any of the following:

(a) In respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the Corporation in the performance of such person's duty to the Corporation and its shareholders, unless and only to the extent that the court in which such proceeding is or was pending shall determine upon application that, in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for expenses and then only to the extent that the court shall determine;

(b) Of amounts paid in settling or otherwise disposing of a pending action without court approval; or

(c) Of expenses incurred in defending a pending action which is settled or otherwise disposed of without court approval.

Section 4. Mandatory Indemnification Against Expenses. To the extent that an agent of the Corporation has been successful on the merits in defense of any proceeding referred to in Sections 2 or 3 or in defense of any claim, issue or matter therein, the agent shall be indemnified against expenses actually and reasonably incurred by the agent in connection therewith.

Section 5. Required Determinations. Except as provided in Section 4, any indemnification under this Article shall be made by the Corporation only if authorized in the specific case, upon a determination that indemnification of the agent is proper in the circumstances because the agent has met the applicable standard of conduct set forth in Sections 2 or 3, by any of the following:

(a) A majority vote of a quorum consisting of directors who are not parties to such proceeding;

(b) If a quorum of directors is not obtainable, by independent legal counsel in a written opinion;

(c) Approval of the shareholders, with the shares owned by the person to be indemnified not being entitled to vote thereon; or

(d) The court in which such proceeding is or was pending upon application made by the Corporation or the agent or the attorney or other person rendering services in connection with the defense, whether or not such application by the agent, attorney or other person is opposed by the corporation.

Section 6. Advance of Expenses. Expenses incurred in defending any proceeding may be advanced by the Corporation prior to the final disposition of such proceeding upon receipt of an undertaking by or on behalf of the agent to repay such amount if it shall be determined ultimately that the agent is not entitled to be indemnified as authorized in this Article.

Section 7. Other Indemnification. The indemnification provided by this section shall not be deemed exclusive of any other rights _____ those seeking indemnification may be entitled under any _____ of shareholders or disinterested directors or _____as to action in an official capacity and as to _____ another capacity while holding such office, to the extent such additional rights to indemnification are authorized in the Articles of this corporation. The rights to indemnity hereunder shall continue as to a person who has ceased to be a director, officer, employee, or agent and shall inure to the benefit of the heirs, executors, and administrators of the person. Nothing contained in this Article shall affect any right to indemnification to which persons other than such directors and officers may be entitled by contract or otherwise.

Section 8. Circumstances Where Indemnification Not Permitted. No indemnification or advance shall be made under this Article, except as provided in Sections 4 or 5(d), in any circumstance where it appears:

(a) That it would be inconsistent with a provision of the Articles, a resolution of the shareholders or an agreement in effect at the time of the accrual of the alleged cause of action asserted in the proceeding in which the expenses were incurred or other amounts were paid, which prohibits or otherwise limits indemnification; or

(b) That it would be inconsistent with any condition expressly imposed by a court in approving a settlement.

Section 9. Insurance. The Corporation shall have power to purchase and maintain insurance on behalf of any agent of the corporation against any liability asserted against or incurred by the agent in such capacity or arising out of the agent's status as such whether or not the Corporation would have the power to indemnify the agent against such liability under the provisions of this Article.

Section 10. Nonapplicability to Fiduciaries of Employee Benefit Plans. This Article does not apply to a proceeding against any trustee, investment manager or other fiduciary of an employee benefit plan in such person's capacity as such, even though such person may also be

an agent as defined in Section 1 of the employer Corporation. The Corporation shall have power to indemnify such a trustee, investment manager or other fiduciary to the extent permitted by subdivision (f) of Section 207 of the California General Corporation Law.

ARTICLE VII

AMENDMENTS

These Bylaws may be amended or repealed either by approval of the outstanding shares or by the approval of the Board; provided, however, that after the issuance of shares, a Bylaw specifying or changing a fixed number of directors or the maximum or minimum number or changing from a fixed to a variable Board or vice versa may only be adopted by approval of the outstanding shares.

New Jersey Department of State
Division of Commercial Recording
Certificate of Amendment to the
Certificate of Incorporation

Pursuant to the provisions of Section 14A:9-2(4) and Section 14A:9-4(3), Corporations, General, of the New Jersey Statutes, the undersigned corporation (the "Corporation") executes the following Certificate of Amendment to its Certificate of Incorporation:

1. The name of the Corporation is Atlantic Science and Technology Corporation.

2. The following amendment to the Certificate of Incorporation was approved by the directors and thereafter duly adopted by the sole shareholder of the Corporation, acting without a meeting by written consent pursuant to Section 14A:5-6, Corporations, General, of the New Jersey Statues on the 8th day of July 2002:

Resolved, that Article First of the Certificate of Incorporation be amended to read as follows:

"FIRST: The name of the Corporation is L-3 Communications Atlantic Science and Technology Corporation."

3. The number of shares outstanding at the time of the adoption of the amendment was 2,500. The total number of shares entitled to vote thereon was 2,500.

4. The number of shares voting for and against such amendment is as follows:

Number of Shares Voting for Amendment	Number of Shares Voting Against Amendment
2,500	0

ATLANTIC SCIENCE AND
TECHNOLOGY CORPORATION

By: /s/ Christopher Cambria
Name: Christopher C. Cambria
Title: Vice President and
Secretary

Dated this 9th day of July, 2002

CERTIFICATE OF INCORPORATION

OF

ATLANTIC SCIENCE AND TECHNOLOGY CORPORATION

TO: THE SECRETARY OF STATE

State of New Jersey

THE UNDERSIGNED, being of full age, for the purpose of forming a corporation pursuant to the provisions of Title 14A, Corporations, General, of the New Jersey Statutes, does hereby execute the following Certificate of Incorporation:

FIRST: The name of the corporation is:
ATLANTIC SCIENCE AND TECHNOLOGY CORPORATION

SECOND: The purpose or purposes for which the corporation is organized are: To engage in any activity within the purposes for which corporations may be organized under the provisions of the New Jersey Business Corporation Act.

THIRD: The aggregate number of shares which the corporation shall have authority to issue is: Two Thousand Five Hundred (2,500) shares without par value.

FOURTH: The address of the corporation's initial registered office is: 4 Kings Highway East, Haddonfield, New Jersey 08033 and the name of the corporation's initial registered agent at such address is: Robert S. Lewis, Esquire.

FIFTH: The number of directors constituting the initial Board of Directors shall be three and the names and addresses of the directors are as follows:

NAME	ADDRESS
Charles LaGrossa	116 Saddlebrook Court Cherry Hill, N. J. 08003

Louis F. DiTomasso	3 Holly Oak Court Voorhees, N. J. 08043
Bernard DiAnnuntis	16 Greenbriar Drive Marmora, N. J. 08223

SIXTH: The names and addresses of the incorporators are as follows:

NAME	ADDRESS
R. W. Worthington	411 Park Avenue Collingswood, N. J. 08108

IN WITNESS WHEREOF, the undersigned, the incorporator of the above named corporation, has signed the Certificate of Incorporation on the 25th day of July, 1984.

/s/ R. W. Worthington

R. W. WORTHINGTON

CORPORATE RECORDS

OF

ATLANTIC SCIENCE & TECHNOLOGY CORP.

*****

INCORPORATED UNDER THE LAWS

OF THE

STATE OF NEW JERSEY

*****

LAW OFFICES

OF

BRANDT, HAUGHEY, PENBERTHY, LEWIS & HYLAND
4 Kings Highway East
Haddonfield, NJ 08033

BY-LAWS

ARTICLE I - OFFICES

Section 1. The registered office of the corporation shall be at 4 Kings Highway East, Haddonfield, NJ 08033.

Section 2. The corporation may have such other offices either within or without the state as the Board of Directors may designate or as the business of the corporation may require from time to time.

ARTICLE II - SEAL

Section 1. The corporate seal shall have inscribed thereon the name of the corporation, the year of its creation and the words "Corporate Seal, New Jersey".

ARTICLE III - SHAREHOLDERS' MEETINGS

Section 1. All meetings of the shareholders shall be held at 4 Kings Highway East, Haddonfield, New Jersey 08033, or at such other place or places, either within or without the State of New Jersey, as may from time to time be selected by the Board of Directors.

Section 2. Annual Meetings: The annual meeting of shareholders, after the year 1984 shall be held on the 20th day of February in each year if not a legal holiday, and if a legal holiday, then on the next full business day following at 3:00 o'clock P.M., or on such other day as may be fixed by the Board, when the shareholders shall elect, by a plurality vote, a Board of Directors, and transact such other business as may properly be brought before the meeting.

If the annual meeting for election of directors is not held on the day designated therefor, the directors shall cause the meeting to be held as soon thereafter as convenient.

Section 3. Special Meetings: Special meetings of the shareholders may be called by the President or the Board of Directors, and shall be called at the request in writing to the President by the holder or holders of not less than ten percent of all the shares entitled to vote at a meeting.

Section 4. Notice of Shareholders' Meetings: Written notice of the time, place and purpose or purposes of every meeting of shareholders shall be given not less than ten or more than sixty days before the date of the meeting, either personally or by mail, to each shareholder of record entitled to vote at the meeting, unless a greater period of notice is required by statute in a particular case.

When a meeting is adjourned to another time or place, it shall not be necessary to give notice of the adjourned meeting if the time and place to which the meeting is adjourned are announced at the meeting at which the adjournment is taken and at the adjourned meeting only such business is transacted as might have been transacted at the original meeting. However, if after the adjournment the Board fixes a new record date for the adjourned meeting, a notice of the adjourned meeting shall be given to each shareholder of record on the new record date entitled to notice.

Section 5. Waiver of Notice: Notice of a meeting need not be given to any shareholder who signs a waiver of such notice, in person or by proxy, whether before or after the meeting. The attendance of any shareholder at a meeting, in person or by proxy, without protesting prior to the conclusion of the meeting the lack of notice of such meeting, shall constitute a waiver of notice by him.

Whenever shareholders are authorized to take any action after the lapse of a prescribed period of time, the action may be taken without such lapse if such requirement is waived in writing, in person or by proxy, before or after the taking of such action, by every shareholder entitled to vote thereon as of the date of the taking of such action.

Section 6. Action by Shareholders Without Meeting:

(1) Any action required or permitted to be taken at a meeting of shareholders by statute or the Certificate of Incorporation or By-Laws of the corporation, may be taken without a meeting if all the shareholders entitled to vote thereon consent thereto in writing, except that in the case of any action to be taken pursuant to Chapter 10 of the Business Corporation Act (concerning mergers, etc.), such action may be taken without a meeting only if all shareholders entitled to vote consent thereto in writing and the corporation provides to all other shareholders the advance notification required by paragraph (2)(b) of this section.

(2) Except as otherwise provided in the Certificate of Incorporation and subject to the provisions of this subsection, any action required or permitted to be taken at a meeting of shareholders by the Act, the Certificate of Incorporation, or By-Laws, other than the annual election of directors, may be taken without a meeting upon the written consent of shareholders who would have been entitled to cast the minimum number of votes which would be necessary to authorize such action at a meeting at which all shareholders entitled to vote thereon were present and voting.

(a) If any shareholder shall have the right to dissent from a proposed action, pursuant-to Chapter 11 of the Act, the Board shall fix a date on which written consents are to be tabulated; in any other case, it may fix a date for tabulation. If no date is fixed, consents may be tabulated as they are received. No consent shall be counted which is received more than sixty days after the date of the Board action authorizing the solicitation of consents or, in a case in which consents, or proxies for consents, are solicited from all shareholders who would have been entitled to vote at a meeting called to take such action, more than sixty days after the date of mailing of solicitation of consents, or proxies for consents.

(b) Except as provided in paragraph (2)(c), the corporation, upon receipt and tabulation of the requisite number of written consents, shall promptly notify all non-consenting shareholders, who would have been entitled to notice of a meeting to vote upon such action, of the action consented to, the proposed effective date of such action, and any conditions precedent to such action. Such notification shall be given at least twenty days in advance of the proposed effective date of such action in the case of any action taken pursuant to Chapter 10 of the Act, and at least ten days in advance in the case of any other action.

(c) The corporation need not provide the notification required to be given by paragraph (2)(b) if it

(i) solicits written consents or proxies for consents from all shareholders who would have been entitled to vote at a meeting called to take such action, and at the same time gives notice of the proposed action to all other shareholders who would have been entitled to notice of a meeting called to vote upon such action;

(ii) advises all shareholders, if any, who are entitled to dissent from the proposed action, as provided in Chapter 11 of the Act, of their right to do so and to be paid the fair value of their shares; and

(iii) fixes a date for tabulation of consents not less than twenty days, in the case of any proposed action to be taken pursuant to Chapter 10 of the Act, or not less than ten days in the case of any other proposed action, and not more than sixty days after the date of mailing of solicitations of consents or proxies for consents.

(d) Any consent obtained pursuant to paragraph (2)(c) may be revoked at any time prior to the day fixed for tabulation of consents. Any other consent may be revoked at

any time prior to the day on which the proposed action could be taken upon compliance with paragraph (2)(b). The revocation must be in writing and be received by the corporation.

(3) Whenever action is taken pursuant to subsection (1) or (2), the written consents of the shareholders consenting thereto or the written report of inspectors appointed to tabulate such consents shall be filed with the minutes or proceedings of shareholders.

In case the corporation is involved in a merger, consolidation or other type of acquisition or disposition regulated by Chapters 10 and 11 of the Act, the pertinent provisions of the statute should be referred to and strictly complied with.

Section 7. Fixing Record Date:

(1) The Board may fix, in advance, a date as the record date for determining the corporation's shareholders with regard to any corporate action or event and, in particular, for determining the shareholders who are entitled to

(a) notice of or to vote at any meeting of shareholders or any adjournment thereof;

(b) give a written consent to any action without a meeting; or

(c) receive payment of any dividend or allotment of any right.

The record date may in no case be more than sixty days prior to the shareholders' meeting or other corporate action or event to which it relates. The record date for a shareholders' meeting may not be less than ten days before the date of the meeting. The record date to determine shareholders to give a written consent may not be more than sixty days before the date fixed for tabulation of the consents or, if no date has been fixed for tabulation, more than sixty days before the last day on which consents received may be counted.

(2) If no record date is fixed,

(a) the record date for a shareholders' meeting shall be the close of business on the day next preceding the day on which notice is given, or, if no notice is given, the day next preceding the day on which the meeting is held; and

(b) the record date for determining shareholders for any other purpose shall be at the close of business on the day on which the resolution of the Board relating thereto is adopted.

(3) When a determination of shareholders of record for a shareholders' meeting has been made as provided in this section, such determination shall apply to any adjournment thereof, unless the Board fixes a new record date under this section for the adjourned meeting.

Section 8. Voting Lists: The officer or agent having charge of the stock transfer books for shares of the corporation shall make and certify a complete list of shareholders entitled to vote at a shareholders' meeting or any adjournment thereof. A list required by this section may consist of cards arranged alphabetically. Such list shall be arranged alphabetically within each class, series or group of shareholders maintained by the corporation for convenience of reference, with the address of, and the number of shares held by, each shareholder; be produced at the time and place of the meeting; be subject to the inspection of any shareholder during the whole time of the meeting; and be prima facie evidence as to who are the shareholders entitled to examine such list or to vote at any meeting.

If the requirements of this section have not been complied with, the meeting shall, on the demand of any shareholder in person or by proxy, be adjourned until the requirements are complied with. Failure to comply with the requirements of this section shall not affect the validity of any action taken at such meeting prior to the making of any such demand.

Section 9. Quorum: Unless otherwise provided in the Certificate of Incorporation or by statute, the holders of shares entitled to cast a majority of the votes at a meeting shall constitute a quorum at such meeting. The shareholders present in person or by proxy at a duly organized meeting may continue to do business until adjournment, notwithstanding the withdrawal of enough shareholders to leave less than a quorum. Less than a quorum may adjourn.

Whenever the holders of any class or series of shares are entitled to vote separately on a specified item of business, the provisions of this section shall apply in determining the presence of a quorum of such class or series for the transaction of such specified item of business.

Section 10. Voting: Each holder of shares with voting rights shall be entitled to one vote for each such share registered in his name, except as otherwise provided in the Certificate of Incorporation. Whenever any action, other than the election of directors, is to be taken by vote of the shareholders, it shall be authorized by a majority of the votes cast at a meeting of shareholders by the holders of shares entitled to vote thereon, unless a greater plurality is required by statute or by the Certificate of Incorporation.

Every shareholder entitled to vote at a meeting of shareholders or to express consent without a meeting may authorize another person or persons to act for him by proxy. Every proxy shall be executed in writing by the shareholder or his agent, except that a proxy may be given by a shareholder or his agent by telegram or cable or its equivalent. No proxy shall be valid for more than eleven months unless a longer time is expressly provided therein, but in no event shall a proxy be valid after three years from the date of execution. Unless it is coupled with an interest, a proxy shall be revocable at will. A proxy shall not be revoked by the death or incapacity of the shareholder but such proxy shall continue in force until revoked by the personal representative or guardian of the shareholder. The presence at any meeting of any shareholder

who has given a proxy shall not revoke such proxy unless the shareholder shall file written notice of such revocation with the Secretary of the meeting prior to the voting of such proxy.

Section 11. Election of Directors: At each election of directors every shareholder entitled to vote at such election shall have the right to vote the number of shares owned by him for as many persons as there are directors to be elected and for whose election he has a right to vote. Directors shall be elected by a plurality of the votes cast at the election, except as otherwise provided by the Certificate of Incorporation.

Elections of directors need not be by ballot unless a shareholder demands election by ballot at the election and before the voting begins.

Section 12. Inspectors of Election: The Board may, in advance of any shareholders' meeting, or of the tabulation of written consents of shareholders without a meeting, appoint one or more inspectors to act at the meeting or any adjournment thereof or to tabulate such consents and make a written report thereof. If inspectors to act at any meeting of shareholders are not so appointed or shall fail to qualify, the person presiding at a shareholders' meeting may, and on the. request of any shareholder entitled to vote thereat, shall, make such appointment.

Each inspector, before entering upon the discharge of his duties, shall take and sign an oath faithfully to execute the duties of inspector with strict impartiality and according to the best of his ability. No person shall be elected a director in an election for which he has served as an inspector.

ARTICLE IV - DIRECTORS

Section 1. The business and affairs of this corporation shall be managed by its Board of Directors, three in number. A director shall be at least eighteen years of age and need not be a United States citizen or a resident of this State or a shareholder in the corporation. Each director

shall be elected by the shareholders, at the annual meeting of shareholders of the corporation, and shall be elected for the term of one year, and until his successor shall be elected and shall qualify.

Section 2. First Meeting After Election: After the election of the directors, the newly elected Board may meet at such place and time as shall be fixed by the vote of the shareholders at the annual meeting, for the purpose of organization and otherwise, and no notice of such meeting shall be necessary to the newly elected directors in order to legally constitute the meeting; provided a majority of the whole Board shall be present; or such place and time may be fixed by the consent in writing of the directors.

Section 3. Regular Meetings: Regular meetings of the Board shall be held without notice at the registered office of the corporation, or at such other time and place as shall be determined by the Board.

Section 4. Quorum: A majority of the entire Board, or of any committee thereof, shall constitute a quorum for the transaction of business, and the act of the majority present at a meeting at which a quorum is present shall be the act of the Board or of the committee.

Any action required or permitted to be taken pursuant to authorization voted at a meeting of the Board or any committee thereof, ,may be taken without a meeting if, prior or subsequent to such action, all members of the Board or of such committee, as the case may be, consent thereto in writing and such written consents are filed with the minutes of the proceedings of the Board or committee.

Section 5. Special Meetings: Special meetings of the Board may be called by the President on five days' notice to each director, either personally or by mail; special meetings may be called in like manner and on like notice, on the written request of any director.

Section 6. Waiver of Notice: Notice of any meeting need not be given to any director who signs a waiver of notice, whether before or after the meeting. The attendance of any director at a meeting without protesting prior to the conclusion of the meeting the lack of notice of such meeting shall constitute a waiver of notice by him. Neither the business to be transacted at, nor the purposes of any meeting of the Board need be specified in the notice or waiver of notice of such meeting. Notice of an adjourned meeting need not be given if the time and place are fixed at. the meeting adjourning and if the period of adjournment does not exceed ten days in any one adjournment.

Section 7. Powers of Directors: The Board of Directors shall have the management of the business of the corporation. In addition to the powers and authorities by these By-Laws expressly conferred upon them, the Board may exercise all such powers of the corporation and do all such lawful acts and things as are not by statute or by these By-Laws directed or required to be exercised or done by the shareholders.

Section 8. Compensation of Directors: The Board, by the affirmative vote of a majority of directors in office and irrespective of any personal interest of any of them, shall have authority to establish reasonable compensation of directors for services to the corporation as directors, officers or otherwise.

Section 9. Executive Committee: If deemed advisable, the Board of Directors, by resolution adopted by a majority of the entire Board, may appoint from among its members an executive committee and one or more other committees, each of which shall have one or more members. Each such committee shall have and may exercise all the authority of the Board, except that no such committee shall make, alter or repeal any By-Law of the corporation; elect or appoint any director, or remove any officer of director; submit to shareholders any action that

requires shareholders' approval; or amend or repeal any resolution theretofore adopted by the Board which by its terms is amendable or repealable only by the Board.

Actions taken at a meeting of any such committee shall be reported to the Board at its next meeting following such committee meeting; except that, when the meeting of the Board is held within two days after the committee meeting, such report shall, if not made at the first meeting, be made to the Board at its second meeting following such committee meeting.

ARTICLE V - OFFICERS

Section 1. The officers of the corporation shall consist of a President, a Secretary, a Treasurer, and, if desired, a Chairman of the Board, one or more Vice Presidents, and such other officers as may be required. They shall be annually elected by the Board of Directors and shall hold office for one year and until their successors are elected and have qualified, subject to earlier termination by removal or resignation. The Board may also choose such employees and agents as it shall deem necessary, who shall hold their offices for such terms and shall have such authority and shall perform such duties as from time to time shall be prescribed by the Board.

Any two or more offices may be held by the same person but no officer shall execute, acknowledge, or verify any instrument in more than one capacity if such instrument is required by law or by these By-Laws to be executed, acknowledged, or verified by two or more officers.

Section 2. Salaries: The salaries of all officers, employees and agents of the corporation shall be fixed by the Board of Directors.

Section 3. Removal: Any officer elected or appointed by the Board of Directors may be removed by the Board with or without cause. An officer elected by the shareholders may be removed, with or without cause, only by vote of the shareholders but his authority to act as an officer may be suspended by the Board for cause.

Section 4. President: The President shall be the chief executive officer of the corporation; he shall preside at all meetings of the shareholders and directors; he shall have general and active management of the business of the corporation, shall see that all orders and resolutions of the Board are carried into effect, subject, however, to the right of the directors to delegate any specific powers, except such as may be by statute exclusively conferred on the President, to any other officer or officers of the corporation. He shall execute bonds, mortgages and other contracts requiring a seal, under the seal of the corporation. He shall be EX-OFFICIO a member of all committees, and shall have the general powers and duties of supervision and management usually vested in the office of President of a corporation.

Section 5. Vice President: The Vice President, if one has been appointed, shall be vested with all the powers and be required to perform all the duties of the President in his absence.

Section 6. Chairman of the Board: The Chairman of the Board, if one has been appointed, shall exercise such powers and perform such duties as shall be provided in the resolution proposing that a Chairman of the Board be elected.

Section 7. Secretary: The Secretary shall keep full minutes of all meetings of the shareholders and directors; he shall be EX-OFFICIO Secretary of the Board of Directors; he shall attend all sessions of the Board, shall act as clerk thereof, and record all votes and the minutes of all proceedings in a book to be kept for that purpose; and shall perform like duties for the standing committees when required. He shall give or cause to be given, notices of all meetings of the shareholders of the corporation and the Board of Directors, and shall perform such other duties as may be prescribed by the Board of Directors or President, under whose supervision he shall be.

Section 8. Treasurer: The Treasurer shall keep full and accurate accounts of receipts and disbursements in books belonging to the corporation, and shall deposit all moneys and other valuable effects in the name and to the credit of the corporation, in such depositories as may be designated by the Board of Directors.

He shall disburse the funds of the corporation as may be ordered by the Board, taking proper vouchers for such disbursements, and shall render to the President and directors, at the regular meetings of the Board, or whenever they may require it, an account of all his transactions as Treasurer and of the financial condition of the corporation, and shall submit a full financial report at the annual meeting of the shareholders.

ARTICLE VI - VACANCIES

Section 1. Directors: Any directorship not filled at the annual meeting and any vacancy, however caused, including vacancies resulting from an increase in the number of directors, occurring in the Board may be filled by the affirmative vote of a majority of the remaining directors even though less than a quorum of the Board, or by a sole remaining director. A director so elected by the Board shall hold office until his successor shall have been elected and qualified.

Section 2. Officers: Any vacancy occurring among the officers, however caused, shall be filled by the Board of Directors.

Section 3. Resignations: Any director or other officer may resign by written notice to the corporation. The resignation shall be effective upon receipt thereof by the corporation or at such subsequent time as shall be specified in the notice of resignation.

ARTICLE VII - SHARE CERTIFICATES

Section 1. The share certificates of the corporation shall be numbered and registered in the transfer records of the corporation as they are issued. They shall bear the corporate seal, or a facsimile thereof, and be signed by the President and Secretary.

Section 2. Transfers: All transfers of the shares of the corporation shall be made upon the books of the corporation by the holders of the shares in person, or by his legal representatives. Share certificates shall be surrendered and cancelled at the time of transfer.

Section 3. Loss of Certificates: In the event that a share certificate shall be lost, destroyed or mutilated, a new certificate may be issued therefor upon such terms and indemnity to the corporation as the Board of Directors may prescribe.

ARTICLE VIII - BOOKS AND ACCOUNTS

Section 1. The corporation shall keep books and records of account and minutes of the proceedings of the shareholders, Board of Directors and executive committee, if any. Such books, records and minutes may be kept outside this State. The corporation shall make available for inspection at its registered office, or at the office of a transfer agent in this State, a record or records containing the names and addresses of all shareholders, the number, class and series of shares held by each and the dates when they respectively became the owners of record thereof, within ten days after demand by a shareholder entitled to inspect them, except that in the case of shares listed on a national securities exchange, the records may be made available at the office of a transfer agent within or without this State.

Section 2. Inspection: Any person who shall have been a shareholder of record of the corporation for at least six months immediately preceding his demand, or any person holding, or so authorized in writing by the holders of, at least five percent of the outstanding shares of any

class or series, upon at least five days' written demand shall have the right for any proper purpose to examine in person or by agent or attorney, during usual business hours, the minutes of the proceedings of the shareholders and record of shareholders and to make extracts therefrom at the places where the same are kept.

ARTICLE IX - MISCELLANEOUS PROVISIONS

Section 1. Monetary Disbursements: All checks or demands for money and notes of the corporation shall be signed by such officer or officers as the Board of Directors may from time to time designate.

Section 2. Fiscal Year: The fiscal year of the corporation shall begin on the first Saturday closest to January 1.

Section 3. Dividends: The Board of Directors may declare and pay dividends upon the outstanding shares of the corporation from time to time and to such extent as they deem advisable, in the manner and upon the terms and conditions provided by statute and the Certificate of Incorporation.

Section 4. Reserve: Before payment of any dividend there may be set aside such sum or sums as the directors, from time to time, in their absolute discretion, think proper as a reserve fund to meet contingencies, or for equalizing dividends, or for repairing or maintaining any property of the corporation, or for such other purpose as the directors shall think conducive to the interests of the corporation, and the directors may abolish any such reserve in the manner in which it was created.

Section 5. Giving Notice: Whenever written notice is required to be given to any person, it may be given to such person, either personally or by sending a copy thereof through the mail. If notice is given by mail, the notice shall be deemed to be given when deposited in the mail

addressed to the person to whom it is directed at his last address as it appears on the records of the corporation, with postage prepaid thereon. Such notice shall specify. the place, day and hour of the meeting and, in the case of a shareholders' meeting, the general nature of the business to be transacted.

In computing the period of time for the giving of any notice required or permitted by statute, or by the Certificate of Incorporation or these By-Laws or any resolution of directors or shareholders, the day on which the notice is given shall be excluded, and the day on which the matter noticed is to occur shall be included.

Section 6. Loans to Officers or Employees: The corporation may lend money to, or guarantee any obligation of, or otherwise assist, any officer or other employee of the corporation or of any subsidiary, whenever it may reasonably be expected to benefit the corporation. If the officer or employee is also a director of the corporation, such loan, guarantee or assistance, unless pursuant to a plan adopted by the shareholders in accordance with the provisions of Chapter 8 of the Act (Employee Benefit Plans), shall be authorized by a majority of the entire Board of Directors.

Section 7. Disallowed Compensation: Any payments made to an officer or employee of the corporation such as a salary, commission, bonus, interest, rent, travel or entertainment expense incurred by him, which shall be disallowed in whole or in part as a deductible expense by the Internal Revenue Service, shall be reimbursed by such officer or employee to the corporation to the full extent of such disallowance. It shall be the duty of the directors, as a Board, to enforce payment of each such amount disallowed. In lieu of payment by the officer or employee, subject to the determination of the directors, proportionate amounts may be withheld from his future compensation payments until the amount owed to the corporation has been recovered.

ARTICLE X - AMENDMENTS

Section 1. The Board of Directors shall have the power to make, alter and repeal these By-Laws, but By-Laws made by the Board may be altered or repealed, and new By-Laws may be made, by the shareholders.

AMENDED AND RESTATED CERTIFICATE OF INCORPORATION

OF

AYDIN CORPORATION

FIRST: The name of the Corporation is L-3 Communications Aydin Corporation.

SECOND: The registered office and registered agent of the Corporation is The Corporation Trust Company, 1209 Orange Street, Wilmington. New Castle County, Delaware 19801.

THIRD: The purpose of the Corporation is to engage in any lawful act or activity for which corporations may be organized under the Delaware General Corporation Law.

FOURTH: The total number of shares of stock that the Corporation is authorized to issue is 1000 shares of Common Stock, par value $.01 each.

FIFTH: The Corporation is to have perpetual existence.

SIXTH: In furtherance and not in limitation of the powers conferred by statute, the Board of Directors of the Corporation, acting by majority vote, is expressly authorized to adopt, amend or repeal the By-Laws of the Corporation.

SEVENTH: Elections of directors need not be by written ballot unless the By-Laws of the corporation shall so provide. Meetings of stockholders may be held within or without the State of Delaware, as the By-Laws may provide. The books of the Corporation may be kept (subject to any provision contained in the statutes) outside the State of Delaware at such place or places as may be designated from time to time by the Board of Directors or in the By-Laws of the corporation.

EIGHTH: Except as otherwise provided by the Delaware General Corporation Law as the same exists or may hereafter be amended, no director of the Corporation shall be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director. Any repeal or modification of this Article NINTH by the stockholders of the Corporation shall not adversely affect any right or protection of a director of the Corporation existing at the time of such repeal or modification.

L-3 COMMUNICATIONS AYDIN CORPORATION

BY-LAWS

ARTICLE I

MEETINGS OF STOCKHOLDERS

Section 1. Place of Meeting and Notice. Meetings of the stockholders of the Corporation shall be held at such place either within or without the State of Delaware as the Board of Directors may determine.

Section 2. Annual and Special Meetings. Annual meetings of stockholders shall be held, at a date, time and place fixed by the Board of Directors and stated in the notice of meeting, to elect a Board of Directors and to transact such other business as may properly come before the meeting. Special meetings of the stockholders may be called by the President for any purpose and shall be called by the President or Secretary if directed by the Board of Directors or requested in writing by the holders of not less than 25% of the capital stock of the Corporation. Each such stockholder request shall state the purpose of the proposed meeting.

Section 3. Notice. Except as otherwise provided by law, at least 10 and not more than 60 days before each meeting of stockholders, written notice of the time, date and place of the meeting, and, in the case of a special meeting, the purpose or purposes for which the meeting is called, shall be given to each stockholder.

Section 4. Quorum. At any meeting of stockholders, the holders of record, present in person or by proxy, of a majority of the Corporation's issued and outstanding capital stock shall constitute a quorum for the transaction of business, except as otherwise provided by law. In the absence of a quorum, any officer entitled to preside at or to act as secretary of the meeting shall have power to adjourn the meeting from time to time until a quorum is present.

Section 5. Voting. Except as otherwise provided by law, all matters submitted to a meeting of stockholders shall be decided by vote of the holders of record, present in person or by proxy, of a majority of the Corporation's issued and outstanding capital stock.

ARTICLE II

DIRECTORS

Section 1. Number, Election and Removal of Directors. The number of Directors that shall constitute the Board of Directors shall not be less than one or more than fifteen. The Directors shall be elected by stockholders at their annual meeting. Vacancies and newly created directorships resulting from any increase in the number of Directors may be filled by a majority of the Directors then in office, although less than a quorum, or by the stockholders. A Director may be removed with or without cause by the stockholders.

Section 2. Meetings. The Board of Directors may hold meetings, both regular and special, either within or without the State of Delaware. Regular meetings of the Board of Directors shall be held at such times and places as may from time to time be fixed by the Board of Directors or as may be specified in a notice of meeting. Special meetings of the Board of Directors may be called by the Chairperson, if there is one, the President or any two Directors. Notice of any such special meeting stating the place, date and hour thereof shall be given to each Director either by mail not less than 48 hours before such date of such meeting, by telephone or telegram on 24 hours' notice, or on such shorter notice as the person or persons calling such meeting may deem necessary or appropriate under the circumstances.

Section 3. Quorum. One-third of the total number of Directors shall constitute a quorum for the transaction of business. If a quorum is not present at any meeting of the Board of Directors, the Directors present may adjourn the meeting from time to time, without notice other than announcement at the meeting, until such a quorum is present. Except as otherwise provided by law, the Certificate of Incorporation of the Corporation or these By-Laws, the act of a majority of the Directors present at any meeting at which there is a quorum shall be the act of the Board of Directors.

Section 4. Committees. The Board of Directors may, by resolution adopted by a majority of the whole Board, designate one or more committees, including, without limitation, an Executive Committee, to have and exercise such power and authority as the Board of Directors shall specify. In the absence or disqualification of a member of a committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not he or they constitute a quorum, may unanimously appoint another Director to act as the absent or disqualified member.

ARTICLE III

OFFICERS

The officers of the Corporation shall consist of a President, a Vice President, a Secretary, a Treasurer, and such other additional officers with such titles as the Board of Directors shall determine, all of which shall be chosen by and shall serve at the pleasure of the Board of Directors. Such officers shall have the usual powers and shall perform all the usual duties incident to their respective offices. All officers shall be subject to the supervision and direction of the Board of Directors. All officers shall be subject to the supervision and direction of the Board of Directors. The authority, duties or responsibilities of any officer of the Corporation may be suspended by the President with or without cause. Any officer elected or appointed by the Board of Directors may be removed by the Board of Directors with or without cause.

ARTICLE IV

INDEMNIFICATION

Section 1. Indemnity Undertaking. To the fullest extent permitted by law (including, without limitation, Section 145 of the General Corporation Law of the State of

Delaware (as amended from time to time, the "General Corporation Law")), the Corporation shall indemnify any person who is or was made, or threatened to be made, a party to any threatened, pending or completed action, suit or proceeding (a "Proceeding"), whether civil, criminal, administrative or investigative, including, without limitation, an action by or in the right of the Corporation to procure a judgment in its favor, by reason of the fact that such person, or a person of whom such person is the legal representative, is or was a Director or officer of the Corporation, or is or was serving in any capacity at the request of the Corporation for any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise (an "Other Entity"), against judgments, fines, penalties, excise taxes, amounts paid in settlement and costs, charges and expenses (including attorneys' fees and disbursements). Persons who are not Directors or officers of the Corporation may be similarly indemnified in respect of service to the Corporation or to an Other Entity at the request of the Corporation to the extent the Board of Directors at any time specifies that such persons are entitled to the benefits of this Article IV.

Section 2. Advancement of Expenses. The Corporation shall, from time to time, reimburse or advance to any Director or officer or other person entitled to indemnification hereunder the funds necessary for payment of expenses, including attorneys' fees and disbursements, incurred in connection with any Proceeding, in advance of the final disposition of such Proceeding; provided, however, that, if required by the General Corporation Law, such expenses incurred by or on behalf of any such Director, officer or other person may be paid in advance of the final disposition of a Proceeding only upon receipt by the Corporation of an undertaking, by or on behalf of such Director, officer or other person indemnified hereunder, to repay any such amount so advanced if it shall ultimately be determined by final judicial decision from which there is no further right of appeal that such Director, officer or other person is not entitled to be indemnified for such expenses.

Section 3. Rights Not Exclusive. The rights to indemnification and reimbursement or advancement of expenses provided by, or granted pursuant to, this Article IV shall not be deemed exclusive of any other rights which a person seeking indemnification or reimbursement or advancement of expenses may have or to which such person hereafter may be entitled under any statute, the Certificate of Incorporation, these By-Laws, any agreement, any vote of stockholders or disinterested Directors or otherwise, both as to action in his or her official capacity and as to action in another capacity while holding such office.

Section 4. Continuation of Benefits. The rights to indemnification and reimbursement or advancement of expenses provided by, or granted pursuant to, this Article IV shall continue as to a person who has ceased to be a Director or officer (or other person indemnified hereunder) and shall inure to the benefit of the executors, administrators, legatees and distributees of any such person.

Section 5. Insurance. The Corporation shall have the power to purchase and maintain insurance on behalf of any person who is or was a Director, officer, employee or agent of the Corporation, or is or was serving at the request of the Corporation as a Director, officer, employee or agent of an Other Entity, against any liability asserted against such person and incurred by such person in any such capacity, or arising out of such person's status as such, whether or not the Corporation would have the power to indemnify such person against such

liability under the provisions of this Article IV or the Certificate of Incorporation or under Section 145 of the General Corporation Law or any other provision of law.

Section 6. Binding Effect. The provisions of this Article IV shall be a contract between the Corporation, on the one hand, and each Director and officer who serves in such capacity at any time while this Article IV is in effect and/or any other person indemnified hereunder, on the other hand, pursuant to which the Corporation and each such Director, officer or other person intend to be legally bound. No repeal or modification of this Article IV shall affect any rights or obligations with respect to any state of facts then or theretofore existing or thereafter arising or any proceeding theretofore or thereafter brought or threatened based in whole or in part upon any such state of facts.

Section 7. Procedural Rights. The rights to indemnification and reimbursement or advancement of expenses provided by, or granted pursuant to, this Article IV shall be enforceable by any person entitled to such indemnification or reimbursement or advancement of expenses in any court of competent jurisdiction. The burden of proving that such indemnification or reimbursement or advancement of expenses is not appropriate shall be on the Corporation. Neither the failure of the Corporation (including its Board of Directors, its independent legal counsel and its stockholders) to have made a determination prior to the commencement of such action that such indemnification or reimbursement or advancement of expenses is proper in the circumstances nor an actual determination by the Corporation (including its Board of Directors, its independent legal counsel and its stockholders) that such person is not entitled to such indemnification or reimbursement or advancement of expenses shall constitute a defense to the action or create a presumption that such person is not so entitled. Such a person shall also be indemnified for any expenses incurred in connection with successfully establishing his or her right to such indemnification or reimbursement or advancement of expenses, in whole or in part, in any such proceeding.

Section 8. Service Deemed at Corporation's Request. Any Director or officer of the Corporation serving in any capacity for (a) another corporation of which a majority of the shares entitled to vote in the election of its directors is held, directly or indirectly, by the Corporation or (b) any employee benefit plan of the Corporation or any corporation referred to in clause (a) shall be deemed, in each case, to be doing so at the request of the Corporation.

Section 9. Election of Applicable Law. Any person entitled to be indemnified or to receive reimbursement or advancement of expenses as a matter of right pursuant to this Article IV may elect to have the right to indemnification or reimbursement or advancement of expenses interpreted on the basis of the applicable law in effect at the time of the occurrence of the event or events giving rise to the applicable Proceeding, to the extent permitted by law, or on the basis of the applicable law in effect at the time such indemnification or reimbursement or advancement of expenses is sought Such election shall be made, by a notice in writing to the Corporation, at the time indemnification or reimbursement or advancement of expenses is sought; provided, however, that if no such notice is given, the right to indemnification or reimbursement or advancement of expenses shall be determined by the law in effect at the time indemnification or reimbursement or advancement of expenses is sought.

ARTICLE V

GENERAL PROVISIONS

Section 1. Notices. Whenever any statute, the Certificate of Incorporation or these By-Laws require notice to be given to any Director or stockholder, such notice may be given in writing by mail, addressed to such Director or stockholder at his address as it appears in the records of the Corporation, with postage thereon prepaid. Such notice shall be deemed to have been given when it is deposited in the United States mail. Notice to Directors may also be given by telegram.

Section 2. Fiscal Year. The fiscal year of the Corporation shall be fixed by the Board of Directors.

Section 3. Amendments to By-Laws. These By-Laws may be amended in any respect, restated or repealed, in whole or in part, by vote of the holders of record, present in person or represented by proxy, of a majority of the Corporation's issued and outstanding shares of capital stock entitled to vote thereon.

CERTIFICATE OF LIMITED PARTNERSHIP

OF

L-3 COMMUNICATIONS INTEGRATED SYSTEMS L.P.

This Certificate of Limited Partnership for L-3 Communications Integrated System L.P. is being duly executed and filed by the undersigned, as an authorized person, to form a limited partnership under the Delaware Revised Uniform Limited Partnership Act (6 Del.C.(Section)17-101, et seq.).

1. The name of the limited partnership formed hereby is "L-3 Communications Integrated Systems L.P." (the "Partnership").

2. The address of the registered office of the Partnership in the State of Delaware is Corporation Trust Center, 1209 Orange Street, in the City of Wilmington, County of New Castle, Delaware 19801.

3. The name of the registered agent of the Partnership at such address is The Corporation Trust Company.

4. The name of the general partner of the Partnership is L-3 Communications AIS GP Corporation, and the mailing address for the general partner of the Partnership is 600 Third Avenue, New York, New York 10016.

IN WITNESS WHEREOF, the undersigned has executed this Certificate of Limited Partnership of L-3 Communications Integrated Systems L.P. this 22 day of February, 2002.

By: L3 COMMUNICATIONS AIS GP
CORPORATION, as general partner

By: /s/ Christopher C. Cambria

Name: Christopher C. Cambria
Title: Vice President

LIMITED PARTNERSHIP AGREEMENT

OF

L-3 COMMUNICATIONS INTEGRATED SYSTEMS L.P.

THE UNDERSIGNED are executing this Limited Partnership Agreement ("Agreement") for the purpose of forming a limited partnership (the "Partnership") pursuant to the provisions of the Delaware Revised Uniform Limited Partnership Act, 6 Del. C.(Section) 17-101 et seq. (the "Act"), and do hereby certify and agree as follows:

1. Name. The name of the Partnership shall be "L-3 Communications Integrated Systems L.P.", or such other name as the General Partner may from time to time hereafter designate.

2. Definitions. In addition to terms otherwise defined herein, the following terms are used herein as defined below:

"event of withdrawal of the General Partner" means an event that caused the General Partner to cease to be a general partner of the Partnership as provided in Section 17-402 of the Act.

"General Partner" means L-3 Communications AIS GP Corporation, a Delaware corporation, and all other persons or entities admitted as additional or substitute General Partners pursuant to this Agreement, so long as they remain General Partners.

"L-3" means L-3 Communications Corporation, a Delaware corporation and an affiliate of the Partnership.

"Limited Partners" means L-3 Communications Investments Inc. and all other persons or entities admitted as additional or substitute Limited Partners pursuant to this Agreement, so long as they remain Limited Partners.

"Partners" means those persons or entities who from time to time are the General Partner and the Limited Partners.

3. Purpose. The purpose of the Partnership shall be to acquire and hold certain assets, liabilities and investments acquired by L-3 or any its affiliates, and to engage in

such other activities as are necessary, incidental or ancillary thereto as the General Partner shall deem necessary or advisable.

4. Offices.

(a) The principal place of business and office of the Partnership shall be located at, and the Partnership's business shall be conducted from, such place or places as the General Partner may designate to the Partners from time to time.

(b) The registered office of the Partnership in the State of Delaware shall be located at c/o The Corporation Trust Company, 1209 Orange Street, Wilmington, County of New Castle, Delaware 19801. The name and address of the registered agent of the Partnership for service of process on the Partnership in the State of Delaware shall be The Corporation Trust Company, 1209 Orange Street, Wilmington, County of New Castle, Delaware 19801.

5. Partners. The name and business or residence address of each Partner of the Partnership, the General Partner and the Limited Partners being separately designated, are as set forth on Schedule A attached hereto.

6. Term. The term of the Partnership commenced on the date of filing of the Certificate of Limited Partnership of the Partnership in accordance with the Act and shall continue until dissolution of the Partnership in accordance with Section 14 of this Agreement.

7. Management of the Partnership.

(a) The General Partner shall have the exclusive right to manage the business of the Partnership, and shall have all powers and rights necessary, appropriate or advisable to effectuate and carry out the purposes and business of the Partnership and, in general, all powers permitted to be exercised by a general partner under the laws of the State of Delaware. The General Partner may appoint, employ, or otherwise contract with any persons or entities for the

transaction of the business of the Partnership or the performance of services for or on behalf of the Partnership, and the General Partner may delegate to any such person or entity such authority to act on behalf of the Partnership as the General Partner may from time to time deem appropriate.

(b) No Limited Partner, in his status as such, shall have the right to take part in the management or control of the business of the Partnership or to act for or bind the Partnership or otherwise to transact any business on behalf of the Partnership.

8. Capital Contributions. Partners shall make capital contributions to the Partnership in such amounts and at such times as they shall mutually agree.

9. Assignments of Partnership Interest.

(a) No Limited Partner may sell, assign, pledge or otherwise transfer or encumber (collectively "transfer") all or any part of his interest in the Partnership, nor shall any Limited Partner have the power to substitute a transferee in his place as a substitute Limited Partner, without, in either event, having obtained the prior written consent of the General Partner, which consent may be given or withheld in its sole discretion.

(b) The General Partner may not transfer all or any part of its interest in the Partnership, nor shall the General Partner have the power to substitute a transferee in its place as a substitute General Partner, without, in either event, having obtained the consent of all of the Limited Partners.

10. Withdrawal. No Partner shall have the tight to withdraw from the Partnership except with the consent of the General Partner and upon such terms and conditions as may be specifically agreed upon between the General Partner and the withdrawing Partner. The provisions hereof with respect to distributions upon withdrawal are exclusive and no Partner

shall be entitled to claim any further or different distribution upon withdrawal under Section 17-604 of the Act or otherwise.

11. Additional Partners. The General Partner shall have the right to admit additional Limited Partners upon such terms and conditions, at such time or times, and for such capital contributions as shall be determined by the General Partner; and in connection with any such admission, the General Partner shall have the right to amend Schedule A hereof to reflect the name, address and capital contribution of the admitted Limited Partner.

12. Allocations and Distributions. Distributions of cash or other assets of the Partnership shall be made at such times and in such amounts as the General Partner may determine. Distributions shall be made to (and profits and losses shall be allocated among) Partners pro rata in accordance with the amount of their contributions to the Partnership.

13. Return of Capital. No Partner has the right to receive, and the General Partner has absolute discretion to make, any distributions to a Partner which include a return of all or any part of such Partner's capital contribution, provided that upon the dissolution of the Partnership, the assets of the Partnership shall be distributed as provided in Section 17-804 of the Act.

14. Dissolution. The Partnership shall be dissolved and its affairs wound up and terminated upon the first to occur of the following:

(a) The determination of the General Partner to dissolve the Partnership; or

(b) The occurrence of (i) an event of withdrawal of the General Partner or (ii) any other event causing a dissolution of the Partnership under Section 17-801 of the Act, provided, however, the Partnership shall not be dissolved or required to be wound up upon an event of withdrawal of the General Partner described in Section 14(c)(i) if (A) at the time of the

occurrence of such event of withdrawal there is at least one remaining general partner of the Partnership who carries on the business of the Partnership (any remaining general partner being hereby authorized to carry on the business of the Partnership), or (B) within ninety (90) days after the occurrence of such event of withdrawal, all remaining partners agree in writing to continue the business of the Partnership and to the appointment, effective as of the date of the event of withdrawal, of one (1) or more additional general partners of the Partnership.

15. Amendments. This Agreement may be amended only upon the written consent of all Partners.

16. Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original, but all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the undersigned have duly executed this Agreement as of February __, 2002.

GENERAL PARTNER:

L-3 COMMUNICATIONS AIS GP CORPORATION

By: /s/ Christopher C. Cambria

Name: Christopher C. Cambria
Title: Vice President

LIMITED PARTNER:

L-3 COMMUNICATIONS INVESTMENTS INC.

By: /s/ Christopher C. Cambria

Name: Christopher C. Cambria
Title:

SCHEDULE A

A. GENERAL PARTNER

Name & Address

L-3 Communications AIS GP Corporation
600 Third Avenue
New York, New York 10016

B. LIMITED PARTNER

Name & Address

L-3 Communications Investments Inc.
600 Third Avenue
New York, New York 10016

CERTIFICATE OF INCORPORATION

OF

AYDIN INVESTMENTS, INC.

****

FIRST: The name of the corporation is Aydin Investments, Inc.

SECOND: The address of its registered office in Delaware is 2625 Concord Pike, Wilmington, Now Castle County 19803.

The name of its registered agent at such address is Edward J. Jones.

THIRD: The purpose of the corporation is to engage in any lawful act or activity as is confined to the maintenance and management of its intangible investments and the collection and distribution of the income derived from its investments or from tangible property physically located outside the State of Delaware.

FOURTH: The total number of shares of capital stock which the corporation shall have authority to issue is 1000 shares of common stock, $1.00 par value.

FIFTH: The name and address of the incorporator is Eugene A. DiPrinzio, P.O. Box 949, Wilmington, Delaware 19699.

SIXTH: In addition to the powers conferred under the General Corporation Law, the board of directors shall have power to adopt, amend, or repeal the by-laws of the corporation.

SEVENTH: Subject to any contrary provision of the General Corporation Law, the books of the corporation may be kept at such place or places, within or without the state of Delaware, as may be designated from time to time by the board of directors or in the by-laws of the corporation.

EIGHTH: The election of directors need not be by written ballot unless the by-laws of the corporation shall so provide.

NINTH: The corporation reserves the right to amend, alter, change or repeal any provision contained in this Certificate of Incorporation, in the manner now or hereafter prescribed by law, and all rights conferred herein upon stockholders and directors are granted subject to this reservation.

I, THE UNDERSIGNED, being the incorporator hereinbefore named, do make this Certificate for the purpose of forming a corporation pursuant to the General Corporation Law of the State of Delaware; and intending that this be an acknowledgement within the meaning of Section 103 of the General Corporation Law, have executed this document on October 1, 1981.

/s/ Eugene A. DiPrinzio

Eugene A. DiPrinzio, Incorporator

Certificate of
Change of Location
of Registered Office
and/or Registered Agent

- ---

- The Board of Directors of Aydin Investments, Inc., a Corporation of Delaware, on this 25th day of April .A.D. 1994 do hereby resolve and order that the location of the Registered Office of this Corporation within this State be and the same hereby is 1105 North Market Street, Suite 1300 in the City of Wilmington, County of New Castle, Zip Code 19801.

- The name of the Registered Agent therein and in charge thereof upon whom process against this Corporation may be served is Delaware Corporate Management, Inc.

- Aydin Investments, Inc., a Corporation of Delaware, does hereby certify that the foregoing is a true copy of a resolution adopted by the Board of Directors at a meeting held as herein stated.

- In WITNESS WHEREOF, said Corporation has caused this certificate to be signed by its President and Attested by its Secretary, the 25th day of April, A.D., 1994.

By: /s/

President

By: /s/

Secretary

CERTIFICATE OF AMENDMENT

OF THE

CERTIFICATE OF INCORPORATION

OF

AYDIN INVESTMENTS, INC.

* * * * *

Pursuant to Section 242 of the General Corporation Law
of the State of Delaware

* * * * *

Aydin Investments, Inc., a corporation duly organized and existing under and by virtue of the General Corporation Law of the State of Delaware (the "Corporation"), DOES HEREBY CERTIFY:

First: That Article First of the Certificate of Incorporation of the Corporation be, and hereby is, amended and restated to read as follows:

"FIRST: The name of the Corporation is L-3 Communications Investments Inc."

Second: That such amendment and restatement was consented to and adopted by the sole stockholder of the Corporation acting without a meeting by written consent pursuant to Section 228 of the General Corporation Law of the State of Delaware.

Third: That such amendment and restatement was duly adopted in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware.

IN WITNESS WHEREOF, the Corporation has caused this Certificate to be signed by Christopher C. Cambria, its Vice President, on this 22nd day of February, 2002.

AYDIN INVESTMENTS, INC.

By: /s/ Christopher C. Cambria

Name: Christopher C. Cambria
Title: Vice President

BY-LAWS

OF

AYDIN INVESTMENTS, INC.

EFFECTIVE DATE: APRIL 30, 1999

BY-LAWS

OF

AYDIN INVESTMENTS, INC.

A DELAWARE CORPORATION (HEREINAFTER REFERRED TO AS THE "COMPANY")

ARTICLE I - OFFICES

SECTION 1.1. Location. The address of the registered office of the Company in the State of Delaware and the name of the registered agent at such address shall be as specified in the Certificate of Incorporation or, if subsequently changed, as specified in the most recent certificate of change filed pursuant to law. The Company may also have other offices at such places within or without the State of Delaware as the Board of Directors may from time to time designate or the business of the Company may require.

SECTION 1.2. Change of Location. In the manner permitted by law, the Board of Directors or the registered agent may change the address of the Company's registered office in the State of Delaware and the Board of Directors may make, revoke or change the designation of the registered agent.

ARTICLE II - MEETINGS OF STOCKHOLDERS

SECTION 2.1. Annual Meeting. The annual meeting of the stockholders of the Company for the election of directors and for the transaction of such other business as may properly come before the meeting shall be held at the registered office of the Company, or at such other place within or without the State of Delaware as the Board of Directors may fix, at 10 o'clock A.M. on the 3rd Wednesday in April of each year commencing with the year 1999, but if such a date is a legal holiday, then on the next succeeding business day, or may be held by telephone conference or other similar means, or by written consent.

SECTION 2.2. Special Meetings. Special meetings of stockholders, unless otherwise prescribed by law, may be called at any time by the Chairman of the Board, the President, the Secretary or by order of the Board of Directors. Special meetings of stockholders shall be held at such place within or without the State of Delaware as shall be designated in the notice of meeting, or may be held by telephone conference or other similar means, or by written consent.

SECTION 2.3. Quorum. At any meeting of stockholders, except as otherwise expressly required by law or by the Certificate of Incorporation, the holders of record of at least a majority of the outstanding shares of capital stock entitled to vote or act at such meetings shall be present or represented by proxy in order to constitute a quorum for the transaction of any business, but less than a quorum shall have power to adjourn any meeting until a quorum shall be present.

SECTION 2.4. Voting. At any meeting of stockholders at which a quorum shall be present each matter shall be decided by majority vote of the shares voting on such matter, except as otherwise expressly required by law or by the Certificate of Incorporation and except as otherwise expressly provided in these By-Laws.

SECTION 2.5. Action by Consent of Stockholders. Whenever any action by the stockholders at a meeting thereof is required or permitted by law, the Certificate of Incorporation or these By-Laws, such action may be taken without a meeting, without prior notice and without a vote if any consent in writing, setting forth the action so taken, shall be signed by the holders of the outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted. Prompt notice of the taking of such action without a meeting and by less than unanimous written consent shall be given to those stockholders who have not consented in writing.

ARTICLE III - BOARD OF DIRECTORS

SECTION 3.1. General Powers. The property, business and affairs of the Company shall be managed by the Board of Directors. The Board of Directors may exercise all such powers of the Company and have such authority and do all such lawful acts and things as are permitted by law, the Certificate of Incorporation or these By-Laws.

SECTION 3.2. Number of Directors. The Board of Directors of the Company shall consist of one or more members; the exact number of directors which shall constitute the whole Board of Directors shall be fixed from time to time by resolution adopted by a majority of the whole Board of Directors. Until the number of directors has been so fixed by the Board of Directors, the number of directors constituting the whole Board of Directors shall be one (1).

SECTION 3.3. Qualification. Directors need not be stockholders of the Company.

SECTION 3.4. Election. Except as otherwise provided by law, the Certificate of Incorporation or these By-Laws, after the first meeting of the Company at which directors are elected, directors of the Company shall be elected in each year at the annual meeting of stockholders or at a special meeting in lieu of the annual meeting called for such purpose, by a plurality of votes cast at such meeting. The voting on directors at any such meeting need not be by written ballot unless otherwise so requested by any stockholder.

SECTION 3.5. Term. Each director shall hold office until his successor is duly elected and qualified, except in the event of the earlier termination of his term of office by reason of death, resignation, removal or other reason.

SECTION 3.6. Resignation and Removal. Any director may resign at any time upon written notice to the Board of Directors, the President or the Secretary. Any director may be removed at any time for any reason and his place filled by the stockholders.

SECTION 3.7. Vacancies. Vacancies in the Board of Directors (unless the vacancy be caused by the removal of a director) and newly created directorships resulting from any increase

in the authorized number of directors shall be filled by a majority of the directors then in office, though less than a quorum, or by a sole remaining director. The vacancy caused by the removal of a director shall be filled by the stockholders.

Each director chosen to fill a vacancy on the Board of Directors shall hold office until the next annual election of directors and until his successor shall be elected and qualified.

SECTION 3.8. Quorum and Voting. Unless the Certificate of Incorporation provides otherwise, at all meetings of the Board of Directors a majority of the total number of directors shall be present to constitute a quorum for the transaction of business. A director interested in a contract or transaction may be counted in determining the presence of a quorum at a meeting of the Board of Directors which authorizes the contract or transaction. In the absence of a quorum, a majority of the directors present may adjourn the meeting until a quorum shall be present.

Members of the Board of Directors or any committee designated by the Board of Directors may participate in a meeting of the Board of Directors or such committee by means of a conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other, and participation in such a meeting shall constitute presence in person at such meeting.

The vote of the majority of the directors present at a meeting at which a quorum is present shall be the act of the Board of Directors.

SECTION 3.9. Regulations. The Board of Directors may hold its meetings and cause the books and records of the Company to be kept at such place or places within or without the State of Delaware as the Board of Directors may from time to time determine. A member of the Board of Directors shall, in the performance of his, duties be fully protected in relying in good faith upon the books of account or reports made to the Company by any of its officers, by an independent certified public accountant or by an appraiser selected with reasonable care by the Board of Directors or any committee of the Board of Directors or in relying in good faith upon other records of the Company.

SECTION 3.10. Annual Meeting of Board of Directors. An annual meeting of the Board of Directors shall be called and held for the purpose of organization, election of officers and transaction of any other business. If such meeting is held promptly after and at the place specified for the annual meeting of stockholders, no notice of the annual meeting of the Board of Directors need be given. Otherwise such annual meeting shall be held at such time (not more than thirty days after the annual meeting of stockholders) and place as may be specified in a notice of the meeting.

SECTION 3.11. Regular Meetings. Regular meetings of the Board of Directors shall be held at the time and place, within or without the State of Delaware, as shall from time to time be determined by the Board of Directors. After there has been such determination and notice thereof has been given to each member of the Board of Directors, no further notice shall be required for any such regular meeting. Except as otherwise provided by law, any business may be transacted at any regular meeting.

SECTION 3.12. Special Meetings. Special meetings of the Board of Directors may, unless otherwise prescribed by law, be called from time to time by the President, and shall be called by the President or the Secretary upon the written request of a majority of the whole Board of Directors directed to the President or the Secretary. Except as provided below, notice of any special meeting of the Board of Directors, stating the time, place and purpose of such special meeting, shall be given to each director.

SECTION 3.13. Notice of Meetings; Waiver of Notice. Notice of any meeting of the Board of Directors shall be deemed to be duly given to a director (i) if mailed to such director, addressed to him at his address as it appears upon the books of the Company or at the address last made known in writing to the Company by such director as the address to which such notices are to be sent at least two days before the day on which such meeting is to be held, (ii) if sent to him at such address by telecopier, telex or telegraph, not later than the day before the day on which such meeting is to be held, or (iii) if delivered to him personally or orally, by telephone or otherwise, not later than the day before the day on which such meeting is to be held. Each such notice shall state the time and place of the meeting and the purposes thereof.

Notice of any meeting of the Board of Directors need not be given to any director if waived by him in writing (or by telecopier, telex or telegram and confirmed in writing) whether before or after the holding of such meeting or if such director is present at such meeting. Any meeting of the Board of Directors shall be a duly constituted meeting without any notice thereof having been given if all directors then in office shall be present thereat.

SECTION 3.14. Committees of Directors. The Board of Directors may, by resolution or resolutions passed by a majority of the whole Board of Directors, designate one or more committees, each committee to consist of one or more of the directors of the Company.

Except as herein provided, vacancies in membership of any committee shall be filled by the vote of a majority of the whole Board of Directors. The Board of Directors may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of any member of a committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not he or they constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member. Members of a committee shall hold office for such period as may be fixed by a resolution adopted by a majority of the whole Board of Directors, subject, however, to removal at any time by the vote of a majority of the whole Board of Directors.

SECTION 3.15. Powers and Duties of Committees. Any committee, to the extent provided in the resolution or resolutions creating such committee, shall have and may exercise the powers of the Board of Directors in the management of the business and affairs of the Company and may authorize the seal of the Company to be affixed to all papers which may require it. No such committee shall have the power or authority with regard to amending the Certificate of Incorporation, adopting an agreement of merger or consolidation, recommending to the stockholders the sale, lease or exchange of all or substantially all of the Company's property and assets, recommending to the stockholders a dissolution of the Company or a revocation of a dissolution or amending the By-Laws. The Board of Directors may, in the

resolution creating a committee, grant to such committee the power and authority to declare a dividend or authorize the issuance of stock.

SECTION 3.16. Compensation of Directors. The Board of Directors may from time to time, in its discretion, fix the amounts which shall be payable to directors and to members of any committee of the Board of Directors for attendance at the meetings of the Board of Directors or of such committee and for services rendered to the Company.

SECTION 3.17. Action Without Meeting. Any action required or permitted to be taken at any meeting of the Board of Directors or of any committee thereof may be taken without a meeting if a written consent thereto is signed by all members of the Board of Directors or of such committee as the case may be, and such written consent is filed with the minutes of proceedings of the Board of Directors or such committee.

ARTICLE IV - OFFICERS

SECTION 4.1. Principal Officers. The principal officers of the Company shall be elected by the Board of Directors and shall include a President, a Secretary and a Treasurer and may, at the discretion of the Board of Directors, also include a Chairman of the Board, one or more Vice Presidents, a Chief Executive Officer, a Chief Financial Officer, a Chief Operating Officer and a Controller. Except as otherwise provided in the Certificate of Incorporation or these By-Laws, one person may hold the offices and perform the duties of any two or more of said principal offices.

SECTION 4.2. Election of Principal Officers; Term of Office. The principal officers of the Company shall be elected annually by the Board of Directors at each annual meeting of the Board of Directors. Failure to elect annually any principal officer shall not dissolve the Company.

If the Board of Directors shall fail to fill any principal office at an annual meeting, if any vacancy in any principal office shall occur or if any principal office shall be newly created, such principal office may be filled at any regular or special meeting of the Board of Directors.

Each principal officer shall hold office until his successor is duly elected and qualified, or until his earlier death, resignation or removal.

SECTION 4.3. Subordinate Officers, Agents and Employees. In addition to the principal officers, the Company may have one or more Assistant Treasurers, Assistant Secretaries, Assistant Controllers and such other subordinate officers, agents and employees as the Board of Directors may deem advisable, each of whom shall hold office for such period and have such authority and perform such duties as the Board of Directors, the President or any officer designated by the Board of Directors may from time to time determine. The Board of Directors at any time may appoint and remove, or may delegate to any principal officer the power to appoint and to remove, any subordinate officer, agent or employee of the Company.

SECTION 4.4. Delegation of Duties of Officers. The Board of Directors may delegate the duties and powers of any officer of the Company to any other officer or to any director for a specified period of time for any reason that the Board of Directors may deem sufficient.

SECTION 4.5. Removal of Officers. Any officer of the Company may be removed with or without cause by resolution adopted by a majority of the directors then in office at any regular or special meeting of the Board of Directors or by a written consent signed by all of the directors then in office.

SECTION 4.6. Resignations. Any officer may resign at any time by giving written notice of resignation to the Board of Directors, to the President or to the Secretary. Any such resignation shall take effect upon receipt of such notice or at any later time specified therein. Unless otherwise specified in the notice, the acceptance of a resignation shall not be necessary to make the resignation effective.

SECTION 4.7. Chairman of the Board. The Chairman of the Board, if any, shall preside at all meetings of stockholders and of the Board of Directors at which he is present. The Chairman of the Board shall have such other powers and perform such other duties as may be assigned to him from time to time by the Board of Directors.

SECTION 4.8. President. The President shall, in the absence of the Chairman of the Board, preside at all meetings of the stockholders and of the Board of Directors at which he is present. The President shall be the chief executive officer of the Company and shall have general supervision over the business of the Company. The President shall have all powers and duties usually incident to the office of the President except as specifically limited by a resolution of the Board of Directors. The President shall have such other powers and perform such other duties as may be assigned to him from time to time by the Board of Directors.

SECTION 4.9. Vice President. In the absence or disability of the President or if the office of President be vacant, the Vice Presidents in the order determined by the Board of Directors, or if no such determination has been made in the order of their seniority, shall perform the duties and exercise the powers of the President, subject to the right of the Board of Directors at any time to extend or confine such powers and duties or to assign them to others. Any Vice President may have such additional designation in his title as the Board of Directors may determine. The Vice Presidents shall generally assist the President in such manner as the President shall direct. Each Vice President shall have such other powers and perform such other duties as may be assigned to him from time to time by the Board of Directors or the President.

SECTION 4.10. Secretary. The Secretary shall act as Secretary of all meetings of stockholders and of the Board of Directors at which he is present, shall record all the proceedings of all such meetings in a book to be kept for that purpose, shall have supervision over the giving and service of notices of the Company and shall have supervision over the care and custody of the records and seal of the Company. The Secretary shall be empowered to affix the corporate seal to documents, the execution of which on behalf of the Company under its seal is duly authorized, and when so affixed may attest the same. The Secretary shall have all powers and duties usually incident to the office of Secretary except as specifically limited by a resolution of

the Board of Directors. The Secretary shall have such other powers and perform such other duties as may be assigned to him from time to time by the Board of Directors or the President.

SECTION 4.11. Treasurer. The Treasurer shall have general supervision over the care and custody of the funds and over the receipts and disbursements of the Company and shall cause the funds of the Company to be deposited in the name of the Company in such banks or other depositaries as the Board of Directors may designate. The Treasurer shall have supervision over the care and safekeeping of the securities of the Company. The Treasurer shall have all powers and duties usually incident to the office of Treasurer except as specifically limited by a resolution of the Board of Directors. The Treasurer shall have such other powers and perform such other duties as may be assigned to him from time to time by the Board of Directors or the President.

SECTION 4.12. Controller. The Controller shall be the chief accounting officer of the Company and shall have supervision over the maintenance and custody of the accounting operations of the Company. including the keeping of accurate accounts of all receipts and disbursements and all other financial transactions. The Controller shall have all powers and duties usually incident to the office of Controller except as specifically limited by a resolution of the Board of Directors. The Controller shall have such other powers and perform such other duties as may be assigned to him from time to time by the Board of Directors or the President.

SECTION 4.13. Bond. The Board of Directors shall have power, to the extent permitted by law, to require any officer agent or employee of the Company to give bond for the faithful discharge of his duties in such form and with such surety or sureties as the Board of Directors may determine.

ARTICLE V - CAPITAL STOCK

SECTION 5.1. Issuance of Certificates for Stock. Each stockholder of the Company shall be entitled to a certificate or certificates in such form as shall be approved by the Board of Directors certifying the number of shares of capital stock of the Company owned by such stockholder.

SECTION 5.2. Signatures on Stock Certificates. Certificates for shares of capital stock of the Company shall be signed by. or in the name of the Company by, the Chairman of the Board, the President or a Vice President and by the Secretary, the Treasurer, an Assistant Secretary or an Assistant Treasurer. Any of or all the signatures on the certificate may be a facsimile. In case any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed upon a certificate shall have ceased to be such officer, transfer agent or registrar before such certificate is issued, such certificate may be issued by the Company with the same effect as if such signer were such officer, transfer agent or registrar at the date of issue.

SECTION 5.3. Stock Ledger. A record of all certificates for capital stock issued by the Company shall be kept by the Secretary or any other officer or employee of the Company designated by the Secretary or by any transfer clerk or transfer agent appointed pursuant to Section 5.4 hereof. Such record shall show the name and address of the person, firm or

corporation in which certificates for capital stock are registered, the number of shares represented by each such certificate, the date of each such certificate and in case of certificates which have been canceled the dates of cancellation thereof.

The Company shall be entitled to treat the holder of record of shares of capital stock as shown on the stock ledger as the owner thereof and as the person entitled to receive dividends thereon, to vote such shares and to receive notice of meetings and for all other purposes. The Company shall not be bound to recognize any equitable or other claim to or interest in any share of capital stock on the part of any other person whether or not the Company shall have express or other notice thereof.

SECTION 5.4. Regulations Relating to Transfer. The Board of Directors may make such rules and regulations as it may deem expedient, not inconsistent with law, the Certificate of Incorporation or these By-Laws, concerning issuance, transfer and registration of certificates for shares of capital stock of the Company. The Board of Directors may appoint, or authorize any principal officer to appoint one or more transfer clerks or one or more transfer agents and one or more registrars and may require all certificates for capital stock to bear the signature or signatures of any of them.

SECTION 5.5. Transfers. Transfers of capital stock shall be made on the books of the Company only upon delivery to the Company or its transfer agent of (i) a written direction of the registered holder named in the certificate or such holder's attorney lawfully constituted in writing, (ii) the certificate for the shares of capital stock being transferred and (iii) a written assignment of the shares of capital stock evidenced thereby.

SECTION 5.6. Cancellation. Each certificate for capital stock surrendered to the Company for exchange or transfer shall be canceled and no new certificate or certificates shall be issued in exchange for any existing certificate (other than pursuant to Section 5.7) until such existing certificate shall have been canceled.

SECTION 5.7. Mutilated Certificates. In the event that any certificate for shares of capital stock of the Company shall be mutilated, the Company shall issue a new certificate in place of such mutilated certificate. In case any such certificate shall be lost, stolen or destroyed, the Company may, in the discretion of the Board of Directors or a committee designated thereby with power so to act, issue a new certificate for capital stock in the place of any such lost, stolen or destroyed certificate. The applicant for any substituted certificate or certificates shall surrender any mutilated certificate or, in the case of any lost, stolen or destroyed certificate, furnish satisfactory proof of such loss, theft or destruction of such certificate and of the ownership thereof. The Board of Directors or such committee may, in its discretion, require the owner of a lost, stolen or destroyed certificate or his representatives to furnish to the Company a bond with an acceptable surety or sureties and in such sum as will be sufficient to indemnify the Company against any claim that may be made against it on account of the lost, stolen or destroyed certificate or the issuance of such new certificate. A new certificate may be issued without requiring a bond when, in the judgment of the Board of Directors, it is proper to do so.

SECTION 5.8. Fixing of Record Dates. (a) The Board of Directors may fix in advance a record date, which shall not be more than sixty nor less than ten days before the date of any

meeting of stockholders nor more than sixty days prior to any other action, for the purpose of determining stockholders entitled to notice of or to vote at such meeting of stockholders or any adjournment thereof, to express consent or dissent to corporate action in writing without a meeting or to receive payment of any dividend or other distribution or allotment of any rights, or to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action.

(b) If no record date is fixed by the Board of Directors:

(i) The record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or if notice is waived at the close of business on the day next preceding the day on which the meeting is held;

(ii) The record date for determining stockholders entitled to express consent to corporate action in writing without a meeting when no prior action by the Board of Directors is necessary shall be the day on which the first consent is expressed;

(iii) The record date for determining stockholders for any other purpose shall be at the close of business on the day on which the Board of Directors adopts the resolution relating thereto.

(c) A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; provided that the Board of Directors may fix a new record date for the adjourned meeting.

ARTICLE VI - INDEMNIFICATION

SECTION 6.1. General. To the fullest extent permitted by applicable law, the Company shall indemnify, and advance Expenses (as hereinafter defined) to, each and every person who is or was a director, officer, employee, agent or fiduciary of the Company or of any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise in which such person is or was serving at the request of the Company and who, because of any such position or status, is directly or indirectly involved in any action, suit, arbitration, alternate dispute resolution mechanism, investigation, administrative hearing or any other proceeding whether civil, criminal, administrative or investigative (a "Proceeding"). "Expenses" shall include all reasonable attorneys' fees, retainers, court costs, transcript costs, fees of experts, witness fees, travel expenses, duplicating costs, printing and binding costs, telephone charges, postage delivery service fees, and all other disbursements or expenses of the types customarily incurred in connection with prosecuting, defending, preparing to prosecute or defend. investigating, or being or preparing to be a witness in a Proceeding.

SECTION 6.2. Indemnification Insurance. The Company shall have power to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the Company, or is or was serving at the request of the Company as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise,

against any liability asserted against him and incurred by him in any such capacity or arising out of his status as such whether or not the Company would have the power to indemnify him against such liability under applicable law.

ARTICLE VII - MISCELLANEOUS PROVISIONS

SECTION 7.1. Corporate Seal. The seal of the Company shall be circular in form with the name of the Company in the circumference and the words and figures "Corporate Seal - 1998 Delaware" in the center. The seal may be used by causing it to be affixed or impressed, or a facsimile thereof may be reproduced or otherwise used in such manner as the Board of Directors may determine.

SECTION 7.2. Fiscal Year. The fiscal year of the Company shall be from the 1st day of January to the 31st day of December, inclusive in each year, or such other twelve consecutive months as the Board of Directors may designate.

SECTION 7.3. Waiver of Notice. Whenever any notice is required to be given under any provision of law, the Certificate of Incorporation or these By-Laws, a written waiver thereof, signed by the person or persons entitled to such notice, whether before or after the time stated therein, shall be deemed equivalent to notice.

Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting at the beginning of the meeting to the transaction of any business because the meeting is not lawfully/called or convened.

SECTION 7.4. Execution of Instruments, Contracts, etc. (a) All checks, drafts, bills of exchange, notes or other obligations or orders for the payment of money shall be signed in the name of the Company by such officer or officers or person or persons as the Board of Directors may from time to time designate.

(b) Except as otherwise provided by law, the Board of Directors, any committee given specific authority in the premises by the Board of Directors or any committee given authority to exercise generally the powers of the Board of Directors during the intervals between meetings of the Board of Directors may authorize any officer, employee or agent, in the name of and on behalf of the Company to enter into or execute and deliver deeds. bonds, mortgages. contracts and other obligations or instruments, and such authority may be general or confined to specific instances.

(c) All applications, written instruments and papers required by or filed with any department of the United States Government or any state, county, municipal or other governmental official or authority may if permitted by applicable law be executed in the name of the Company by any principal officer or subordinate officer of the Company or, to the extent designated for such purpose from time to time by the Board of Directors, by an employee or agent of the Company. Such designation may contain the power to substitute, in the discretion of the person named, one or more other persons.

ARTICLE VIII - AMENDMENTS

SECTION 8.1. By Stockholders. These By-Laws may be amended, added to, altered or repealed, or new By-Laws may be adopted, at any meeting of stockholders by the vote of the holders of not less than a majority of the outstanding shares of stock entitled to vote thereat, provided that, in the case of a special meeting, notice that an amendment is to be considered and acted upon shall be inserted in the notice or waiver of notice of said meeting.

SECTION 8.2. By Directors. To the extent permitted by the Certificate of Incorporation, these By-Laws may be amended, added to, altered or repealed, or new By-Laws may be adopted, at any regular or special meeting of the Board of Directors.

ARTICLES OF AMENDMENT
OF
MICRODYNE COMMUNICATIONS TECHNOLOGY INCORPORATED

FIRST: Article SECOND of the Articles of Incorporation of Microdyne Communications Technology Incorporated (the "Corporation") is hereby amended in its entirety to read as follows (the "Amendment"):

SECOND: The name of the corporation (which is hereinafter called the "Corporation") is:

Microdyne Communications Technologies Incorporated

SECOND: By unanimous written consent, the Amendment was advised by the Corporation's Board of Directors and directed to be submitted to the Corporation's sole stockholder for its approval.

THIRD: By written consent of the sole stockholder, the Amendment was approved by the Corporation's sole stockholder.

FOURTH: The undersigned Treasurer and Chief Financial Officer acknowledges these Articles of Amendment to be the corporate act of the Corporation and as to all matters or facts required to be verified under oath, the undersigned Treasurer and Chief Financial Officer acknowledges that to the best of his knowledge, information and belief, these matters and facts are true in all material respects and that this statement is made under the penalties for perjury.

IN WITNESS WHEREOF the Corporation has caused these Articles of Amendment to be signed in its name and on its behalf by its Treasurer and Chief Financial Officer and attested to by its Secretary on this 22nd day if July 1998.

ATTEST:	MICRODYNE COMMUNICATIONS TECHNOLOGY INCORPORATED
/s/ Gareth U. Higgins	/s/ Massoud Safavi
- ----------	----------
Gareth U. Higgins	Massoud Safavi
Secretary	Treasurer and Chief Financial Officer

ARTICLES OF INCORPORATION
OF
MICRODYNE COMMUNICATIONS TECHNOLOGY INCORPORATED

THIS IS TO CERTIFY THAT:

FIRST: The undersigned, William G. Miller, whose post office address is c/o McGuire, Woods, Battle & Boothe, LLP, 1627 Eye Street, N.W., Washington, D.C. 20006, being at least eighteen (18) years of age, does hereby form a corporation under the general laws of the State of Maryland.

SECOND: The name of the corporation (which is hereinafter called the "Corporation") is:

Microdyne Communications Technology Incorporated

THIRD: The purpose for which the Corporation is formed is to carry on any lawful business, within the State of Maryland or elsewhere, and the Corporation shall have, enjoy and exercise all of the powers and rights now or hereafter conferred by statute upon corporations.

FOURTH: The post office address of the principal office of the Corporation in the state of Maryland is 11 East Chase Street, Baltimore, Maryland 21202.

FIFTH: The Resident Agent of the Corporation is CSC-Lawyers Incorporating Service Company, a Maryland corporation, whose post office address is 11 East Chase Street, Baltimore, Maryland 21202.

SIXTH: The Corporation shall have a Board of Directors consisting of six (6) Directors, which number may be increased or decreased in accordance with the By-Laws of the Corporation, but shall never be less than the number required by Section 2-402 of the Corporation and Associations Article of the Annotated Code of Maryland, as may be amended from time to time. The names of the Directors who shall act as such until the first annual meeting of the Stockholders and until their successors are elected and qualify are:

Phillip T. Cunningham
Michael E. Jalbert
Christopher M. Maginniss
Curbs M. Coward
Gregory W. Fazakerley
H. Brian Thompson

SEVENTH: The total number of shares of stock which the Corporation has authority to issue is Five Thousand (5,000) shares of common stock, par value $0.01 per share, all of one class.

EIGHTH: In carrying on its business, or for the purpose of attaining or furthering any of its objects, the Corporation shall have all of the rights, powers and privileges granted to

corporations by the laws of the State of Maryland, and the power to do any and all acts and things which a natural person or partnership could do and which may now or hereafter be authorized by law, either alone or in partnership or conjunction with others. In furtherance and not in limitation of the powers conferred by statute, the powers of the Corporation and of the Directors and Stockholders shall include the following:

(a) Any Director individually, or any firm of which any Director may be a member, or any corporation or association of which any Director may be an officer or director or in which any Director may be interested as the holder of any amount of its capital stock or otherwise, may be a party to, or may be pecuniarily or otherwise interested in, any contract or transaction of the Corporation, and, in the absence of fraud, no contract or other transaction shall be thereby affected or invalidated; provided that in case a Director, or firm of which a Director is a member, or a corporation or association of which a Director is an officer or director or in which a Director is interested as the holder of any amount of its capital stock or otherwise, is so interested, such fact shall be disclosed or shall have been known to the Board of Directors or a majority thereof. Any Director of the Corporation who is also a Director or officer of or interested in such other corporation or association, or who, or the firm of which he is a member, is so interested, may be counted in determining the existence of a quorum at any meeting of the Board of Directors of the Corporation which shall authorize any such contract or transaction, with like force and effect as if he were not such director or officer of such other corporation or association or were not so interested or were not a member of a firm so interested.

(b) The Corporation reserves the right, from time to time, to make any amendment of its Charter, now or hereafter authorized by law, including any amendment which alters the contract rights, as expressly set forth in its Charter, of any outstanding stock.

(c) Except as otherwise provided in these Articles of Incorporation, the Charter or the By-Laws of the Corporation, as from time to time amended, the business of the Corporation shall be managed by its Board of Directors, which shall have and may exercise all the powers of the Corporation except such as are by law, these Articles of Incorporation, the Charter or the By-Laws, conferred upon or reserved to the Stockholders. Additionally, the Board of Directors of the Corporation is hereby specifically authorized and empowered from time to time in its discretion:

(1) To authorize the issuance from time to time of shares of its stock of any class, whether now or hereafter authorized, or securities convertible into shares of its stock, of any class or classes, whether now or hereafter authorized, for such consideration as said Board of Directors may deem advisable, subject to such restrictions or limitations, if any, as may be set forth in the By-Laws of the Corporation;

(2) By articles supplementary to these Articles of Incorporation, to classify or reclassify any unissued shares by fixing or altering in any one or more aspects, from time to time before issuance of such shares, the preferences, rights, voting powers, restrictions and qualifications of, the dividends on, the times and prices of redemption of, and the conversion rights of, such shares.

NINTH: No director or officer of the Corporation shall be liable to the Corporation or its Stockholders for money damages, except (1) to the extent that it is proved that the person actually received an improper benefit or profit in money, property or services, for the amount of the benefit or profit in money, property or services actually received, or (2) to the extent that a judgment or other final adjudication adverse to the person is entered in a proceeding based on a finding in the proceeding that the person's action, or failure to act, was the result of active and deliberate dishonesty and was material to the cause of action adjudicated in the proceeding. No director or officer shall be deemed to have received any improper benefit or profit within the meaning of this Article NINTH by reason of any payment or distribution to or in respect of the common stock of the Corporation, which payment or distribution applies or is available equally to all outstanding shares of common stock of the Corporation.

TENTH: No holder of stock of any class shall have any preemptive right to subscribe to or purchase any additional shares of any class, or any bonds or convertible securities of any nature; provided, however, that the Board of Directors may, in authorizing the issuance of stock of any class, confer any preemptive right that the Board of Directors may deem advisable in connection with such issuance.

ELEVENTH: The Corporation shall indemnify its directors and officers to the full extent permitted by the general corporate laws of the State of Maryland now or hereafter in force, including the advance of expenses under the procedures provided by such laws. The foregoing shall not limit the authority of the Corporation to indemnify other employees and agents consistent with law.

IN WITNESS WHEREOF, I have signed these Articles of Incorporation, and I acknowledge the same to be my act on this 12th day of March, 1998.

/s/ William G. Miller

William G. Miller

BYLAWS

OF

MICRODYNE COMMUNICATION TECHNOLOGIES INCORPORATED

ARTICLE I
MEETINGS OF STOCKHOLDERS

Section 1. PLACE. All meetings of stockholders shall be held at the principal office of the corporation or at such other place within the United States as shall be stated in the notice of the meeting.

Section 2. ANNUAL MEETING. An annual meeting of the stockholders for the election of directors and the transaction of any business within the powers of the corporation shall be held within six (6) months of the close of the corporation's fiscal year at such location and at such date and time as may be fixed by the Board of Directors. If the day fixed for the annual meeting shall be a legal holiday, such meeting shall be held at the same time on the next succeeding business day.

Section 3. SPECIAL MEETINGS. The President or Board of Directors may call special meetings of the stockholders. Special meetings of stockholders shall also be called by the Secretary upon the written request of the holders of shares entitled to cast not less than thirty three percent (33%) of all the votes entitled to be cast at such meeting. Such request shall state the purpose or purposes of such meeting and the matters proposed to be acted on thereat. The Secretary shall inform such stockholders of the reasonably estimated cost of preparing and mailing such notice of the meeting, and upon payment to the corporation of such costs, the Secretary shall give notice stating the purpose or purposes of the meeting to all stockholders entitled to vote at such meeting. No special meeting need be called upon the request of the holders of shares entitled to cast less than a majority of all votes entitled to be cast at such meeting, to consider any matter which is substantially the same as a matter voted upon at any special meeting of the stockholders held during the preceding twelve months.

Section 4. NOTICE. Not less than ten nor more than ninety days before the date of every meeting of stockholders, the Secretary shall give, to each stockholder entitled to vote who is entitled to notice by statute, written or printed notice stating the time and place of the meeting and, in the case of a special meeting or as otherwise may be required by statute, the purpose or purposes for which the meeting is called, either by mail or by presenting it to him personally or by leaving it at his residence or usual place of business. If mailed, such notice shall be deemed to be given when deposited in the United States mail addressed to the stockholder at his post office address as it appears on the records of the corporation, with postage prepaid.

Section 5. SCOPE OF NOTICE. No business shall be transacted at a special meeting of stockholders except that specifically designated in the notice. Any business of the corporation may be transacted at the annual meeting without being specifically designated in the notice, except such business as is required by statute to be stated in such notice.

Section 6. QUORUM. At any meeting of stockholders, the presence in person or by proxy of stockholders entitled to cast a majority of the votes shall constitute a quorum; but this section shall not affect any requirement under any statute or the charter for the vote necessary for the adoption of any measure. If, however, a quorum is not present at any meeting of the stockholders, the stockholders present in person or by proxy shall have the power to adjourn the meeting from time to time without notice other than announcement at the meeting until a quorum is present. At any adjourned meeting at which a quorum is present, any business may be transacted which might have been transacted at the meeting as originally notified. The stockholders present at a meeting which has been duly called and convened and at which a quorum is present at the time counted may continue to transact business until adjournment, notwithstanding the withdrawal of enough stockholders to leave less than a quorum.

Section 7. VOTING. A majority of the votes cast at a meeting of stockholders duly called and at which a quorum is present shall be sufficient to take or authorize action upon any matter which may properly come before the meeting, unless more than a majority of the votes cast is required by statute or by the charter. Unless otherwise provided in the charter, each outstanding share, regardless of class, shall be entitled to one vote upon each matter submitted to a vote at a meeting of stockholders.

Section 8. PROXIES. A stockholder may vote the shares owned of record by him, either in person or by proxy executed in writing by the stockholder or by his duly authorized attorney in fact. Such proxy shall be filed with the Secretary of the corporation before or at the time of the meeting. No proxy shall be valid after eleven months from the date of its execution, unless otherwise provided in the proxy.

Section 9. VOTING OF SHARES BY CERTAIN HOLDERS. Shares standing in the name of another corporation, when entitled to be voted, may be voted by the president or vice-president or by proxy appointed by the president or a vice-president of such other corporation, unless some other person who has been appointed to vote such shares pursuant to a bylaw or a resolution of the Board of Directors of such other corporation presents a certified copy of such bylaws or resolution, in which case such person may vote such shares. Any fiduciary may vote shares standing in his name as such fiduciary, either in person or by proxy.

Shares of its own stock directly or indirectly owned by this corporation shall not be voted in any meeting and shall not be counted in determining the total number of outstanding shares entitled to vote at any given time, but shares of its own stock held by it in a fiduciary capacity may be voted and shall be counted in determining the total number of outstanding shares at any given time.

Section 10. INSPECTORS. At any meeting of stockholders, the chairman of the meeting may, or upon the request of any stockholder shall, appoint one or more persons as inspectors for such meeting. Such inspectors shall ascertain and report the number of shares represented at the meeting based upon their determination of the validity and effect of proxies, count all votes, report the results and do such other acts as are proper to conduct the election and voting with impartiality and fairness to all the stockholders.

Each report of an inspector shall be in writing and signed by him or by a majority of them if there be more than one inspector acting at such meeting. If there is more than one inspector, the report of a majority shall be the report of the inspectors. The report of the inspector or inspectors on the number of shares represented at the meeting and the results of the voting shall be prima facie evidence thereof.

Section 11. INFORMAL ACTION BY STOCKHOLDERS. Any action required or permitted to be taken at a meeting of stockholders may be taken without a meeting if a consent in writing, setting forth such action, is signed by all the stockholders entitled to vote on the subject matter thereof and any other stockholders entitled to notice of a meeting of stockholders (but not to vote thereat) have waived in writing any Rights which they may have to dissent from such action, and such consents and waivers are filed with the minutes of proceedings of the stockholders. Such consents and waivers may be signed by different stockholders on separate counterparts.

ARTICLE II
DIRECTORS

Section 1. GENERAL POWERS. The business and affairs of the corporation shall be managed by its Board of Directors.

Section 2. NUMBER, TENURE AND QUALIFICATION. The number of directors of the corporation shall be that number set forth in the Articles of Incorporation of the Corporation, or such other number as may be designated from time to time by resolution of s majority of the entire Board of Directors, provided, however, that the number of Directors shall never be more than fifteen (15) nor less than the minimum number required by Section 2-402 of the Corporations and Associations Article of the Annotated Code of Maryland, as may be amended from time to time, and further provided that the tenure of office of a director shall not be affected by and decrease in the number of directors. Each director shall serve until the next annual meeting of stockholders and until his or her successor is elected and qualifies.

Section 3. ANNUAL AND REGULAR MEETINGS. An annual meeting of the Board of Directors shall be held promptly after the annual meeting of stockholders, no notice other than this bylaw being necessary. The Board of Directors may provide, by resolution, the time and place, either within or without the State of Maryland, for the holding of regular meetings of the Board of Directors without other notice than such resolutions.

Section 4. SPECIAL MEETINGS. Special meetings of the Board of Directors may be called by or at the request of the President or by a majority of the directors then in office. The person or persons authorized to call special meetings of the Board of Directors may fix any place, either within or without the State of Maryland, as the place for holding any special meeting of the Board of Directors called by them.

Section 5. NOTICE. Notice of any special meeting to be provided herein shall be given by written notice delivered personally, telegraphed or mailed to each director at his business or residence at least two (2) days prior to the meeting. Notice by mail shall be given at least five (5) days prior to the meeting. If mailed, such notice shall be deemed to be delivered when deposited

in the United States mail properly addressed, with postage thereon prepaid. If notice be given by telegram, such notice shall be deemed to be delivered when the telegram is delivered to the telegraph company. Neither the business to be transacted at, nor the purpose of, any annual, regular or special meeting of the Board of Directors need be specified in the notice, unless specifically required by statute or these Bylaws.

Section 6. QUORUM. A majority of the Board of Directors then in office shall constitute a quorum for transaction of business at any meeting of the Board of Directors, provided that, if less than a majority of such number of directors are present at said meeting, a majority of the directors present may adjourn the meeting from time to time without further notice.

The directors present at a meeting which has been duly called and convened may continue to transact business until adjournment, notwithstanding the withdrawal of enough directors to leave less than a quorum.

Section 7. VOTING. The action of the majority of the directors present at a meeting at which a quorum is present shall be the act of the Board of Directors, unless the concurrence of a greater proportion is required for such action by applicable statute or these Bylaws.

Section 8. VACANCIES. Any vacancy occurring in the Board of Directors for any cause other than by reason of an increase in the number of directors may be filled by a majority vote of the remaining directors, although such majority is less than a quorum. Any vacancy occurring in the Board of Directors by reason of an increase in the number of directors may be filled by a majority vote of the entire Board of Directors. A director elected by the Board of Directors to fill a vacancy shall hold office until the next annual meeting of stockholders or until his or her successor is elected and qualifies.

Section 9. FORMAL ACTION BY DIRECTORS. Any action required or permitted to be taken at any meeting of the Board of Directors may be taken without a meeting, if a consent in writing to such action is signed by all of the directors and such written consent is filed with the minutes of the Board of Directors. Consents may be signed by different directors on separate counterparts.

Section 10. COMPENSATION. Directors, as such, shall not receive any stated salary for their services, but, by resolution of the Board of Directors, a fixed sum and expenses of attendance, if any, may be allowed to directors for attendance at each annual, regular or special meeting of the Board of Directors, or of any committee thereof, but nothing herein contained shall be construed to preclude any director from serving the corporation in any other capacity and receiving compensation therefor.

Section 11. REMOVAL OF DIRECTORS. The stockholders may, at any time, remove any director, with or without cause, by the affirmative vote of a majority of all the votes entitled to be cast on the matter, and may elect a successor to fill any resulting vacancy for the balance of the term of the removed director.

ARTICLE III
COMMITTEES

Section 1. NUMBER, TENURE AND QUALIFICATIONS. The Board of Directors may appoint from among its members an Executive Committee and other committees, composed of two or more directors, to serve at the pleasure of the Board of Directors.

Section 2. DELEGATION OF POWER. The Board of Directors may delegate to these committees in the intervals between meetings of the Board of Directors any of the powers of the Board, of Directors to manage the business and affairs of the corporation, except those powers which the Board of Directors is specifically prohibited from delegating pursuant to Section 2-411 of the Corporations and Associations Article of the Annotated Code of Maryland, as may be amended from time to time.

Section 3. MEETINGS. In the absence of any member of any such committee, the members thereof present at such meeting, whether or not they constitute a quorum, may appoint a member of the Board of Directors to act in the place of such absent members.

Section 4. INFORMAL ACTION BY COMMITTEES. Any action required or permitted to be taken at any meeting of a committee of the Board of Directors may be taken without a meeting, if a written consent to such action is signed by all members of the committee and such written consent is filed with the minutes of proceedings of such committee. Consents may be signed by different members of a committee on separate counterparts.

ARTICLE IV
OFFICERS

Section 1. POWERS AND DUTIES. The officers of the corporation shall be elected annually by the Board of Directors at the first meeting of the Board of Directors held after each annual meeting of stockholders. If the election of officers shall not be held at such meeting, such election shall be held as soon thereafter as may be convenient. Each officer shall hold office until his successor is duly elected and qualifies or until his death, resignation or removal in the manner hereinafter provided. Any two or more offices except President and Vice-President may be held by the same person. Election or appointment of an officer or agent shall not of itself create contract rights between the corporation and such officer or agent.

Section 2. REMOVAL. Any officer or agent elected or appointed by the Board of Directors may be removed by the Board of Directors at any time with or without cause, but such removal shall be without prejudice to the contract rights, if any, of the person so removed.

Section 3. VACANCIES. A vacancy in any office may be filled by the Board of Directors for the unexpired portion of the term.

Section 4. PRESIDENT. The President shall be the principal executive officer of the corporation, shall in general supervise and control all of the business and affairs of the corporation and shall have such powers and perform such duties as generally pertain to that position or as may, from time to time, be assigned to him by the Board of Directors.

Section 5. SECRETARY. The Secretary shall (a) keep the minutes of the proceedings of the, stockholders and Board of Directors in one or more books provided for that purpose; (b) see that all notices are duly given in accordance with the provisions of these Bylaws or as required by law; (c) be custodian of the corporate records and of the seal of the corporation; (d) keep a register of the post office address of each stockholder which shall be furnished to the Secretary by such stockholder; (e) have general charge of the stork transfer books of the corporation; and (f) in general perform all duties as from time to time may be assigned to him by the President or by the Board of Directors.

Section 6. TREASURER. The Treasurer shall have the custody of the corporate funds and securities and shall keep full and accurate accounts of receipts and disbursements in books belonging to the corporation and shall deposit all moneys and other valuable effects in the name and to the credit of the corporation in such depositaries as may be designated by the Board of Directors.

The treasurer shall disburse the funds of the corporation as may be ordered by the Board of Directors, taking proper vouchers for such disbursements, and shall render to the President and Board of Directors, at the regular meetings of the Board or whenever they may require it, an account of all his transactions as treasurer and of the financial condition of the corporation.

If required by the Board of Directors, the treasurer shall give the corporation a bond in such sum and with such surety or sureties as shall be satisfactory to the Board of Directors for the faithful performance of the duties of his office and for the restoration to the corporation, in case of his death, resignation, retirement or removal from office, of all books, papers, vouchers, money and other property of whatever kind in his or her possession or under his or her control belonging to the corporation.

Section 7. OTHER OFFICERS. The Board of Directors may appoint such other officers and agents as it shall deem necessary. The other officers of the Corporation shall have such authority and perform such duties as shall be prescribed by the Board of Directors or by officers authorized by the Board of Directors to appoint them to their respective offices. To the extent that such duties are not so stated, such officers shall have such authority and perform the duties which generally pertain to their respective offices, subject to the control of the President or the Board of Directors.

Section 8. ANNUAL REPORT. The President or other executive officer of the corporation shall prepare or cause to be prepared annually a full and correct statement of the affairs of the corporation, including a balance sheet and a statement of the results of operations for the preceding fiscal year, which shall be submitted at the annual meeting of the stockholders and filed within twenty (20) days thereafter at the principal office of the corporation in the State of Maryland.

Section 9. SALARIES. The salaries of the officers shall be fixed from time to time by the Board of Directors and no officer shall be prevented from receiving such salary by reason of the fact that he is also a director of the corporation.

ARTICLE V
CONTRACTS, LOANS CHECKS AND DEPOSITS

Section 1. CONTRACTS. The Board of Directors may authorize any officer or officers, agent or agents, to enter into any contract or to execute and deliver any instrument in the name of and on behalf of the corporation, and such authority may be general or confined to specific instances.

Section 2. CHECKS, DRAFTS, ETC. All checks, drafts or other orders for the payment of money, notes or other evidences of indebtedness issued in the name of the corporation shall be signed by such officers or agents of the corporation and in such manner as shall from time to time be determined by resolution of the Board of Directors.

Section 3. DEPOSITS. All funds of the corporation not otherwise employed shall be deposited from time to time to the credit of the corporation in such banks, trust companies or other depositaries as the Board of Directors, or officers of the corporation authorized by the Board of Directors, may select.

ARTICLE VI
SHARES OF STOCK

Section 1. CERTIFICATES OF STOCK. Each stockholder shall be entitled to a certificate or certificates which shall represent and certify the number of shares of each class of stack owned by him or her in the corporation. Each certificate shall be signed by the President or a Vice President and countersigned by the Secretary or an Assistant Secretary or the treasurer or an assistant treasurer and may be sealed with the corporate seal. The signatures may be either manual or facsimile. Certificates shall be consecutively numbered. If the corporation issues, from time to time, several classes of stock, each class may have its own number or series. In case any officer who has signed any certificate ceases to be an officer of the corporation before the certificate is issued, the certificate may nevertheless be issued by the corporation with the same effect as if the officer has not ceased to be such officer as of the date of its issue. Each certificate representing stock which is restricted or limited as to its transferability or voting powers, which is preferred or limited as to its dividends or as to its share of the assets upon liquidation or which is redeemable at the option of the corporation, shall have a statement of such restriction, limitation, preference or redemption provisions, or a summary thereof, plainly stated on the certificate. In lieu of such statement or summary, the corporation may set forth upon the face or back of the certificate a statement that the corporation will furnish to any stockholder, upon request and without charge, a full statement of such information.

Section 2. TRANSFERS OF STOCK. Upon surrender to the corporation or the transfer agent of the corporation of a certificate of stock duly endorsed or accompanied by proper evidence of succession, assignment or authority to transfer, the corporation shall issue a new certificate to the person entitled thereto, cancel the old certificate and record the transaction upon its books.

The corporation shall be entitled to treat the holder of record of any share or shares of stock as the holder in fact thereof and, accordingly, shall not be bound to recognize any equitable

or other claim to or interest in such share on the part of any other person, whether or not it shall have express or other notice thereof, except as otherwise provided by the laws of the State of Maryland.

Section 3. LOST CERTIFICATE. The Board of Directors may direct a new certificate to be issued in the place of any certificate theretofore issued by the corporation alleged to have been stolen, lost or destroyed upon the making of an affidavit of that fact by the person claiming the certificate of stock to be stolen, lost or destroyed. When authorizing such issue of a new certificate, the Board of Directors may, in its discretion and as a condition precedent to the issuance thereof, require the owner of such stolen, lost or destroyed certificate or his legal representative to advertise the same in such manner as it shall require and/or to give bond, with sufficient surety, to the corporation to indemnify it against any loss or claim which may arise by reason of the issuance of a new certificate.

Section 4. CLOSING OF TRANSFER BOOKS OR FIXING OF RECORD DATE. The Board of Directors may fix, in advance, a date as the record date for the purpose of determining stockholders entitled to notice of, or to vote at, any meeting of stockholders, or stockholders entitled to receive payment of any dividend or the allotment of any rights, or in order to make a determination of stockholders for any other proper purpose. Such date, in any case, shall be not more than ninety (90) days, and in case of a meeting of stockholders not less than ten (10) days, prior to the date on which the meeting or particular action requiring such determination of stockholders is to be held or taken.

In lieu of fixing a record date, the Board of Directors may provide that the stock transfer books shall be closed for a stated period but not to exceed twenty (20) days. If the stock transfer books are closed for the purpose of determining stockholders entitled to notice of or to vote at a meeting of stockholders, such books shall be closed for at least ten (10) days immediately preceding such meeting.

If no record date is fixed and the stock transfer books are not closed for the determination of stockholders, (a) the record date for the determination of stockholders entitled to notice of, or to vote at, a meeting of stockholders shall be at the close of business on the day on which the notice of meeting is mailed or the 30th day before the meeting, whichever is the closer date to the meeting; and (b) the record date for the determination of stockholders entitled to receive payment of a dividend or an allotment of any rights shall be at the close of business on the day on which the resolution of the Board of Directors, declaring the dividend or allotment of rights, is adopted.

When a determination of stockholders entitled to vote at any meeting of stockholders has been made as provided in this section, such determination shall apply to any adjournment thereof, except where the determination has been made through the closing of the stock transfer books and the stated period of closing has expired.

ARTICLE VII
FISCAL YEAR

The Board of Directors shall have the power, from time to time, to fix the fiscal year of the corporation by a duly adopted resolution.

ARTICLE VIII
DIVIDENDS

Section 1. DECLARATION. Dividends upon the capital stock of the corporation, subject to the provisions, if any, of the charter of the corporation, may be declared by the Board of Directors at any meeting, pursuant to law. Dividends may be paid in cash, property or shares of the corporation, subject to the provisions of law and of the charter.

Section 2. CONTINGENCIES. Before payment of any dividends, there may be set aside out of any funds of the corporation available for dividends such sum or sums as the Board of Directors may from time to time, in its absolute discretion, think proper as a reserve fund to meet contingencies, for equalizing dividends, for repairing or maintaining any property of the corporation or for such other purpose as the Board of Directors shall determine to be in the best interest of the corporation, and the Board of Directors may modify or abolish any such reserve in the manner in which it was created.

ARTICLE IX
SEAL

Section 1. SEAL. The corporate seal shall have inscribed thereon the name of the corporation, the year of its organization and the words "Incorporated Maryland". The Board of Directors may authorize one or more duplicate seals and provide for the custody thereof.

Section 2. AFFIXING SEAL. Whenever the corporation is required to place its corporate seal to a document, it shall be sufficient to meet the requirements of law, rule or regulation relating to a corporate seal to place the word "(seal)" adjacent to the signature of the authorized officer.

ARTICLE X
STOCK LEDGER

The corporation shall maintain at its principal office or at the office of its counsel, accountants or transfer agent, an original or duplicate stock ledger containing the names and addresses of all the stockholders and the number of shares of each class held by each stockholder.

ARTICLE XI
INDEMNIFICATION

The Corporation shall indemnify its directors and officers to the full extent permitted by the general corporate laws of the State of Maryland, now or hereafter in force, including the advance of expenses under the procedures provided by such laws.

In addition to any indemnification permitted by these Bylaws, the Board of Directors shall, in its sole discretion, have the power to grant such indemnification as it deems in the interest of the corporation to the full extent permitted by law.

The corporation shall have power to purchase and maintain insurance on behalf of any person who is or was serving the corporation or any other entity at the request of the corporation, in any capacity, against any liability, whether or not the corporation would have the power to indemnify him against such liability.

This Article shall not limit the corporation's power to indemnify against liabilities other than those arising from a person's serving the corporation as an officer, director, employee or agent.

ARTICLE XII
WAIVER OF NOTICE

Whenever any notice is required to be given pursuant to the charter or Bylaws of the corporation or pursuant to applicable law, a waiver thereof in writing, signed by the person or persons entitled to such notice, whether before or after the time stated therein, shall be deemed equivalent to the giving of such notice. Neither the business to be transacted at nor the purpose of any meeting need be set forth in the waiver of notice, unless specifically required by statute. The attendance of any person at any meeting shall constitute a waiver of notice of such meeting, except where such person attends a meeting for the express purpose of objecting to the transaction of any business on the ground that the meeting is not lawfully called or convened.

ARTICLE XIII
AMENDMENT OF BYLAWS

Section 1. BY DIRECTORS. The Board of Directors shall have the power, at any annual or regular meeting, or at any special meeting if notice thereof be

included in the notice of such special meeting, to alter or repeal any Bylaws of the corporation and to make new Bylaws, except that the Board of Directors shall not alter or repeal this Section or any Bylaws made by the stockholders.

Section 2. BY STOCKHOLDERS. The Stockholders shall have the power, at any annual meeting, or at any special meeting if notice thereof be included in the notice of such special meeting, to alter or repeal any Bylaws of the corporation and to make new Bylaws.

ARTICLES OF AMENDMENT AND RESTATEMENT
OF
MICRODYNE CORPORATION

FIRST: That the Corporation desires to restate its charter as currently in effect and to include in this restatement any amendments which have been approved in the manner required for a charter amendment. These Articles of Amendment and Restatement include all provisions which are currently in effect. All amendments to the charter included in these Articles of Amendment and Restatement have been declared advisable by a majority of the Board of Directors and approved by the stockholders by the affirmative vote of a majority of all voters entitled to be cast on the matter.

SECOND: The name of the corporation (which is hereinafter called the "Corporation") is: MICRODYNE CORPORATION.

THIRD: The purposes for which the Corporation is formed are as follows:

To manufacture, assemble, fabricate, produce, purchase, receive, or otherwise acquire, own, hold, use, repair, service, maintain, mortgage, pledge, or otherwise encumber, sell, assign, lease as lessor, distribute, export and otherwise dispose of, and generally to trade and deal in and with, as principal, agent, factor, distributor, representative, associate, participant or otherwise, telemetry receivers and systems; radio circuits, equipment and systems; data acquisition, evaluation and processing equipment and systems; and electrical, electronic, electro-mechanical, optical and mechanical devices, machinery, parts, tools, equipment, appliances, instruments, supplies and materials of every class and description, and all other commodities, materials, supplies, appurtenances or equipment incident to or required in the judgment of the Board of Directors, for any of the aforegoing purposes and productions; and to license others to deal therein and therewith, and to acquire all necessary manufacturing and other equipment, raw materials or component parts required in connection with any of the aforegoing purposes.

To manufacture, purchase or otherwise acquire, invest in, own, mortgage, pledge, sell, assign and transfer or otherwise dispose of, trade, deal in and deal with goods, wares and merchandise and personal property of every class and description.

To acquire, encumber, dispose of, develop, manage, improve, alter, remodel, and in every lawful manner directly and through subcontractors and agents dispose of real estate, improvements thereon, rights therein and interest created in lands, properties, and other possessions, including the right of mortgage, pledge, exchange, lease and allotment.

To erect, construct, alter, renovate, improve, remove, partition, repair, develop and directly and indirectly, by general contract, purchase order, or otherwise, whether through subcontractors or independent contractors or as principal or prime contractor, execute contracts and agreements for the construction of improvements, houses, structures, utilities, and all types of erections over, under and upon the lands of others or lands owned by it, to the degree which the Board of Directors may consider prudent, desirable or expedient and profitable.

To improve, develop, prosecute and perfect the art and business of applying electronic principles to practical uses; to engage in research and experimental work, to manufacture, buy, sell, trade in, lease, import, export and generally deal in electronic parts, equipment, devices and apparatus of every nature whatsoever including, but not by way of limitation, compasses, automatic pilots, recorders, navigational aids, depth finders, radio direction finders, radar and communications devices of all descriptions, and to conduct the business of rendering service in the installation, operation, rental, supply of parts, repair, maintenance and up-keep of such apparatus, devices or equipment.

To engage in any such activities or business at retail, as a manufacturer, distributor, mail order house, wholesaler, warehouseman, licensee, patentor, patentee and to do all and everything required for the operation or conduct of any phase of its business or activities.

To prosecute and execute, directly or indirectly, such other works, undertakings, projects or enterprises in which or for the pursuance of which or on the security thereof, the company shall have invested money, embarked capital, engaged its credit or to acquire, and pay for in cash, stock or bonds or this corporation or otherwise, the good will, rights, assets and property, and to undertake or assume the whole or any part of the obligations or liabilities of any person, firm, association or corporation.

To acquire, hold, use, sell, assign, lease, grant, licenses in respect of, mortgage or otherwise dispose of letters patent of the United States or any foreign country, patent rights, licenses and privileges, inventions, improvements and processes, copyrights, trademarks and trade names, relating to or useful in connection with any business of this corporation.

To acquire by purchase, subscription or otherwise, and to receive, hold, own, guarantee, sell, assign, exchange, transfer, mortgage, pledge or otherwise dispose of or deal in and with any of the shares of the capital stock, or any voting trust certificates in respect of the shares of capital stock, scrip, warrants, rights, bonds, debentures, notes, trust receipts, and other securities, obligations, choses in action and evidences of indebtedness or interest issued or created by any corporations, joint stock companies, syndicates, associations, firms, trusts or persons, public or private, or by the government of the United States of America, or by any foreign government, or by any state, territory, province, municipality or other political subdivision or by any governmental agency, and as owner thereof to possess and exercise all the rights, powers and privileges of ownership, including the right to execute consents and vote thereon, and to do any and all

acts and things necessary or advisable for the preservation, protection, improvement and enhancement in value thereof.

To purchase, hold, sell and transfer the shares of its own capital stock; provided, it shall not use its funds or property for the purchase of its own shares of capital stock when such use would cause any impairment of its capital except as otherwise permitted by law, and provided further, that shares of its own capital stock belonging to it shall not be voted upon directly or indirectly.

To borrow or raise moneys for any of the purposes of the corporation and, from time to time, without limit as to amount, to draw, make, accept, endorse, execute and issue promissory notes, drafts, bills of exchange, warrants, bonds, debentures and other negotiable or non-negotiable instruments and evidences of indebtedness, and to secure the payment of any thereof and of the interest thereon by mortgage upon or pledge, conveyance or assignment in trust of the whole or any part of the property of the corporation, whether at the time owned or thereafter acquired, and to sell, pledge or otherwise dispose of such bonds or other obligations of the corporation for its corporate purposes.

To loan to any person (except officers or directors of the corporation), firm or corporation any of its surplus funds either with or without security.

To enter into, make and perform contracts of every kind and description with any person, firm, association, corporation, municipality, county, state, body politic or government or colony or dependency thereof.

To carry out alone or in conjunction with others, all or any part of the aforesaid subjects and purposes, and to conduct its business in all or any of its branches, in any or all states, territories, districts and possessions of the United States of America and in foreign countries; and to maintain offices and agencies in any or all states, territories, districts and possessions of the United States of America and is foreign countries, and to do any or all of the things hereinbefore set forth to the same extent as natural persons might or could do.

The foregoing objects and purpose shall, except when otherwise expressed, be in no way limited or restricted by reference to or inference from the terms of any other clause of this or any other article of those Amended Articles of Incorporation or of any amendment thereto, and shall each be regarded as independent, and construed as powers as well as objects and purposes.

The corporation shall be authorized to exercise and enjoy all of the powers, rights and privileges granted to, or conferred upon, corporations of a similar character by the laws of the State of Maryland now or hereinafter in force, and the enumeration of the foregoing powers shall not be deemed to exclude any powers, rights or privileges so granted or conferred; provided, that the corporation shall not carry on any business or exercise any power in the state of Maryland or in any state, territory, or country which under the laws thereof the corporation may not lawfully carry on or exercise.

FOURTH: The post office address of the place at which the principal office of the Corporation will be located is 25 West Middle Lane, Rockville, Maryland 20850. The resident agent of the Corporation is Donald K. Sparling, whose post office address is 25 West Middle Lane, Rockville, Montgomery County, Maryland 20450, and who is a resident of the State of Maryland.

FIFTH: The Corporation shall have three directors or such larger number, not in excess of eleven, as shall or may from time to time be provided for by the By-laws of the Corporation, and the current member of directors is nine and their names are: Louis M. Wolcott, Kenneth G. Harple, Donald L. Fellar, Michael S. Selbes, Esar P. Boland, Carl K. Cahill, Robert L. Cantor, Kenneth F. Yarbrough, and Carl W. Singer. The current directors shall hold office until their successors are duly chosen and qualified.

SIXTH: The total number of shares of stock which the Corporation has authority to issue is Ten Million (10,000,000), all of one class, of the par value of Ten Cents ($0.10) each, and of the aggregate par value of One Million Dollars ($1,000,000).

SEVENTH: The following provisions are hereby adopted for the purpose of defining, limiting and requesting the powers of the Corporation and the directors and stockholders:

No contract or other transaction between the Corporation or any other corporation shall be affected or invalidated by the fact that any one or more of directors of the Corporations is or are interested in, or is a director or officer, or are directors or officers of such other corporation, and any director or directors, individually or jointly, may be a party or parties to, or may be interested in, any contract or transaction of the Corporation or in which the Corporation is interested, and no contract, act or transaction of the Corporation with any person or persons, firm or corporation, shall be affected or invalidated by the fact that any director or directors of the

Corporation is a party, or are parties, to or interested in such contract, act or transactions, or in any way connected with such person or persons, firm or corporation, and each and every person who may become a director of the Corporation, and each and every person who may become a director of the Corporation is hereby relieved from any liability that might otherwise exist in contracting with the Corporation for the benefit of himself or any firm, association or corporation in which he may be in anywise interested.

The Board of Directors of the Corporation is hereby empowered to authorize the issuance from time to time of shares of its stock of any class, whether now or hereafter authorized, or securities convertible into shares of its stock of any class or classes, whether now or hereafter authorized.

No holders of stock of the Corporation, of whatever class, shall have any preferential right of subscription to any shares of any class or to any securities convertible into shares of stock of the Corporation, nor any right of subscription to any thereof other than such, if any, as the Board of Directors in its discretion may determine, and at such price as the Board of Directors in its discretion may fix; and any series of convertible securities which the Board of Directors may determine to offer for subscription to the holders of stock may, as the said Board of Directors may determine, be offered to holders of any class or classes of stock at the time existing to the exclusion of holders of any or other classes at the time existing.

Notwithstanding any provision of law requiring a greater proportion than a majority of the votes of all classes or of any class of stock entitled to be cast, or take or authorize any action, the Corporation may take or authorize such action upon the concurrence of a majority of the aggregate member of the votes entitled to be cast thereon.

The Corporation reserves the right from time to time to make any amendment of its charter, now or hereafter authorized by law, including any amendment which alters the contract rights, as expressly set forth in its charter, of any outstanding stock.

EIGHTH: The duration of the Corporation shall be perpetual.

NINTH: The directors and officers of Microdyne Corporation, acting in their capacity as such, shall be liable for money damages to Microdyne Corporation or its shareholders only in either of the following circumstances:

1. If it is proven that the director or officer actually received an improper benefit or profit in money, property, or services, and such director's or officer's liability shall not exceed the amount of the benefit or profit in money, property, or services actually received by such director or officer; or

2. If a judgment or other final adjudication adverse to such director or officer is entered in a proceeding based on a finding in the proceeding that the director's or officer's action, or failure to act, was the result of active and deliberate dishonesty and was material to the cause of action adjudicated in the proceeding.

The language of this Article NINTH is intended to limit the liability of directors and officers to the fullest extent permissible by Section 2-405.2 of the Corporations and Associations Article of the Annotated Code of Maryland, as amended from time to time.

IN WITNESS WHEREOF, MICRODYNE CORPORATION has caused those presents to be signed in its name and on behalf by its President or one of its Vice Presidents and its Corporate Seal to be hereunto affixed and attested by its Secretary or one of the Assistant Secretaries on this 6th day of April, 1989.

MICRODYNE CORPORATION

[CORPORATE SEAL]

By: /s/ Kenneth G. Harple

KENNETH G. HARPLE
President

ATTEST:

/s/ Donald L. Fellar
- ---
DONALD L. FELLAR, Secretary

STATE OF FLORIDA)
) ss:
COUNTY OF MARION)

I HEREBY CERTIFY that on the 6th day of April, 1989, before me the subscriber, a notary public of the state and county as aforesaid, personally appeared KENNETH G. HARPLE, President of Microdyne Corporation, a Maryland corporation and in the name and on behalf of said Corporation acknowledged the foregoing Articles of Amendment and Restatement to be the corporate act of said Corporation; and at the same time personally appeared DONALD L. FELLER and made oath in due form of law that he was Secretary of the meeting of the stockholders of said Corporation at which the amendment of the Charter of the Corporation therein set forth was approved, and that the matters and facts set forth in said Articles of Amendment and Restatement are true to the best of his knowledge, information and belief.

WITNESS my hand and notarial seal, the day and year last above written.

/s/

Notary Public

My Commission Expires:

ARTICLES OF MERGER

BETWEEN

MICRODYNE CORPORATION
(a Maryland Corporation)

AND

FEDERAL TECHNOLOGY CORPORATION
(a Virginia Corporation)

MICRODYNE CORPORATION, a corporation duly organized and existing under the laws of the State of Maryland ("Microdyne"), and FEDERAL TECHNOLOGY CORPORATION, a corporation duly organized and existing under the laws of the Commonwealth of Virginia ("FTC"), do hereby certify that:

First: As provided in the Merger Agreement dated as of March 7, 1991 between Microdyne and FTC (the "Merger Agreement") and these Articles of Merger, Microdyne and FTC agree to merge (the "Merger").

Second: The name and place of incorporation of each party to these Articles are MICRODYNE CORPORATION, a Maryland corporation, and FEDERAL TECHNOLOGY CORPORATION, a Virginia corporation. Microdyne shall survive the Merger and shall continue under the name "MICRODYNE CORPORATION" as a corporation of the State of Maryland.

Third: FTC was incorporated as a Virginia corporation on April 4, 1984 under general law.

Fourth: Microdyne has its principal office in Maryland in Montgomery County and owns no interest in land in Maryland. FTC has no office in Maryland and owns no interest in land in Maryland.

Fifth: The terms and conditions of the transaction set forth in these Articles were advised, authorized, and approved by each corporation party to the Articles in the manner and by the vote required by its Charter and the laws of the state of its incorporation. The manner of approval was as follows:

(a) The Board of Directors of Microdyne at a meeting held on February 5, 1991, and the Board of Directors or FTC by written consent dated March 7, 1991 signed by all Directors and filed with the minutes of proceedings of the board of Directors of FTC, adopted a resolution which declared that the proposed Merger was advisable on substantially the terms and conditions set forth or referred to in the resolution and directed

that the proposed Merger be submitted for consideration, in the case of Microdyne, at a special meeting of the stockholders and, in the case of FTC, by unanimous consent of its stockholders.

(b) Notice which stated that a purpose of the meeting was to act on the proposed Merger was given by Microdyne as required by law. Notice which stated that a purpose of the meeting was to act on the proposed Merger was waived by the stockholders of FTC.

(c) The proposed Merger was approved by the stockholders of Microdyne at a special meeting of stockholders held June 20, 1991 by the affirmative vote of at least a majority of all the votes entitled to be cast on the matter. The stockholders of FTC approved the proposed Merger by unanimous written consent dated June 20, 1991.

Sixth: The Charter of Microdyne shall be amended as a part of the Merger to increase the authorized shares of Microdyne as described in Article SEVENTH.

Seventh: (a) After the Merger and the amendment of Microdyne's Charter as a part thereof, the total number of shares of stock of all classes which Microdyne has authority to issue is 50,000,000 shares, all of which shares are Common Stock (par value $0.10 per share). The aggregate par value of all the shares of stock of all classes of Microdyne after the Merger is $5,000,000. Prior to the Merger and the amendment of Microdyne's Charter as a part thereof, the authorized stock of Microdyne consisted of 10,000,000 shares, all of which shares were Common Stock (par value $0.10 per share.) The aggregate par value of all the shares of stock of all classes of Microdyne prior to the Merger was $1,000,000.

(b) The total number of shares of stock of all classes which FTC has authority to issue is 2,000 shares, all of which shares are Common Stock (par value $0.10 per share). The aggregate par value of all the shares of stock of all classes of FTC is $200.

Eighth: The manner and basis of converting or exchanging issued stock of the merging corporations into different stock of a corporation or other consideration and the treatment of any issued stock of the merging corporations not to be converted or exchanged are as follows:

(a) Each issued and outstanding share of the Common Stock of FTC at the Effective Time (as defined in Article NINTH) (other than Dissenters' Stock (as defined below)) shall cease to be outstanding and shall be converted into 20,152,506 shares of Common Stock of Microdyne (the "Exchange Ratio") (9,250,000 shares in the aggregate). No fractional shares of Microdyne Common Stock shall be issued in the Merger and all fractional share interests shall be canceled. At the Effective Time, all rights with respect to FTC Common Stock existing pursuant to stock options granted by FTC under the FTC Long-Term Incentive Plan ("FTC Options") which are outstanding at the Effective Time, whether or not then exercisable, shall be converted into and become rights with respect to Microdyne Common Stock, and Microdyne shall assume each of such FTC Options which will thereafter be

governed by the terms of the FTC Stock Option Plan and the stock option agreement by which it is evidenced. From and after the Effective Time (i) each such FTC Option may be exercised solely for shares of Microdyne Common Stock, (ii) the number of shares of Microdyne Common Stock subject to such FTC Option shall be equal to the number of shares of FTC Common Stock subject to such FTC Option immediately prior to the Effective Time times the Exchange Ratio, and (iii) the per share exercise price under each FTC option shall be adjusted by dividing the per share exercise price, under each such FTC Option by the Exchange Ratio.

(b) Each issued and outstanding share of Common Stock of Microdyne at the Effective Time shall remain outstanding as one share of Common Stock of Microdyne.

(c) (i) Prior to the Effective Time provided in Article NINTH, Microdyne shall enter into an Exchange Agent Agreement with Crestar Bank (the "Exchange Agent").

(ii) Promptly after the Effective Time, the Exchange Agent, shall mail to each record holder, as of the Effective Time, of an outstanding certificate or certificates which immediately prior to the Effective Time represented shares of Common Stock of FTC (the "Certificates") a form letter of transmittal and instructions for use in effecting the surrender of the Certificates in exchange for Microdyne Common Stock as provided in Article EIGHTH.

(iii) Upon surrender to an Exchange Agent of a Certificate representing Common Stock of FTC, together with such letter of transmittal duly executed, the holder of such Certificate shall be entitled to receive in exchange therefor the number of shares of Common Stock of Microdyne provided in Article EIGHTH. In addition, Certificates surrendered for exchange by any person who is an "affiliate" of FTC for purposes of Rule 145(c) under the Securities Act of 1933 shall not be exchanged for certificates representing shares of Microdyne Common Stock until Microdyne has received a written agreement from such person in form and substance satisfactory to Microdyne providing that such person will not dispose of Microdyne Common Stock received in the Merger except in compliance with the Securities Act of 1933 and the rules and regulations thereunder. If Microdyne Common Stock is to be issued to a person other than the person in whose name the Certificate surrendered is registered, it shall be a condition of issuance that the Certificate representing Common Stock of FTC so surrendered shall be properly endorsed or otherwise in proper form for transfer and that the person requesting such transfer shall pay any transfer or other taxes required by reason of the payment to a person other than the registered holder of the Certificate surrendered or established to the satisfaction of the Surviving Corporation that such tax has been paid or is not applicable. Until surrendered in accordance with the provisions hereof, each Certificate representing FTC Common Stock shall represent for all purposes only the right to receive the number of shares of Microdyne Common Stock provided in Article EIGHTH.

(iv) After the Effective Time, there shall be no transfers on the stock transfer books of the Surviving Corporation of the shares of FTC Common Stock. If, after the Effective Time, Certificates (other than Certificates at that time representing Dissenters'

Stock) are presented to the Surviving Corporation, they shall be canceled and exchanged for shares of Microdyne Common Stock as provided in Article EIGHTH.

(v) Former shareholders of FTC shall be entitled to vote after the Effective Time at any meeting of Microdyne shareholders the number of shares of Microdyne Common Stock into which their respective shares of FTC Common Stock are converted, regardless of whether such holders have exchanged their certificates representing FTC Common Stock for certificates representing Microdyne Common Stock in accordance with the provisions of this Article EIGHTH. Whenever a dividend is declared by Microdyne on the Microdyne Common Stock, the record date for which is at or after the Effective Time, the declaration shall include dividends on all shares issuable pursuant to these Articles of Merger, but beginning 12 months after the Effective Time no dividend or other distribution payable to the holders of record of Microdyne Common Stock as of any time after the Effective Time shall be paid to the holder of any certificate representing shares of FTC Common Stock issued and outstanding at the Effective Time until such holder physically surrenders such certificate for exchange as provided in this Article EIGHTH. However, upon surrender of a Certificate, the Microdyne Common Stock certificate to be issued pursuant to this Article EIGHTH together with all such withheld dividends or other distributions, without interest, shall be delivered and paid with respect to each share represented by such certificate.

(vi) Shares of FTC Common Stock issued and outstanding immediately prior to the Effective Time which are held by a stockholder who has the right (to the extent such right is available by law) to demand and receive payment of the fair value of his shares of FTC Common Stock pursuant to Section 13.1-730 of the Virginia Stock Corporation Act ("Dissenters' Stock") shall be canceled and shall not be converted into the consideration provided in this Article EIGHTH unless and until such holder shall fail to perfect his right to dissent or shall have effectively withdrawn or lost such right under the Virginia Stock Corporation Act, as the case may be. If such holder shall have so failed to perfect or shall have effectively withdrawn or lost such right, his shares of FTC Common Stock shall thereupon be deemed to have been converted into, at the Effective Time, the right to receive Microdyne Common Stock as provided in this Article EIGHTH.

Ninth: (a) The Merger Agreement may be terminated at any time prior to the Effective Time by the parties hereto as provided in Article VII of the Merger Agreement.

(b) The Merger shall become effective at _____ a.m. on June 21, 1991 (the "Effective Time").

IN WITNESS WHEREOF, MICRODYNE CORPORATION and FEDERAL TECHNOLOGY CORPORATION have caused these Articles to be signed in their respective names and on their respective behalves by their respective presidents and witnessed by their respective secretaries on June 21, 1991.

WITNESS:

MICRODYNE CORPORATION
(a Maryland corporation)

/s/ Donald L. Fellar
- ----------
Secretary

By: /s/ Kenneth G. Harple

President

WITNESS:

FEDERAL TECHNOLOGY CORPORATION
(a Virginia corporation)

/s/
- ----------
Secretary

By: /s/

President

THE UNDERSIGNED, President of MICRODYNE CORPORATION, who executed on behalf of the Corporation the foregoing Articles of Merger of which this certificate is made a part, hereby acknowledges in the name and on behalf of said Corporation the foregoing Articles of Merger to be the corporate act of said Corporation and hereby certifies that to the best of his knowledge, information and belief the matters and facts set forth therein with respect to the authorization and approval thereof are true in all material respects under the penalties of perjury.

/s/ Kenneth G. Harple

President

THE UNDERSIGNED, President of FEDERAL TECHNOLOGY CORPORATION who executed on behalf of the Corporation the foregoing Articles of Merger of which this certificate is made a part, hereby acknowledges in the name and on behalf of said Corporation the foregoing Articles of Merger to be the corporate act of said Corporation and hereby certifies that to the best of his knowledge, information and belief the matters and facts set forth therein with respect to the authorization and approval thereof are true in all material respects under the penalties of perjury.

/s/

President

ARTICLES OF MERGER BETWEEN L-M ACQUISITION CORPORATION
AND MICRODYNE CORPORATION

L-M Acquisition Corporation, a Maryland corporation, and Microdyne Corporation, a Maryland corporation, certify as follows:

FIRST: L-M Acquisition Corporation (hereinafter the "Merged Corporation") and Microdyne Corporation (hereinafter the "Successor Corporation") agree to merge effective upon acceptance of these Articles of Merger by the State Department of Assessments and Taxation of the State of Maryland (the "Effective Time").

SECOND: The principal office in Maryland of the Merged Corporation is located in Baltimore City. The principal office in Maryland of the Successor Corporation is located in Baltimore City.

THIRD: The Merged Corporation owns no interest in land in the State of Maryland.

FOURTH: The total number of shares of stock that the Merged Corporation has authority to issue is 1,000, all of which are shares of Common Stock with a par value of $.01 per share and an aggregate par value of $10.00. The total number of shares of stock that the Successor Corporation has authority to issue is 50,000,000, all of which are shares of Common Stock with a par value of $.10 per share and an aggregate par value of $5,000,000.

FIFTH: The manner and basis of converting or exchanging issued stock of the Merged Corporation and the Successor Corporation into different stock of a corporation or other consideration and the treatment of any issued stock not to be converted or exchanged shall be as follows:

(a) At the Effective Time, each issued share of the Common Stock of the Successor Corporation (other than any shares to be canceled pursuant to clause (b) below) shall be canceled, extinguished and converted into the right to receive $5.00 in cash, without interest,

upon surrender of the certificate formerly representing such share, less any required withholding taxes;

(b) At the Effective Time, each issued share of the Common Stock of the Successor Corporation owned by the Merged Corporation or its parent corporation, shall be canceled and retired without any conversion thereof and no payment or distribution shall be made with respect thereto; and

(c) At the Effective Time, each issued share of the Common Stock of the Merged Corporation shall be converted into and become one validly issued, fully paid and nonassessable share of the Common Stock of the Successor Corporation.

SIXTH: The terms and conditions of the transaction set forth in these Articles of Merger were advised, authorized and approved by the Merged Corporation and the Successor Corporation in the manner and by the vote required by their respective charters and bylaws and the laws of the State of Maryland. The manner of approval by the Merged Corporation and the Successor Corporation of the transaction set forth in these Articles of Merger is as follows:

(a) The transaction set forth in these Articles of Merger was approved by the unanimous written consent of the board of directors of the Merged Corporation on December 3, 1998, and was approved by a majority of the entire board of the directors of the Successor Corporation at a meeting held on December 2, 1998;

(b) The Merged Corporation owns beneficially and of record 90% or more of the issued and outstanding shares of Common Stock of the Successor Corporation and, as such, the Successor Corporation is 90% or more owned by the Merged Corporation as contemplated by Sections 3-105(a)(l) and 3-106(b) of the Maryland General Corporation Law;

(c) As a result of the foregoing, approval of the transaction set forth in these Articles of Merger by the stockholders of the Merged Corporation and the stockholders of the Successor Corporation is not required; and

(d) At least 30 days before the date on which these Articles of Merger are being filed with the State Department of Assessments and Taxation of the State of Maryland, the Merged Corporation and the Successor Corporation gave notice of the transaction set forth in these Articles of Merger to each of the Successor Corporation's stockholders of record in accordance with the provisions of the Maryland General Corporation Law.

IN WITNESS WHEREOF, the Merged Corporation and the Successor Corporation have caused these Articles of Merger to be signed in their respective corporate names and on their behalf by the undersigned who acknowledge respectively that these Articles of Merger are the act of the Merged Corporation and the Successor Corporation and that to the best of their knowledge, information and belief and under penalties for perjury, all matters and facts contained in these Articles of Merger are true in all material respects.

ATTEST:

/s/ Lauren O'Brien
- ----------

L-M ACQUISITION CORPORATION

By: /s/ Christopher C. Cambria

Name: Christopher C. Cambria
Title: President

ATTEST:

/s/ Garth Higgins
- ----------

MICRODYNE CORPORATION

By: /s/ Michael Ejalbert

Name: Michael Ejalbert
Title: President & CEO

L-M ACQUISITION CORPORATION

BY-LAWS

ARTICLE I

MEETINGS OF STOCKHOLDERS

Section 1. Place of Meeting and Notice. Meetings of the stockholders of the Corporation shall be held at such place in the United States either within or without the State of Maryland as the Board of Directors may determine.

Section 2. Annual and Special Meetings. Annual meetings of stockholders shall be held, at a date, time and place fixed by the Board of Directors and stated in the notice of meeting, to elect a Board of Directors and to transact such other business as may properly come before the meeting. Special meetings of the stockholders may be called by the President or a majority of the Board of Directors for any purpose and shall be called by the President or Secretary if directed by the Board of Directors or requested in writing by the holders entitled to cast not less than 25% of the votes entitled to be cast at the meeting. Each such stockholder request shall state the purpose of the proposed meeting.

Section 3. Notice. Except as otherwise provided by law, at least 10 and not more than 60 days before each meeting of stockholders, written notice of the time, date and place of the meeting, and, in the case of a special meeting, the purpose or purposes for which the meeting is called, shall be given to each stockholder.

Section 4. Quorum. At any meeting of stockholders, the holders of record, present in person or by proxy, of a majority of the Corporation's issued and outstanding capital stock shall constitute a quorum for the transaction of business, except as otherwise provided by law. In the absence of a quorum, any officer entitled to preside at or to act as secretary of the meeting shall have power to adjourn the meeting from time to time until a quorum is present.

Section 5. Voting. Except as otherwise provided by law, all matters submitted to a meeting of stockholders shall be decided by vote of the holders of record, present in person or by proxy, of a majority of the Corporation's issued and outstanding capital stock.

ARTICLE II

DIRECTORS

Section 1. Number, Election and Removal of Directors. The number of Directors that shall constitute the Board of Directors shall not be less than one or more than fifteen, provided that the number of directors shall not be less than the number of stockholders unless the number of stockholders shall be three or more, in which case the number of directors shall be not less than three. The first Board of Directors shall consist of one Director. Thereafter, within the limits specified above, the number of Directors shall be determined by the Board of Directors or the stockholders. The Directors shall be elected by stockholders at their annual meeting. Vacancies and newly created directorships resulting from any increase in the number of

Directors may be filled by a majority of the Directors then in office, although less than a quorum, or by the sole remaining Director or by the stockholders. A Director may be removed with or without cause by the stockholders.

Section 2. Meetings. Regular meetings of the Board of Directors shall be held at such times and places as may from time to time be fixed by the Board of Directors or as may be specified in a notice of meeting.

Section 3. Quorum. One-third of the total number of Directors shall constitute a quorum for the transaction of business. If a quorum is not present at any meeting of the Board of Directors, the Directors present may adjourn the meeting from time to time, without notice other than announcement at the meeting, until such a quorum is present. Except as otherwise provided by law, the Articles of Incorporation of the Corporation or these By-Laws, the act of a majority of the Directors present at any meeting at which there is a quorum shall be the act of the Board of Directors.

Section 4. Committees. The Board of Directors may, by unanimous written consent resolution adopted by a majority of the whole Board, designate one or more committees, including, without limitation, an Executive Committee, to have and exercise such power and authority as the Board of Directors shall specify. In the absence or disqualification of a member of a committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not he or they constitute a quorum, may unanimously appoint another Director to act as the absent or disqualified member.

ARTICLE III

OFFICERS

The officers of the Corporation shall consist of a President, a Secretary, a Treasurer, and such other additional officers with such titles as the Board of Directors shall determine, all of which shall be chosen by and shall serve at the pleasure of the Board of Directors. Such officers shall have the usual powers and shall perform all the usual duties incident to their respective offices. All officers shall be subject to the supervision and direction of the Board of Directors. The authority, duties or responsibilities of any officer of the Corporation may be suspended by the President with or without cause. Any officer elected or appointed by the Board of Directors may be removed by the Board of Directors with or without cause.

ARTICLE IV

INDEMNIFICATION

Section 1. Indemnity Undertaking. To the fullest extent permitted by law, the Corporation shall indemnify any person who is or was made, or threatened to be made, a party to any threatened, pending or completed action, suit or proceeding (a "Proceeding"), whether civil, criminal, administrative or investigative, including, without limitation, an action by or in the right of the Corporation to procure a judgment in its favor, by reason of the fact that such person, or a person of whom such person is the legal representative, is or was a Director or officer of the

Corporation, or is or was serving in any capacity at the request of the Corporation for any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise (an "Other Entity"), against judgments, fines, penalties, excise taxes, amounts paid in settlement and costs, charges and expenses (including attorneys' fees and disbursements). Persons who are not Directors or officers of the Corporation may be similarly indemnified in respect of service to the Corporation or to an Other Entity at the request of the Corporation to the extent the Board of Directors at any time specifies that such persons are entitled to the benefits of this Article IV.

Section 2. Advancement of Expenses. The Corporation shall, from time to time, reimburse or advance to any Director or officer or other person entitled to indemnification hereunder the funds necessary for payment of expenses, including attorneys' fees and disbursements, incurred in connection with any Proceeding, in advance of the final disposition of such Proceeding; provided, however, that, if required by the General Corporation Law, such expenses incurred by or on behalf of any such Director, officer or other person may be paid in advance of the final disposition of a Proceeding only upon receipt by the Corporation of an undertaking, by or on behalf of such Director, officer or other person indemnified hereunder, to repay any such amount so advanced if it shall ultimately be determined by final judicial decision from which there is no further right of appeal that such Director, officer or other person is not entitled to be indemnified for such expenses.

Section 3. Rights Not Exclusive. The rights to indemnification and reimbursement or advancement of expenses provided by, or granted pursuant to, this Article IV shall not be deemed exclusive of any other rights which a person seeking indemnification or reimbursement or advancement of expenses may have or to which such person hereafter may be entitled under any statute, the Articles of Incorporation, these By-Laws, any agreement, any vote of stockholders or disinterested Directors or otherwise, both as to action in his or her official capacity and as to action in another capacity while holding such office.

Section 4. Continuation of Benefits. The rights to indemnification and reimbursement or advancement of expenses provided by, or granted pursuant to, this Article IV shall continue as to a person who has ceased to be a Director or officer (or other person indemnified hereunder) and shall inure to the benefit of the executors, administrators, legatees and distributees of any such person.

Section 5. Insurance. The Corporation shall have the power to purchase and maintain insurance on behalf of any person who is or was a Director, officer, employee or agent of the Corporation, or is or was serving at the request of the Corporation as a Director, officer, employee or agent of an Other Entity, against any liability asserted against such person and incurred by such person in any such capacity, or arising out of such person's status as such, whether or not the Corporation would have the power to indemnify such person against such liability under the provisions of this Article IV or the Articles of Incorporation or under the General Corporation Law of the state of Maryland or any other provision of law.

Section 6. Binding Effect. The provisions of this Article IV shall be a contract between the Corporation, on the one hand, and each Director and officer who serves in such capacity at any time while this Article IV is in effect and/or any other person indemnified hereunder, on the other hand, pursuant to which the Corporation and each such Director, officer

or other person intend to be legally bound. No repeal or modification of this Article IV shall affect any rights or obligations with respect to any state of facts then or theretofore existing or thereafter arising or any proceeding theretofore or thereafter brought or threatened based in whole or in part upon any such state of facts.

Section 7. Procedural Rights. The rights to indemnification and reimbursement or advancement of expenses provided by, or granted pursuant to, this Article IV shall be enforceable by any person entitled to such indemnification or reimbursement or advancement of expenses in any court of competent jurisdiction. The burden of proving that such indemnification or reimbursement or advancement of expenses is not appropriate shall be on the Corporation. Neither the failure of the Corporation (including its Board of Directors, its independent legal counsel and its stockholders) to have made a determination prior to the commencement of such action that such indemnification or reimbursement or advancement of expenses is proper in the circumstances nor an actual determination by the Corporation (including its Board of Directors, its independent legal counsel and its stockholders) that such person is not entitled to such indemnification or reimbursement or advancement of expenses shall constitute a defense to the action or create a presumption that such person is not so entitled. Such a person shall also be indemnified for any expenses incurred in connection with successfully establishing his or her right to such indemnification or reimbursement or advancement of expenses, in whole or in part, in any such proceeding.

Section 8. Service Deemed at Corporation's Request. Any Director or officer of the Corporation serving in any capacity for (a) another corporation of which a majority of the shares entitled to vote in the election of its directors is held, directly or indirectly, by the Corporation or (b) any employee benefit plan of the Corporation or any corporation referred to in clause (a) shall be deemed, in each case, to be doing so at the request of the Corporation.

Section 9. Election of Applicable Law. Any person entitled to be indemnified or to receive reimbursement or advancement of expenses as a matter of right pursuant to this Article IV may elect to have the right to indemnification or reimbursement or advancement of expenses interpreted on the basis of the applicable law in effect at the time of the occurrence of the event or events giving rise to the applicable Proceeding, to the extent permitted by law, or on the basis of the applicable law in effect at the time such indemnification or reimbursement or advancement of expenses is sought. Such election shall be made, by a notice in writing to the Corporation, at the time indemnification or reimbursement or advancement of expenses is sought; provided, however, that if no such notice is given, the right to indemnification or reimbursement or advancement of expenses shall be determined by the law in effect at the time indemnification or reimbursement or advancement of expenses is sought.

ARTICLE V

GENERAL PROVISIONS

Section 1. Notices. Whenever any statute, the Articles of Incorporation or these By-Laws require notice to be given to any Director or stockholder, such notice may be given in writing by mail, addressed to such Director or stockholder at his address as it appears in the records of the Corporation, with postage thereon prepaid. Such notice shall be deemed to have

been given when it is deposited in the United States mail. Notice to Directors may also be given by telegram.

Section 2. Fiscal Year. The fiscal year of the Corporation shall be fixed by the Board of Directors.

Section 3. Amendment of Bylaws. The Board of Directors, acting by majority vote, shall have the power and authority to amend, alter or repeal all or any provisions of these bylaws and may from time to time make additional bylaws. The stockholders also shall have full power to amend, alter or repeal all or any provisions of these bylaws and to make additional bylaws at any annual meeting as part of the general business of such meeting, or at any special meeting provided there was stated in the notice of such special meeting given to the stockholders the substance of such proposed alteration or repeal. Any bylaws so made, modified, or altered by the stockholders shall not be modified, changed or rendered ineffective by any action taken by the Board of Directors prior to the annual meeting of stockholders next following the meeting of stockholders at which such action was taken.

ARTICLES OF INCORPORATION
OF
MICRODYNE OUTSOURCING INCORPORATED

THIS IS TO CERTIFY THAT:

FIRST: The undersigned, William G. Miller, whose post office address is c/o McGuire, Woods, Battle & Boothe, LLP, 1627 Eye Street, N.W., Washington, D.C. 20006, being at least eighteen (18) years of age, does hereby form a corporation under the general laws of the State of Maryland.

SECOND: The name of the corporation (which is hereinafter called the "Corporation") is:

Microdyne Outsourcing Incorporated

THIRD: The purpose for which the Corporation is formed is to carry on any lawful business, within the State of Maryland or elsewhere, and the Corporation shall have, enjoy and exercise all of the powers and rights now or hereafter conferred by statute upon corporations.

FOURTH: The post office address of the principal office of the Corporation in the State of Maryland is 11 East Chase Street, Baltimore, Maryland 21202.

FIFTH: The Resident Agent of the Corporation is CSC-Lawyers Incorporating Service Company, a Maryland corporation, whose post office address is 11 East Chase Street, Baltimore, Maryland 21202.

SIXTH: The Corporation shall have a Board of Directors consisting of six (6) Directors which number may be increased or decreased in accordance with the By-Laws of the Corporation, but shall never be less than the number required by Section 2-402 of the Corporation and Associations Article of the Annotated Code of Maryland, as may be amended from time to time. The names of the Directors who shall act as such until the first annual meeting of the Stockholders and until their successors are elected and qualify are:

Phillip T. Cunningham
Michael E. Jalbert
Christopher M. Maginniss
Curtis M. Coward
Gregory W. Fazakerley
H. Brian Thompson

SEVENTH: The total number of shares of stock which the Corporation has authority to issue is Five Thousand (5,000) shares of common stock, par value $0.01 per share, all of one class.

EIGHTH: In carrying on its business, or for the purpose of attaining or furthering any of its objects, the Corporation shall have all of the rights, powers and privileges granted to

corporations by the laws of the State of Maryland, and the power to do any and all acts and things which a natural person or partnership could do and which may now or hereafter be authorized by law, either alone or in partnership or conjunction with others. In furtherance and not in limitation of the powers conferred by statute, the powers of the Corporation and of the Directors and Stockholders shall include the following:

(a) Any Director individually, or any firm of which any Director may be a member, or any corporation or association of which any Director may be an officer or director or in which any Director may be interested as the holder of any amount of its capital stock or otherwise, may be a party to, or may be pecuniarily or otherwise interested in, any contract or transaction of the Corporation, and, in the absence of fraud, no contract or other transaction shall be thereby affected or invalidated; provided that in case a Director, or firm of which a Director is a member, or a corporation or association of which a Director is an officer or director or in which a Director is interested as the holder of any amount of its capital stock or otherwise, is so interested, such fact shall be disclosed or shall have been known to the Board of Directors or a majority thereof. Any Director of the Corporation who is also a Director or officer of or interested in such other corporation or association, or who, or the firm of which he is a member, is so interested, may be counted in determining the existence of a quorum at any meeting of the Board of Directors of the Corporation which shall authorize any such contract or transaction, with like force and effect as if he were not such director or officer of such other corporation or association or were not so interested or were not a member of a firm so interested.

(b) The Corporation reserves the right, from time to time, to make any amendment of its Charter, now or hereafter authorized by law, including any amendment which alters the contract rights, as expressly set forth in its Charter, of any outstanding stock.

(c) Except as otherwise provided in these Articles of Incorporation, the Charter or the By-Laws of the Corporation, as from time to time amended, the business of the Corporation shall be managed by its Board of Directors, which shall have and may exercise all the powers of the Corporation except such as are by law, these Articles of Incorporation, the Charter or the By-Laws, conferred upon or reserved to the Stockholders. Additionally, the Board of Directors of the Corporation is hereby specifically authorized and empowered from time to time in its discretion:

(1) To authorize the issuance from time to time of shares of its stock of any class, whether now or hereafter authorized, or securities convertible into shares of its stock, of any class or classes, whether now or hereafter authorized, for such consideration as said Board of Directors may deem advisable, subject to such restrictions or limitations, if any, as may be set forth in the By-Laws of the Corporation;

(2) By articles supplementary to these Articles of Incorporation, to classify or reclassify any unissued shares by fixing or altering in any one or more aspects, from time to time before issuance of such shares, the preferences, rights, voting powers, restrictions and qualifications of, the dividends on, the times and prices of redemption of, and the conversion rights of, such shares.

NINTH: No director or officer of the Corporation shall be liable to the Corporation or its Stockholders for money damages, except (1) to the extent that it is proved that the person actually received an improper benefit or profit in money, property or services, for the amount of the benefit or profit in money, property or services actually received, or (2) to the extent that a judgment or other final adjudication adverse to the person is entered in a proceeding based on a finding in the proceeding that the person's action, or failure to act, was the result of active and deliberate dishonesty and was material to the cause of action adjudicated in the proceeding. No director or officer shall be deemed to have received any improper benefit or profit within the meaning of this Article NINTH by reason of any payment or distribution to or in respect of the common stock of the Corporation, which payment or distribution applies or is available equally to all outstanding shares of common stock of the Corporation.

TENTH: No holder of stock of any class shall have any preemptive right to subscribe to or purchase any additional shares of any class, or any bonds or convertible securities of any nature; provided, however, that the Board of Directors may, in authorizing the issuance of stock of any class, confer any preemptive right that the Board of Directors may deem advisable in connection with such issuance.

ELEVENTH: The Corporation shall indemnify its directors and officers to the full extent permitted by the general corporate laws of the State of Maryland now or hereafter in force, including the advance of expenses under the procedures provided by such laws. The foregoing shall not limit the authority of the Corporation to indemnify other employees and agents consistent with law.

IN WITNESS WHEREOF, I have signed these Articles of Incorporation, and I acknowledge the same to be my act on this 12th day of March, 1998.

/s/ William G. Miller

William G. Miller

BYLAWS

OF

MICRODYNE OUTSOURCING INCORPORATED

ARTICLE I
MEETING OF STOCKHOLDERS

Section 1. PLACE. All meetings of stockholders shall be held at the principal office of the corporation or at such other place within the United States as shall be stated in the notice of the meeting.

Section 2. ANNUAL MEETING. An annual meeting of the stockholders for the election of directors and the transaction of any business within the powers of the corporation shall be held within six (6) months of the close of the corporation's fiscal year at such location and at such date and time as may be fixed by the Board of Directors. If the day fixed for the annual meeting shall be a legal holiday, such meeting shall be held at the same time on the next succeeding business day.

Section 3. SPECIAL MEETINGS. The President or Board of Directors may call special meetings of the stockholders. Special meetings of stockholders shall also be called by the Secretary upon the written request of the holders of shares entitled to cast not less than thirty- three percent (33%) of all the votes entitled to be cast at such meeting. Such request shall state the purpose or purposes of such meeting and the matters proposed to be acted on thereat. The Secretary shall inform such stockholders of the reasonably estimated cost of preparing and mailing such notice of the meeting, and upon payment to the corporation of such costs, and Secretary shall give notice stating the purpose or purposes of the meeting to all stockholders entitled to vote at such meeting. No special meeting need be called upon the request of the holders of shares entitled to cast less than a majority of all votes entitled to be cast at such meeting, to consider any matter which is substantially the same as a matter voted upon at any special meeting of the stockholders held during the preceding twelve months.

Section 4. NOTICE. Not less than ten nor more than ninety days before the date of every meeting of stockholders, the Secretary shall give, to each stockholder entitled to vote who is entitled to notice by statute, written or printed notice stating the time and place of the meeting and, in the case of a special meeting or as otherwise may be required by statute, the purpose or purposes for which the meeting is called, either by mail or by presenting it to him personally or by leaving it at his residence or usual place of business. If mailed, such notice shall be deemed to be given when deposited in the United States mail addressed to the stockholder at his post office address as it appears on the records of the corporation, with postage prepaid.

Section 5. SCOPE OF NOTICE. No business shall be transacted at a special meeting of stockholders except that specifically designated in the notice. Any business of the corporation may be transacted at the annual meeting without being specifically

designated in the notice, except such business as is required by statute to be stated in such notice.

Section 6. QUORUM. At any meeting of stockholders, the presence in person or by proxy of stockholders entitled to cast a majority of the votes shall constitute a quorum; but this section shall not affect any requirement under any statute or the charter for the vote necessary for the adoption of any measure. If, however, a quorum is not present at any meeting of the stockholders, the stockholders present in person or by proxy shall have the power to adjourn the meeting from time to time without notice other than announcement at the meeting until a quorum is present. At any adjourned meeting at which a quorum is present, any business may be transacted which might have been transacted at the meeting as originally notified. The stockholders present at a meeting which has been duly called and convened and at which a quorum is present at the time counted may continue to transact business until adjournment, notwithstanding the withdrawal of enough stockholders to leave less than a quorum.

Section 7. VOTING. A majority of the votes cast at a meeting of stockholders duly called and at which a quorum is present shall be sufficient to take or authorize action upon any matter which may properly come before the meeting, unless more than a majority of the votes cast is required by statute or by the charter. Unless otherwise provided in the charter, each outstanding share, regardless of class, shall be entitled to one vote upon each matter submitted to a vote at a meeting of stockholders.

Section 8. PROXIES. A stockholder may vote the shares owned of record by him, either in person or by proxy executed in writing by the stockholder or by his duly authorized attorney in fact. Such proxy shall be filed with the Secretary of the corporation before or at the time of the meeting. No proxy shall be valid after eleven months from the date of its execution, unless otherwise provided in the proxy.

Section 9. VOTING OF SHARES BY CERTAIN HOLDERS. Shares standing in the name of another corporation, when entitled to be voted, may be voted by the president or vice-president or by proxy appointed by the president or a vice-president of such other corporation, unless some other person who has been appointed to vote such shares pursuant to a bylaw or a resolution of the Board of Directors of such other corporation presents a certified copy of such bylaws or resolution, in which case such person may vote such shares. Any fiduciary may vote shares standing in his name as such fiduciary, either in person or by proxy.

Shares of its own stock directly or indirectly owned by this corporation shall not be voted in any meeting and shall not be counted in determining the total number of outstanding shares entitled to vote at any given time, but shares of its own stock held by it in a fiduciary capacity may be voted and shall be counted in determining the total number of outstanding shares at any given time.

Section 10. INSPECTORS. At any meeting of stockholders, the chairman of the meeting may, or upon the request of any stockholder shall, appoint one or more persons as inspectors for such meeting. Such inspectors shall ascertain and report the number of

shares represented at the meeting based upon their determination of the validity and effect of proxies, count all votes, report the results and do such other acts as are proper to conduct the election and voting with impartiality and fairness to all the stockholders.

Each report of an inspector shall be in writing and signed by him or by a majority of them if there be more than one inspector acting at such meeting. If there is more than one inspector, the report of a majority shall be the report of the inspectors. The report of the inspector or inspectors on the number of shares represented at the meeting and the results of the voting shall be prima facie evidence thereof.

Section 11. INFORMAL ACTION BY STOCKHOLDERS. Any action required or permitted to be taken at a meeting of stockholders may be taken without a meeting if a consent in writing, setting forth such action, is signed by all the stockholders entitled to vote on the subject matter thereof and any other stockholders entitled to notice of a meeting of stockholders (but not to vote thereat) have waived in writing any rights which they may have to dissent from such action, and such consents and waivers are filed with the minutes of proceedings of the stockholders. Such consents and waivers may be signed by different stockholders on separate counterparts.

ARTICLE II
DIRECTORS

Section 1. GENERAL POWERS. The business and affairs of the corporation shall be managed by its Board of Directors.

Section 2. NUMBER, TENURE AND QUALIFICATION. The number of directors of the corporation shall be that number set forth in the Articles of Incorporation of the Corporation, or such other number as may be designated from time to time by resolution of a majority of the entire Board of Directors, provided, however, that the number of Directors shall never be more than fifteen (15) nor less than the minimum number required by Section 2-402 of the Corporations and Associations Article of the Annotated Code of Maryland, as may be amended from time to time, and further provided that the tenure of office of a director shall not be affected by any decrease in the number of directors. Each director shall serve until the next annual meeting of stockholders and until his or her successor is elected and qualifies.

Section 3. ANNUAL AND REGULAR MEETINGS. An annual meeting of the Board of Directors shall be held promptly after the annual meeting of stockholders, no notice other than this bylaw being necessary. The Board of Directors may provide, by resolution, the time and place, either within or without the State of Maryland, for the holding of regular meetings of the Board of Directors without other notice than such resolutions.

Section 4. SPECIAL MEETINGS. Special meetings of the Board of Directors may be called by or at the request of the President or by a majority of the directors then in office. The person or persons authorized to call special meetings of the Board of

Directors may fix any place, either within or without the State of Maryland, as the place for holding any special meeting of the Board of Directors called by them.

Section 5. NOTICE. Notice of any special meeting to be provided herein shall be given by written notice delivered personally, telegraphed or mailed to each director at his business or residence at least two (2) days prior to the meeting. Notice by mail shall be given at least five (5) days prior to the meeting. If mailed, such notice shall be deemed to be delivered when deposited in the United States mail properly addressed, with postage thereon prepaid. If notice is to be given by telegram, such notice shall be deemed to be delivered when the telegram is delivered to the telegraph company. Neither the business to be transacted at, nor the purpose of, any annual, regular or special meeting of the Board of Directors need be specified in the notice, unless specifically required by statute or these Bylaws.

Section 6. QUORUM. A majority of the Board of Directors then in office shall constitute a quorum for transaction of business at any meeting of the Board of Directors, provided that, if less than a majority of such number of directors are present at said meeting, a majority of the directors present may adjourn the meeting from time to time without further notice.

The directors present at a meeting which has been duly called and convened may continue to transact business until adjournment, notwithstanding the withdrawal of enough directors to leave less than a quorum.

Section 7. VOTING. The action of the majority of the directors present at a meeting at which a quorum is present shall be the act of the Board of Directors, unless the concurrence of a greater proportion is required for such action by applicable statute or these Bylaws.

Section 8. VACANCIES. Any vacancy occurring in the Board of Directors for any cause other than by reason of an increase in the number of directors may be filled by a majority vote of the remaining directors, although such majority is less than a quorum. Any vacancy occurring in the Board of Directors by reason of an increase in the number of directors may be filled by a majority vote of the entire Board of Directors. A director elected by the Board of Directors to fill a vacancy shall hold office until the next annual meeting of stockholders or until his or her successor is elected and qualifies.

Section 9. INFORMAL ACTION BY DIRECTORS. Any action required or permitted to be taken at any meeting of the Board of Directors may be taken without a meeting, if a consent in writing to such action is signed by all of the directors and such written consent is filed with the minutes of the Board of Directors. Consents may be signed by different directors on separate counterparts.

Section 10. COMPENSATION. Directors, as such, shall not receive any stated salary for their services, but, by resolution of the Board of Directors, a fixed sum and expenses of attendance, if any, may be allowed to directors for attendance at each annual, regular or special meeting of the Board of Directors, or of any committee thereof, but

nothing herein contained shall be construed to preclude any director from serving the corporation in any other capacity and receiving compensation therefor.

Section 11. REMOVAL OF DIRECTORS. The stockholders may, at any time, remove any director, with or without cause, by the affirmative vote of a majority of all the votes entitled to be cast on the matter, and may elect a successor to fill any resulting vacancy for the balance of the term of the removed director.

ARTICLE III
COMMITTEES

Section 1. NUMBER, TENURE AND QUALIFICATIONS. The Board of Directors may appoint from among its members an Executive Committee and other committees, composed of two or more directors, to serve at the pleasure of the Board of Directors.

Section 2. DELEGATION OF POWER. The Board of Directors may delegate to these committees in the intervals between meetings of the Board of Directors any of the powers of the Board of Directors to manage the business and affairs of the corporation, except those powers which the Board of Directors is specifically prohibited from delegating pursuant to Section 2-411 of the Corporations and Associations Article in the Annotated Code of Maryland, as may be amended from time to time.

Section 3. MEETINGS. In the absence of any member of any such committee, the members thereof present at such meeting, whether or not they constitute a quorum, may appoint a member of the Board of Directors to act in the place of such absent members.

Section 4. INFORMAL ACTION BY COMMITTEES. Any action required or permitted to be taken at any meeting of a committee of the Board of Directors may be taken without a meeting, if a written consent to such action is signed by all members of the committee and such written consent is filed with the minutes of proceedings of such committee. Consents may be signed by different members of a committee on separate counterparts.

ARTICLE IV
OFFICERS

Section 1. POWERS AND DUTIES. The officers of the corporation shall be elected annually by the Board of Directors at the first meeting of the Board of Directors held after each annual meeting of stockholders. If the election of officers shall not be held at such meeting, such election shall be held as soon thereafter as may be convenient. Each officer shall hold office until his successor is duly elected and qualified or until his death, resignation or removal in the manner hereinafter provided. Any two or more offices except President and Vice-President may be held by the same person. Election or appointment of an officer or agent shall not of itself create contract rights between the corporation and such officer or agent.

Section 2. REMOVAL. Any officer or agent elected or appointed by the Board of Directors may be removed by the Board of Directors at any time with or without cause, but such removal shall be without prejudice to the contract rights, if any, of the person so removed.

Section 3. VACANCIES. A vacancy in any office may be filled by the Board of Directors for the unexpired portion of the term.

Section 4. PRESIDENT. The President shall be the principal executive officer of the corporation, shall in general supervise and control all of the business and affairs of the corporation and shall have such powers and perform such duties as generally pertain to that position or as may, from time to time, be assigned to him by the Board of Directors.

Section 5. SECRETARY. The Secretary shall (a) keep the minutes of the proceedings of the stockholders and Board of Directors in one or more books provided for that purpose; (b) see that all notices are duly given in accordance with the provisions of these Bylaws or as required by law; (c) be custodian of the corporate records and of the seal of the corporation; (d) keep a register of the post office address of each stockholder which shall be furnished to the Secretary by such stockholder; (e) have general charge of the stock transfer books of the corporation; and (f) in general perform all duties as from time to time may be assigned to him by the President or by the Board of Directors.

Section 6. TREASURER. The Treasurer shall have the custody of the corporate funds and securities and shall keep full and accurate accounts of receipts and disbursements in books belonging to the corporation and shall deposit all moneys and other valuable effects in the name and to the credit of the corporation in such depositaries as may be designated by the Board of Directors.

The Treasurer shall disburse the funds of the corporation as may be ordered by the Board of Directors, taking proper vouchers for such disbursements, and shall render to the President and Board of Directors, at the regular meetings of the Board or whenever they may require it, an account of all his transactions as treasurer and of the financial condition of the corporation.

If required by the Board of Directors, the Treasurer shall give the corporation a bond in such sum and with such surety or sureties as shall be satisfactory to the Board of Directors for the faithful performance of the duties of his office and for the restoration to the corporation, in case of his death, resignation, retirement or removal from office, of all books, papers, vouchers, money and other property of whatever kind in his or her possession or under his or her control belonging to the corporation.

Section 7. OTHER OFFICERS. The Board of Directors may appoint such other officers and agents as it shall deem necessary. The other officers of the Corporation shall have such authority and perform such duties as shall be prescribed by the Board of Directors or by officers authorized by the Board of Directors to appoint them to their

respective offices. To the extent that such duties are not so stated, such officers shall have such authority and perform the duties which generally pertain to their respective offices, subject to the control of the President or the Board of Directors.

Section 8. ANNUAL REPORT. The President or other executive officer of the corporation shall prepare or cause to be prepared annually a full and correct statement of the affairs of the corporation, including a balance sheet and a statement of the results of operations for the preceding fiscal year, which shall be submitted at the annual meeting of the stockholders and filed within twenty (20) days thereafter at the principal office of the corporation in the State of Maryland.

Section 9. SALARIES. The salaries of the officers shall be fixed from time to time by the Board of Directors and no officer shall be prevented from receiving such salary by reason of the fact that he is also a director of the corporation.

ARTICLE V
CONTRACTS, LOANS, CHECKS AND DEPOSITS

Section 1. CONTRACTS. The Board of Directors may authorize any officer or officers, agent or agents, to enter into any contract or to execute and deliver any instrument in the name of and on behalf of the corporation, and such authority may be general or confined to specific instances.

Section 2. CHECKS, DRAFTS, ETC. All checks, drafts or other orders for the payment of money, notes or other evidences of indebtedness issued in the name of the corporation shall be signed by such officers or agents of the corporation and in such manner as shall from time to time be determined by resolution of the Board of Directors.

Section 3. DEPOSITS. All funds of the corporation not otherwise employed shall be deposited from time to time to the credit of the corporation in such banks, trust companies or other depositaries as the Board of Directors, or officers of the corporation authorized by the Board of Directors, may select.

ARTICLE VI
SHARES OF STOCK

Section 1. CERTIFICATES OF STOCK. Each stockholder shall be entitled to a certificate or certificates which shall represent and certify the number of shares of each class of stock owned by him or her in the corporation. Each certificate shall be signed by the President or a Vice President and countersigned by the Secretary or an Assistant Secretary or the Treasurer or an Assistant Treasurer and may be sealed with the corporate seal. The signatures may be either manual or facsimile. Certificates shall be consecutively numbered. If the corporation issues, from time to time, several classes of stock, each class may have its own number or series. In case any officer who has signed any certificate ceases to be an officer of the corporation before the certificate is issued, the certificate may nevertheless be issued by the corporation with the same effect as if the officer has not ceased to be such officer as of the date of its issue. Each certificate representing stock which is restricted or limited as to its transferability or voting powers,

which is preferred or limited as to its dividends or as to its share of the assets upon liquidation or which is redeemable at the option of the corporation, shall have a statement of such restriction, limitation, preference or redemption provisions, or a summary thereof, plainly stated on the certificate. In lieu of such statement or summary, the corporation may set forth upon the face or back of the certificate a statement that the corporation will furnish to any stockholder, upon request and without charge, a full statement of such information.

Section 2. TRANSFERS OF STOCK. Upon surrender to the corporation or the transfer agent of the corporation of a certificate of stock duly endorsed or accompanied by proper evidence of succession, assignment or authority to transfer, the corporation shall issue a new certificate to the person entitled thereto, cancel the old certificate and record the transaction upon its books.

The corporation shall be entitled to treat the holder of record of any share or shares of stock as the holder in the fact thereof and, accordingly, shall not be bound to recognize any equitable or other claim to or interest in such share on the part of any other person, whether or not it shall have express or other notice thereof, except as otherwise provided by the laws of the State of Maryland.

Section 3. LOST CERTIFICATE. The Board of Directors may direct a new certificate of be issued in the place of any certificate theretofore issued by the corporation alleged to have been stolen, lost or destroyed upon making of an affidavit of that fact by the person claiming the certificate of stock to be stolen, lost or destroyed. When authorizing such issue of a new certificate, the Board of Directors may, in its discretion and as a condition precedent to the issuance thereof, require the owner of such stolen, lost or destroyed certificate or his legal representative to advertise the same in such manner as it shall require and/or give bond, with sufficient surety, to the corporation to indemnify it against any loss or claim which may arise by reason of the issuance of a new certificate.

Section 4. CLOSING OF TRANSFER BOOKS OR FIXING OF RECORD DATE. The Board of Directors may fix, in advance, a date as the record date for the purpose of determining stockholders entitled to notice of, or to vote at, any meeting of stockholders, or stockholders entitled to receive payment of any dividend or the allotment of any rights, or in order to make a determination of stockholders for any other proper purpose. Such date, in any case, shall be not more than ninety (90) days, and in case of a meeting of stockholders not less than ten (10) days, prior to the date on which the meeting or particular action requiring such determination of stockholders is to be held or taken.

In lieu of fixing a record date, the Board of Directors may provide that the stock transfer books shall be closed for a stated period but not to exceed twenty (20) days. If the stock transfer books are closed for the purpose of determining stockholders entitled to notice of or to vote at a meeting of stockholders, such books shall be closed for at least ten (10) days immediately preceding such meeting.

If no record date is fixed and the stock transfer books are not closed for the determination of stockholders, (a) the record date for the determination of stockholders entitled to notice of, or to vote at, a meeting of stockholders shall be at the close of business on the day on which the notice of meeting is mailed or the 30th day before the meeting, whichever is the closer date to the meeting; and (b) the record date for the determination of stockholders entitled to receive payment of a dividend or an allotment of any rights shall be at the close of business on the day on which the resolution of the Board of Directors, declaring the dividend or allotment of rights, is adopted.

When a determination of stockholders entitled to vote at any meeting of stockholders has been made as provided in this section, such determination shall apply to any adjournment thereof, except where the determination has been made through the closing of the stock transfer books and the stated period of closing has expired.

ARTICLE VII
FISCAL YEAR

The Board of Directors shall have the power, from time to time, to fix the fiscal year of the corporation by a duly adopted resolution.

ARTICLE VIII
DIVIDENDS

Section 1. DECLARATION. Dividends upon the capital stock of the corporation, subject to the provisions, if any, of the charter of the corporation, may be declared by the Board of Directors at any meeting, pursuant to law. Dividends may be paid in cash, property or shares of the corporation, subject to the provisions of law and of the charter.

Section 2. CONTINGENCIES. Before payment of any dividends, there may be set aside out of any funds of the corporation available for dividends such sum or sums as the Board of Directors may from time to time, in its absolute discretion, think proper as a reserve fund to meet contingencies, for equalizing dividends, for repairing or maintaining any property of the corporation or for such other purpose as the Board of Directors shall determine to be in the best interest of the corporation, and the Board of Directors may modify or abolish any such reserve in the manner in which it was created.

ARTICLE IX
SEAL

Section 1. SEAL. The corporate seal shall have inscribed thereon the name of the corporation, the year of its organization and the words "Incorporated Maryland". The Board of Directors may authorize one or more duplicate seals and provide for the custody thereof.

Section 2. AFFIXING SEAL Whenever the corporation is required to place its corporate seal to a document, it shall be sufficient to meet the requirements of law, rule or

regulation relating to a corporate seal to place the word "(seal)" adjacent to the signature of the authorized officer.

ARTICLE X
STOCK LEDGER

The corporation shall maintain at its principal office or at the office of its counsel, accountants or transfer agent, an original or duplicate stock ledger containing the names and addresses of all the stockholders and the number of shares of each class held by each stockholder.

ARTICLE XI
INDEMNIFICATION

The Corporation shall indemnify its directors and officers to the full extent permitted by the general corporate laws of the State of Maryland, now or hereafter in force, including the advance of expenses under the procedures provided by such laws.

In addition to any indemnification permitted by these Bylaws, the Board of Directors shall, in its sole discretion, have the power to grant such indemnification as it deems in the interest of the corporation to the full extent permitted by law.

The corporation shall have power to purchase and maintain insurance on behalf of any person who is or was serving the corporation or any other entity at the request of the corporation, in any capacity, against any liability, whether or not the corporation would have the power to indemnify him against such liability.

This Article shall not limit the corporation's power to indemnify against liabilities other than those arising from a person's serving the corporation as an officer, director, employee or agent.

ARTICLE XII
WAIVER OF NOTICE

Whenever any notice is required to be given pursuant to the charter or Bylaws of the corporation or pursuant to applicable law, a waiver thereof in writing, signed by the person or persons entitled to such notice, whether before or after the time stated therein, shall be deemed equivalent to the giving of such notice. Neither the business to be transacted at nor the purpose of any meeting need be set forth in the waiver of notice, unless specifically required by statute. The attendance of any person at any meeting shall constitute a waiver of notice of such meeting, except where such person attends a meeting for the express purpose of objecting to the transaction of any business on the ground that the meeting is not lawfully called or convened.

ARTICLE XIII
AMENDMENT OF BYLAWS

Section 1. BY DIRECTORS. The Board of Directors shall have the power, at any annual or regular meeting, or at any special meeting if notice thereof be included in

the notice of such special meeting, to alter or repeal any Bylaws of the corporation and to make new Bylaws, except that the Board of Directors shall not alter or repeal this Section or any Bylaws made by the stockholders.

Section 2. BY STOCKHOLDERS. The Stockholders shall have the power, at any annual meeting, or at any special meeting if notice thereof be included in the notice of such special meeting, to alter or repeal any Bylaws of the corporation and to make new Bylaws.

CERTIFICATE OF INCORPORATION
MILITARY PROFESSIONAL RESOURCES, INC.

FIRST. The name of the corporation (hereinafter referred to as "MPRI") is MILITARY PROFESSIONAL RESOURCES, INC.

SECOND. The registered office of MPRI in the State of Delaware is located at 1209 Orange Street, in the City of Wilmington, County of New Castle. The name and address of its resident agent is The Corporation Trust Company, 1209 Orange Street, Wilmington, Delaware 19801. The principal place of business and headquarters of MPRI shall be in a city designated by the bylaws. The Board of Directors ("Board") may establish such other offices in such place or places as it may deem necessary for the transaction of business.

THIRD. The purpose of MPRI is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware. The intent of the incorporators, a group of senior retired United States military professionals, predominantly the United States Army, is to form a corporation to utilize the services of retired military professionals to provide the armed services with their knowledge to assist in training, education, doctrine and training literature writing, and evaluations/assessments.

In furtherance, and not in limitation, of the general powers conferred by the laws of the State of Delaware and the objects and purposes herein set forth, it is expressly provided that MPRI shall also have the following powers, viz:

To borrow or raise moneys for any of the purposes of MPRI and, from time to time, without limit as to amount, to draw, make, accept, endorse, execute and issue promissory notes, drafts, bills of exchange, and other negotiable and non-negotiable instruments and evidence of indebtedness.

To purchase, lease, accept and receive by gift, devise or bequest, hold, sell, mortgage, or otherwise acquire, dispose of or deal in and with real and personal property of all kinds; to enter into, make, perform, carry out and enforce any contract, agreement or transaction which it may desire to enter into, pursuant to any of its general purposes, with any person, firm, association, trust or corporation, and to do and perform any and all acts and things necessary or expedient for carrying on any and all of the objectives and purposes of MPRI, not forbidden by its certificate of incorporation, bylaws or by the laws of the United States of America or the State of Delaware.

Subject to the provisions of its certificate of incorporation and bylaws, to do, perform and engage in such other acts, things, business, transactions and operations as may be incidental to, or that may facilitate, the business and general purposes of MPRI, and to safeguard and promote the interests and welfare of MPRI in the United States of America.

In general, to have all of the powers conferred upon a corporation by the laws of the State of Delaware, except as herein prohibited or forbidden by the bylaws of MPRI, and to do any and all of the things, hereinbefore set forth to the same extent as natural persons might or lawfully could do.

FOURTH. The total number of shares of stock that this corporation shall have authority to issue is 200,000 shares of Common Stock, no par value per share. Each share of Common Stock shall be entitled to one vote. All shares of Common Stock will be identical and entitle the holders thereof to the same rights and privileges. Except as provided to the contrary in the provisions establishing the class or series of stock, the amount of the authorized stock of this corporation of any class or classes may be increased or decreased by the affirmative vote of the holders of a majority of the stock of this

corporation entitled to vote. All stock issued by MPRI shall be held by citizens of the United States of America, unless otherwise authorized by the Board.

FIFTH. (1) The names and mailing address of each of the incorporators are, in alphabetical order, as follows:

Gen. Robert Kingston, USA Ret. 1601 River Farm Drive Alexandria, VA 22308	Gen. Roscoe Robinson, USA Ret. 7440 Mason Lane Falls Church, VA 22042
Gen. Frederick Kroesen, USA Ret. 6408 Lakeview Drive Falls Church, VA 22041	Gen. Robert Sennewald, USA Ret. 426 S. Pitt Street Alexandria, VA 22314
LTG. Richard Lawrence, USA Ret. 3002 Seven Oaks Place Falls Church, VA 22042	LTG. Richard Trefry, USA Ret. 12750 Wycklow Drive Clifton, VA 22024
MG. Vernon Lewis, USA Ret. 472 Tiffany Trail Richardson, TX 75081	LTG. Richard West, USA Ret 1509 Laurel Hill Road Vienna, VA 22180

(2) The incorporators of MPRI shall have and may exercise the rights and powers and shall perform the duties vested in or required of them by the General Corporation Law of the State of Delaware and by this certificate of incorporation.

SIXTH. MPRI is to have perpetual existence.

SEVENTH. The private property of the incorporators and/or stockholders shall not be subject to the payment of corporate debts to any extent whatever.

EIGHTH. The following provisions are inserted and adopted for the management of the business and for the conduct of the affairs of MPRI and for the purpose of further creating,

defining, limiting and regulating the powers and rights of MPRI, its Board, and its stockholders or any class or subdivision thereof:

(1) All details of management, affairs, business and concerns of MPRI, however, are delegated to the Board, except the power of amending the certificate of incorporation, and except as otherwise provided by statute or by the certificate of incorporation or bylaws of MPRI. The number of directors which shall constitute the whole Board shall be fixed by, or in the manner provided in the bylaws. Subject to the provisions of the certificate of incorporation, the bylaws may provide, with respect to the directors, for their qualifications (including, without limitation, provisions for the representation by each director of a designated state, district, region or other geographical area); for the place, time, method and manner of their nomination and election or appointment (including, without limitation, provisions for the election of a director or directors by members located in a designated state, district, region or other geographical area); for the appointment or designation of alternates; for their term of office and classification as to term of office or otherwise; for filling of vacancies; for their removal from office and/or recall; for their meetings; and, generally, for their rights, powers, duties, privileges and restrictions.

(2) The first directors of MPRI shall be elected by the incorporators, and the incorporators shall have power to designate their term of office, to provide for their classification as to term of office or otherwise to designate the state, district, region or other geographical area to be represented by such directors during their respective terms of office or until the election of their respective successors, to authorize the Board to elect additional directors in the event of the failure of the incorporators to elect and duly constitute the first Board, pursuant to the provisions of the certificate of incorporation and bylaws.

(3) The bylaws of MPRI may provide for the appointment or designation, as authorized by the Board, of one or more committees. The members of any such committee or committees need not be directors of MPRI. Such committee or committees shall have such name or names; shall have and may exercise such of the powers of the Board as it may designate in the management and direction of the business and affairs of MPRI; shall perform such duties, and shall be subject to such rules and regulations as shall be stated in or prescribed by the bylaws and/or the recorded resolutions of the Board.

(4) There shall be an annual meeting of the stockholders of MPRI which may be held at such time and place as the Board determines. Special meetings of the stockholders may be held as provided in the bylaws.

(5) Each stockholder shall be entitled to one vote for each share of stock owned. Only stockholders in good standing, present in person or by valid proxy, shall be qualified to vote at any general or special meeting, except that each stockholder that is not an individual, shall designate an individual identified with it to represent such stockholder at meetings of the members, and such individual shall have full power and authority to vote and to bind such stockholder at any such meeting or meetings, including the right to be elected a director, officer, or be appointed to any committee or office as set forth or provided for in the bylaws, except that one individual may represent only one stockholder.

(6) There shall be held an annual meeting of the Board for the election of officers and the transaction of such other business as may properly come before it at such time and place as the Board may determine. The election of officers need not be by written ballot unless the bylaws of the corporation so provide. Special meetings of the Board may be held as provided in the bylaws.

(7) The officers of MPRI shall be as prescribed by the Board.

(8) MPRI shall have power to make bylaws for the further governing of the corporation and the further enforcement of the provisions of its certificate of incorporation, not inconsistent with the laws of the United States of America and the State of Delaware and not inconsistent with the provisions of the certificate of incorporation. The original bylaws may be adopted by the incorporators. Thereafter, the power to amend, alter, change or repeal any bylaw or part thereof is conferred upon the Board as set forth in those bylaws.

(9) The bylaws may provide for honorary directors without voting privileges.

(10) MPRI may in its bylaws confer power upon its Board in addition to the foregoing and in addition to the powers and authorities conferred upon it by statute.

(11) Meetings of the stockholders, the Board, officers, or committees may be held outside of the State of Delaware. The books of MPRI may be kept (subject to any statutory requirements) outside of the State of Delaware at such place or places as may be from time to time designated by the Board or in the bylaws.

NINTH. The corporation reserves the right at any time or from time to time to amend, adopt, alter, change or repeal any provision contained in this Certificate of Incorporation, and any other provision authorized by the laws of the State of Delaware at the time in force may be added or inserted, in the manner now or hereafter prescribed by law; and all rights, preference and privileges of whatsoever nature conferred upon stockholders, directors or any other persons whomsoever by and pursuant to this Certificate of Incorporation in its present form or as hereafter amended are granted subject to the rights reserved in this Article.

TENTH. A director shall not be liable to the Corporation or its stockholders except: (i) for any breach of the director's duty of loyalty to the corporation or its stockholders; (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of

the law; (iii) under Section 174 of the Delaware General Corporation Law; or (iv) for any transaction from which the director derived an improper personal benefit. If the Delaware General Corporation Law is hereafter amended to further eliminate or limit the liability of a director of a corporation, then a director of the corporation, in addition to the circumstances set forth herein, shall have no liability as a director (or such liability shall be limited) to the fullest extent permitted by the Delaware General Corporation Law as so amended. No amendment or repeal of this paragraph shall apply to or have any effect on the liability or alleged liability of any director of the corporation for or with respect to any acts or omissions of such director occurring prior to such amendment or repeal.

ELEVENTH. To the full extent permitted by Section 145(a)-(a) of the General Corporation Law of the State of Delaware, as amended from time to time, the corporation shall indemnify each officer and director of the corporation; provided, however, that the foregoing shall not require this corporation to indemnify or advance expenses to any person in connection with any action, suit, proceeding, claim or counterclaim initiated by or on behalf of such person. Such indemnification shall not be exclusive of other indemnification rights arising under any by-law, agreement, vote of directors or stockholders or otherwise and shall inure to the benefit of the heirs and legal representatives of such person. Any person seeking indemnification under this paragraph shall be deemed to have met the standard of conduct required for such indemnification. Any repeal or modification of the foregoing shall not adversely affect any right or protection of a director or officer of this corporation with respect to any acts or omissions of such director or officer occurring prior to such repeal or modification.

WITNESS our hands this 16th day of December, 1987.

/s/ Robert Kingston	/s/ Roscoe Robinson
Gen. Robert Kingston, USA Ret.	Gen. Roscoe Robinson, USA Ret.
/s/ Frederick Kroesen	/s/ Robert Sennewald
Gen. Frederick Kroesen, USA Ret.	Gen. Robert Sennewald, USA Ret.
/s/ Richard Lawrence	/s/ Richard Trefrey
LTG. Richard Lawrence, USA Ret.	LTG. Richard Trefrey, USA Ret.
/s/ Vernon Lewis	/s/ Richard West
MG Vernon Lewis, USA Ret.	LTG. Richard West, USA Ret.

AMENDMENT OF CERTIFICATE OF INCORPORATION
OF
MILITARY PROFESSIONAL RESOURCES, INC.

MILITARY PROFESSIONAL RESOURCES, INC. pursuant to Section 8-242 of the Delaware Code hereby amends its Certificate of Incorporation to reduce the amount of authorized capital stock as follows:

At a duly called meeting of the Board of Directors of the Corporation the following resolution was adopted:

> WHEREAS it is in the best interest of the Corporation to reduce the amount of capital stock of the Corporation, it is hereby
>
> RESOLVED that the Fourth Article of the Certificate of Incorporation be amended to state: "The total number of shares of stock that this corporation shall have authority to issue is 100,000 shares of common stock, no par value per share." The remainder of the Fourth Article shall remain the same.
>
> BE IT FURTHER RESOLVED that this Amendment be distributed to the Shareholders for their approval.

By execution of the consent made a part hereof, a majority of the Shareholders of the Corporation have consented to the Amendment of the Certificate of Incorporation as required by Section 8-228 of the Delaware Code.

This amendment constitutes a reduction in the number of authorized par value capital shares from two hundred thousand (200,000) shares to one hundred thousand (100,000) shares.

Approved: March 22, 1989

/s/ Frederick Kroesen

Chairman of the Board of Directors

(Corporate Seal)
ATTEST

By: /s/ Richard L. West

Secretary

CONSENT OF SHAREHOLDERS

We, the shareholders of Military Professional Resources, Inc., representing at least a majority of the outstanding shares, do consent to the foregoing resolution of the Board of Directors without the formality of a shareholders' meeting as provided in Section 8-228 of the Delaware Code.

/s/ Vernon B. Lewis, Jr.	
Cypress International	30,000 shares
/s/ Frederick J. Kroesen	
Frederick J. Kroesen	2,000 shares
/s/ Vernon B. Lewis, Jr.	
Vernon B. Lewis, Jr.	3,000 shares
/s/ Richard D. Lawrence	
Richard D. Lawrence	3,000 shares
/s/ Richard G. Trefry	
Richard G. Trefry	3,000 shares
/s/ Richard L West	
Richard L. West	3,000 shares

AMENDMENT OF CERTIFICATE OF INCORPORATION
OF
MILITARY PROFESSIONAL RESOURCES, INC.

MILITARY PROFESSIONAL RESOURCES, INC., pursuant to Section 8-242 of the Delaware Code, hereby amends its Certificate of Incorporation to increase the amount of authorized capital stock as follows:

WHEREAS it is in the best interest of the Corporation to increase the amount of capital stock of the Corporation, it is hereby

RESOLVED that the Fourth Article of the Certificate of Incorporation be amended to state: "The total number of shares of stock that this corporation shall have authority to issue is 200,000 shares of common stock, no par value per share." The remainder of the Fourth Article shall remain the same.

BE IT FURTHER RESOLVED that this Amendment be distributed to the Shareholders for their approval.

By execution of the consent made a part hereof, a majority of the Shareholders of the Corporation have consented to the Amendment of the Certificate of Incorporation as required by Section 8-228 of the Delaware Code.

This amendment constitutes an increase in the number of authorized par value capital shares from one hundred thousand (100,000) shares to two hundred thousand (200,000) shares.

/s/ Richard G. Trefry
Secretary

/s/ Frederick J. Kroesen
Chairman of the Board of Directors

CERTIFICATE OF AMENDMENT OF CERTIFICATE OF INCORPORATION
OF
MILITARY PROFESSIONAL RESOURCES, INC.

The undersigned, the President of MILITARY PROFESSIONAL RESOURCES, INC., a Delaware corporation (the "Corporation"), for the purpose of amending the Corporation's Certificate of Incorporation under the provisions of and subject to the requirements of the laws of the State of Delaware (particularly Chapter 1, Title 8, of the Delaware Code, as amended, and referred to as the "General Corporation Law of the State of Delaware"), hereby certifies as follows:

FIRST: The name of the Corporation is:

"MILITARY PROFESSIONAL RESOURCES, INC."

SECOND: The Certificate of Incorporation for the Corporation, filed with the Office of the Secretary of State of Delaware on December 17, 1987, and amended by Certificates of Amendment on March 27, 1989, and February 21, 1995, is hereby amended by striking Article FIRST of the Certificate of Incorporation as so amended in its entirety and replacing therefor

"FIRST. The name of the Corporation is MPRI, Inc."

THIRD: The foregoing Amendment of the Certificate of Incorporation of the Corporation, which was approved by the Board of Directors and stockholders of the Corporation, was duly adopted in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware.

I, the undersigned, being the President of the Corporation, do make this Certificate, hereby declaring and certifying that this is my act and the facts herein stated are true, and accordingly have hereunto set my hand upon this 20th day of November, 1996.

/s/ Vernon Lewis, Jr.

Vernon B. Lewis, Jr., President

BYLAWS

OF

MPRI

(Adopted 18 November 1998)

ARTICLE I

Name

The name of the Corporation shall be MPRI, Inc. (formerly Military Professional Resources, Inc.), whose principal office and place of business shall be at 1201 East Abingdon Drive, Suite 425, Alexandria, Virginia 22314. The business location may change as required.

ARTICLE II

Capital Stock

The aggregate number of shares that the Corporation shall have authority to issue is 200,000 of no par value.

MPRI shall be an "S" Corporation until such time as it is no longer qualified under law or a majority of outstanding shares vote to discontinue the "S" status.

ARTICLE III

Stockholder Meetings

Stockholder meetings shall be held at any suitable location on a date determined by the Chairman and agreed upon by the CEO. There shall be an annual meeting of the stockholders during the fourth calendar quarter prior to 30 November of each year, for the purpose of electing directors, receiving information on the company's financial performance, and voting on such other issues as may be brought before the stockholders.

The Chairman of the Board, the CEO, or a number of stockholders representing twenty or more percent of the outstanding shares of common stock may call a special meeting of the stockholders by giving written notice to the Secretary. Such special meetings shall take place within forty-five days of proper notice filed with the Secretary.

Notice of each stockholder meeting shall be mailed to the stockholder's address of record in the stock book not less than thirty days, or transmitted telephonically or electronically directly to the stockholder not less than twenty-one days, prior to a scheduled meeting. Stockholders are responsible for filing changes of address, both electronic and mailing, with the Secretary.

The stockholders may at their discretion choose to elect the officers of the Board of Directors through motions properly made and seconded in writing prior to the annual stockholder meeting, or from the floor at the meeting, provided that such motions are approved by the majority of the stock represented in person or by proxy. Should the stockholders not so choose, the officers of the Board shall be elected by the Board itself.

ARTICLE IV

Quorum of Stockholders

Except as hereinafter provided, and as otherwise provided by law, at any meeting of the stockholders, a majority in interest of all the capital stock issued and outstanding represented by stockholders of record in person or by proxy, shall constitute a quorum. When a quorum is present at any meeting, a majority of the stock represented shall decide any question brought before such meeting, unless the question is one upon which by express provision of law, or of the certificate of the Corporation or of these Bylaws, a larger and different vote is required, in which case such expressed provision shall govern and control the decision of such question.

ARTICLE V

Proxy and Voting

Stockholders of record may vote at any stockholder meeting either in person or by proxy in writing. The proxy shall be presented to the Secretary before being voted. Such proxies shall entitle the holders thereof to vote at any such meeting, but shall not be valid after final adjournment thereof. Each stockholder shall be entitled to one vote for each share of stock held.

Motions carried by majority vote of the stockholders shall not be altered or overturned by the Board of Directors or the Executives of the Company.

ARTICLE VI

Board of Directors

The Board of Directors (the Board) shall consist of nine directors elected by the stockholders for two-year terms. Terms shall be staggered. The Chief Executive Officer of the Company shall serve as the tenth member of the Board. The Board, at its discretion, may appoint up to four additional directors, for a total of fourteen voting members.

A nominating committee consisting of the Chairman of the Board, the CEO, and the Secretary shall nominate a slate of candidates for consideration at the annual Stockholders Meeting. In addition, nominations may be presented from the floor at stockholder meetings, and ballots shall provide for write-in candidates.

The Board Officers shall be a Chairman, a Vice-Chairman, a Secretary, and a Treasurer. The office of Secretary and Treasurer may be combined into a single position if so voted. Board Officers may be elected by the Stockholders should the Stockholders so choose, or by the Board itself, for one or two year terms (see Article III).

The Board may also appoint any or all of the eight Incorporators of MPRI as Director Emeritus to serve one to three year terms. A Director Emeritus shall be a nonvoting member serving in an honorary capacity and entitled to attend and offer remarks during all regularly scheduled Board meetings.

Each Director shall have one vote, and the Chairman is a voting member. Voting may be by voice, show of hands, or written ballot, as determined by the Chairman.

The Board shall have an Executive Committee consisting of the Chairman of the Board who shall also chair the Executive Committee, the Vice-Chairman of the Board, the Secretary, the Treasurer, and the CEO. The CEO may not serve as the Chairman of the Executive Committee. No more than two members of the Executive Committee may be full time employees of the company.

ARTICLE VII

Powers of the Board of Directors

The Board of Directors is hereby vested with all the powers possessed by the corporation itself, so far as not contrary to the laws of the State of Delaware, the certificate of incorporation, or these Bylaws.

The Board shall exercise overall control of the Corporation. The responsibilities of the Board shall include, but not be limited to, the following:

- Policy matters
- Financial oversight
- Distributions to shareholders
- Monitor business operations
- Corporate investments
- Merger and acquisition actions
- Corporate goals and objectives
- Long range plans and programs
- Legal and liability matters
- Compensation packages for senior corporate officers
- Fund corporate employee bonuses
- Appoint and/or remove corporate officers

The Executive Committee shall act on behalf of the Board in discharging its responsibilities to the stockholders for matters not requiring action by the full Board under these Bylaws. The Committee shall, as a minimum, periodically review the business activities and financial status of the corporation. The Committee may, acting for the Board, approve the repurchase of any outstanding shares of stock by the Corporation.

The removal or replacement of Corporate Officers and new stock issues or options shall require a two-thirds majority vote of the Board of Directors for approval. The Executive Committee may not decide on issues requiring a two-thirds vote. Other decisions may be by majority vote, or made by the Executive Committee on behalf of the Board.

ARTICLE VIII

Meeting of Directors

The Board of Directors shall meet each December as a minimum. The Chairman may call additional Board meetings as deemed necessary.

The Chairman of the Board may, at his discretion, call for a vote of the Directors on one or more specific issues by mail or electronic means without calling a Board meeting. Such actions and votes shall be recorded, signed by the Chairman, and entered into the minutes of the next meeting of the Board.

The Executive Committee shall, as a minimum, meet once each quarter that Board meetings are not scheduled. The Committee Chairman may call additional meetings as deemed necessary. The Committee shall compile reports of meetings for insertion into the minutes at the next meeting of the Board, and shall disseminate the reports to Directors following each Committee meeting.

ARTICLE IX

Quorum of Directors

A majority of the members of the Board of Directors, as constituted at the time of the meeting, shall constitute a quorum for the transaction of business, except that meetings deciding issues requiring a two-thirds majority vote will require a minimum of three-quarters of the voting members present. Issues shall be decided by majorities as described in Article VII.

Four of the five members of the Executive Committee, to include the Committee Chairman, shall be present to constitute a Committee quorum.

ARTICLE X

Distributions

As long as MPRI remains an "S" Corporation, the stockholders shall receive quarterly distributions to enable tax payments on profits. The exact percent of each quarterly distribution shall be determined by the Executive Committee of the Board of Directors or the Board itself, however, the amount shall never be less than fifty percent of the quarter's apparent profits based upon a financial review by the company's Certified Public Accountant. Four payments to stockholders shall be made on or before the fifteenth of the tax month for the quarter.

Stockholders shall be furnished prior to, or at, the annual meeting, a balance sheet reflecting the financial condition of the corporation through the second quarter of the current calendar year.

ARTICLE XI

Corporate Officers and Responsibilities

The Officers of the Corporation shall be: the President and Chief Executive Officer (CEO); the Executive Vice President and Chief Operating Officer (COO); the Senior Vice President and Chief Financial Officer (CFO); the Senior Vice Presidents and General Managers of Business Groups; and such other Vice Presidents as the Board appoints.

The CEO, subject to review by the Executive Committee or the Board, shall prescribe the duties of Company Officers.

The CEO shall be the senior Corporate Officer, serve as the General Manager of the company, and be responsible to the Board for the profit/loss of the business (the Board is responsible to the stockholders). The CEO responsibilities include hiring and/or replacement of all corporate staff employees; setting salaries and bonuses for all corporate staff employees other than the management team; agreements and contracts; allocating resources and establishing priorities; and compliance with directions or guidance given by the Board or the Executive Committee.

The COO shall be the number two ranking executive in the company, assist the CEO as required, and act in his place during periods of non-availability. The COO may, if so appointed by the Board or designated by the CEO, serve in an additional capacity as the General Manager of the company's administrative and support staff elements.

The company shall have a Management Team to control the normal activities of the business. The Management Team shall be comprised of the CEO, COO, CFO, and the Senior Vice Presidents and General Managers of the Business Groups. The Board of Directors shall control bonuses and other incentive awards for the Management Team.

Program and Project Managers, unless designated as Vice Presidents, are not corporate officers.

ARTICLE XII

Checks and Vouchers

All checks and vouchers of the Corporation shall be signed by such person or persons as may be designated by the Board of Directors or the Executive Committee and all funds of the Corporation shall be deposited in the depository or depositories designated by the Board or the Committee.

ARTICLE XIII

Resignations and Removals

Any Director or officer of the Corporation may resign at any time by giving written notice to the Board of Directors, the Chairman, the President or the Secretary to the Corporation.

Any such notice shall take effect at the time specified therein, or if the time is not specified therein, upon the acceptance of such notice by the Board of Directors. Any officer of the Corporation may be removed by the Board for cause by a two-thirds majority vote.

The stockholders, at any meeting called for the purpose, may by majority vote remove from office any Director or company officer, and elect or appoint his successor.

ARTICLE XIV

Vacancies

If the office of any Director or Officer becomes vacant by reason of death, resignation, removal, disqualification, or otherwise, the Board may choose a successor or successors, who shall hold office for the unexpired term. Vacancies on the Board of Directors may be left unfilled or may be filled for the unexpired term by the stockholders at a meeting called for that purpose, otherwise such vacancies shall be filled by the Board of Directors.

ARTICLE XV

Certificate of Stock

Every stockholder shall be entitled to a certificate, or certificates, of the capital stock of the corporation in such form as may be prescribed by the Board of Directors, duly numbered and sealed with the Corporate Seal of the Corporation, setting forth the number and kind of shares. Such certificates shall be signed by the President or the Chairman and Secretary of the Corporation. Stockholders must be U.S. citizens.

ARTICLE XVI

Transfer of Stock

Subject to the restrictions contained herein, shares of stock may be transferred by delivery of the certificates accompanied either by an assignment in writing on the back of the certificates, or by a written power of attorney to sell, assign and transfer the same on the books of the Corporation, signed by the person appearing by the certificate to be the owner of the shares represented thereby, together with all necessary forms, federal and state transfer so assigned or endorsed. The person registered on the books of the Corporation as the owner of any share of stock shall be entitled to all the rights of ownership with respect to such shares. It shall be the duty of every stockholder to notify the Corporation of his designated mailing address.

ARTICLE XVII

Restrictions on Transfer of Stock

Restrictions on the transfer of stock, if any, and as set by the Board must be annotated on the back of the stock certificate.

ARTICLE XVIII

Transfer Books

The Transfer Books of the stock of the Corporation may be closed for a period not exceeding thirty (30) days in anticipation of the annual stockholders' meeting as the Board of Directors may determine. In lieu of closing the transfer books, the Board of Directors may fix a day not more than thirty (30) days prior to the day of holding any meeting of stockholders as the day as of which stockholders entitled to notice of and to vote at such meetings shall be determined, and only stockholders of record on such day shall be entitled to notice of, or to vote at such meeting.

ARTICLE XIX

Loss of Certificates

In case of the loss, mutilation or destruction of a certificate of stock, a duplicate of the certificate may be issued upon such terms as the Board of Directors shall prescribe.

ARTICLE XX

Seal

The seal of the Corporation shall consist of a flat-faced circular die with "CORPORATE SEAL" in the center and the name of the Corporation around the outer border.

ARTICLE XXI

Amendments

Bylaws of the Corporation, regardless of whether made by the stockholders or by the Board of Directors, may be amended, added to, or repealed by a two-thirds vote of the Board of Directors or a majority vote of the stockholders.

APPROVED AND ADOPTED at a meeting of Board of Directors 3 March, 1988.

AMENDED BY THE BOARD OF DIRECTORS:

18 December 1991
15 December 1992
15 December 1993
17 December 1996

AMENDED BY THE STOCKHOLDERS:

18 November 1998

MPRI, INC.

Action Taken By Written
Consent of the Sole Stockholder

June 30, 2000

The undersigned, being the sole stockholder of MPRI, Inc. a Delaware corporation (the "Corporation"), acting without a meeting does hereby take the following action:

RESOLVED, that, in accordance with the By-laws of the Corporation, Vernon B. Lewis, Jr., Joseph J. Went, John W. Foss, Ronald H. Griffith, Raphael J. Hallada, Carl E. Vuono, Richard G. Trefry, Carl W. Stiner, Jack N. Marritt, Stanley A. Arthur, Gordon R. Sullivan, J.H. Binford Peay, III, Richard I. Neal and James L. Jarnerson be, and hereby are, removed as directors of the Corporation effective as of the date hereof; and that, to fill one of the vacancies created by the removal of all existing directors of the Corporation, Christopher C. Cambria be, and hereby is, elected to serve as a director of the Corporation, to hold office until the next annual meeting of stockholders and until his successor is duly elected and qualified or until removed from office; and that the By-laws of the Corporation be, and hereby are, amended to provide that the Board of Directors shall be comprised of one single director and that the first paragraph of Article VI of the By-laws is hereby deleted and replaced in its entirety as follows:

"The Board of Directors shall initially consist of one director and may consist of between one and nine directors as hereafter determined by resolution of the Board of Directors establishing the number of directors from time to time. Directors shall serve until their replacement is duly elected by the stockholders of the Company".

IN WITNESS WHEREOF, the undersigned stockholder has executed this Consent as of the date written above.

L-3 COMMUNICATIONS CORPORATION

By: /s/ Christopher C. Cambria

Christopher C. Cambria
Vice President

ARTICLES OF INCORPORATION
OF
MCTI ACQUISITION CORPORATION

THIS IS TO CERTIFY THAT,

FIRST: The undersigned, William G. Miller, whose post office address is c/o McGuire, Woods, Battle & Boothe, LLP, 1627 Eye Street, N.W., Washington D.C. 20006, being at least eighteen (18) years of age, does hereby form a corporation under the general laws of the State of Maryland.

SECOND: The name of the corporation (which is hereinafter called the "Corporation") is:

MCTI Acquisition Corporation

THIRD: The purpose for which the Corporation is formed is to carry on any lawful business, within the State of Maryland or elsewhere, and the Corporation shall have, enjoy and exercise all of the powers and rights now or hereafter conferred by statute upon corporations.

FOURTH: The post office address of the principal office of the Corporation in the State of Maryland is 11 East Chase Street, Baltimore, Maryland 21202.

FIFTH: The Resident Agent of the Corporation is CSC-Lawyers Incorporating Service Company, a Maryland corporation, whose post office address is 11 East Chase Street, Baltimore, Maryland 21202.

SIXTH: The Corporation shall have a Board of Directors, initially consisting of two (2) Directors, which number may be increased or decreased in accordance with the By-Laws of the Corporation, but shall never be less than the number required by Section 2-402 of the Corporation and Associations Articles of the Amended Code of Maryland, as may be amended from time to time. The names of the Directors who shall act as such until the first annual meeting of the Stockholders and until their successors are elected and qualify are:

Michael E. Jalbert
Massoud Safavi

SEVENTH: The total number of shares of stock which the Corporation has authority to issue Five Thousand (5,000) shares of common stock, par value $0.01 per share, all of one class.

EIGHTH: In carrying on its business, or for the purpose of attaining or furthering any of its objects, the Corporation shall have all of the rights, powers and privileges granted to corporations by the laws of the State of Maryland, and the power to do any and all acts and things which a natural person or partnership could do and which may now or hereafter be

authorized by law, either alone or in partnership or conjunction with others. In furtherance and not in limitation of the powers conferred by statute, the powers of the Corporation and of the Directors and Stockholders shall include the following:

(a) Any Director individually, or any firm of which any Director may be a member, or any corporation or association of which any Director may be an officer or director or in which any Director may be interested as the holder of any amount of its capital stock or otherwise, may be a party to, or may be pecuniarily or otherwise interested in, any contract or transaction of the Corporation, and, in the absence of fraud, no contract or other transaction shall be thereby affected or invalidated, provided that in case a Director, or firm of which a Director is a member, or a corporation or association of which a Director is an officer or director or in which a Director is interested as the holder of any amount of its capital stock or otherwise, is so interested, such fact shall be disclosed or shall have been known to the Board of Directors or a majority thereof. Any Director of the Corporation who is also a Director, or officer of or interested in such other corporation or association, or who, or the firm of which he is a member, is so interested, may be counted in determining the existence of a quorom at any meeting of the Board of Directors of the Corporation which shall authorize any such contract or transaction, with like force and effect as if he were not such director or officer of such other corporation or association or were not so interested or were not a member of a firm so interested.

(b) The Corporation reserves the right, from time to time, to make any amendment of its Charter, now or hereafter authorized by law, including any amendment which alters the contract rights, as expressly set forth in its Charter, of any outstanding stock.

(c) Except as otherwise provided in these Articles of Incorporation, the Charter or the By-Laws of the Corporation, as from time to time amended, the business of the Corporation shall be managed by its Board of Directors, which shall have and may exercise all the powers of the Corporation except such as are by law, these Articles of Incorporation, the Charter or By-Laws, conferred upon or reserved to the Stockholders. Additionally, the Board of Directors of the Corporation is hereby specifically authorized and empowered from time to time in its discretion:

(1) To authorize the issuance from time to time of shares of its stock of any class, whether now or hereafter authorized, or securities convertible into shares of its stock of any class or classes, whether now or hereafter authorized, for such consideration as said Board of Directors may deem advisable, subject to such restrictions or limitations, if any, as may be set forth in the By-Laws of the Corporation;

(2) By articles supplementary to these Articles of Incorporation, to classify or reclassify any unissued shares by fixing or altering in any one or more aspects, from time to time before issuance of such shares, the preferences, rights, voting powers, restrictions and qualifications of, the dividends on, the times and prices of redemption of, and the conversion rights of such shares.

NINTH: No director or officer of the Corporation shall be liable to the Corporation or its Stockholders for money damages, except (1) to the extent that it is proved that

the person actually received improper benefit or profit in money, property or services, for the amount of the benefit or profit in money, property or services actually received, or (2) to the extent that a judgment or other final adjudication adverse to the person is entered in a proceeding based on a finding in the proceeding that the person's action, or failure to act, was the result of active and deliberate dishonesty and was material to the cause of action adjudicated in the proceeding. No director or officer shall be deemed to have received any improper benefit or profit within the meaning of this Article NINTH by reason of any payment or distribution to or in respect of the common stock of the Corporation, which payment or distribution applies or is available equally to all outstanding shares of common stock of the Corporation.

TENTH: No holder of stock of any class shall have any preemptive right to subscribe to or purchase any additional shares of any class, or any bonds or convertible securities of any nature; provided, however, that the Board of Directors may, in authorizing the issuance of stock of any class, confer any preemptive right that the Board of Directors may deem advisable in connection with such issuance.

ELEVENTH: The Corporation shall indemnify its directors and officers to the full extent permitted by general corporate laws of the State of Maryland now or hereafter in force, including the advance of expenses under the procedures provided by such laws. The foregoing shall not limit the authority of the Corporation to indemnify other employees and agents consistent with law.

IN WITNESS WHEREOF, I have signed these Articles of Incorporation, and I acknowledge the same to be my act on this 4th day of August, 1998.

/s/ William G. Miller

William G. Miller

ARTICLES OF SALE AND TRANSFER

THESE ARTICLES OF SALE AND TRANSFER (these "Articles") are entered into this 11th day of August, 1998, by and between ACCELERATION SYSTEMS, INC., a Maryland corporation ("Transferor"), and MCTI ACQUISITION CORPORATION, a Maryland corporation ("Transferee").

THIS IS TO CERTIFY:

FIRST: Transferor hereby agrees to sell, assign and transfer substantially all of its property and assets to Transferee, as hereinafter set forth.

SECOND: The name and place of incorporation of each party to these Articles are as follows:

Transferor is ACCELERATION SYSTEMS, INC., a corporation organized under the laws of the State of Maryland.

Transferee is MCTI ACQUISITION CORPORATION, a corporation organized under the laws of the State of Maryland.

THIRD: The name, address and principal place of business of Transferee are as follows:

MCTI Acquisition Corporation
3601 Eisenhower Avenue
Alexandria, VA 22304

FOURTH: The counties in this State where each corporation has its principal office and where Transferor has an interest in land are as follows:

Transferor has its principal office in Montgomery County. Transferor has no interest in land in this State.

Transferee has its principal office in Baltimore City. Transferee has no interest in land in this State.

FIFTH: The terms and conditions of the transaction set forth in these Articles were advised, authorized and approved by each corporation, respectively, in the manner and by the vote required by its charter and the laws of the place where it is organized.

Transferor, by unanimous written consent of it Board of Directors, dated August 10, 1998, duly adopted a resolution declaring that the sale, assignment and transfer of substantially all of the assets of Transferor is advisable and directing that these Articles and matters be submitted for action thereon by the stockholders of Transferor, all in the manner and by the vote required by statute and by the Articles of Incorporation of Transferor. On August 10, 1998, the stockholders of Transferor, by unanimous written consent approved the transaction.

Transferee, by unanimous written consent of its Board of Directors, dated August 10, 1998, duly adopted a resolution declaring that the purchase agreement and transfer affected by these Articles is advisable.

SIXTH: Transferee shall pay to Transferor the amount of Two Hundred Seventy-Eight Thousand Dollars ($278,000.00) in cash at the closing, and shall assume certain liabilities of Transferor, in accordance with the terms of that certain Stock and Asset Purchase Agreement dated as of August 11, 1998, for the assets transferred.

SEVENTH: Each of the undersigned acknowledges these Articles to be the corporate act of the respective corporate party on whose behalf he has signed, and further, as to all matters or facts required to be verified under oath, each of the undersigned acknowledges that to the best of his knowledge, information and belief, these matters and facts relating to the corporation on whose behalf he has signed are true in all material respects and that this statement is made under the penalties for perjury.

[Execution Page Follows]

IN WITNESS WHEREOF, each of the parties hereto have caused these Articles to be signed and acknowledged in the name of, and on behalf of the Transferor and Transferee hereto, as of the date first written above.

TRANSFEROR:

ATTEST:

ACCELERATION SYSTEMS, INC.,
a Maryland corporation

By: /s/ Gary Gallupe
Name: Gary Gallupe
Title: Secretary

By: /s/
Name:
Title: Vice President

[Corporate Seal]

TRANSFEREE

ATTEST:

MCTI ACQUISITION CORPORATION,
a Maryland corporation

By: /s/ G. Higgins
Name: G. Higgins
Title: Corporate

By: /s/ Massoud Safavi
Name:
Title: Treasurer

[Corporate Seal]

BYLAWS

OF

MCTI ACQUISITION CORPORATTON

ARTICLE I
ARTICLE I MEETINGS OF STOCKHOLDERS

Section 1. PLACE. All meetings of stockholders shall be held at the principal office of the corporation or at such other place within the United States as shall be stated in the notice of the meeting.

Section 2. ANNUAL MEETING. An annual meeting of the stockholders for the election of directors and the transaction of any business within the powers of the corporation shall be held within six (6) months of the close of the corporation's fiscal year at such location and at such date and time as may be fixed by the Board of Directors. If the day fixed for the annual meeting shall be a legal holiday, such meeting shall be held at the same time on the next succeeding business day.

Section 3. SPECIAL MEETINGS. The President or Board of Directors may call special meetings of the stockholders. Special meetings of stockholders shall also be called by the Secretary upon the written request of the holders of shares entitled to cast not less than thirty three percent (33%) of all the votes entitled to be cast at such meeting. Such request shall state the purpose or purposes of such meeting and the matters proposed to be acted on thereat. The Secretary shall inform such stockholders of the reasonably estimated cast of preparing and mailing such notice of the meeting, and upon payment to the corporation of such costs, the Secretary shall give notice stating the purpose or purposes of the meeting to all stockholders entitled to vote at such meeting. No special meeting need be called upon the request of the holders of shares entitled to cast less than a majority of all votes entitled to be cast at such meeting, to consider any matter which is substantially the same as a matter voted upon at any special meeting of the stockholders held during the preceding twelve months.

Section 4. NOTICE. Not less than ten nor more than ninety days before the date of every meeting of stockholders, the Secretary shall give, to each stockholder entitled to vote who is entitled to notice by statute, written or printed notice stating the time and place of the meeting and, in the case of a special meeting or as otherwise may be required by statute, the purpose or purposes for which the meeting is called, either by mail or by presenting it to him personally or by leaving it at his residence or usual place of business. If mailed, such notice shall be deemed to be given when deposited in the United States mail addressed to the stockholder at his post office address as it appears on the records of the corporation, with postage prepaid.

Section 5. SCOPE OF NOTICE. No business shall be transacted at a special meeting of stockholders except that specifically designated in the notice. Any business of the corporation may be transacted at the annual meeting without being specifically designated in the notice, except such business as is required by statute to be stated in such notice.

Section 6. QUORUM. At any meeting of stockholders, the presence in person or by proxy of stockholders entitled to cast a majority of the votes shall constitute a quorum; but this section shall not affect any requirement under any statute or the charter for the vote necessary for the adoption of any measure. If, however, a quorum is not present at any meeting of the stockholders, the stockholders present in person or by proxy shall have the power to adjourn the meeting from time to time without notice other than announcement at the meeting until a quorum is present. At any adjourned meeting at which a quorum is present, any business may be transacted which might have been transacted at the meeting as originally notified. The stockholders present at a meeting which has been duly called and convened and at which a quorum is present at the time counted may continue to transact business until adjournment, notwithstanding the withdrawal of enough stockholders to leave less than a quorum.

Section 7. VOTING. A majority of the votes cast at a meeting of stockholders duly called and at which a quorum is present shall be sufficient to take or authorize action upon any matter which may properly come before the meeting, unless more than a majority of the votes cast is required by statute or by the charter. Unless otherwise provided in the charter, each outstanding share, regardless of class, shall be entitled to one vote upon each matter submitted to a vote at a meeting of stockholders.

Section 8. PROXIES. A stockholder may vote the shares owned of record by him, either in person or by proxy executed in writing by the stockholder or by his duly authorized attorney in fact. Such proxy shall be filed with the Secretary of the corporation before or at the time of the meeting. No proxy shall be valid after eleven months from the date of its execution, unless otherwise provided in the proxy.

Section 9. VOTING OF SHARES BY CERTAIN HOLDERS. Shares standing in the name of another corporation, when entitled to be voted, may be voted by the president or vice-president or by proxy appointed by the president or a vice-president of such other corporation, unless some other person who has been appointed to vote such shares pursuant to a bylaw or a resolution of the Board of Directors of such other corporation presents a certified copy of such bylaws or resolution, in which case such person may vote such shares. Any fiduciary may vote shares standing in his name as such fiduciary, either in person or by proxy.

Shares of its own stock directly or indirectly owned by this corporation shall not be voted in any meeting and shall not be counted in determining the total number of outstanding shares entitled to vote at any given time, but shares of its own stock held by it in a fiduciary capacity may be voted and shall be counted in determining the total number of outstanding shares at any given time.

Section 10. INSPECTORS. At any meeting of stockholders, the chairman of the meeting may, or upon the request of any stockholder shall, appoint one or more persons as inspectors for such meeting. Such inspectors shall ascertain and report the number of shares represented at the meeting based upon their determination of the validity and effect of proxies, count all votes, report the results and do such other acts as are proper to conduct the election and voting with impartiality and fairness to all the stockholders.

Each report of an inspector shall be in writing and signed by him or by a majority of them if there be more than one inspector acting at such meeting. If there is more than one inspector, the report of a majority shall be the report of the inspectors. The report of the inspector or inspectors on the number of shares represented at the meeting and the results of the voting shall be prima facie evidence thereof.

Section 11. INFORMAL ACTION BY STOCKHOLDERS. Any action required or permitted to be taken at a meeting of stockholders may be taken without a meeting if a consent in writing, setting forth such action, is signed by all the stockholders entitled to vote on the subject matter thereof and any other stockholders entitled to notice of a meeting of stockholders (but not to vote thereat) have waived in writing any rights which they may have to dissent from such action, and such consents and waivers are filed with the minutes of proceedings of the stockholders. Such consents and waivers may be signed by different stockholders on separate counterparts.

ARTICLE II
DIRECTORS

Section 1. GENERAL POWERS. The business and affairs of the corporation shall be managed by its Board of Directors.

Section 2. NUMBER, TENURE AND QUALIFICATION. The number of directors of the corporation shall be that number set forth in the Articles of Incorporation of the Corporation, or such other number as may be designated from time to time by resolution of a majority of the entire Board of Directors, provided, however, that the number of Directors shall never be more than fifteen (15) nor less than the minimum number required by Section 2-402 of the Corporations and Associations Article of the Annotated Code of Maryland, as may be amended from time to time, and further provided that the tenure of office of a director shall not be affected by any decrease in the number of directors. Each director shall serve until the next annual meeting of stockholders and until his or her successor is elected and qualifies.

Section 3. ANNUAL AND REGULAR MEETINGS. An annual meeting of the Board of Directors shall be held promptly after the annual meeting of stockholders, no notice other than this bylaw being necessary. The Board of Directors may provide, by resolution, the time and place, either within or without the State of Maryland, for the holding of regular meetings of the Board of Directors without other notice than such resolutions.

Section 4. SPECIAL MEETINGS. Special meetings of the Board of Directors may be called by or at the request of the President or by a majority of the directors then in office. The person or persons authorized to call special meetings of the Board of Directors may fix any place, either within or without the State of Maryland, as the place for holding any special meeting of the Board of Directors called by them.

Section 5. NOTICE. Notice of any special meeting to be provided herein shall be given by written notice delivered personally, telegraphed or mailed to each director at his business or residence at least two (2) days prior to the meeting. Notice by mail shall be given at least five (5) days prior to the meeting. If mailed, such notice shall be deemed to be delivered

when deposited in the United States mail properly addressed, with postage thereon prepaid. If notice be given by telegram, such notice shall be deemed to be delivered when the telegram is delivered to the telegraph company. Neither the business to be transacted at, nor the purpose of, any annual, regular or special meeting of the Board of Directors need be specified in the notice, unless specifically required by statute or these Bylaws.

Section 6. QUORUM. A majority of the Board of Directors then in office shall constitute a quorum for transaction of business at any meeting of the Board of Directors, provided that, if less than a majority of such number of directors are present at said meeting, a majority of the directors present may adjourn the meeting from time to time without further notice.

The directors present at a meeting which has been duly called and convened may continue to transact business until adjournment, notwithstanding the withdrawal of enough directors to leave less than a quorum.

Section 7. VOTING. The action of the majority of the directors present at a meeting at which a quorum is present shall be the act of the Board of Directors, unless the concurrence of a greater proportion is required for such action by applicable statute or these Bylaws.

Section 8. VACANCIES. Any vacancy occurring in the Board of Directors for any cause other than by reason of an increase in the number of directors may be filled by a majority vote of the remaining directors, although such majority is less than a quorum. Any vacancy occurring in the Board of Directors by reason of an increase in the number of directors may be filled by a majority vote of the entire Board of Directors. A director elected by the Board of Directors to fill a vacancy shall hold office until the next annual meeting of stockholders or until his or her successor is elected and qualifies.

Section 9. INFORMAL ACTION BY DIRECTORS. Any action required or permitted to be taken at any meeting of the Board of Directors may be taken without a meeting, if a consent in writing to such action is signed by all of the directors and such written consent is filed with the minutes of the Board of Directors. Consents may be signed by different directors on separate counterparts.

Section 10. COMPENSATION. Directors, as such, shall not receive any stated salary for their services, but, by resolution of the Board of Directors, a fixed sum and expenses of attendance, if any, may be allowed to directors for attendance at each annual, regular or special meeting of the Board of Directors, or of any committee thereof; but nothing herein contained shall be construed to preclude any director from serving the corporation in any other capacity and receiving compensation therefor.

Section 11. REMOVAL OF DIRECTORS. The stockholders may, at any time, remove any director, with or without cause, by the affirmative vote of a majority of all the votes entitled to be cast on the matter, and may elect a successor to fill any resulting vacancy for the balance of the term of the removed director.

ARTICLE III
COMMITTEES

Section 1. NUMBER, TENURE AND QUALIFICATIONS. The Board of Directors may appoint from among its members an Executive Committee and other committees, composed of two or more directors, to serve at the pleasure of the Board of Directors.

Section 2. DELEGATION OF POWER. The Board of Directors may delegate to these committees in the intervals between meetings of the Board of Directors any of the powers of the Board of Directors to manage the business and affairs of the corporation, except those powers which the Board of Directors is specifically prohibited from delegating pursuant to Section 2-411 of the Corporations and Associations Article of the Annotated Code of Maryland, as may be amended from time to time.

Section 3. MEETINGS. In the absence of any member of any such committee, the members thereof present at such meeting, whether or not they constitute a quorum, may appoint a member of the Board of Directors to act in the place of such absent members.

Section 4. INFORMAL ACTION BY COMMITTEES. Any action required or permitted to be taken at any meeting of a committee of the Board of Directors may be taken without a meeting, if a written consent to such action is signed by all members of the committee and such written consent is filed with the minutes of proceedings of such committee. Consents may be signed by different members of a committee on separate counterparts.

ARTICLE IV
OFFICERS

Section 1. POWERS AND DUTIES. The officers of the corporation shall be elected annually by the Board of Directors at the first meeting of the Board of Directors held after each annual meeting of stockholders. If the election of officers shall not be held at such meeting, such election shall be held as soon thereafter as may be convenient. Each officer shall hold office until his successor is duly elected and qualifies or until his death, resignation or removal in the manner hereinafter provided. Any two or more offices except President and Vice-President may be held by the same person. Election or appointment of an officer or agent shall not of itself create contract rights between the corporation and such officer or agent.

Section 2. REMOVAL. Any officer or agent elected or appointed by the Board of Directors may be removed by the Board of Directors at any time with or without cause, but such removal shall be without prejudice to the contract rights, if any, of the person so removed.

Section 3. VACANCIES. A vacancy in any office may be filled by the Board of Directors for the unexpired portion of the term.

Section 4. PRESIDENT. The President shall be the principal executive officer of the corporation, shall in general supervise and control all of the business and affairs of the corporation and shall have such powers and perform such duties as generally pertain to that position or as may, from time to time, be assigned to him by the Board of Directors.

Section 5. SECRETARY. The Secretary shall (a) keep the minutes of the proceedings of the stockholders and Board of Directors in one or more books provided for that purpose; (b) see that all notices are duly given in accordance with the provisions of these Bylaws or as required by law; (c) be custodian of the corporate records and of the seal of the corporation; (d) keep a register of the post office address of each stockholder which shall be furnished to the Secretary by such stockholder; (e) have general charge of the stock transfer books of the corporation; and (f) in general perform all duties as from time to time may be assigned to him by the President or by the Board of Directors.

Section 6. TREASURER. The Treasurer shall have the custody of the corporate funds and securities and shall keep full and accurate accounts of receipts and disbursements in books belonging to the corporation and shall deposit all moneys and other valuable effects in the name and to the credit of the corporation in such depositories as may be designated by the Board of Directors.

The Treasurer shall disburse the funds of the corporation as may be ordered by the Board of Directors, taking proper vouchers for such disbursements, and shall render to the President and Board of Directors, at the regular meetings of the Board or whenever they may require it, an account of all his transactions as treasurer and of the financial condition of the corporation.

If required by the Board of Directors, the Treasurer shall give the corporation a bond in such sum and with such surety or sureties as shall be satisfactory to the Board of Directors for the faithful performance of the duties of his office and for the restoration to the corporation, in case of his death, resignation, retirement or removal from office, of all books, papers, vouchers, money and other property of whatever kind in his or her possession or under his or her control belonging to the corporation.

Section 7. OTHER OFFICERS. The Board of Directors may appoint such other officers and agents as it shall deem necessary. The other officers of the Corporation shall have such authority and perform such duties as shall be prescribed by the Board of Directors or by officers authorized by the Board of Directors to appoint them to their respective offices. To the extent that such duties are not so stated, such officers shall have such authority and perform the duties which generally pertain to their respective offices, subject to the control of the President or the Board of Directors.

Section 8. ANNUAL REPORT. The President or other executive officer of the corporation shall prepare or cause to be prepared annually a full and correct statement of the affairs of the corporation, including a balance sheet and a statement of the results of operations for the preceding fiscal year, which shall be submitted at the annual meeting of the stockholders and filed within twenty (20) days thereafter at the principal office of the corporation in the State of Maryland.

Section 9. SALARIES. The salaries of the officers shall be fixed from time to time by the Board of Directors and no officer shall be prevented from receiving such salary by reason of the fact that he is also a director of the corporation.

ARTICLE V
CONTRACTS, LOANS, CHECKS AND DEPOSITS

Section 1. CONTRACTS. The Board of Directors may authorize any officer or officers, agent or agents, to enter into any contract or to execute and deliver any instrument in the name of and on behalf of the corporation, and such authority may be general or confined to specific instances.

Section 2. CHECKS, DRAFTS, ETC. All checks, drafts or other orders for the payment of money, notes or other evidences of indebtedness issued in the name of the corporation shall be signed by such officers or agents of the corporation and in such manner as shall from time to time be determined by resolution of the Board of Directors.

Section 3. DEPOSITS. All funds of the corporation not otherwise employed shall be deposited from time to time to the credit of the corporation in such banks, trust companies or other depositories as the Board of Directors, or officers of the corporation authorized by the Board of Directors, may select.

ARTICLE VI
ARTICLE VI SHARES OF STOCK

Section 1. CERTIFICATES OF STOCK. Each stockholder shall be entitled to a certificate or certificates which shall represent and certify the number of shares of each class of stock owned by him or her in the corporation. Each certificate shall be signed by the President or a Vice President and countersigned by the Secretary or an Assistant Secretary or the Treasurer or an Assistant Treasurer and may be sealed with the corporate seal. The signatures may be either manual or facsimile. Certificates shall be consecutively numbered. If the corporation issues, from time to time, several classes of stock, each class may have its own number or series. In case any officer who has signed any certificate ceases to be an officer of the corporation before the certificate is issued, the certificate may nevertheless be issued by the corporation with the same effect as if the officer has not ceased to be such officer as of the date of its issue. Each certificate representing stock which is restricted or limited as to its transferability or voting powers, which is preferred or limited as to its dividends or as to its share of the assets upon liquidation or which is redeemable at the option of the corporation, shall have a statement of such restriction, limitation, preference or redemption provisions, or a summary thereof, plainly stated on the certificate. In lieu of such statement or summary, the corporation may set forth upon the face or back of the certificate a statement that the corporation will furnish to any stockholder, upon request and without charge, a full statement of such information.

Section 2. TRANSFERS OF STOCK. Upon surrender to the corporation or the transfer agent of the corporation of a certificate of stock duly endorsed or accompanied by proper evidence of succession, assignment or authority to transfer, the corporation shall issue a new certificate to the person entitled thereto, cancel the old certificate and record the transaction upon its books.

The corporation shall be entitled to treat the holder of record of any share or shares of stock as the holder in fact thereof and, accordingly, shall not be bound to recognize any

equitable or other claim to or interest in such share on the part of any other person, whether or not it shall have express or other notice thereof, except as otherwise provided by the laws of the State of Maryland.

Section 3. LOST CERTIFICATE. The Board of Directors may direct a new certificate to be issued in the place of any certificate theretofore issued by the corporation alleged to have been stolen, lost or destroyed upon the making of an affidavit of that fact by the person claiming the certificate of stock to be stolen, lost or destroyed. When authorizing such issue of a new certificate, the Board of Directors may, in its discretion and as a condition precedent to the issuance thereof, require the owner of such stolen, lost or destroyed certificate or his legal representative to advertise the same in such manner as it shall require and/or to give bond, with sufficient surety, to the corporation to indemnify it against any loss or claim which may arise by reason of the issuance of a new certificate.

Section 4. CLOSING OF TRANSFER BOOKS OR FIXING OF RECORD DATE. The Board of Directors may fix, in advance, a date as the record date for the purpose of determining stockholders entitled to notice of, or to vote at, any meeting of stockholders, or stockholders entitled to receive payment of any dividend or the allotment of any rights, or in order to make a determination of stockholders for any other proper purpose. Such date, in any case, shall be not more than ninety (90) days, and in case of a meeting of stockholders not less than ten (10) days, prior to the date on which the meeting or particular action requiring such determination of stockholders is to be held or taken.

In lieu of fixing a record date, the Board of Directors may provide that the stock transfer books shall be closed for a stated period but not to exceed twenty (20) days. If the stock transfer books are closed for the purpose of determining stockholders entitled to notice of or to vote at a meeting of stockholders, such books shall be closed for at least ten (10) days immediately preceding such meeting.

If no record date is fixed and the stock transfer books are not closed for the determination of stockholders, (a) the record date for the determination of stockholders entitled to notice of, or to vote at, a meeting of stockholders shall be at the close of business on the day on which the notice of meeting is mailed or the 30th day before the meeting, whichever is the closer date to the meeting; and (b) the record date for the determination of stockholders entitled to receive payment of a dividend or an allotment of any rights shall be at the close of business on the day on which the resolution of the Board of Directors, declaring the dividend or allotment of rights, is adopted.

When a determination of stockholders entitled to vote at any meeting of stockholders has been made as provided in this section, such determination shall apply to any adjournment thereof, except where the determination has been made through the closing of the stock transfer books and the stated period of closing has expired.

ARTICLE VII
FISCAL YEAR

The Board of Directors shall have the power, from time to time, to fix the fiscal year of the corporation by a duly adopted resolution.

ARTICLE VIII
DIVIDENDS

Section 1. DECLARATION. Dividends upon the capital stock of the corporation, subject to the provisions, if any, of the charter of the corporation, may be declared by the Board of Directors at any meeting, pursuant to law. Dividends may be paid in cash, property or shares of the corporation, subject to the provisions of law and of the charter.

Section 2. CONTINGENCIES. Before payment of any dividends, there may be set aside out of any funds of the corporation available for dividends such sum or sums as the Board of Directors may from time to time, in its absolute discretion, think proper as a reserve fund to meet contingencies, for equalizing dividends, for repairing or maintaining any property of the corporation or for such other purpose as the Board of Directors shall determine to be in the best interest of the corporation, and the Board of Directors may modify or abolish any such reserve in the manner in which it was created.

ARTICLE IX
SEAL

Section 1. SEAL. The corporate seal shall have inscribed thereon the name of the corporation, the year of its organization and the words "Incorporated Maryland". The Board of Directors may authorize one or more duplicate seals and provide for the custody thereof.

Section 2. AFFIXING SEAL. Whenever the corporation is required to place its corporate seal to a document, it shall be sufficient to meet the requirements of law, rule or regulation relating to a corporate seal to place the word "(seal)" adjacent to the signature of the authorized officer.

ARTICLE X
STOCK LEDGER

The corporation shall maintain at its principal office or at the office of its counsel, accountants or transfer agent, an original or duplicate stock ledger containing the names and addresses of all the stockholders and the number of shares of each class held by each stockholder.

ARTICLE XI
INDEMNIFICATION

The Corporation shall indemnify its directors and officers to the full extent permitted by the general corporate laws of the State of Maryland, now or hereafter in force, including the advance of expenses under the procedures provided by such laws.

In addition to any indemnification permitted by these Bylaws, the Board of Directors shall, in its sole discretion, have the power to grant such indemnification as it deems in the interest of the corporation to the full extent permitted by law.

The corporation shall have power to purchase and maintain insurance on behalf of any person who is or was serving the corporation or any other entity at the request of the corporation, in any capacity, against any liability, whether or not the corporation would have the power to indemnify him against such liability.

This Article shall not limit the corporation's power to indemnify against liabilities other than those arising from a person's serving the corporation as an officer, director, employee or agent.

ARTICLE XII
WAIVER OF NOTICE

Whenever any notice is required to be given pursuant to the charter or Bylaws of the corporation or pursuant to applicable law, a waiver thereof in writing, signed by the person or persons entitled to such notice, whether before or after the time stated therein, shall be deemed equivalent to the giving of such notice. Neither the business to be transacted at nor the purpose of any meeting need be set forth in the waiver of notice, unless specifically required by statute. The attendance of any person at any meeting shall constitute a waiver of notice of such meeting, except where such person attends a meeting for the express purpose of objecting to the transaction of any business on the ground that the meeting is not lawfully called or convened.

ARTICLE XIII
AMENDMENT OF BYLAWS

Section 1. BY DIRECTORS. The Board of Directors shall have the power, at any annual or regular meeting, or at any special meeting if notice thereof be included in the notice of such special meeting, to alter or repeal any Bylaws of the corporation and to make new Bylaws, except that the Board of Directors shall not alter or repeal this Section or any Bylaws made by the stockholders.

Section 2. BY STOCKHOLDERS. The Stockholders shall have the power, at any annual meeting, or at any special meeting if notice thereof be included in the notice of such special meeting, to alter or repeal any Bylaws of the corporation and to make new Bylaws.

Exhibit 3.67

RESTATED CERTIFICATE OF INCORPORATION

OF

VIVID TECHNOLOGIES, INC.

It is hereby certified that:

1. The present name of the Corporation (hereinafter called the "Corporation") is Vivid Technologies, Inc. The name under which the Corporation was originally incorporated is Vivid Technologies, Inc. and the date of filing the original Certificate of Incorporation of the Corporation with the Secretary of State of Delaware is September 26, 1996.

2. The Certificate of Incorporation of the Corporation is hereby amended by (i) increasing the number of shares of Common stock by 20,000,000 shares, (ii) decreasing the number of shares of authorized Preferred Stock to 1,000,000 shares, (iii) amending Articles Fourth and Eighth, and (iii) adding Articles Tenth through Fourteenth.

3. The provisions of the Restated Certificate of Incorporation of the Corporation as herein amended are hereby restated and integrated into the single instrument which is hereinafter set forth, and which is entitled Restated Certificate of Incorporation of Vivid Technologies, Inc. without any further amendments other than the amendments herein certified and without any discrepancy between the provisions of the Certificate of Incorporation as amended and supplemented hereby; and the provisions of the said single instrument hereinafter set forth.

4. The amendments to and the restatement of the Certificate of Incorporation herein certified have been duly adopted by the directors and stockholders in accordance with the provisions of Sections 141, 228, 242 and 245 of the General Corporation Law of the State of Delaware.

5. The effective date of the Restated Certificate of Incorporation and of the amendments herein certified shall be its filing date.

6. The Certificate of Incorporation of the Corporation, as amended and restated herein, shall upon the effective date of this Restated Certificate of Incorporation, read as follows:

FIRST : The name of the corporation (hereinafter called the "Corporation") is Vivid Technologies, Inc.

SECOND : The address, including street, number, city, and county, of the registered office of the Corporation in the State of Delaware is c/o The Prentice-Hall Corporation System, Inc., 1013 Centre Road, Wilmington, Delaware 19805, New Castle County.

THIRD : The nature of the business and the purposes to be conducted and promoted by the Corporation, shall be to (a) engage in the general business of designing, developing, manufacturing, marketing and selling products relating to inspection and security of baggage and other goods, and any other type of electrical, electronics or mechanical devices, and all products and services related thereto, and (b) conduct any lawful business, to promote any lawful purpose, and to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware.

FOURTH : The total number of shares of all classes of stock which the Corporation shall have authority to issue is:

(1) 30,000,000 shares of Common Stock, $.01 par value per share ("Common Stock");

(2) 1,000,000 shares of Preferred Stock, $.01 par value per share ("Preferred Stock").

A statement of the designations and powers, preferences and rights, and the qualifications, limitations or restrictions of the classes of capital stock of the Corporation shall be as follows:

Common Stock

The holders of Common Stock shall have one vote per share upon all matters.

Preferred Stock

The Preferred Stock may be issued and designated by the Board of Directors, in one or more classes or series and with such rights, powers, preferences and terms and at such times and for such consideration as the Board of Directors shall determine, without further stockholder action. With respect to each class or series of Preferred Stock, prior to issuance, the Board of Directors by resolution shall designate that class or series to distinguish it from other classes and series of stock of the Corporation, shall specify the number of shares to be included in the class or series, and shall fix the rights, powers, preferences and terms of the shares of the class or series, including, but without limitation: (i) the dividend rate, which may be fixed or variable, its preference as to any other class or series of capital stock, and whether dividends will be cumulative or noncumulative; (ii) whether the shares are to be redeemable and, if so, at what times and prices (which price or prices may, but need not, vary according to the time or circumstances of such redemption) and on what other terms and conditions; (iii) the terms and amount of any sinking fund provided for the purchase or redemption of the shares; (iv) whether the shares shall be convertible or exchangeable and, if so, the times, prices, rates, adjustments and other terms of such conversion or exchange; (v) the voting rights, if any, applicable to the shares in addition to those prescribed by law; (vi) the restrictions and conditions, if any, on the issue or reissue of any additional shares of such class or series or of any other class or series of Preferred Stock ranking on a parity with or prior to the shares of such class or series; (vii) whether, and the extent to which, any of the rights, powers, preferences and terms of any such class or series may be made dependent upon facts ascertainable outside of the Certificate of Incorporation or outside the resolution or resolutions providing for the issuance of such class or

series by the Board of Directors, provided that the manner in which such facts shall operate is clearly set forth in the resolution or resolutions providing for the issuance of such class or series adopted by the Board of Directors; and (viii) the rights of the holders of such shares upon voluntary or involuntary liquidation, dissolution or winding up of the Corporation.

FIFTH : The Corporation shall have perpetual existence.

SIXTH : Whenever a compromise or arrangement is proposed between this Corporation and its creditors or any class of them and/or between this Corporation and its stockholders or any class of them, any court of equitable jurisdiction within the State of Delaware may, on the application in a summary way of this Corporation or of any creditor or stockholder thereof or on the application of any receiver or receivers appointed for this Corporation under the provisions of Section 291 of Title 8 of the Delaware Code or on the application of trustees in dissolution or of any receiver or receivers appointed for this Corporation under the provisions of Section 279 of Title 8 of the Delaware Code order a meeting of the creditors or class of creditors, and/or of the stockholders or class of stockholders of this Corporation, as the case may be, to be summoned in such manner as the said court directs. If a majority in number representing three-fourths in value of the creditors or class of creditors, and/or of the creditors or class of creditors, and/or of the stockholders or class of stockholders of this Corporation, as the case may be, agrees to any compromise or arrangement and to any reorganization of this Corporation as a consequence of such compromise or arrangement, the said compromise or arrangement and the said reorganization shall, if sanctioned by the court to which the said application has been made, be binding on all the creditors or class of creditors, and/or on all the stockholders or class of stockholders, of this Corporation, as the case may be, and also on this Corporation.

SEVENTH : For the management of the business and for the conduct of the affairs of the Corporation, and in further definition, limitation and regulation of the powers of the Corporation and of its directors and of its stockholders or any class thereof, as the case may be, it is further provided that:

(a) The business of the Corporation shall be conducted by the officers of the Corporation under the supervision of the Board of Directors.

(b) The number of directors which shall constitute the whole Board of Directors shall be fixed by, or in the manner provided in, the Bylaws. No election of Directors need be by written ballot.

(c) The Board of Directors of the Corporation may adopt, amend or repeal the Bylaws of the Corporation at any time after the original adoption of the Bylaws according to Section 109 of the General Corporation Law of the State of Delaware; provided, however, that any amendment to provide for the classification of directors of the Corporation for staggered terms pursuant to the provisions of subsection (d) of Section 141 of the General Corporation Law of the State of Delaware shall be set forth in an amendment to this Restated Certificate of Incorporation, in an initial Bylaw, or in a Bylaw adopted by the stockholders of the Corporation entitled to vote.

(d) Notwithstanding any other provision of law, all action required to be taken by the stockholders of the Corporation shall be taken at a meeting duly called and held in accordance with the law, the Restated Certificate of Incorporation and the Bylaws, and not by written consent.

EIGHTH :

(a) The Corporation may, to the fullest extent permitted by Section 145 of the General Corporation Law of the State of Delaware, as the same may be amended and supplemented, indemnify any and all persons whom it shall have power to indemnify under said section from and against any and all of the expenses, liabilities or other matters referred to in or covered by said section, and the indemnification provided for herein shall not be deemed exclusive of any other rights to which a person indemnified may be entitled under any Bylaw, agreement, vote of stockholders or disinterested Directors or otherwise, both as to action in his official capacity and as to action in another capacity while holding such office, and shall continue as to a person who has ceased to be a Director, officer, employee or agent and shall inure to the benefit of the heirs, executors and administrators of such a person.

(b) No director shall be personally liable to the Corporation or its stockholders for monetary damages for any breach of fiduciary duty by such director as a director. Notwithstanding the foregoing sentence, a director shall be liable to the extent provided by applicable law (i) for breach of the Director's duty of loyalty to the Corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) pursuant to Section 174 of the General Corporation Law of the State of Delaware or (iv) for any transaction from which the director derived an improper personal benefit. No amendment to or repeal of this paragraph (b) of this Article Eighth shall apply to or have any effect on the liability or alleged liability of any director of the Corporation for or with respect to any acts or omissions of such Director occurring prior to such amendment.

NINTH : From time to time, subject to the provisions of this Restated Certificate of Incorporation (including without limitation the provisions of paragraph (d) of Article Tenth, Article Eleventh and paragraph (f) of Article Fourteenth), any of the provisions of this Certificate of Incorporation may be amended, altered or repealed, and other provisions authorized by the laws of the State of Delaware at the time in force may be added or inserted in the manner and at the time prescribed by said laws, and all rights at any time conferred upon the stockholders of the Corporation by this Restated Certificate of Incorporation are granted subject to the provisions of this Article Ninth.

TENTH :

(a) Any direct or indirect purchase or other acquisition in one or more transactions by the Corporation or any Subsidiary of any of the outstanding Voting Stock of any class from any one or more individuals or entities known by the Corporation to be a Related Person, who has beneficially owned such security or right for less than two years prior to the date of such purchase, at a price in excess of the Fair Market Value shall, except as hereinafter provided, require the affirmative vote of the holders of at least two-thirds of the shares of Voting Stock, voting as a single class, excluding any votes cast with respect to shares of Voting Stock

beneficially owned by such Related Person. Such affirmative vote shall be required notwithstanding the fact that no vote may be required, or that a lesser percentage may be specified by law or any agreement with any national securities exchange, or otherwise, but no such affirmative vote shall be required with respect to any purchase or other acquisition of securities made as part of (i) a tender or exchange offer by the Corporation to purchase securities of the same class made on the same terms to all holders of such securities and complying with the applicable requirements of the Exchange Act and the rules and regulations thereunder, or any successor rule or regulation or (ii) pursuant to an open-market purchase program conducted in accordance with the requirements of Rule 10b-18 promulgated by the Securities and Exchange Commission pursuant to the Exchange Act or any successor rule or regulation.

(b) A majority of the Continuing Directors shall have the power and duty to determine, on the basis of information known to them after reasonable inquiry, all facts necessary to determine compliance with this Article Tenth including, without limitation, (i) whether a person is a Related Person, (ii) the number of Shares of Voting Stock beneficially owned by any person and (iii) whether a price is in excess of Fair Market Value.

(c) Nothing contained in this Article Tenth shall be construed to relieve any Related Person from any fiduciary obligation imposed by law.

(d) Notwithstanding anything contained in this Certificate of Incorporation to the contrary, the affirmative vote of the holders of at least two-thirds of the outstanding shares of Voting Stock, voting together as a single class, shall be required to alter, change, amend, repeal or adopt any provision inconsistent with this Article Tenth.

ELEVENTH : Except as otherwise provided in this Restated Certificate of Incorporation, the Bylaws and any designation of terms pursuant to Section 151 of the General Corporation Law of the State of Delaware, any vote required by stockholders pursuant to said General Corporation Law, other than the election of directors (which shall not be affected by this provision), shall be effective if recommended by a majority of the Continuing Directors and the vote of a majority of each class of stock outstanding and entitled to vote thereon; and if not recommended by a majority of the Continuing Directors, then by the vote of two-thirds of each class of stock outstanding and entitled to vote thereon.

TWELFTH : The Board of Directors of the Corporation, when evaluating any offer from another person to (a) purchase or exchange any securities or property for any outstanding equity securities of the Corporation, (b) merge or consolidate the Corporation with another corporation, or (c) purchase or acquire all or substantially all of the properties and assets of the Corporation, shall in connection with the exercise of its judgment in determining what is in the best interests of the Corporation and its stockholders, give due consideration not only to the price or other consideration being offered, but also to all other relevant factors, including but without limitation, the interests of the Corporation's employees, suppliers, creditors and customers, the economy of the state, region and nation, community and societal considerations and the long-term and short-term interests of the Corporation and its stockholders, including the possibility that these interests may be best served by the continued independence of the Corporation.

THIRTEENTH : Nominations for the election of directors at an annual meeting of the stockholders, or special meeting in lieu of the annual meeting, may be made by the Board of Directors or a committee appointed by the board of directors or by any stockholder entitled to vote in the election of directors at the meeting. Stockholders entitled to vote in such election may nominate one or more persons for election as directors only if written notice of such stockholder's intent to make such nomination or nominations has been given either by personal delivery, overnight (receipted) courier or by United States mail, postage prepaid, to the secretary of the Corporation not later than hundred and twenty days prior to tire anniversary date of the immediately preceding annual meeting or special meeting in lieu thereof. Such notice shall set forth: (a) the name and address of the stockholder who intends to make the nomination and of the persons or person to be nominated; (b) a representation that the stockholder is a holder of record of stock of the Corporation entitled to vote at such meeting and intends to appear in person or by proxy at the meeting to nominate the person or persons specified in the notice; (c) a description of all arrangements or understandings between the stockholder and each nominee and any other person or persons (naming such person or persons) pursuant to which the nomination or nominations are to be made by the stockholder; (d) such other information regarding each nominee proposed by such stockholder as would be required to be included in a proxy statement filed pursuant to the proxy rules of the Securities and Exchange Commission; and (e) the consent of each nominee to serve as a director of the Corporation if so elected. The presiding officer of the meeting may refuse to acknowledge the nomination of any person not made in compliance with the foregoing procedure.

FOURTEENTH :

(a) Subject to the rights of the holders of any class or series of stock having a preference over the Corporation's voting stock as to dividends or upon liquidation to elect additional directors under specific circumstances, the number of directors shill be fixed from time to time exclusively by the Board of Directors pursuant to a resolution adopted by a majority of the total number of authorized directors (whether or not there exist any vacancies in previously authorized directorships at the time any such resolution is presented to the Board of Directors for adoption). Following the filing of this Restated Certificate of Incorporation, the directors shall be divided into three classes, as nearly equal in number as possible, with the term of office of the first class to expire at the 1997 annual meeting of stockholders, the term of office of the second class to expire at the 1998 annual meeting of stockholders and the term of office of the third class to expire at the 1999 annual meeting of stockholders, with the initial members of each class to be determined by the Board of Directors. At each annual meeting of stockholders following such initial classification and election, the successors of those directors whose terms expire at that meeting shall be elected by a plurality vote of all votes cast at such meeting for a term of office to expire at the third succeeding annual meeting of stockholders after their election, unless by reason of any intervening changes in the authorized number of directors, the Board of Directors shall designate one or more of the then expired directorships as directorships of another class in order more nearly to achieve equality of number of directors among the classes.

(b) the number of the Board of Directors may be changed by a vote of a majority of the directors then in office or by the stockholders by vote of 80% of the shares of Voting Stock outstanding, voting as a single class.

(c) Notwithstanding the rule that the three classes shall be as nearly equal in number of directors as possible, in the event of any change in the authorized number of directors, each director then continuing to serve as such, shall nevertheless continue as a director of the class of which he is a member until the expiration of his current term, or his prior death, resignation or removal. If any newly created directorship may, consistent with the rule that the three classes shall be as nearly equal in number of directors as possible, be allocated to one of two or more classes, the Board of Directors shall allocate it to that of the available classes whose term of office is due to expire at the earliest date following such allocation.

(d) Except as otherwise provided for or fixed by or pursuant to the provisions of this Restated Certificate of Incorporation relating to the rights of the holders of any class or series of stock having a preference over the Voting Stock as to dividends or upon liquidation to elect directors under specified circumstances, newly created directorships resulting from any increase in the number of directors and any vacancies on the Board of Directors resulting from death, resignation, disqualification, removal or other cause shall be filled only by the affirmative vote of a majority of the remaining directors then in office, even though less than a quorum of the Board of Directors. Any director elected in accordance with the preceding sentence shall hold office for the remainder of the full term of the class of directors in which the new directorship was created or the vacancy occurred and until such director's successor shall have been elected and qualified. No decrease in the number of directors shall shorten the term of an incumbent director.

(e) Subject to the rights of the holders of any class of series of stock having a preference over the Voting Stock as to dividends or upon liquidation to elect additional directors under specified circumstances, any director may be removed from office with or without cause only by the affirmative vote of the holders of at least 80% of the combined voting power of the outstanding shares of Voting Stock, voting together ors a single class.

(f) Notwithstanding anything contained in this Restated Certificate of Incorporation to the contrary, the affirmative vote of the holders of at least 80% of the outstanding shares of Voting Stock, voting together as a single class, shall be required to alter, change, amend, repeal, or adopt any provision inconsistent with, this Article Fourteenth.

FIFTEENTH :

Definitions

The following definitions shall apply for the purposes of this Article and of Articles Tenth, Eleventh and Fourteenth only:

(a) "Affiliate" shall have the meaning given such term in Rule 12b-2 under the Exchange Act.

(b) "Associate" shall have the meaning given such term in Rule 12b-2 under the Exchange Act.

(c) "Continuing Director" shall mean any member of the Board of Directors who is not an Affiliate of any Related Person or who was a member of the Board of Directors

prior to the time that any such Related Person became a Related Person, and any successor of a Continuing Director who is unaffiliated with any Related Person and is recommended to succeed a Continuing Director by a majority of the Continuing Directors then on the Board of Directors. Notwithstanding the above, a majority of the then existing Continuing Directors can deem a new director to be a Continuing Director, even though such person is Affiliated with a Related Person.

(d) "Exchange Act" shall mean the Securities Exchange Act of 1934, as amended, from time to time.

(e) "Fair Market Value" shall mean: (i) in the case of stock, the highest closing sale price during the 30-day period immediately preceding the date in question of a share of such stock on the principal United States securities exchange registered under the Exchange Act on which such stock is listed, or, if such stock is not listed on any such exchange, the highest closing bid quotation with respect to a share of such stock during the 30-day period preceding the date in question on the National Association of Securities Dealers, Inc. Automated Quotations System or any system then in use or, if no such quotations are available, the fair market value on the date in question of a share of such stock as determined by the Board of Directors in good faith; and (ii) in the case of property other than cash or stock, the fair market value of such property on the date in question as determined by the Board of Directors in good faith.

(f) "Massachusetts Predecessor" shall mean Vivid Technologies, Inc., a Massachusetts Corporation.

(g) "Merger" shall mean the merger of the Massachusetts Predecessor with and into the Corporation.

(h) "Merger Date" shall mean the date upon which the Merger is consummated.

(i) "Person" shall mean any individual, firm, corporation or other entity.

(j) "Related Person" shall mean any Person (other than the Corporation, any Subsidiary or any individual who holds is the record holder of more than 10,000 shares of Common Stock of the Corporation immediately following the Merger) which, together with its Affiliates and Associates and with any other Person (other than the Corporation, any Subsidiary or any individual who is a stockholder of the Corporation on the Merger Date) with which it or they have entered into, after the Merger Date, any agreement, arrangement or understanding with respect to acquiring, holding or disposing of Voting Stock, acquires beneficial ownership (as defined in Rule 13d-3 of the Exchange Act, except that such term shall include any Voting Stock which such person has the right to acquire, whether or not such right may be exercised within 60 days), directly or indirectly of more than 5% of the voting power of the outstanding Voting Stock after the Merger Date.

(k) "Subsidiary" shall mean any Corporation in which a majority of the capital stock entitled to vote generally in the election or directors is owned, directly or indirectly, by the Corporation.

(l) "Voting Stock" shall mean all of the then outstanding shares of the capital stock of the Corporation entitled to vote generally in the election of directors.

Signed and attested to this 16th of December, 1996.

/s/ S. David Ellenbogen

S. David Ellenbogen, President

Attest

/s/ Lawrence M. Levy
- ---
Lawrence M. Levy, Secretary

CERTIFICATE OF CHANGE OF REGISTERED AGENT

AND

REGISTERED OFFICE

* * * * *

Vivid Technologies, Inc., a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware, DOES HEREBY CERTIFY:

The present registered agent of the corporation is The Prentice-Hall Corporation System, Inc. and the present registered office of the corporation is in the county of New Castle.

The Board of Directors of Vivid Technologies, Inc. adopted the following resolution on the 3rd day of April 1997.

Resolved, that the registered office of Vivid Technologies, Inc.

in the state of Delaware be and it hereby is changed to Corporation Trust Center, 1209 Orange Street, in the City of Wilmington, County of New Castle, and the authorization of the present registered agent of this corporation be and the same is hereby withdrawn, and THE CORPORATION TRUST COMPANY, shall be and is hereby constituted and appointed the registered agent of this corporation at the address of its registered office.

IN WITNESS WHEREOF, Vivid Technologies, Inc. has caused this statement to be signed by Lawrence M. Levy, its Secretary*, this 22nd day of April, 1997.

/s/ Lawrence M. Levy, Secretary

Lawrence M. Levy, Secretary

(Title)

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* Any authorized officer or the chairman or Vice-Chairman of the Board of Directors may execute this certificate.

CERTIFICATE OF DESIGNATIONS

of

SERIES A JUNIOR PARTICIPATING PREFERRED STOCK

of

VIVID TECHNOLOGIES, INC.

(Pursuant to Section 151 of the
Delaware General Corporation Law)

Vivid Technologies, Inc., a corporation organized and existing under the General Corporation Law of the State of Delaware (hereinafter called the "Corporation"), hereby certifies that the following resolution was adopted by the Board of Directors of the Corporation as required by Section 151 of the General Corporation Law at a meeting duly called and held on October 13, 1998:

RESOLVED, that pursuant to the authority granted to and vested in the Board of Directors of this Corporation (hereinafter called the "Board of Directors" or the "Board") in accordance with the provisions of the Restated Certificate of Incorporation of the Corporation, the Board of Directors hereby designate 30,000 shares of the Corporation's Preferred Stock, par value $0.01 per share, as "Series A Junior Participating Preferred Stock" of the Corporation and hereby states the designation and number of shares, and fixes the relative rights, preferences, and limitations thereof as follows:

Series A Junior Participating Preferred Stock:

Section 1. Designation and Amount. The shares of this series shall be designated as "Series A Junior Participating Preferred Stock" (the "Series A Preferred Stock") and the number of share constituting the Series A Preferred Stock shall be 30,000. Such number of shares may be increased or decreased by resolution of the Board of Directors; provided, that no decrease shall reduce the number of shares of Series A Preferred Stock to a number less than the number of shares then outstanding plus the number of shares reserved for issuance upon the exercise of outstanding options, rights or warrants or upon the conversion of any outstanding securities issued by the Corporation convertible into Series A Preferred Stock.

Section 2. Dividends and Distributions.

(A) Subject to the rights of the holders of any shares of any series of Preferred Stock (or any other stock) ranking prior and superior to the Series A Preferred Stock with respect to dividends, the holders of shares of Series A Preferred Stock shall be entitled to receive, when, as and if declared by the Board of Directors out of funds legally available for the purpose, quarterly dividends payable in cash on the last day of March, June, September and December in each year (each such date being referred to herein as a "Quarterly Dividend

Payment Date"), commencing on the first Quarterly Dividend Payment Date after the first issuance of a share or fraction of a share of Series A Preferred Stock, in an amount (if any) per share (rounded to the nearest cent), subject to the provision for adjustment hereinafter set forth, equal to 1000 times the aggregate per share amount of all cash dividends, and 1000 times the aggregate per share amount (payable in kind) of all non-cash dividends or other distributions, other than a dividend payable in shares of Common Stock, par value $0.01 per share (the "Common Stock"), of the Company or a subdivision of the outstanding shares of Common Stock (by reclassification or otherwise), declared on the Common Stock since the immediately preceding Quarterly Dividend Payment Date or, with respect to the first Quarterly Dividend Payment Date, since the first issuance of any share or fraction of a share of Series A Preferred Stock. In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision or combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the amount to which holders of shares of Series A Preferred Stock were entitled immediately prior to such event under the preceding sentence shall be adjusted by multiplying such amount by a fraction, the numerator of which is the amber of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

(B) The Corporation shall declare a dividend or distribution on the Series A Preferred Stock a provided in paragraph (A) of this Section immediately after it declares a dividend or distribution on the Common Stock (other than a dividend payable in shares of Common Stock).

(C) Dividends due pursuant to paragraph (A) of this Section shall begin to accrue and be cumulative on outstanding shares of Series A Preferred Stock from the Quarterly Dividend Payment Date next preceding the date of issue of such shares, unless the date of issue of such shares is prior to the record date for the first Quarterly Dividend Payment Date, in which case dividends on such shares shall begin to accrue from the date of issue of such shares, or unless the date of issue is a Quarterly Dividend Payment Date or is a date after the record date for the determination of holders of shares of Series A Preferred Stock entitled to receive a quarterly dividend and before such Quarterly Dividend Payment Date, in either of which events such dividends shall begin to accrue and be cumulative from such Quarterly Dividend Payment Date. Accrued but unpaid dividends shall not bear interest. Dividends paid on the shares of Series A Preferred Stock in an amount less than the total amount of such dividends at the time accrued and payable on such shares shall be allocated pro rata on a share-by-share basis among all such shares at the time outstanding. The Board of Directors may fix a record date for the determination of holders of shares of Series A Preferred Stock entitled to receive payment of a dividend or distribution declared thereon, which record date shall be not more than 60 days prior to the date fixed for the payment thereof.

Section 3. Voting Rights. The holders of shares of Series A Preferred Stock shall have the following voting rights:

(A) Subject to the provision for adjustment hereinafter set forth, each share of Series A Preferred Stock shall entitle the holder thereof to 1000 votes on all matters submitted to a vote of the stockholders of the Corporation. In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock or effect a subdivision or combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the number of votes per share to which holders of shares of Series A Preferred Stock were entitled immediately prior to such event shall be adjusted by multiplying such number by a fraction, the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of share of Common Stock that were outstanding immediately prior to such event.

(B) Except as otherwise provided in the Restated Certificate of Incorporation of the Company, including any other Certificate of Designations creating a series of Preferred Stock or any similar stock, or by law, the holders of shares of Series A Preferred Stock and the holders of shares of Common Stock and any other capital stock of the Corporation having general voting rights shall vote together as one class on all matters submitted to a vote of stockholders of the Corporation.

(C) Except as set forth herein, or as otherwise provided by law, holders of Series A Preferred Stock shall have no special voting rights and their consent shall not be required (except to the extent they are entitled to vote with holders of Common Stock as set forth herein) for taking any corporate action.

Section 4. Certain Restrictions.

(A) Whenever quarterly dividends or other dividends or distributions payable on the Series A Preferred Stock as provided in Section 2 are in arrears, thereafter and until all accrued and unpaid dividends and distributions, whether or not declared, on shares of Series A Preferred Stock outstanding shall have been paid in full, the Corporation shall not:

(i) declare or pay dividends, or make any other distributions, on any shares of stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series A Preferred Stock;

(ii) declare or pay dividends, or make any other distributions, on any shares of stock ranking on a parity (either as to dividends or upon liquidation, dissolution or winding up) with the Series A Preferred Stock, except dividends paid ratably on the Series A Preferred Stock and all such parity stock on which dividends are payable or in arrears in proportion to the total amounts to which the holders of all such shares are then entitled; or

(iii) redeem or purchase or otherwise acquire for consideration shares of any stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series A Preferred Stock, provided that the Corporation may at any time redeem, purchase or otherwise acquire shares of any such junior stock in exchange for shares of

any stock of the Corporation ranking junior (as to dividends and upon dissolution, liquidation or winding up) to the Series A Preferred Stock.

(B) The Corporation shall not permit arty subsidiary of the Corporation to purchase or otherwise acquire for consideration any shares of stock of the Corporation unless the Corporation could, under paragraph (A) of this Section 4, purchase or otherwise acquire such shares at such time and in such manner.

Section 5. Reacquired Shares. Any shares of Series A Preferred Stock purchased or otherwise acquired by the Corporation in any manner whatsoever shall be retired and canceled promptly after the acquisition thereof. All such shares shall upon their cancellation become authorized but unissued shares of Preferred Stock and may be reissued as part of a new series of Preferred Stock subject to the conditions and restrictions on issuance set forth herein, in the Restated Certificate of Incorporation of the Company, including any Certificate of Designations creating a series of Preferred Stock or any similar stock or as otherwise required by law.

Section 6. Liquidation, Dissolution or Winding Up. Upon any liquidation, dissolution or winding up of the Corporation the holders of shares of Series A Preferred Stock shall be entitled to receive an aggregate amount per share, subject to the provision for adjustment hereinafter set forth, equal to 1000 times the aggregate amount to be distributed per share to holders of shares of Common Stock plus an amount equal to any accrued and unpaid dividends. In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision or combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the aggregate amount to which holders of shares of Series A Preferred Stock were entitled immediately prior to such event under the preceding sentence shall be adjusted by multiplying such amount by a fraction the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

Section 7. Consolidation, Merger, etc. In case the Corporation shall enter into any consolidation, merger, combination or other transaction in which the shares of Common Stock are exchanged for or changed into other stock or securities, cash and/or any other property, then in any such case each share of Series A Preferred Stock shall at the same time be similarly exchanged or changed into an amount per share, subject to the provision for adjustment hereinafter set forth, equal to 1000 times the aggregate amount of stock, securities, cash and/or any other property (payable in kind), as the case may be, into which or for which each share of Common Stock is changed or exchanged. In the event the Corporation shall at any time declare or pay any dividend on the Common Stock payable in shares of Common Stock, or effect a subdivision or combination or consolidation of the outstanding shares of Common Stock (by reclassification or otherwise than by payment of a dividend in shares of Common Stock) into a greater or lesser number of shares of Common Stock, then in each such case the amount set forth in the preceding sentence with respect to the exchange or change of shares of Series A Preferred Stock shall be adjusted by multiplying such amount by a fraction, the numerator of which is the

number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

Section 8. Redemption. The shares of Series A Preferred Stock shall not be redeemable.

Section 9. Ranking. Unless otherwise provided in the Restated Certificate of Incorporation or a Certificate of Designations relating to a subsequently-designated series of preferred stock of the Corporation, the Series A Preferred Stock shall rank junior to any other series of the Corporation's preferred stock subsequently issued, as to the payment of dividends and the distribution of assets on liquidation, dissolution or winding up and shall rank senior to the Common Stock.

Section 10. Amendment. The Restated Certificate of Incorporation of the Corporation shall not be amended is any manner, including in a merger or consolidation, which would alter, change, or repeal the powers, preferences or special rights of the Series A Preferred Stock so as to affect them adversely without the affirmative vote of the holders of at least two-thirds of the outstanding shares of Series A Preferred Stock, voting together as a single class.

Section 11. Fractional Shares. Series A Preferred Stock may be issued in whole shares or in any fraction of a share that is one one-thousandth of a share or any integral multiple of such fraction, which shall entitle the holder, in proportion to such holder's fractional shares, to exercise voting rights, receive dividends, participate in distributions and to have the benefit of all other rights of holders of Series A Preferred Stock. In lieu of fractional shares, the Corporation may elect to make a cash payment as provided in the Rights Agreement for fractions of a share other than one one-thousandth of a share or any integral multiple thereof.

IN WITNESS WHEREOF, this Certificate of Designations is executed on behalf of the Corporation by its Treasurer this 13th day of October, 1998.

VIVID TECHNOLOGIES, INC.

By: /s/ William J. Frain

William J. Frain
Treasurer and Chief Financial Officer

CERTIFICATE OF MERGER

OF

VENICE ACQUISITION CORP.
(A DELAWARE CORPORATION)

INTO

VIVID TECHNOLOGIES, INC.
(A DELAWARE CORPORATION)

Vivid Technologies, Inc., a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware, does hereby certify:

FIRST: That the name and state of incorporation of each of the constituent corporations of the merger is as follows:

Name	State of Incorporation
Vivid Technologies, Inc.	Delaware
Venice Acquisition Corp.	Delaware

SECOND: That an Agreement and Plan of Merger between the parties to the merger has been approved, adopted, certified, executed and acknowledged by each of the constituent corporations in accordance with the requirements of Subsection (c) of Section 251 of the General Corporation Law of the State of Delaware.

THIRD: That the name of the surviving corporation of the merger is Vivid Technologies, Inc.

FOURTH: That Article FOURTH of the Certificate of Incorporation of Vivid Technologies, Inc., the surviving corporation, is hereby amended and restated in its entirety to read as follows:

"FOURTH: The total number of shares of all classes of stock which the Corporation shall have authority to issue is 1,000, all of which shall consist of Common Stock, $.01 par value per share."

FIFTH: That the executed Agreement and Plan of Merger is on file at the principal place of business of the surviving corporation. The address of said principal place of business is c/o PerkinElmer, Inc., 45 William Street, Wellesley, Massachusetts 02481.

SIXTH: That a copy of the Agreement and Plan of Merger will be furnished by the surviving corporation upon request and without cost to any stockholder of any constituent corporation.

SEVENTH: That this Certificate of Merger shall be effective at 4:30 p.m. as of the date hereof.

IN WITNESS WHEREOF, Vivid Technologies, Inc. has caused this Certificate to be executed by its Chief Executive Officer and attested by its Secretary this 14th day of January, 2000.

VIVID TECHNOLOGIES, INC.
(a Delaware corporation)

By: /s/ S. David Ellenbogen

Name: S. David Ellenbogen
Title: Chief Executive Officer

Dated: January 14, 2000

ATTEST:

/s/ Philip Flink
- ---
Secretary
Philip Flink

CERTIFICATE OF AMENDMENT

OF

CERTIFICATE OF INCORPORATION

VIVID TECHNOLOGIES, INC.

Vivid Technologies, Inc., a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware,

DOES HEREBY CERTIFY:

FIRST: That the Board of Directors of said corporation, by the unanimous written consent of its members, filed with the minutes of the Board adopted a resolution proposing and declaring advisable the following amendment to the Certificate of Incorporation of said corporation:

RESOLVED, that the Certificate of Incorporation of Vivid Technologies, Inc. be amended by changing the First Article to read as follows:

The name of the corporation is PerkinElmer Detection Systems, Inc.

SECOND: That in lieu of a meeting and vote of stockholders, the stockholders have given unanimous written consent to said amendment in accordance with the provisions of Section 228 of the General Corporation Law of the State of Delaware.

THIRD: That the aforesaid amendment was duly adopted in accordance with the applicable provisions of Sections 242 and 228 of the General Corporation Law of the State of Delaware.

FOURTH: That this Certificate of Amendment of the Certificate of Incorporation shall be effective on July 1, 2000.

IN WITNESS WHEREOF, said Vivid Technologies, Inc. has caused this certificate to be signed by Philip Ayers, its Secretary, this 9th day of June, 2000.

/s/ Philip Ayers

CERTIFICATE OF AMENDMENT
OF
CERTIFICATE OF INCORPORATION
OF
PERKINELMER DETECTION SYSTEMS, INC.

(Pursuant to Sections 242 and 228 of the General Corporation Law of the State of Delaware)

Christopher C. Cambria hereby certifies that:

1. He is the Vice President and Secretary of PerkinElmer Detection Systems, Inc., a Delaware corporation (the "Corporation").

2. The First Article of the Certificate of Incorporation of the Corporation is hereby amended to read in full as follows:

> "FIRST: The name of the corporation (hereinafter called the "Corporation") is L-3 Communications Security and Detection Systems Corporation Delaware."

3. The foregoing amendment of the Certificate of Incorporation Corporation has been duly approved by the Board of Directors of the Corporation.

4. The foregoing amendment of the Certificate of Incorporation of the Corporation has been duly approved by the required vote of shareholders entitled to vote on such matter, pursuant to and in accordance with Sections 242 and 228 of the General Corporation Law of the State of Delaware. The total number of shares entitled to vote on the foregoing matter is 1,000 shares of Common Stock. The number of outstanding shares voting in favor of the foregoing amendment was 1,000 (100%), which equaled or exceeded the vote required. The percentage vote required to approve the foregoing amendment of the Certificate of Incorporation of the Corporation was a majority of the outstanding shares of Common Stock.

I further declare under penalty of perjury under the laws of the State of Delaware that the matters set forth in this Certificate of Amendment are true and correct of my own knowledge.

Dated: July 12, 2002

/s/ Christopher C. Cambria

Christopher C. Cambria, Vice President
and Secretary

Exhibit 3.68

BYLAWS

of

VIVID TECHNOLOGIES, INC.

A Delaware Corporation

Adopted: September 26, 1996

Secretary: /s/ Lawrence M. Levy

Lawrence M. Levy

BYLAWS

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BYLAWS

OF

VIVID TECHNOLOGIES, INC.

(A Delaware Corporation)

Stockholders

Section 1.1. Annual Meeting. The annual meeting of the stockholders of the corporation shall be held on such date as shall be fixed by the Board of Directors, at such time and place within or without the State of Delaware as may be designated in the notice of meeting. If the day fixed for the annual meeting shall fall on a legal holiday, the meeting shall be held on the next succeeding day not a legal holiday. If the annual meeting is omitted on the day herein provided, a special meeting may be held in place thereof, and any business transacted at such special meeting in lieu of annual meeting shall have the same effect as if transacted or held at the annual meeting.

Section 1.2. Special Meetings. Special meetings of the stockholders may be called at any time by the president or by the board of directors. Special meetings of the stockholders shall be held at such time, date and place within or outside of the State of Delaware as may be designated in the notice of such meeting.

Section 1.3. Notice of Meeting. A written notice stating the place, date, and hour of each meeting of the stockholders, and, in the case of a special meeting, the purposes for which the meeting is called, shall be given to each stockholder entitled to vote at such meeting, and to each stockholder who, under the Certificate of Incorporation or these Bylaws, is entitled to such notice, by delivering such notice to such person or leaving it at their residence or usual place of business, or by mailing it, postage prepaid, and addressed to such stockholder at his address as it appears upon the books of the corporation, at least ten (10) days and not more than sixty (60) before the meeting. Such notice shall be given by the secretary, an assistant secretary, or any other officer or person designated either by the secretary or by the person or persons calling the meeting.

The requirement of notice to any stockholder may be waived (i) by a written waiver of notice, executed before or after the meeting by the stockholder or his attorney thereunto duly authorized, and filed with the records of the meeting, (ii) if communication with such stockholder is unlawful, (iii) by attendance at the meeting without protesting prior thereto or at its commencement the lack of notice, or (iv) as otherwise excepted by law. A waiver of notice of any regular or special meeting of the stockholders need not specify the purposes of the meeting.

If a meeting is adjourned to another time or place, notice need not be given of the adjourned meeting if the time and place are announced at the meeting at which the adjournment is taken, except that if the adjournment is for more than thirty days, or if after the adjournment a

new record date is fixed for the adjourned meeting, notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting.

Section 1.4. Quorum. The holders of a majority in interest of all stock issued, outstanding and entitled to vote at a meeting shall constitute a quorum. Any meeting may be adjourned from time to time by a majority of the votes properly cast upon the question, whether or not a quorum is present.

Section 1.5. Voting and Proxies. Stockholders shall have one vote for each share of stock entitled to vote owned by them of record according to the books of the corporation, unless otherwise provided by law or by the Certificate of Incorporation. Stockholders may vote either in person or by written proxy, but no proxy shall be voted or acted upon after three years from its date, unless the proxy provides for a longer period. Proxies shall be filed with the secretary of the meeting, or of any adjournment thereof. Except as otherwise limited therein, proxies shall entitle the persons authorized thereby to vote at any adjournment of such meeting. A proxy purporting to be executed by or on behalf of a stockholder shall be deemed valid unless challenged at or prior to its exercise and the burden of proving invalidity shall rest on the challenger. A proxy with respect to stock held in the name of two or more persons shall be valid if executed by one of them unless at or prior to exercise of the proxy the corporation receives a specific written notice to the contrary from any one of them.

Section 1.6. Action at Meeting. When a quorum is present at any meeting, a plurality of the votes properly cast for election to any office shall elect to such office, and a majority of the votes properly cast upon any question other than election to an office shall decide such question, except where a larger vote is required by law, the Certificate of Incorporation or these by- laws. No ballot shall be required for any election unless requested by a stockholder present or represented at the meeting and entitled to vote in the election.

Section 1.7. Action Without Meeting. All action required or permitted to be taken by the stockholders must be taken at a meeting duly called and held in accordance with law and in accordance with the Certificate of Incorporation and these Bylaws.

Section 1.8. Voting of Shares of Certain Holders. Shares of stock of the corporation standing in the name of another corporation, domestic or foreign, may be voted by such officer, agent, or proxy as the by-laws of such corporation may prescribe, or, in the absence of such provision, as the board of directors of such corporation may determine.

Shares of stock of the corporation standing in the name of a deceased person, a minor ward or an incompetent person, may be voted by his administrator, executor, court-appointed guardian or conservator without a transfer of such shares into the name of such administrator, executor, court appointed guardian or conservator. Shares of capital stock of the corporation standing in the name of a trustee or fiduciary may be voted by such trustee or fiduciary.

Shares of stock of the corporation standing in the name of a receiver may be voted by such receiver, and shares held by or under the control of a receiver may be voted by such

receiver without the transfer thereof into his name if authority so to do be contained in an appropriate order of the court by which such receiver was appointed.

A stockholder whose shares are pledged shall be entitled to vote such shares unless in the transfer by the pledgor on the books of the corporation he expressly empowered the pledgee to vote thereon, in which case only the pledgee or its proxy shall be entitled to vote the shares so transferred.

Shares of its own stock belonging to this corporation shall not be voted, directly or indirectly, at any meeting and shall not be counted in determining the total number of outstanding shares at any given time, but shares of its own stock held by the corporation in a fiduciary capacity may be voted and shall be counted in determining the total number of outstanding shares.

Section 1.9. Stockholder Lists. The secretary (or the corporation's transfer agent or other person authorized by these Bylaws or by law) shall prepare and make, at least ten days before every meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting, arranged in alphabetical order, and showing the address of each stockholder and the number of shares registered in the name of each stockholder. Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting, during ordinary business hours, for a period of at least ten days prior to the meeting, either at a place within the city where the meeting is to be held, which place shall be specified in the notice of the meeting, or, if not so specified, at the place where the meeting is to be held. The list shall also be produced and kept at the time and place of the meeting during the whole time thereof, and may be inspected for any purpose germane to the meeting by any stockholder who is present.

ARTICLE II

Board of Directors

Section 2.1. Powers. Except as reserved to the stockholders by law, by the Certificate of Incorporation or by these Bylaws, the business of the corporation shall be managed under the direction of the board of directors, which shall have and may exercise all of the powers of the corporation. In particular, and without limiting the foregoing, the board of directors shall have the power to issue or reserve for issuance from time to time the whole or any part of the capital stock of the corporation which may be authorized from time to time to such person, for such consideration and upon such terms and conditions as it shall determine, including the granting of options, warrants or conversion or other rights to stock.

Section 2.2. Number of Directors; Qualifications. Except as provided in Section 2.6 hereof, the board of directors shall consist of such number of directors as shall be fixed initially by the incorporator(s) and thereafter by the board of directors before each annual or special meeting of the stockholders. No director need be a stockholder.

Section 2.3. Nomination of Directors. Nominations for the election of directors at an annual meeting of the stockholders, or special meeting in lieu of the annual meeting, may be made by the board of directors or a committee appointed by the board of directors or by any

stockholder entitled to vote in the election of directors at the meeting. Stockholders entitled to vote in such election may nominate one or more persons for election as directors only if written notice of such stockholder's intent to make such nomination or nominations has been given either by personal delivery, overnight (receipted) courier or by United States mail, postage prepaid, to the secretary of the corporation not later than one hundred twenty days prior to the anniversary date of the immediately preceding annual meeting or special meeting in lieu thereof. Such notice shall set forth: (a) the name and address of the stockholder who intends to make the nomination and of the persons or person to be nominated; (b) a representation that the stockholder is a holder of record of stock of the corporation entitled to vote at such meeting and intends to appear in person or by proxy at the meeting to nominate the person or persons specified in the notice; (c) a description of all arrangements or understandings between the stockholder and each nominee and any other person or persons (naming such person or persons) pursuant to which the nomination or nominations are to be made by the stockholder; (d) such other information regarding each nominee proposed by such stockholder as would be required to be included in a proxy statement filed pursuant to the proxy rules of the Securities and Exchange Commission; and (e) the consent of each nominee to serve as a director of the corporation if so elected. The presiding officer of the meeting may refuse to acknowledge the nomination of any person not made in compliance with the foregoing procedure.

Section 2.4. Election of Directors. The initial board of directors shall be designated in the certificate of incorporation, or if not so designated, elected by the incorporator(s) at the first meeting thereof. Thereafter, directors shall be elected by the stockholders at their annual meeting or at any special meeting the notice of which specifies the election of directors as an item of business for such meeting.

Section 2.5. Vacancies. In the case of any vacancy in the board of directors from death, resignation, disqualification or other cause, including a vacancy resulting from enlargement of the board, the election of a director to fill such vacancy shall be by vote of a majority of the directors then in office, whether or not constituting a quorum. The director thus elected shall hold office until the election of his successor.

Section 2.6. Change in Size of the Board. The number of the board of directors may be changed by vote of a majority of the directors then in office or by the stockholders by vote of eighty percent (80%) of the shares of voting stock outstanding.

Section 2.7. Tenure and Resignation. Except as otherwise provided by law, by the Certificate of Incorporation or by these Bylaws, directors shall hold office until the next annual meeting of stockholders and thereafter until their successors are chosen and qualified. Any director may resign by delivering or mailing postage prepaid a written resignation to the corporation at its principal office or to the chairman of the board, if any, president, secretary or assistant secretary, if any. Such resignation shall be effective upon receipt unless it is specified to be effective at some other time or upon the happening of some other event.

Section 2.8. Removal. A director may be removed from office with or without cause only by affirmative vote of the holders of at least 80% of the combined voting power of the outstanding shares of voting stock, voting together as a single class.

Section 2.9. Meetings. Regular meetings of the board of directors may be held without call or notice at such times and such places within or without the State of Delaware as the Board may, from time to time, determine, provided that notice of the first regular meeting following any such determination shall be given to directors absent from such determination. A regular meeting of the board of directors shall be held without notice immediately after, and at the same place as, the annual meeting of the stockholders or the special meeting of the stockholders held in place of such annual meeting, unless a quorum of the directors is not then present. Special meetings of the board of directors may be held at any time and at any place designated in the call of the meeting when called by the chairman of the board, the president, or a majority of the directors. Members of the board of directors or any committee elected thereby may participate in a meeting of such board or committee by means of a conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other at the same time, and participation by such means shall constitute presence in person at the meeting.

Section 2.10. Notice of Meeting. It shall be sufficient notice to a director to send notice by mail at least seventy-two (72) hours before the meeting addressed to such person at his usual or last known business or residence address or to give notice to such person in person or by telephone at least twenty-four (24) hours before the meeting. Notice shall be given by the secretary, or in his absence or unavailability, may be given by an assistant secretary, if any, or by the officer or directors calling the meeting. The requirement of notice to any director may be waived by a written waiver of notice, executed by such person before or after the meeting or meetings, and filed with the records of the meeting, or by attendance at the meeting without protesting prior thereto or at its commencement the lack of notice. A notice or waiver of notice of a directors' meeting need not specify the purposes of the meeting.

Section 2.11. Agenda. Any lawful business may be transacted at a meeting of the board of directors, notwithstanding the fact that the nature of the business may not have been specified in the notice or waiver of notice of the meeting.

Section 2.12. Quorum. At any meeting of the board of directors, a majority of the directors then in office shall constitute a quorum for the transaction of business. Any meeting may be adjourned by a majority of the votes cast upon the question, whether or not a quorum is present, and the meeting may be held as adjourned without further notice.

Section 2.13. Action at Meeting. Any motion adopted by vote of the majority of the directors present at a meeting at which a quorum is present shall be the act of the board of directors, except where a different vote is required by law, by the Certificate of Incorporation or by these Bylaws. The assent in writing of any director to any vote or action of the directors taken at any meeting, whether or not a quorum was present and whether or not the director had or waived notice of the meeting, shall have the same effect as if the director so assenting was present at such meeting and voted in favor of such vote or action.

Section 2.14. Action Without Meeting. Any action by the directors may be taken without a meeting if all of the directors consent to the action in writing and the consents are filed with the records of the directors' meetings. Such consent shall be treated for all purposes as a vote of the directors at a meeting.

Section 2.15. Committees. The board of directors may, by the affirmative vote of a majority of the directors then in office, appoint an executive committee or other committees consisting of one or more directors and may by vote delegate to any such committee some or all of their powers except those which by law, the Certificate of Incorporation or these Bylaws they may not delegate. In the absence or disqualification of a member of a committee, the members of the committee present and not disqualified, whether or not they constitute a quorum, may by unanimous vote appoint another member of the board of directors to act at the meeting in place of the absence or disqualified member. Unless the board of directors shall otherwise provide, any such committee may make rules for the conduct of its business, but unless otherwise provided by the board of directors or such rules, its meetings shall be called, notice given or waived, its business conducted or its action taken as nearly as may be in the same manner as is provided in these Bylaws with respect to meetings or for the conduct of business or the taking of actions by the board of directors. The board of directors shall have power at any time to fill vacancies in, change the membership of, or discharge any such committee at any time. The board of directors shall have power to rescind any action of any committee, but no such rescission shall have retroactive effect.

ARTICLE III

Officers

Section 3.1. Enumeration. The officers shall consist of a president, a treasurer, a secretary and such other officers and agents (including a chairman of the board, one or more vice-presidents, assistant treasurers and assistant secretaries), as the board of directors may, in its discretion, determine.

Section 3.2. Election. The president, treasurer and secretary shall be elected annually by the directors at their first meeting following the annual meeting of the stockholders or any special meeting held in lieu of the annual meeting. Other officers may be chosen by the directors at such meeting or at any other meeting.

Section 3.3. Qualification. An officer may, but need not, be a director or stockholder. Any two or more offices may be held by the same person. Any officer may be required by the directors to give bond for the faithful performance of his duties to the corporation in such amount and with such sureties as the directors may determine. The premiums for such bonds may be paid by the corporation.

Section 3.4. Tenure. Except as otherwise provided by the Certificate of Incorporation or these Bylaws, the term of office of each officer shall be for one year or until his successor is elected and qualified or until his earlier resignation or removal.

Section 3.5. Removal. Any officer may be removed from office, with or without cause, by the affirmative vote of a majority of the directors then in office; provided, however, that an officer may be removed for cause only after reasonable notice and opportunity to be heard by the board of directors prior to action thereon.

Section 3.6. Resignation. Any officer may resign by delivering or mailing postage prepaid a written resignation to the corporation at its principal office or to the president, secretary, or assistant secretary, if any, and such resignation shall be effective upon receipt unless it is specified to be effective at some other time or upon the happening of some event.

Section 3.7. Vacancies. A vacancy in any office arising from any cause may be filled for the unexpired portion of the term by the board of directors.

Section 3.8. Chairman of the Board. The board of directors may appoint a chairman of the board and may designate the chairman of the board as chief executive officer. If the board of directors appoints a chairman of the board, he shall perform such duties and possess such powers as are assigned to him by the board of directors.

Section 3.9. President. The president shall be the chief executive officer of the corporation, unless a chairman of the board is so designated. Unless a chairman of the board is so designated or except as otherwise voted by the board of directors, the president shall preside at all meetings of the stockholders and of the board of directors at which present. The president shall have such duties and powers as are commonly incident to the office and such duties and powers as the board of directors shall from time to time designate.

Section 3.10. Vice-President(s). The vice-president(s), if any, shall have such powers and perform such duties as the board of directors may from time to time determine.

Section 3.11. Chief Financial Officer, Treasurer and Assistant Treasurers. The treasurer or if the board of directors so determines, the vice-president, finance or the chief financial officer, subject to the direction and under the supervision and control of the board of directors, shall have general charge of the financial affairs of the corporation. The treasurer shall have custody of all funds, securities and valuable papers of the corporation, except as the board of directors may otherwise provide. The treasurer shall keep or cause to be kept full and accurate records of account which shall be the property of the corporation, and which shall be always open to the inspection of each elected officer and director of the corporation. The treasurer shall deposit or cause to be deposited all funds of the corporation in such depository or depositories as may be authorized by the board of directors. The treasurer shall have the power to endorse for deposit or collection all notes, checks, drafts, and other negotiable instruments payable to the corporation. The treasurer shall perform such other duties as are incidental to the office, and such other duties as may be assigned by the board of directors. All of the duties of the treasurer may be performed by the vice-president, finance and/or the chief financial officer, in the discretion of the board of directors.

Assistant treasurers, if any, shall have such powers and perform such duties as the board of directors may from time to time determine.

Section 3.12. Secretary and Assistant Secretaries. The secretary or an assistant secretary shall record, or cause to be recorded, all proceedings of the meetings of the stockholders and directors (including committees thereof) in the book of records of this corporation. The record books shall be open at reasonable times to the inspection of any stockholder, director, or officer. The secretary or an assistant secretary shall notify the

stockholders and directors, when required by law or by these Bylaws, of their respective meetings, and shall perform such other duties as the directors and stockholders may from time to time prescribe. The secretary or an assistant secretary shall have the custody and charge of the corporate seal, and shall affix the seal of the corporation to all instruments requiring such seal, and shall certify under the corporate seal the proceedings of the directors and of the stockholders, when required. In the absence of the secretary or an assistant secretary at any such meeting, a temporary secretary shall be chosen who shall record the proceedings of the meeting in the aforesaid books.

Assistant secretaries, if any, shall have such powers and perform such duties as the board of directors may from time to time designate.

Section 3.13. Other Powers and Duties. Subject to these Bylaws and to such limitations as the board of directors may from time to time prescribe, the officers of the corporation shall each have such powers and duties as generally pertain to their respective offices, as well as such powers and duties as from time to time may be conferred by the board of directors.

ARTICLE IV

Capital Stock

Section 4.1. Stock Certificates. Each stockholder shall be entitled to a certificate representing the number of shares of the capital stock of the corporation owned by such person in such form as shall, in conformity to law, be prescribed from time to time by the board of directors. Each certificate shall be signed by the president or vice-president and treasurer or assistant treasurer or such other officers designated by the board of directors from time to time as permitted by law, shall bear the seal of the corporation, and shall express on its face its number, date of issue, class, the number of shares for which, and the name of the person to whom, it is issued. The corporate seal and any or all of the signatures of corporation officers may be facsimile if the stock certificate is manually counter-signed by an authorized person on behalf of a transfer agent or registrar other than the corporation or its employee.

If an officer, transfer agent or registrar who has signed, or whose facsimile signature has been placed on, a certificate shall have ceased to be such before the certificate is issued, it may be issued by the corporation with the same effect as if he were such officer, transfer agent or registrar at the time of its issue.

Section 4.2. Transfer of Shares. Title to a certificate of stock and to the shares represented thereby shall be transferred only on the books of the corporation by delivery to the corporation or its transfer agent of the certificate properly endorsed, or by delivery of the certificate accompanied by a written assignment of the same, or a properly executed written power of attorney to sell, assign or transfer the same or the shares represented thereby. Upon surrender of a certificate for the shares being transferred, a new certificate or certificates shall be issued according to the interests of the parties.

Section 4.3. Record Holders. Except as otherwise may be required by law, by the Certificate of Incorporation or by these Bylaws, the corporation shall be entitled to treat the record holder of stock as shown on its books as the owner of such stock for all purposes, including the payment of dividends and the right to receive notice and to vote with respect thereto, regardless of any transfer, pledge or other disposition of such stock, until the shares have been transferred on the books of the corporation in accordance with the requirements of these Bylaws.

It shall be the duty of each stockholder to notify the corporation of his post office address.

Section 4.4. Record Date. In order that the corporation may determine the stockholders entitled to receive notice of or to vote at any meeting of stockholders or any adjournments thereof, or entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the board of directors may fix, in advance, a record date, which shall not be more than sixty days prior to the date of such meeting nor more than sixty days prior to any other action. In such case only stockholders of record on such record date shall be so entitled notwithstanding any transfer of stock on the books of the corporation after the record date.

If no record date is fixed: (i) the record date for determining stockholders entitled to receive notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held; and (ii) the record date for determining stockholders for any other purpose shall be at the close of business on the day on which the board of directors adopts the resolution relating thereto.

Section 4.5. Transfer Agent and Registrar for Shares of Stock of the Corporation. The board of directors may appoint a transfer agent and a registrar of the shares of stock of the corporation. Any transfer agent so appointed shall maintain, among other records, a stockholders' ledger, setting forth the names and addresses of the holders of all issued shares of stock of the corporation, the number of shares held by each, the certificate numbers representing such shares, and the date of issue of the certificates representing such shares. Any registrar so appointed shall maintain, among other records, a share register, setting forth the total number of shares of each class of shares which the corporation is authorized to issue and the total number of shares actually issued. The stockholders' ledger and the share register are hereby identified as the stock transfer books of the corporation; but as between the stockholders' ledger and the share register, the names and addresses of stockholders, as they appear on the stockholders' ledger maintained by the transfer agent shall be the official list of stockholders of record of the corporation. The name and address of each stockholder of record, as they appear upon the stockholders' ledger, shall be conclusive evidence of who are the stockholders entitled to receive notice of the meetings of stockholders, to vote at such meetings, to examine a complete list of the stockholders entitled to vote at meetings, and to own, enjoy and exercise any other property or rights deriving from such shares against the corporation. Stockholders, but not the corporation or its directors, officers, agents or attorneys, shall be responsible for notifying the transfer agent, in writing, of any changes in their names or addresses from time to time, and failure to do so will

relieve the corporation, its other stockholders, directors, officers, agents and attorneys, and its transfer agent and registrar, of liability for failure to direct notices or other documents, or pay over or transfer dividends or other property or rights, to a name or address other than the name and address appearing in the stockholders' ledger maintained by the transfer agent.

Section 4.6. Loss of Certificates. In case of the loss, destruction or mutilation of a certificate of stock, a replacement certificate may be issued in place thereof upon such terms as the board of directors may prescribe, including, in the discretion of the board of directors, a requirement of bond and indemnity to the corporation.

Section 4.7. Restrictions on Transfer. Every certificate for shares of stock which are subject to any restriction on transfer, whether pursuant to the Certificate of Incorporation, the Bylaws or any agreement to which the corporation is a party, shall have the fact of the restriction noted conspicuously on the certificate and shall also set forth on the face or back either the full text of the restriction or a statement that the corporation will furnish a copy to the holder of such certificate upon written request and without charge.

Section 4.8. Multiple Classes of Stock. The amount and classes of the capital stock and the par value, if any, of the shares, shall be as fixed in the Certificate of Incorporation. At all times when there are two or more classes of stock, the several classes of stock shall conform to the description and the terms and have the respective preferences, voting powers, restrictions and qualifications set forth in the Certificate of Incorporation and these Bylaws. Every certificate issued when the corporation is authorized to issue more than one class or series of stock shall set forth on its face or back either (i) the full text of the preferences, voting powers, qualifications and special and relative rights of the shares of each class and series authorized to be issued, or (ii) a statement of the existence of such preferences, powers, qualifications and rights, and a statement that the corporation will furnish a copy thereof to the holder of such certificate upon written request and without charge.

ARTICLE V.

Dividends

Section 5.1. Declaration of Dividends. Except as otherwise required by law or by the Certificate of Incorporation, the board of directors may, in its discretion, declare what, if any, dividends shall be paid from the surplus or from the net profits of the corporation for the current or preceding fiscal year, or as otherwise permitted by law. Dividends may be paid in cash, in property, in shares of the corporation's stock, or in any combination thereof. Dividends shall be payable upon such dates as the board of directors may designate.

Section 5.2. Reserves. Before the payment of any dividend and before making any distribution of profits, the board of directors, from time to time and in its absolute discretion, shall have power to set aside out of the surplus or net profits of the corporation such sum or sums as the board of directors deems proper and sufficient as a reserve fund to meet contingencies or for such other purpose as the board of directors shall deem to be in the best interests of the corporation, and the board of directors may modify or abolish any such reserve.

ARTICLE VI

Powers of Officers to Contract
With the Corporation

Any and all of the directors and officers of the corporation, notwithstanding their official relations to it, may enter into and perform any contract or agreement of any nature between the corporation and themselves, or any and all of the individuals from time to time constituting the board of directors of the corporation, or any firm or corporation in which any such director may be interested, directly or indirectly, whether such individual, firm or corporation thus contracting with the corporation shall thereby derive personal or corporate profits or benefits or otherwise; provided, that (i) the material facts of such interest are disclosed or are known to the board of directors or committee thereof which authorizes such contract or agreement; (ii) if the material facts as to such person's relationship or interest are disclosed or are known to the stockholders entitled to vote thereon, and the contract is specifically approved in good faith by a vote of the stockholders; or (iii) the contract or agreement is fair as to the corporation as of the time it is authorized, approved or ratified by the board of directors, a committee thereof, or the stockholders. Any director of the corporation who is interested in any transaction as aforesaid may nevertheless be counted in determining the existence of a quorum at any meeting of the board of directors which shall authorize or ratify any such transaction. This Article shall not be construed to invalidate any contract or other transaction which would otherwise be valid under the common or statutory law applicable thereto.

ARTICLE VII

Indemnification

Section 7.1. Definitions. For purposes of this Article VII the following terms shall have the meanings indicated:

"Corporate Status" describes the status of a person who is or was a director, officer, employee, agent, trustee or fiduciary of the Corporation or of any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise which such person is or was serving at the express written request of the corporation.

"Court" means the Court of Chancery of the State of Delaware, the court in which the Proceeding in respect of which indemnification is sought by a Covered Person shall have been brought or is pending, or another court having subject matter jurisdiction and personal jurisdiction over the parties.

"Covered Person" means a person who is a present or former director or Officer of the corporation and shall include such person's legal representatives, heirs, executors and administrators.

"Disinterested" describes any individual, whether or not that individual is a director, Officer, employee or agent of the corporation, who is not and was not and is not

threatened to be made a party to the Proceeding in respect of which indemnification, advancement of Expenses or other action is sought by a Covered Person.

"Expenses" shall include, without limitation, all reasonable attorneys' fees, retainers, court costs, transcript costs, fees of experts, witness fees, travel expenses, duplicating costs, printing and binding costs, telephone charges, postage, delivery service fees, and all other disbursements or expenses of the types customarily incurred in connection with prosecuting, defending, preparing to prosecute or defend, investigating or being or preparing to be a witness in a Proceeding.

"Good Faith" shall mean a Covered Person having acted in good faith and in a manner such Covered Person reasonably believed to be in or not opposed to the best interests of the corporation or, in the case of an employee benefit plan, the best interests of the participants or beneficiaries of said plan, as the case may be, and, with respect to any Proceeding which is criminal in nature, having had no reasonable cause to believe such Covered Person's conduct was unlawful.

"Improper Personal Benefit" shall include, but not be limited to, the personal gain in fact by reason of a person's Corporate Status of a financial profit, monies or other advantage not also accruing to the benefit of the corporation or to the stockholders generally and which is unrelated to his usual compensation including, but not limited to, such profit, monies or other advantage gained (i) in exchange for the exercise of influence over the corporation's affairs, (ii) as a result of the diversion of corporate opportunity, or (iii) pursuant to the use or communication of confidential or inside information for the purpose of generating a profit from trading in the corporation's securities. Notwithstanding the foregoing, "Improper Personal Benefit" shall not include any benefit, directly or indirectly, related to actions taken in order to evaluate, discourage, resist, prevent or negotiate any transaction with or proposal from any person or entity seeking control of, or a controlling interest in, the corporation.

"Independent Counsel" means a law firm, or a member of a law firm, that is experienced in matters of corporation law and may include law firms or members thereof that are regularly retained by the corporation but not by any other party to the Proceeding giving rise to a claim for indemnification hereunder. Notwithstanding the foregoing, the term "Independent Counsel" shall not include any person who, under the standards of professional conduct then prevailing and applicable to such counsel, would have a conflict of interest in representing either the corporation or Covered Person in an action to determine the Covered Person's rights under this Article.

"Officer" means the chairman of the board, the president, vice presidents, treasurer, assistant treasurer(s), secretary, assistant secretary and such other executive officers as are appointed by the board of directors of the corporation and explicitly entitled to indemnification hereunder.

"Proceeding" includes any actual, threatened or completed action, suit, arbitration, alternate dispute resolution mechanism, investigation (including any internal corporate investigation), administrative hearing or any other proceeding, whether civil, criminal, administrative or investigative, other than one initiated by the Covered Person, but including one

initiated by a Covered Person for the purpose of enforcing such Covered Person's rights under this Article to the extent provided in Section 7.14 of this Article. "Proceeding" shall not include any counterclaim brought by any Covered Person other than one arising out of the same transaction or occurrence that is the subject matter of the underlying claim.

Section 7.2. Right to Indemnification in General.

(a) Covered Persons. The corporation may indemnify, and may advance Expenses, to each Covered Person who is a party to, was or is threatened to be made a party to, or is otherwise involved in any Proceeding, as provided in this Article and to the fullest extent permitted by applicable law in effect on the date hereof and to such greater extent as applicable law may hereafter from time to time permit.

The indemnification provisions in this Article shall be deemed to be a contract between the corporation and each Covered Person who serves in any Corporate Status at any time while these provisions as well as the relevant provisions of the Delaware General Corporation Law are in effect, and any repeal or modification thereof shall not affect any right or obligation then existing with respect to any state of facts then or previously existing or any Proceeding previously or thereafter brought or threatened based in whole or in part upon any such state of facts. Such a contract right may not be modified retroactively without the consent of such Covered Person.

(b) Employees and Agents. The corporation may, to the extent authorized from time to time by the board of directors, grant indemnification and the advancement of Expenses to any employee or agent of the corporation to the fullest extent of the provisions of this Article with respect to the indemnification and advancement of Expenses of Covered Persons.

Section 7.3. Proceedings Other Than Proceedings by or in the Right of the Corporation. Each Covered Person may be entitled to the rights of indemnification provided in this Section 7.3 if, by reason of such Covered Person's Corporate Status, such Covered Person is a party to, was or is threatened to be made a party to, or is otherwise involved in any Proceeding, other than a Proceeding by or in the right of the corporation. Each Covered Person may be indemnified against Expenses, judgments, penalties, fines and amounts paid in settlements, actually and reasonably incurred by such Covered Person or on such Covered Person's behalf in connection with such Proceeding or any claim, issue or matter therein, if such Covered Person acted in Good Faith and such Covered Person has not been adjudged during the course of such proceeding to have derived an Improper Personal Benefit from the transaction or occurrence forming the basis of such Proceeding.

Section 7.4. Proceedings by or in the Right of the Corporation. Each Covered Person may be entitled to the rights of indemnification provided in this Section 7.4 if, by reason of such Covered Person's Corporate Status, such Covered Person is a party to, or is threatened to be made a party to, or is otherwise involved in any Proceeding brought by or in the right of the corporation to procure a judgment in its favor. Such Covered Person may be indemnified against Expenses, judgments, penalties, and amounts paid in settlement, actually and reasonably incurred by such Covered Person or on such Covered Person's behalf in connection with such Proceeding if such Covered Person acted in Good Faith and such Covered Person has not been adjudged

during the course of such proceeding to have derived an Improper Personal Benefit from the transaction or occurrence forming the basis of such Proceeding. Notwithstanding the foregoing, no such indemnification shall be made in respect of any claim, issue or matter in such Proceeding as to which such Covered Person shall have been adjudged to be liable to the corporation if applicable law prohibits such indemnification; provided, however, that, if applicable law so permits, indemnification shall nevertheless be made by the corporation in such event if and only to the extent that the Court which is considering the matter shall so determine.

Section 7.5. Indemnification of a Party Who is Wholly or Partly Successful. Notwithstanding any provision of this Article to the contrary, to the extent that a Covered Person is, by reason of such Covered Person's Corporate Status, a party to or is otherwise involved in and is successful, on the merits or otherwise, in any Proceeding, such Covered Person shall be indemnified to the maximum extent permitted by law, against all Expenses, judgments, penalties, fines, and amounts paid in settlement, actually and reasonably incurred by such Covered Person or on such Covered Person's behalf in connection therewith. If such Covered Person is not wholly successful in such Proceeding but is successful, on the merits or otherwise, as to one or more but less than all claims, issues or matters in such Proceeding, the corporation shall indemnify such Covered Person to the maximum extent permitted by law, against all Expenses, judgments, penalties, fines, and amounts paid in settlement, actually and reasonably incurred by such Covered Person or on such Covered Person's behalf in connection with each successfully resolved claim, issue or matter. For purposes of this Section 7.5 and without limitation, the termination of any claim, issue or matter in such a Proceeding by dismissal, with or without prejudice, shall be deemed to be a successful result as to such claim, issue or matter.

Section 7.6. Indemnification for Expenses of a Witness. Notwithstanding any provision of this Article to the contrary, to the extent that a Covered Person is, by reason of such Covered Person's Corporate Status, a witness in any Proceeding, such Covered Person shall be indemnified against all Expenses actually and reasonably incurred by such Covered Person or on such Covered Person's behalf in connection therewith.

Section 7.7. Advancement of Expenses. Notwithstanding any provision of this Article to the contrary, the corporation may advance all reasonable Expenses which, by reason of a Covered Person's Corporate Status, were incurred by or on behalf of such Covered Person in connection with any Proceeding, within thirty (30) days after the receipt by the corporation of a statement or statements from such Covered Person requesting such advance or advances, whether prior to or after final disposition of such Proceeding. Such statement or statements shall reasonably evidence the Expenses incurred by the Covered Person and shall include or be preceded or accompanied by an undertaking by or on behalf of the Covered Person to repay any Expenses if such Covered Person shall be adjudged to be not entitled to be indemnified against such Expenses. Any advance and undertaking to repay pursuant to this Section 7.7 may be unsecured interest-free, as the corporation sees fit. Advancement of Expenses pursuant to this Section 7.7 shall not require approval of the board of directors or the stockholders of the corporation, or of any other person or body. The secretary of the corporation shall promptly advise the Board in writing of the request for advancement of Expenses, of the amount and other details of the request and of the undertaking to make repayment provided pursuant to this Section 7.7.

Section 7.8. Notification and Defense of Claim. Promptly after receipt by a Covered Person of notice of the commencement of any Proceeding, such Covered Person shall, if a claim is to be made against the corporation under this Article, notify the corporation of the commencement of the Proceeding. The failure to notify the corporation will not relieve the corporation from any liability which it may have to such Covered Person otherwise than under this Article. With respect to any such Proceedings to which such Covered Person notifies the corporation:

(a) The corporation will be entitled to participate in the defense at its own expense.

(b) Except as otherwise provided below in this subparagraph (b), the corporation (jointly with any other indemnifying party similarly notified) will be entitled to assume the defense with counsel reasonably satisfactory to the Covered Person. After notice from the corporation to the Covered Person of its election to assume the defense of a suit, the corporation will not be liable to the Covered Person under this Article for any legal or other expenses subsequently incurred by the Covered Person in connection with the defense of the Proceeding other than reasonable costs of investigation or as otherwise provided below in this subparagraph (b). The Covered Person shall have the right to employ his own counsel in such Proceeding but the fees and expenses of such counsel incurred after notice from the corporation of its assumption of the defense shall be at the expense of the Covered Person except as provided in this paragraph. The fees and expenses of counsel shall be at the expense of the corporation if (i) the employment of counsel by the Covered Person has been authorized by the corporation, (ii) the Covered Person shall have concluded reasonably that there may be a conflict of interest between the corporation and the Covered Person in the conduct of the defense of such action and such conclusion is confirmed in writing by the corporation's outside counsel regularly employed by it in connection with corporate matters, or (iii) the corporation shall not in fact have employed counsel to assume the defense of such Proceeding. The corporation shall be entitled to participate in, but shall not be entitled to assume the defense of any Proceeding brought by or in the right of the corporation or as to which the Covered Person shall have made the conclusion provided for in (ii) above and such conclusion shall have been so confirmed by the corporation's said outside counsel.

(c) Notwithstanding any provision of this Article to the contrary, the corporation shall not be obligated to indemnify the Covered Person under this Article for any amounts paid in settlement of any Proceeding effected without its written consent. The corporation shall not settle any Proceeding or claim in any manner which would impose any penalty, limitation or disqualification of the Covered Person for any purpose without such Covered Person's written consent. Neither the corporation nor the Covered Person will unreasonably withhold their consent to any proposed settlement.

(d) If it is determined that the Covered Person is entitled to indemnification other than as afforded under subparagraph (b) above, payment to the Covered Person of the additional amounts for which he is to be indemnified shall be made within ten (10) days after such determination.

Section 7.9. Procedures.

(a) Method of Determination. A determination (as provided for by this Article or if required by applicable law in the specific case) with respect to a Covered Person's entitlement to indemnification shall be made either (i) by the board of directors by a majority vote of a quorum consisting of Disinterested directors, or (ii) in the event that a quorum of the board of directors consisting of Disinterested directors is not obtainable or, even if obtainable, such quorum of Disinterested directors so directs, by Independent Counsel in a written determination to the board of directors, a copy of which shall be delivered to the Covered Person seeking indemnification, (iii) by a special litigation committee of the board of directors appointed by the board, or (iv) by the vote of the holders of a majority of the corporation's capital stock outstanding at the time entitled to vote thereon.

(b) Initiating Request. A Covered Person who seeks indemnification under this Article shall submit a Request for Indemnification, including such documentation and information as is reasonably available to such Covered Person and is reasonably necessary to determine whether and to what extent such Covered Person is entitled to indemnification.

(c) Presumptions. In making a determination with respect to entitlement to indemnification hereunder, the person or persons or entity making such determination shall not presume that the Covered Person is or is not entitled to indemnification under this Article.

(d) Burden of Proof. Each Covered Person shall bear the burden of going forward and demonstrating sufficient facts to support his claim for entitlement to indemnification under this Article. That burden shall be deemed satisfied by the submission of an initial Request for Indemnification pursuant to Section 7.9(b) above.

(e) Effect of Other Proceedings. The termination of any Proceeding or of any claim, issue or matter therein, by judgment, order, settlement or conviction, or upon a plea of guilty or of nolo contendere or its equivalent, shall not (except as otherwise expressly provided in this Article) of itself adversely affect the right of a Covered Person to indemnification or create a presumption that a Covered Person did not act in Good Faith.

(f) Actions of Others. The knowledge, actions, or failure to act, of any director, officer, employee, agent, trustee or fiduciary of the enterprise for whose daily activities the Covered Person was actually responsible may be imputed to a Covered Person for purposes of determining the right to indemnification under this Article.

Section 7.10. Action by the Corporation. Any action, payment, advance determination other than a determination made pursuant to Section 7.9(a) above, authorization, requirement, grant of indemnification or other action taken by the Corporation pursuant to this Article shall be effected exclusively through any Disinterested person so authorized by the board of directors of the corporation, including the president or any vice president of the corporation.

Section 7.11. Non-Exclusivity. The rights of indemnification and to receive advancement of Expenses as provided by this Article shall not be deemed exclusive of any other rights to which a Covered Person may at any time be entitled under applicable law, the Certificate of Incorporation, these Bylaws, any agreement, a vote of stockholders or a resolution

of the board of directors, or otherwise. No amendment, alteration, rescission or replacement of this Article or any provision hereof shall be effective as to any Covered Person with respect to any action taken or omitted by such Covered Person in such Covered Person's Corporate Status or with respect to any state of facts then or previously existing or any Proceeding previously or thereafter brought or threatened based in whole or to the extent based in part upon any such state of facts existing prior to such amendment, alteration, rescission or replacement.

Section 7.12. Insurance. The corporation may maintain, at its expense, an insurance policy or policies to protect itself and any Covered Person, officer, employee or agent of the corporation or another enterprise against liability arising out of this Article or otherwise, whether or not the corporation would have the power to indemnify any such person against such liability under the Delaware General Corporation Law.

Section 7.13. No Duplicative Payment. The corporation shall not be liable under this Article to make any payment of amounts otherwise indemnifiable hereunder if and to the extent that a Covered Person has otherwise actually received such payment under any insurance policy, contract, agreement or otherwise.

Section 7.14. Expenses of Adjudication. In the event that any Covered Person seeks a judicial adjudication, or an award in arbitration, to enforce such Covered Person's rights under, or to recover damages for breach of, this Article, the Covered Person shall be entitled to recover from the corporation, and shall be indemnified by the corporation against, any and all expenses (of the types described in the definition of Expenses in Section 7.1 of this Article) actually and reasonably incurred by such Covered Person in seeking such adjudication or arbitration, but only if such Covered Person prevails therein. If it shall be determined in such adjudication or arbitration that the Covered Person is entitled to receive part but not all of the indemnification of expenses sought, the expenses incurred by such Covered Person in connection with such adjudication or arbitration shall be appropriately prorated.

Section 7.15. Severability. If any provision or provisions of this Article shall be held to be invalid, illegal or unenforceable for any reason whatsoever:

(a) the validity, legality and enforceability of the remaining provisions of this Article (including without limitation, each portion of any Section of this Article containing any such provision held to be invalid, illegal or unenforceable, that is not itself invalid, illegal or unenforceable) shall not in any way be affected or impaired thereby; and

(b) to the fullest extent possible, the provisions of this Article (including, without limitation, each portion of any Section of this Article containing any such provision held to be invalid, illegal or unenforceable, that is not itself invalid, illegal or unenforceable) shall be construed so as to give effect to the intent manifested by the provision held invalid, illegal or unenforceable.

ARTICLE VIII

Miscellaneous Provisions

Section 8.1. Certificate of Incorporation. All references in these Bylaws to the Certificate of Incorporation shall be deemed to refer to the Certificate of Incorporation of the corporation, as amended and in effect from time to time.

Section 8.2. Fiscal Year. Except as from time to time otherwise provided by the board of directors, the fiscal year of the corporation shall end on September 30th of each year.

Section 8.3. Corporate Seal. The board of directors shall have the power to adopt and alter the seal of the corporation.

Section 8.4. Execution of Instruments. All deeds, leases, transfers, contracts, bonds, notes, and other obligations authorized to be executed by an officer of the corporation on its behalf shall be signed by the president or the treasurer except as the board of directors may generally or in particular cases otherwise determine.

Section 8.5. Voting of Securities. Unless the board of directors otherwise provides, the president or the treasurer may waive notice of and act on behalf of this corporation, or appoint another person or persons to act as proxy or attorney in fact for this corporation with or without discretionary power and/or power of substitution, at any meeting of stockholders or shareholders of any other corporation or organization, any of whose securities are held by this corporation.

Section 8.6. Evidence of Authority. A certificate by the secretary or any assistant secretary as to any action taken by the stockholders, directors or any officer or representative of the corporation shall, as to all persons who rely thereon in good faith, be conclusive evidence of such action. The exercise of any power which by law, by the Certificate of Incorporation, or by these Bylaws, or under any vote of the stockholders or the board of directors, may be exercised by an officer of the corporation only in the event of absence of another officer or any other contingency shall bind the corporation in favor of anyone relying thereon in good faith, whether or not such absence or contingency existed.

Section 8.7. Corporate Records. The original, or attested copies, of the Certificate of Incorporation, Bylaws, records of all meetings of the incorporators and stockholders, and the stock transfer books (which shall contain the names of all stockholders and the record address and the amount of stock held by each) shall be kept in Delaware at the principal office of the corporation, or at an office of the corporation, or at an office of its transfer agent or of the secretary or of the assistant secretary, if any. Said copies and records need not all be kept in the same office. They shall be available at all reasonable times to inspection of any stockholder for any purpose but not to secure a list of stockholders for the purpose of selling said list or copies thereof or for using the same for a purpose other than in the interest of the applicant, as a stockholder, relative to the affairs of the corporation.

Section 8.8. Charitable Contributions. The board of directors from time to time may authorize contributions to be made by the corporation in such amounts as it may determine

to be reasonable to corporations, trusts, funds or foundations organized and operated exclusively for charitable, scientific or educational purposes, no part of the net earning of which inures to the private benefit of any stockholder or individual.

ARTICLE IX

Amendments

Section 9.1. Amendment by Stockholders. Prior to the issuance of stock, these Bylaws may be amended, altered or repealed by the incorporator(s) by majority vote. After stock has been issued, these Bylaws may be amended, altered or repealed by the stockholders at any annual or special meeting by vote of a majority of all shares outstanding and entitled to vote, except that where the effect of the amendment would be to reduce any voting requirement otherwise required by law, the Certificate of Incorporation or another provision of these Bylaws, such amendment shall require the vote that would have been required by law, the Certificate of Incorporation or these Bylaws or such other provision of these Bylaws. Notice and a copy of any proposal to amend these Bylaws must be included in the notice of meeting of stockholders at which action is taken upon such amendment.

Section 9.2. Amendment by Board of Directors. These Bylaws may be amended or altered by the board of directors at a meeting duly called for the purpose by majority vote of the directors then in office, except that directors shall not amend the Bylaws in a manner which:

(a) changes the stockholder voting requirements for any action;

(b) alters or abolishes any preferential right or right of redemption applicable to a class or series of stock with shares already outstanding;

(c) alters the provisions of Article IX hereof; or

(d) permits the board of directors to take any action which under law, the Certificate of Incorporation, or these Bylaws is required to be taken by the stockholders.

Any amendment of these Bylaws by the board of directors may be altered or repealed by the stockholders at any annual or special meeting of stockholders.

L-3 COMMUNICATIONS CORPORATION,
As Issuer

$750,000,000

7 5/8% SENIOR SUBORDINATED NOTES DUE 2012

INDENTURE

Dated as of June 28, 2002

The Bank of New York,
As Trustee

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316	(a)(last sentence)	2.09
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*This Cross-Reference Table is not part of the Indenture.

	(a)(2)	6.09
	(b)	2.04
318	(a)	12.01
	(b)	N.A.
	(c)	12.01

N.A. means not applicable.

*This Cross-Reference Table is not part of the Indenture.

This INDENTURE dated as of June 28, 2002, among L-3 Communications Corporation, a Delaware corporation (the "Company"), by Henschel, Inc., a Delaware corporation, Hygienetics Environmental Services, Inc., a Delaware corporation, KDI Precision Products, Inc., a Delaware corporation, L-3 Communications AIS GP Corporation, a Delaware corporation, L-3 Communications Aydin Corporation, a Delaware corporation, L-3 Communications ESSCO, Inc., a Delaware corporation, L-3 Communications ILEX Systems, Inc., a Delaware corporation, L-3 Communications Integrated Systems L.P., a Delaware limited partnership, L-3 Communications Investments Inc., a Delaware corporation, L-3 Communications SPD Technologies, Inc., a Delaware corporation, MPRI, Inc., a Delaware corporation, Pac Ord, Inc., a Delaware corporation, Power Paragon, Inc., a Delaware corporation, SPD Electrical Systems, Inc., a Delaware corporation, SPD Holdings, Inc., a Delaware corporation, SPD Switchgear, Inc., a Delaware corporation, AMI Instruments, Inc., an Oklahoma corporation, Apcom, Inc., a Maryland corporation, Celerity Systems Incorporated, a California corporation, Coleman Research Corporation, a Florida corporation, EER Systems, Inc., a Virginia corporation, Electrodynamics, Inc., an Arizona corporation, Interstate Electronics Corporation, a California corporation, L-3 Communications Analytics Corporation, a California corporation, L-3 Communications Atlantic Science and Technology Corporation, a New Jersey corporation, L-3 Communications Storm Control Systems, Inc. a California corporation, Microdyne Communications Technologies Incorporated, a Maryland corporation, Microdyne Corporation, a Maryland corporation, Microdyne Outsourcing Incorporated, a Maryland corporation and Southern California Microwave, Inc., a California corporation (collectively, the "Guarantors"), and The Bank of New York, as trustee (the "Trustee").

The Company and the Trustee agree as follows for the benefit of each other and for the equal and ratable benefit of the Holders of the 7 5/8% Senior Subordinated Notes due 2012 (the "Series A Notes") and the 7 5/8% Senior Subordinated Notes due 2012 (the "Exchange Notes" and, together with the Series A Notes, the "Notes"):

ARTICLE 1.
DEFINITIONS AND INCORPORATION BY REFERENCE

1.01. Definitions.

"144A Global Note" means the global note in the form of Exhibit A hereto bearing the Global Note Legend and the Private Placement Legend and deposited with and registered in the name of the Depositary or its nominee that will be issued in a denomination equal to the outstanding principal amount of the Notes sold in reliance on Rule 144A.

"1997 Indenture" means the indenture, dated as of April 30, 1997, among The Bank of New York, as trustee, the Company, and the guarantors party thereto, with respect to the 1997 Notes.

"1997 Notes" means the $225,000,000 in aggregate principal amount of the Company's 10 3/8% Senior Subordinated Notes due 2007, issued pursuant to the 1997 Indenture on April 30, 1997.

"2000 Convertible Notes" means the $300,000,000 in aggregate principal amount of Holdings' 5.25% Convertible Senior Subordinated Notes due 2009, issued pursuant to the 2000 Convertible Note Indenture in November and December of 2000 and guaranteed by the Company and the other guarantors thereof.

"2000 Convertible Note Indenture" means the indenture, dated as of November 21, 2000, among The Bank of New York, as trustee, Holdings, the Company, as a guarantor, and the other guarantors named therein, with respect to the 2000 Convertible Notes.

"2001 CODES" means the $420,000,000 in aggregate principal amount of Holdings' 4.00% Senior Subordinated Convertible Contingent Debt Securities (CODES) due 2011, issued pursuant to the 2001 CODES Indenture in October and November 2001 and guaranteed by the Company and the other guarantors thereof.

"2001 CODES Indenture" means the indenture, dated as of October 24, 2001, among The Bank of New York, as trustee, Holdings, the Company, as a guarantor, and the other guarantors named therein, with respect to the 2001 CODES.

"Acquired Debt" means, with respect to any specified Person, (i) Indebtedness of any other Person existing at the time such other Person is merged with or into or became a Restricted Subsidiary of such specified Person, including, without limitation, Indebtedness incurred in connection with, or in contemplation of, such other Person merging with or into or becoming a Restricted Subsidiary of such specified Person, and (ii) Indebtedness secured by a Lien encumbering any asset acquired by such specified Person.

"Additional Amounts" means all additional amounts then owing pursuant to Section 5 of the Registration Rights Agreement.

"Additional Notes" means any Notes (other than the Initial Notes) issued under this Indenture in accordance with Sections 2.02 and 4.09 hereof.

"Affiliate" of any specified Person means any other Person directly or indirectly controlling or controlled by or under direct or indirect common control with such specified Person. For purposes of this definition, "control" (including, with correlative meanings, the terms "controlling", "controlled by" and "under common control with"), as used with respect to any Person, shall mean the possession, directly or indirectly, of the power to direct or cause the direction of the management or policies of such Person, whether through the ownership of voting securities, by agreement or otherwise; provided that beneficial ownership of 10% or more of the voting securities of a Person shall be deemed to be control.

"Agent" means any Registrar, Paying Agent or co-registrar.

"Applicable Procedures" means, with respect to any transfer or exchange of or for beneficial interests in any Global Note, the rules and procedures of the Depositary, Euroclear and Clearstream that apply to such transfer or exchange.

"Asset Sale" means (i) the sale, lease, conveyance or other disposition of any assets or rights (including, without limitation, by way of a sale and leaseback) other than sales of

inventory in the ordinary course of business (provided that the sale, lease, conveyance or other disposition of all or substantially all of the assets of the Company and its Restricted Subsidiaries taken as a whole shall be governed by the covenant contained in Section 4.15 and/or the covenant contained in Section 5.01 and not by the covenant contained in Section 4.10), and (ii) the issue or sale by the Company or any of its Subsidiaries of Equity Interests of any of the Company's Restricted Subsidiaries, in the case of either clause (i) or (ii), whether in a single transaction or a series of related transactions (A) that have a fair market value in excess of $5.0 million or (B) for net proceeds in excess of $5.0 million. Notwithstanding the foregoing: (i) a transfer of assets by the Company to a Restricted Subsidiary or by a Restricted Subsidiary to the Company or to another Restricted Subsidiary, (ii) an issuance of Equity Interests by a Restricted Subsidiary to the Company or to another Restricted Subsidiary, (iii) a Restricted Payment that is permitted by the covenant contained in Section 4.07 and (iv) a disposition of Cash Equivalents in the ordinary course of business shall not be deemed to be an Asset Sale.

"Attributable Debt" in respect of a sale and leaseback transaction means, at the time of determination, the present value (discounted at the rate of interest implicit in such transaction, determined in accordance with GAAP) of the obligation of the lessee for net rental payments during the remaining term of the lease included in such sale and leaseback transaction (including any period for which such lease has been extended or may, at the option of the lessor, be extended).

"Bankruptcy Law" means Title 11, U.S. Code or any similar federal or state law for the relief of debtors.

"Board of Directors" means the Board of Directors of the Company, or any authorized committee of the Board of Directors.

"Broker-Dealer" has the meaning set forth in the Registration Rights Agreement.

"Business Day" means any day other than a Legal Holiday.

"Capital Lease Obligation" means, at the time any determination thereof is to be made, the amount of the liability in respect of a capital lease that would at such time be required to be capitalized on a balance sheet in accordance with GAAP.

"Capital Stock" means (i) in the case of a corporation, corporate stock, (ii) in the case of an association or business entity, any and all shares, interests, participations, rights or other equivalents (however designated) of corporate stock, (iii) in the case of a partnership or limited liability company, partnership or membership interests (whether general or limited) and (iv) any other interest or participation that confers on a Person the right to receive a share of the profits and losses of, or distributions of assets of, the issuing Person.

"Cash Equivalents" means (i) United States dollars, (ii) securities issued or directly and fully guaranteed or insured by the United States government or any agency or instrumentality thereof having maturities of not more than one year from the date of acquisition, (iii) certificates of deposit and eurodollar time deposits with maturities of six months or less from the date of acquisition, bankers' acceptances with maturities not exceeding six months and overnight bank deposits, in each case with any domestic financial institution to the Senior Credit

Facilities or with any domestic commercial bank having capital and surplus in excess of $500.0 million and a Thompson Bank Watch Rating of "B" or better, (iv) repurchase obligations with a term of not more than seven days for underlying securities of the types described in clauses (ii) and (iii) above entered into with any financial institution meeting the qualifications specified in clause (iii) above, (v) commercial paper having the highest rating obtainable from Moody's or S&P and in each case maturing within six months after the date of acquisition, (vi) investment funds investing 95% of their assets in securities of the types described in clauses (i)-(v) above, and (vii) readily marketable direct obligations issued by any State of the United States of America or any political subdivision thereof having maturities of not more than one year from the date of acquisition and having one of the two highest rating categories obtainable from either Moody's or S&P.

"Change of Control" means the occurrence of any of the following: (i) the sale, lease, transfer, conveyance or other disposition (other than by way of merger or consolidation), in one or a series of related transactions, of all or substantially all of the assets of the Company and its Restricted Subsidiaries taken as a whole to any "person" (as such term is used in Section 13(d)(3) of the Exchange Act) other than the Principals or their Related Parties (as defined below), (ii) the adoption of a plan relating to the liquidation or dissolution of the Company, (iii) the consummation of any transaction (including, without limitation, any merger or consolidation) the result of which is that any "person" (as defined above), other than the Principals and their Related Parties, becomes the "beneficial owner" (as such term is defined in Rule 13d-3 and Rule 13d-5 under the Exchange Act), directly or indirectly, of more than 50% of the Voting Stock of the Company (measured by voting power rather than number of shares) or (iv) the first day on which a majority of the members of the Board of Directors of the Company are not Continuing Directors.

"Clearstream" means Clearstream Banking, societe anonyme (formerly Cedelbank).

"Consolidated Cash Flow" means, with respect to any Person for any period, the Consolidated Net Income of such Person for such period plus (i) an amount equal to any extraordinary loss plus any net loss realized in connection with an Asset Sale (to the extent such losses were deducted in computing such Consolidated Net Income), plus (ii) provision for taxes based on income or profits of such Person and its Restricted Subsidiaries for such period, to the extent that such provision for taxes was included in computing such Consolidated Net Income, plus (iii) consolidated interest expense of such Person and its Restricted Subsidiaries for such period, whether paid or accrued and whether or not capitalized (including, without limitation, original issue discount, non-cash interest payments, the interest component of any deferred payment obligations, the interest component of all payments associated with Capital Lease Obligations, imputed interest with respect to Attributable Debt, commissions, discounts and other fees and charges incurred in respect of letter of credit or bankers' acceptance financings, and net payments (if any) pursuant to Hedging Obligations), to the extent that any such expense was deducted in computing such Consolidated Net Income, plus (iv) depreciation, amortization (including amortization of goodwill, debt issuance costs and other intangibles but excluding amortization of other prepaid cash expenses that were paid in a prior period) and other non-cash expenses (excluding any such non-cash expense to the extent that it represents an accrual of or reserve for cash expenses in any future period or amortization of a prepaid cash expense that was

paid in a prior period) of such Person and its Restricted Subsidiaries for such period to the extent that such depreciation, amortization and other non-cash expenses were deducted in computing such Consolidated Net Income, minus (v) non-cash items (excluding any items that were accrued in the ordinary course of business) increasing such Consolidated Net Income for such period, in each case, on a consolidated basis and determined in accordance with GAAP.

"Consolidated Net Income" means, with respect to any Person for any period, the aggregate of the Net Income of such Person and its Restricted Subsidiaries for such period, on a consolidated basis, determined in accordance with GAAP; provided that (i) the Net Income of any Person that is not a Restricted Subsidiary or that is accounted for by the equity method of accounting shall be included only to the extent of the amount of dividends or distributions paid in cash to the referent Person or a Restricted Subsidiary thereof, (ii) the Net Income of any Restricted Subsidiary shall be excluded to the extent that the declaration or payment of dividends or similar distributions by that Restricted Subsidiary of that Net Income is not at the date of determination permitted without any prior governmental approval (that has not been obtained) or, directly or indirectly, by operation of the terms of its charter or any agreement, instrument, judgment, decree, order, statute, rule or governmental regulation applicable to that Restricted Subsidiary or its stockholders, (iii) the Net Income of any Person acquired in a pooling of interests transaction for any period prior to the date of such acquisition shall be excluded, (iv) the cumulative effect of a change in accounting principles shall be excluded, (v) the Net Income of any Unrestricted Subsidiary shall be excluded, whether or not distributed to the Company or one of its Restricted Subsidiaries, and (vi) the Net Income of any Restricted Subsidiary shall be calculated after deducting preferred stock dividends payable by such Restricted Subsidiary to Persons other than the Company and its other Restricted Subsidiaries.

"Consolidated Tangible Assets" means, with respect to the Company, the total consolidated assets of the Company and its Restricted Subsidiaries, less the total intangible assets of the Company and its Restricted Subsidiaries, as shown on the most recent internal consolidated balance sheet of the Company and such Restricted Subsidiaries calculated on a consolidated basis in accordance with GAAP.

"Continuing Directors" means, as of any date of determination, any member of the Board of Directors of the Company who (i) was a member of such Board of Directors on the date of this Indenture or (ii) was nominated for election or elected to such Board of Directors with the approval of a majority of the Continuing Directors who were members of such Board at the time of such nomination or election.

"Corporate Trust Office of the Trustee" shall be at the address of the Trustee specified in Section 12.02 hereof or such other address as to which the Trustee may give notice to the Company.

"Credit Facilities" means, with respect to the Company, one or more debt facilities (including, without limitation, the Senior Credit Facilities) or commercial paper facilities with banks or other institutional lenders providing for revolving credit loans, term loans, receivables financing (including through the sale of receivables to such lenders or to special purpose entities formed to borrow from such lenders against such receivables) or letters

of credit, in each case, as amended, restated, modified, renewed, refunded, replaced or refinanced in whole or in part from time to time.

"December 1998 Indenture" means the indenture, dated as of December 11, 1998, among The Bank of New York, as trustee, the Company and the guarantors party thereto, with respect to the December 1998 Notes.

"December 1998 Notes" means the $200,000,000 in aggregate principal amount of the Company's 8% Senior Subordinated Notes due 2008, issued pursuant to the December 1998 Indenture on December 11, 1998.

"Default" means any event that is, or with the passage of time or the giving of notice or both would be, an Event of Default.

"Definitive Note" means a certificated Note registered in the name of the Holder thereof and issued in accordance with Article 2 hereof, substantially in the form of Exhibit A hereto, except that such Note shall not bear the Global Note Legend and shall not have the "Schedule of Exchanges of Interests in the Global Note" attached thereto.

"Depositary" means, with respect to the Notes issuable or issued in whole or in part in global form, the Person specified in Section 2.03 hereof as the Depositary with respect to the Notes, until a successor shall have been appointed and become such pursuant to the applicable provision of this Indenture, and, thereafter, "Depositary" shall mean or include such successor.

"Designated Senior Debt" means (i) any Indebtedness outstanding under the Senior Credit Facilities and (ii) any other Senior Debt permitted under the Indenture the principal amount of which is $25.0 million or more and that has been designated by the Company as "Designated Senior Debt".

"Disqualified Stock" means any Capital Stock that, by its terms (or by the terms of any security into which it is convertible, or for which it is exchangeable, at the option of the holder thereof), or upon the happening of any event, matures or is mandatorily redeemable, pursuant to a sinking fund obligation or otherwise, or redeemable at the option of the Holder thereof, in whole or in part, on or prior to the date that is 91 days after the date on which the Notes mature; provided, however, that any Capital Stock that would constitute Disqualified Stock solely because the holders thereof have the right to require the Company to repurchase such Capital Stock upon the occurrence of a Change of Control or an Asset Sale shall not constitute Disqualified Stock if the terms of such Capital Stock provide that the Company may not repurchase or redeem any such Capital Stock pursuant to such provisions unless such repurchase or redemption complies with Section 4.07 hereof; and provided further, that if such Capital Stock is issued to any plan for the benefit of employees of the Company or its Subsidiaries or by any such plan to such employees, such Capital Stock shall not constitute Disqualified Stock solely because it may be required to be repurchased by the Company in order to satisfy applicable statutory or regulatory obligations.

"Equity Interests" means Capital Stock and all warrants, options or other rights to acquire Capital Stock (but excluding any debt security that is convertible into, or exchangeable for, Capital Stock).

"Equity Offering" means any public or private sale of equity securities (excluding Disqualified Stock) of the Company or Holdings, other than any private sales to an Affiliate of the Company or Holdings.

"Euroclear" means Morgan Guaranty Trust Company of New York, Brussels office, as operator of the Euroclear system.

"Exchange Act" means the Securities Exchange Act of 1934, as amended.

"Exchange Notes" means the Notes issued in the Exchange Offer pursuant to Section 2.06(f).

"Exchange Offer" has the meaning set forth in the Registration Rights Agreement.

"Exchange Offer Registration Statement" has the meaning set forth in the Registration Rights Agreement.

"Existing Indebtedness" means any Indebtedness of the Company and its Restricted Subsidiaries (other than Indebtedness under the Senior Credit Facilities and the Notes) in existence on the date of the Indenture, until such amounts are repaid.

"Fixed Charges" means, with respect to any Person for any period, the sum, without duplication, of (i) the consolidated interest expense of such Person and its Restricted Subsidiaries for such period, whether paid or accrued (including, without limitation, original issue discount, non-cash interest payments, the interest component of any deferred payment obligations, the interest component of all payments associated with Capital Lease Obligations, imputed interest with respect to Attributable Debt, commissions, discounts and other fees and charges incurred in respect of letter of credit or bankers' acceptance financings, and net payments (if any) pursuant to Hedging Obligations, but excluding amortization of debt issuance costs) and (ii) the consolidated interest of such Person and its Restricted Subsidiaries that was capitalized during such period, and (iii) any interest expense on Indebtedness of another Person that is guaranteed by such Person or one of its Restricted Subsidiaries or secured by a Lien on assets of such Person or one of its Restricted Subsidiaries (whether or not such Guarantee or Lien is called upon) and (iv) the product of (A) all dividend payments, whether or not in cash, on any series of preferred stock of such Person or any of its Restricted Subsidiaries, other than dividend payments on Equity Interests payable solely in Equity Interests of the Company, times (B) a fraction, the numerator of which is one and the denominator of which is one minus the then current combined federal, state and local statutory tax rate of such Person, expressed as a decimal, in each case, on a consolidated basis and in accordance with GAAP.

"Fixed Charge Coverage Ratio" means with respect to any Person for any period, the ratio of the Consolidated Cash Flow of such Person for such period to the Fixed Charges of such Person and its Restricted Subsidiaries for such period. In the event that the Company or any of its Restricted Subsidiaries incurs, assumes, Guarantees or redeems any Indebtedness (other

than revolving credit borrowings) or issues preferred stock subsequent to the commencement of the period for which the Fixed Charge Coverage Ratio is being calculated but on or prior to the date on which the event for which the calculation of the Fixed Charge Coverage Ratio is made (the "Calculation Date"), then the Fixed Charge Coverage Ratio shall be calculated giving pro forma effect to such incurrence, assumption, Guarantee or redemption of Indebtedness, or such issuance or redemption of preferred stock, as if the same had occurred at the beginning of the applicable four-quarter reference period. In addition, for purposes of making the computation referred to above, (i) acquisitions that have been made by the Company or any of its Restricted Subsidiaries, including through mergers or consolidations and including any related financing transactions, during the four-quarter reference period or subsequent to such reference period and on or prior to the Calculation Date shall be deemed to have occurred on the first day of the four-quarter reference period and Consolidated Cash Flow for such reference period shall be calculated without giving effect to clause (iii) of the proviso set forth in the definition of Consolidated Net Income, (ii) the Consolidated Cash Flow attributable to discontinued operations, as determined in accordance with GAAP, and operations or businesses disposed of prior to the Calculation Date, shall be excluded, and (iii) the Fixed Charges attributable to discontinued operations, as determined in accordance with GAAP, and operations or businesses disposed of prior to the Calculation Date, shall be excluded, but only to the extent that the obligations giving rise to such Fixed Charges will not be obligations of the referent Person or any of its Restricted Subsidiaries following the Calculation Date.

"Foreign Subsidiary" means a Restricted Subsidiary of the Company that was not organized or existing under the laws of the United States, any state thereof, the District of Columbia or any territory thereof or that has not guaranteed or otherwise provided direct credit support for any Indebtedness of the Company.

"GAAP" means generally accepted accounting principles set forth in the opinions and pronouncements of the Accounting Principles Board of the American Institute of Certified Public Accountants and statements and pronouncements of the Financial Accounting Standards Board or in such other statements by such other entity as have been approved by a significant segment of the accounting profession, which were in effect on April 30, 1997.

"Global Notes" means, individually and collectively, each of the Restricted Global Notes and the Unrestricted Global Notes, substantially in the form of Exhibit A hereto issued in accordance with Article 2 hereof.

"Global Note Legend" means the legend set forth in Section 2.06(g)(ii) to be placed on all Global Notes issued under this Indenture.

"Government Securities" means direct obligations of, or obligations guaranteed by, the United States of America for the payment of which guarantee or obligations the full faith and credit of the United States is pledged.

"Guarantee" means a guarantee (other than by endorsement of negotiable instruments for collection in the ordinary course of business), direct or indirect, in any manner (including, without limitation, letters of credit and reimbursement agreements in respect thereof), of all or any part of any Indebtedness.

"Guarantors" means each Person listed in the preamble to the Indenture and each Subsidiary of the Company that executes a Subsidiary Guarantee in accordance with the provisions of the Indenture, and their respective successors and assigns.

"Hedging Obligations" means, with respect to any Person, the obligations of such Person under (i) currency exchange or interest rate swap agreements, interest rate cap agreements and currency exchange or interest rate collar agreements and (ii) other agreements or arrangements designed to protect such Person against fluctuations in currency exchange rates or interest rates.

"Holder" means a Person in whose name a Note is registered.

"Holdings" means L-3 Communications Holdings, Inc., a Delaware corporation.

"IAI Global Note" means the global Note in the form of Exhibit A hereto bearing the Global Note Legend and the Private Placement Legend and deposited with and registered in the name of the Depositary or its nominee that will be issued in a denomination equal to the outstanding principal amount of the Notes sold to Institutional Accredited Investors.

"Indebtedness" means, with respect to any Person, any indebtedness of such Person, whether or not contingent, in respect of borrowed money or evidenced by bonds, notes, debentures or similar instruments or letters of credit (or reimbursement agreements in respect thereof) or banker's acceptances or representing Capital Lease Obligations or the balance deferred and unpaid of the purchase price of any property or representing any Hedging Obligations, except any such balance that constitutes an accrued expense or trade payable, if and to the extent any of the foregoing indebtedness (other than letters of credit and Hedging Obligations) would appear as a liability upon a balance sheet of such Person prepared in accordance with GAAP, as well as all indebtedness of others secured by a Lien on any asset of such Person (whether or not such indebtedness is assumed by such Person) and, to the extent not otherwise included, the Guarantee by such Person of any indebtedness of any other Person. The amount of any Indebtedness outstanding as of any date shall be (i) the accreted value thereof, in the case of any Indebtedness that does not require current payments of interest, and (ii) the principal amount thereof, together with any interest thereon that is more than 30 days past due, in the case of any other Indebtedness.

"Indenture" means this Indenture, as amended or supplemented from time to time.

"Indirect Participant" means a Person who holds a beneficial interest in a Global Note through a Participant.

"Initial Notes" means $750.0 million in aggregate principal amount of Notes issued under this Indenture on the date hereof.

"Institutional Accredited Investor" means an institution that is an "accredited investor" as defined in Rule 501(a)(1), (2), (3) or (7) under the Securities Act.

"Investments" means, with respect to any Person, all investments by such Person in other Persons (including Affiliates) in the forms of direct or indirect loans (including

guarantees of Indebtedness or other obligations), advances or capital contributions (excluding commission, travel, moving and similar loans or advances to officers and employees made in the ordinary course of business), purchases or other acquisitions for consideration of Indebtedness, Equity Interests or other securities, together with all items that are or would be classified as investments on a balance sheet prepared in accordance with GAAP. If the Company or any Restricted Subsidiary of the Company sells or otherwise disposes of any Equity Interests of any direct or indirect Restricted Subsidiary of the Company such that, after giving effect to any such sale or disposition, such Person is no longer a Subsidiary of the Company, the Company shall be deemed to have made an Investment on the date of any such sale or disposition equal to the fair market value of the Equity Interests of such Subsidiary not sold or disposed of in an amount determined as provided in the last paragraph of the covenant contained in Section 4.07.

"Legal Holiday" means a Saturday, a Sunday or a day on which banking institutions in The City of New York or at a place of payment are authorized by law, regulation or executive order to remain closed. If a payment date is a Legal Holiday at a place of payment, payment may be made at that place on the next succeeding day that is not a Legal Holiday, and no interest shall accrue for the intervening period.

"Lehman Investor" means Lehman Brothers Holdings Inc. and any of its Affiliates.

"Letter of Transmittal" means the letter of transmittal to be prepared by the Company and sent to all Holders of the Series A Notes for use by such Holders in connection with the Exchange Offer.

"Lien" means, with respect to any asset, any mortgage, lien, pledge, charge, security interest or encumbrance of any kind in respect of such asset, whether or not filed, recorded or otherwise perfected under applicable law (including any conditional sale or other title retention agreement, any lease in the nature thereof, any option or other agreement to sell or give a security interest in and any filing of or agreement to give any financing statement under the Uniform Commercial Code (or equivalent statutes) of any jurisdiction).

"Marketable Securities" means, with respect to any Asset Sale, any readily marketable equity securities that are (i) traded on The New York Stock Exchange, the American Stock Exchange or the Nasdaq National Market; and (ii) issued by a corporation having a total equity market capitalization of not less than $250.0 million; provided that the excess of (A) the aggregate amount of securities of any one such corporation held by the Company and any Restricted Subsidiary over (B) ten times the average daily trading volume of such securities during the 20 immediately preceding trading days shall be deemed not to be Marketable Securities; as determined on the date of the contract relating to such Asset Sale.

"May 1998 Notes" means the $180,000,000 in aggregate principal amount of the Company's 8 1/2% Senior Subordinated Notes due 2008, issued pursuant to the May 1998 Indenture on May 22, 1998.

"May 1998 Indenture" means the indenture, dated as of May 22, 1998, among The Bank of New York, as trustee, the Company and the guarantors party thereto, with respect to the May 1998 Notes.

"Moody's" means Moody's Investors Services, Inc.

"Net Income" means, with respect to any Person, the net income (loss) of such Person, determined in accordance with GAAP and before any reduction in respect of preferred stock dividends, excluding, however, (i) any gain or loss, together with any related provision for taxes thereon, realized in connection with (A) any Asset Sale (including, without limitation, dispositions pursuant to sale and leaseback transactions) or (B) the disposition of any securities by such Person or any of its Restricted Subsidiaries or the extinguishment of any Indebtedness of such Person or any of its Restricted Subsidiaries and (ii) any extraordinary gain or loss, together with any related provision for taxes on such extraordinary gain or loss and (iii) the cumulative effect of a change in accounting principles.

"Net Proceeds" means the aggregate cash proceeds received by the Company or any of its Subsidiaries in respect of any Asset Sale (including, without limitation, any cash received upon the sale or other disposition of any non-cash consideration received in any Asset Sale), net of the direct costs relating to such Asset Sale (including, without limitation, legal, accounting and investment banking fees, and sales commissions) and any relocation expenses incurred as a result thereof, taxes paid or payable as a result thereof (after taking into account any available tax credits or deductions and any tax sharing arrangements), amounts required to be applied to the repayment of Indebtedness secured by a Lien on the asset or assets that were the subject of such Asset Sale and any reserve for adjustment in respect of the sale price of such asset or assets established in accordance with GAAP.

"Non-Recourse Debt" means Indebtedness (i) as to which neither the Company nor any of its Restricted Subsidiaries (A) provides credit support of any kind (including any undertaking, agreement or instrument that would constitute Indebtedness), (B) is directly or indirectly liable (as a guarantor or otherwise), or (C) constitutes the lender; and (ii) no default with respect to which (including any rights that the holders thereof may have to take enforcement action against an Unrestricted Subsidiary) would permit (upon notice, lapse of time or both) any holder of any other Indebtedness (other than Indebtedness incurred under Credit Facilities) of the Company or any of its Restricted Subsidiaries to declare a default on such other Indebtedness or cause the payment thereof to be accelerated or payable prior to its stated maturity; and (iii) as to which the lenders have been notified in writing that they will not have any recourse to the stock or assets of the Company or any of its Restricted Subsidiaries.

"Non-U.S. Person" means a person who is not a U.S. Person.

"Note Custodian" means the Trustee, as custodian with respect to the Notes in global form, or any successor entity thereto.

"Notes" has the meaning assigned to it in the preamble to this Indenture. The Initial Notes and the Additional Notes shall be treated as a single class for all purposes under this

Indenture, and unless the context otherwise requires, all references to the Notes shall include the Initial Notes and any Additional Notes.

"Obligations" means any principal, premium and Additional Amounts (if any), interest (including interest accruing on or after the filing of any petition in bankruptcy or for reorganization, whether or not a claim for post-filing interest is allowed in such proceeding), penalties, fees, charges, expenses, indemnifications, reimbursement obligations, damages, guarantees and other liabilities or amounts payable under the documentation governing any Indebtedness or in respect thereto.

"Offering" means the offering of the Notes by the Company.

"Officer" means, with respect to any Person, the Chairman of the Board, the Chief Executive Officer, the President, the Chief Operating Officer, the Chief Financial Officer, the Treasurer, any Assistant Treasurer, the Controller, the Secretary, any Assistant Secretary or any Vice-President of such Person.

"Officers' Certificate" means a certificate signed on behalf of the Company by two Officers of the Company, one of whom must be the principal executive officer, the principal financial officer, the treasurer or the principal accounting officer of the Company, that meets the requirements of Section 12.05 hereof.

"Opinion of Counsel" means an opinion from legal counsel who is reasonably acceptable to the Trustee, that meets the requirements of Section 12.05 hereof. The counsel may be an employee of or counsel to the Company, any Subsidiary of the Company or the Trustee.

"Participant" means, with respect to DTC, Euroclear or Clearstream, a Person who has an account with DTC, Euroclear or Clearstream, respectively (and, with respect to DTC, shall include Euroclear and Clearstream).

"Permitted Investment" means (i) any Investment in the Company or in a Restricted Subsidiary of the Company that is a Guarantor; (ii) any Investment in cash or Cash Equivalents; (iii) any Investment by the Company or any Restricted Subsidiary of the Company in a Person, if as a result of such Investment (A) such Person becomes a Restricted Subsidiary of the Company and a Guarantor or (B) such Person is merged, consolidated or amalgamated with or into, or transfers or conveys substantially all of its assets to, or is liquidated into, the Company or a Restricted Subsidiary of the Company that is a Guarantor; (iv) any Restricted Investment made as a result of the receipt of non-cash consideration from an Asset Sale that was made pursuant to and in compliance with Section 4.10 or any disposition of assets not constituting an Asset sale; (v) any acquisition of assets solely in exchange for the issuance of Equity Interests (other than Disqualified Stock) of the Company; (vi) advances to employees not to exceed $2.5 million at any one time outstanding; (vii) any Investment acquired in connection with or as a result of a workout or bankruptcy of a customer or supplier; (viii) Hedging Obligations permitted to be incurred under Section 4.09; (ix) any Investment in a Similar Business that is not a Restricted Subsidiary; provided that the aggregate fair market value of all Investments outstanding pursuant to this clause (ix) (valued on the date each such Investment was made and without giving effect to subsequent changes in value) may not at any one time exceed 10% of the

Consolidated Tangible Assets of the Company; and (x) other Investments in any Person having an aggregate fair market value (measured on the date each such Investment was made and without giving effect to subsequent changes in value), when taken together with all other Investments made pursuant to this clause (x) that are at the time outstanding, not to exceed $30.0 million.

"Permitted Joint Venture" means any joint venture, partnership or other Person designated by the Board of Directors (until designation by the Board of Directors to the contrary); provided that (i) at least 25% of the Capital Stock thereof with voting power under ordinary circumstances to elect directors (or Persons having similar or corresponding powers and responsibilities) is at the time owned (beneficially or directly) by the Company and/or by one or more Restricted Subsidiaries of the Company and (ii) such joint venture, partnership or other Person is engaged in a Similar Business. Any such designation or designation to the contrary shall be evidenced to the Trustee by promptly filing with the Trustee a copy of the resolution giving effect to such designation and an Officers' Certificate certifying that such designation complied with the foregoing provisions.

"Permitted Junior Securities" means Equity Interests in the Company or debt securities that are subordinated to all Senior Debt (and any debt securities issued in exchange for Senior Debt) to substantially the same extent as, or to a greater extent than, the Notes and the Subsidiary Guarantees are subordinated to Senior Debt pursuant to Article 11 of this Indenture.

"Permitted Liens" means (i) Liens securing Senior Debt of the Company or any Guarantor that was permitted by the terms of this Indenture to be incurred; (ii) Liens in favor of the Company or any Guarantor; (iii) Liens on property of a Person existing at the time such Person is merged into or consolidated with the Company or any Restricted Subsidiary of the Company; provided that such Liens were in existence prior to the contemplation of such merger or consolidation and do not extend to any assets other than those of the Person merged into or consolidated with the Company; (iv) Liens on property existing at the time of acquisition thereof by the Company or any Subsidiary of the Company, provided that such Liens were in existence prior to the contemplation of such acquisition and do not extend to any other assets of the Company or any of its Restricted Subsidiaries; (v) Liens to secure the performance of statutory obligations, surety or appeal bonds, performance bonds or other obligations of a like nature incurred in the ordinary course of business; (vi) Liens to secure Indebtedness (including Capital Lease Obligations) permitted by clause (iv) of the second paragraph of Section 4.09 covering only the assets acquired with such Indebtedness; (vii) Liens existing on the date of this Indenture; (viii) Liens for taxes, assessments or governmental charges or claims that are not yet delinquent or that are being contested in good faith by appropriate proceedings promptly instituted and diligently concluded, provided that any reserve or other appropriate provision as shall be required in conformity with GAAP shall have been made therefor; (ix) Liens incurred in the ordinary course of business of the Company or any Restricted Subsidiary of the Company with respect to obligations that do not exceed $50.0 million at any one time outstanding; (x) Liens on assets of Guarantors to secure Senior Debt of such Guarantors that was permitted by this Indenture to be incurred; (xi) Liens securing Permitted Refinancing Indebtedness, provided that any such Lien does not extend to or cover any property, shares or debt other than the property, shares or debt securing the Indebtedness so refunded, refinanced or extended; (xii) Liens incurred or deposits made to secure the performance of tenders, bids, leases, statutory

obligations, surety and appeal bonds, government contracts, performance and return of money bonds and other obligations of a like nature, in each case incurred in the ordinary course of business (exclusive of obligations for the payment of borrowed money); (xiii) Liens upon specific items of inventory or other goods and proceeds of any Person securing such Person's obligations in respect of bankers' acceptances issued or created for the account of such Person to facilitate the purchase, shipment or storage of such inventory or other goods in the ordinary course of business; (xiv) Liens encumbering customary initial deposits and margin deposits, and other Liens incurred in the ordinary course of business that are within the general parameters customary in the industry, in each case securing Indebtedness under Hedging Obligations; and (xv) Liens encumbering deposits made in the ordinary course of business to secure nondelinquent obligations arising from statutory or regulatory, contractual or warranty requirements of the Company or its Subsidiaries for which a reserve or other appropriate provision, if any, as shall be required by GAAP shall have been made.

"Permitted Refinancing Indebtedness" means any Indebtedness of the Company or any of its Subsidiaries issued in exchange for, or the net proceeds of which are used to extend, refinance, renew, replace, defease or refund other Indebtedness of the Company or any of its Restricted Subsidiaries; provided that: (i) the principal amount (or accreted value, if applicable) of such Permitted Refinancing Indebtedness does not exceed the principal amount of (or accreted value, if applicable), plus accrued interest on, the Indebtedness so extended, refinanced, renewed, replaced, defeased or refunded (plus the amount of reasonable expenses and prepayment premiums incurred in connection therewith); (ii) such Permitted Refinancing Indebtedness has a final maturity date no earlier than the final maturity date of, and has a Weighted Average Life to Maturity equal to or greater than the Weighted Average Life to Maturity of, the Indebtedness being extended, refinanced, renewed, replaced, defeased or refunded; (iii) if the Indebtedness being extended, refinanced, renewed, replaced, defeased or refunded is subordinated in right of payment to the Notes, such Permitted Refinancing Indebtedness is subordinated in right of payment to the Notes on terms at least as favorable to the Holders of Notes as those contained in the documentation governing the Indebtedness being extended, refinanced, renewed, replaced, defeased or refunded; and (iv) such Indebtedness is incurred either by the Company or by the Restricted Subsidiary who is the obligor on the Indebtedness being extended, refinanced, renewed, replaced, defeased or refunded.

"Permitted Securities" means, with respect to any Asset Sale, Voting Stock of a Person primarily engaged in one or more Similar Businesses; provided that after giving effect to the Asset Sale such Person shall become a Restricted Subsidiary and, unless the Asset Sale relates to a Foreign Subsidiary, a Guarantor.

"Person" means any individual, corporation, partnership, joint venture, association, joint-stock company, trust, unincorporated organization or government or agency or political subdivision thereof (including any subdivision or ongoing business of any such entity or substantially all of the assets of any such entity, subdivision or business).

"Principals" means any Lehman Investor, Frank C. Lanza and Robert V. LaPenta.

"Private Placement Legend" means the legend set forth in Section 2.06(g)(i) to be placed on all Notes issued under this Indenture except as otherwise permitted by the provisions of this Indenture.

"Purchase Agreement" means the Purchase Agreement, dated as of June 25, 2002, among the Company, the Guarantors, Lehman Brothers Inc., Banc of America Securities LLC and Credit Suisse First Boston Corporation.

"QIB" means a "qualified institutional buyer" as defined in Rule 144A.

"Registration Rights Agreement" means the Debt Registration Rights Agreement, dated as of the date hereof, by and among the Company and the other parties named on the signature pages thereof, as such agreement may be amended, modified or supplemented from time to time and, with respect to any Additional Notes, one or more registration rights agreements between the Company and the other parties thereto, as such agreement(s) may be amended, modified or supplemented from time to time, relating to rights given by the Company to the purchasers of Additional Notes to register such Additional Notes under the Securities Act.

"Regulation S" means Regulation S promulgated under the Securities Act.

"Regulation S Global Note" means a global Note bearing the Private Placement Legend and deposited with and registered in the name of the Depositary or its nominee that will be issued in a denomination equal to the outstanding principal amount of the Notes sold in reliance on Regulation S.

"Related Party" with respect to any Principal means (i) any controlling stockholder, 50% (or more) owned Subsidiary, or spouse or immediate family member (in the case of an individual) of such Principal or (ii) any trust, corporation, partnership or other entity, the beneficiaries, stockholders, partners, owners or Persons beneficially holding a more than 50% controlling interest of which consist of such Principal and/or such other Persons referred to in the immediately preceding clause (i).

"Representative" means the indenture trustee or other trustee, agent or representative for any Senior Debt.

"Responsible Officer" when used with respect to the Trustee, means any officer within the Corporate Trust Administration of the Trustee (or any successor group of the Trustee) or any other officer of the Trustee customarily performing functions similar to those performed by any of the above designated officers and also means, with respect to a particular corporate trust matter, any other officer to whom such matter is referred because of his knowledge of and familiarity with the particular subject.

"Restricted Definitive Note" means a Definitive Note bearing the Private Placement Legend.

"Restricted Global Notes" means the 144A Global Note, the IAI Global Note and the Regulation S Global Note, each of which shall bear the Private Placement Legend.

"Restricted Investment" means an Investment other than a Permitted Investment.

"Restricted Period" means the 40-day restricted period as defined in Regulation S.

"Restricted Subsidiary" means, with respect to any Person, each Subsidiary of such Person that is not an Unrestricted Subsidiary.

"Rule 144" means Rule 144 under the Securities Act.

"Rule 144A" means Rule 144A under the Securities Act.

"Rule 903" means Rule 903 under the Securities Act.

"Rule 904" means Rule 904 under the Securities Act.

"SEC" means the Securities and Exchange Commission.

"Securities Act" means the Securities Act of 1933, as amended.

"Senior Credit Facilities" means the Second Amended and Restated 364 Day Credit Agreement, dated as of May 16, 2001, as in effect on the date of this Indenture, among the Company, the lenders party thereto, Banc of America, N.A., as administrative agent, and Lehman Commercial Paper Inc., as syndication agent and documentation agent, and the Third Amended and Restated Credit Agreement, dated as of May 16, 2001, as in effect on the date of this Indenture among the Company, the lenders party thereto, Banc of America, N.A., as administrative agent, and Lehman Commercial Paper Inc., as syndication agent and documentation agent, and any related notes, collateral documents, letters of credit and guarantees, including any appendices, exhibits or schedules to any of the foregoing (as the same may be in effect from time to time), in each case, as such agreements may be amended, modified, supplemented or restated from time to time, or refunded, refinanced, restructured, replaced, renewed, repaid or extended from time to time (whether with the original agents and lenders or other agents and lenders or otherwise, and whether provided under the original credit agreement or other credit agreements or otherwise).

"Senior Debt" means (i) all Indebtedness of the Company or any of its Restricted Subsidiaries outstanding under Credit Facilities and all Hedging Obligations with respect thereto, (ii) any other Indebtedness permitted to be incurred by the Company or any of its Restricted Subsidiaries under the terms of the Indenture, unless the instrument under which such Indebtedness is incurred expressly provides that it is on a parity with or subordinated in right of payment to the Notes and (iii) all Obligations with respect to the foregoing. Notwithstanding anything to the contrary in the foregoing, Senior Debt will not include (i) any liability for federal, state, local or other taxes owed or owing by the Company, (ii) any Indebtedness of the Company to any of its Subsidiaries or other Affiliates, (iii) any trade payables or (iv) any Indebtedness that is incurred in violation of the Indenture. The 1997 Notes, the May 1998 Notes, the December 1998 Notes, the 2000 Convertible notes and the 2001 CODES shall be deemed to rank pari pasu with the Notes and shall not constitute Senior Debt.

"Shelf Registration Statement" means the Shelf Registration Statement as defined in the Registration Rights Agreement.

"Significant Subsidiary" means any Subsidiary which is a "significant subsidiary" within the meaning of Rule 405 under the Securities Act.

"Similar Business" means a business, a majority of whose revenues in the most recently ended calendar year were derived from (i) the sale of defense products, electronics, communications systems, aerospace products, avionics products and/or communications products, (ii) any services related thereto, (iii) any business or activity that is reasonably similar thereto or a reasonable extension, development or expansion thereof or ancillary thereto, and (iv) any combination of any of the foregoing.

"Stated Maturity" means, with respect to any installment of interest or principal on any series of Indebtedness, the date on which such payment of interest or principal was scheduled to be paid in the original documentation governing such Indebtedness, and shall not include any contingent obligations to repay, redeem or repurchase any such interest or principal prior to the date originally scheduled for the payment thereof.

"Subsidiary" means, with respect to any Person, (i) any corporation, association or other business entity of which more than 50% of the total voting power of shares of Capital Stock entitled (without regard to the occurrence of any contingency) to vote in the election of directors, managers or trustees thereof is at the time owned or controlled, directly or indirectly, by such Person or one or more of the other Subsidiaries of that Person (or a combination thereof) and (ii) any partnership (A) the sole general partner or the managing general partner of which is such Person or a Subsidiary of such Person or (B) the only general partners of which are such Person or of one or more Subsidiaries of such Person (or any combination thereof).

"S&P" means Standard and Poor's Corporation.

"TIA" means the Trust Indenture Act of 1939 (15 U.S.C. (Sections) 77aaa-77bbbb) as in effect on the date on which this Indenture is qualified under TIA.

"Transaction Documents" means the Indenture, the Notes, the Purchase Agreement and the Registration Rights Agreement.

"Transfer Restricted Securities" means securities that bear or are required to bear the Private Placement Legend set forth in Section 2.06(g)(i) hereof.

"Trustee" means the party named as such above until a successor replaces it in accordance with the applicable provisions of this Indenture and thereafter means the successor serving hereunder.

"Unrestricted Global Note" means one or more Global Notes, in the form of Exhibit A attached hereto, that do not and are not required to bear the Private Placement Legend and are deposited with and registered in the name of the Depositary or its nominee.

"Unrestricted Definitive Note" means one or more Definitive Notes that do not and are not required to bear the Private Placement Legend.

"Unrestricted Subsidiary" means any Subsidiary that is designated by the Board of Directors as an Unrestricted Subsidiary pursuant to a resolution of the Board of Directors, but only to the extent that such Subsidiary: (i) has no Indebtedness other than Non-Recourse Debt; (ii) is not party to any agreement, contract, arrangement or understanding with the Company or any Restricted Subsidiary of the Company unless the terms of any such agreement, contract, arrangement or understanding are no less favorable to the Company or such Restricted Subsidiary than those that might be obtained at the time from Persons who are not Affiliates of the Company; (iii) is a Person with respect to which neither the Company nor any of its Restricted Subsidiaries has any direct or indirect obligation (A) to subscribe for additional Equity Interests or (B) to maintain or preserve such Person's financial condition or to cause such Person to achieve any specified levels of operating results; (iv) has not guaranteed or otherwise directly or indirectly provided credit support for any Indebtedness of the Company or any of its Restricted Subsidiaries; and (v) has at least one director on its board of directors that is not a director or executive officer of the Company or any of its Restricted Subsidiaries. Any such designation by the Board of Directors shall be evidenced to the Trustee by filing with the Trustee a certified copy of a resolution of the Board of Directors giving effect to such designation and an Officers' Certificate certifying that such designation complied with the foregoing conditions and was permitted by Section 4.07. If, at any time, any Unrestricted Subsidiary would fail to meet the foregoing requirements as an Unrestricted Subsidiary, it shall thereafter cease to be an Unrestricted Subsidiary for purposes of this Indenture and any Indebtedness of such Subsidiary shall be deemed to be incurred by a Restricted Subsidiary of the Company as of such date (and, if such Indebtedness is not permitted to be incurred as of such date under Section 4.09, the Company shall be in default of such covenant). The Board of Directors of the Company may at any time designate any Unrestricted Subsidiary to be a Restricted Subsidiary; provided that such designation shall be deemed to be an incurrence of Indebtedness by a Restricted Subsidiary of the Company of any outstanding Indebtedness of such Unrestricted Subsidiary and such designation shall only be permitted if (i) such Indebtedness is permitted under Section 4.09, calculated on a pro forma basis as if such designation had occurred at the beginning of the four-quarter reference period, and (ii) no Default or Event of Default would be in existence following such designation.

"U.S. Person" means a U.S. person as defined in Rule 902(k) under the Securities Act.

"Voting Stock" of any Person as of any date means the Capital Stock of such Person that is at the time entitled to vote in the election of the Board of Directors of such Person.

"Weighted Average Life to Maturity" means, when applied to any Indebtedness at any date, the number of years obtained by dividing (i) the sum of the products obtained by multiplying (A) the amount of each then remaining installment, sinking fund, serial maturity or other required payments of principal, including payment at final maturity, in respect thereof, by (B) the number of years (calculated to the nearest one-twelfth) that will elapse between such date and the making of such payment, by (ii) the then outstanding principal amount of such Indebtedness.

"Wholly Owned" means, when used with respect to any Subsidiary or Restricted Subsidiary of a Person, a Subsidiary (or Restricted Subsidiary, as appropriate) of such Person all of the outstanding Capital Stock or other ownership interests of which (other than directors' qualifying shares) shall at the time be owned by such Person or by one or more Wholly Owned Subsidiaries (or Wholly Owned Restricted Subsidiaries, as appropriate) of such Person and one or more Wholly Owned Subsidiaries (or Wholly Owned Restricted Subsidiaries, as appropriate) of such Person.

Section 1.02 Other Definitions.

Term	Defined in Section
"Affiliate Transaction"	4.11
"Asset Sale Offer"	3.09
"Change of Control Offer"	4.15
"Change of Control Payment"	4.15
"Change of Control Payment Date"	4.15
"Covenant Defeasance"	8.03
"DTC"	2.03
"Event of Default"	6.01
"Excess Proceeds"	4.10
"Global Note Legend"	2.06
"incur"	4.09
"Legal Defeasance"	8.02
"Offer Amount"	3.09
"Offer Period"	3.09
"Paying Agent"	2.03
"Payment Blockage Notice"	11.03
"Permitted Debt"	4.09
"Purchase Date"	3.09
"Registrar"	2.03
"Remaining Excess Proceeds"	4.10
"Restricted Payments"	4.07
"Secondary Asset Sale Offer"	4.10
"Series A Notes"	preamble

Section 1.03 Incorporation by Reference of Trust Indenture Act.

Whenever this Indenture refers to a provision of the TIA, the provision is incorporated by reference in and made a part of this Indenture.

The following TIA terms used in this Indenture have the following meanings:

"indenture securities" means the Notes;

"indenture security Holder" means a Holder of a Note;

"indenture to be qualified" means this Indenture;

"indenture trustee" or "institutional trustee" means the Trustee;

"obligor" on the Notes means the Company and any successor obligor upon the Notes.

All other terms used in this Indenture that are defined by the TIA, defined by TIA reference to another statute or defined by SEC rule under the TIA have the meanings so assigned to them.

Section 1.04 Rules of Construction.

Unless the context otherwise requires:

(1) a term has the meaning assigned to it;

(2) an accounting term not otherwise defined has the meaning assigned to it in accordance with GAAP;

(3) "or" is not exclusive;

(4) words in the singular include the plural, and in the plural include the singular;

(5) provisions apply to successive events and transactions; and

(6) references to sections of or rules under the Securities Act shall be deemed to include substitute, replacement of successor sections or rules adopted by the SEC from time to time.

ARTICLE 2.
THE NOTES

Section 2.01 Form and Dating.

The Notes and the Trustee's certificate of authentication shall be substantially in the form of Exhibit A hereto. The Notes may be issued in the form of Definitive Notes or Global Notes, as specified by the Company. The Notes may have notations, legends or endorsements required by law, stock exchange rule or usage. Each Note shall be dated the date of its authentication. The Notes shall be in denominations of $1,000 and integral multiples thereof.

The terms and provisions contained in the Notes shall constitute, and are hereby expressly made, a part of this Indenture and the Company and the Trustee, by their execution and delivery of this Indenture, expressly agree to such terms and provisions and to be bound thereby. However, to the extent any provision of any Note conflicts with the express provisions of this Indenture, the provisions of this Indenture shall govern and be controlling.

Notes issued in global form shall be substantially in the form of Exhibit A attached hereto (including the Global Note Legend and the "Schedule of Exchanges in the Global Note" attached thereto). Notes issued in definitive form shall be substantially in the form of Exhibit A attached hereto (but without the Global Note Legend and without the "Schedule of Exchanges of Interests in the Global Note" attached thereto). Each Global Note shall represent such of the outstanding Notes as shall be specified therein and each shall provide that it shall represent the aggregate principal amount of outstanding Notes from time to time endorsed thereon and that the aggregate principal amount of outstanding Notes represented thereby may from time to time be reduced or increased, as appropriate, to reflect exchanges and redemptions. Any endorsement of a Global Note to reflect the amount of any increase or decrease in the aggregate principal amount of outstanding Notes represented thereby shall be made by the Trustee or the Note Custodian, at the direction of the Trustee, in accordance with instructions given by the Holder thereof as required by Section 2.06 hereof.

The provisions of the "Operating Procedures of the Euroclear System" and "Terms and Conditions Governing Use of Euroclear" and the "General Terms and Conditions of Clearstream Banking" and "Customer Handbook" of Clearstream shall be applicable to interests in the Regulation S Global Notes that are held by the Agent Members through Euroclear or Clearstream.

Section 2.02 Execution and Authentication.

Two Officers shall sign the Notes for the Company by manual or facsimile signature.

If an Officer whose signature is on a Note no longer holds that office at the time a Note is authenticated, the Note shall nevertheless be valid.

A Note shall not be valid until authenticated by the manual signature of the Trustee. The signature shall be conclusive evidence that the Note has been authenticated under this Indenture.

The Trustee shall, upon a written order of the Company signed by two Officers, authenticate the Initial Notes for original issue up to $750.0 in aggregate principal amount and, upon receipt of an authentication order in accordance with this Section 2.02, at any time and from time to time thereafter, the Trustee shall authenticate Additional Notes and Exchange Notes for original issue in an aggregate principal amount specified in such authentication order.

The Trustee may appoint an authenticating agent acceptable to the Company to authenticate Notes. An authenticating agent may authenticate Notes whenever the Trustee may do so. Each reference in this Indenture to authentication by the Trustee includes authentication by such agent. An authenticating agent has the same rights as an Agent to deal with Holders or an Affiliate of the Company.

Section 2.03 Registrar and Paying Agent.

The Company shall maintain an office or agency where Notes may be presented for registration of transfer or for exchange ("Registrar") and an office or agency where Notes

may be presented for payment ("Paying Agent"). The Registrar shall keep a register of the Notes and of their transfer and exchange. The Company may appoint one or more co-registrars and one or more additional paying agents. The term "Registrar" includes any co-registrar and the term "Paying Agent" includes any additional paying agent. The Company may change any Paying Agent or Registrar without notice to any Holder. The Company shall notify the Trustee in writing of the name and address of any Agent not a party to this Indenture. If the Company fails to appoint or maintain another entity as Registrar or Paying Agent, the Trustee shall act as such. The Company or any of its Subsidiaries may act as Paying Agent or Registrar.

The Company initially appoints The Depository Trust Company ("DTC") to act as Depositary with respect to the Global Notes.

The Company initially appoints the Trustee to act as the Registrar and Paying Agent and to act as Note Custodian with respect to the Global Notes.

Section 2.04 Paying Agent To Hold Money In Trust.

The Company shall require each Paying Agent other than the Trustee to agree in writing that the Paying Agent will hold in trust for the benefit of Holders or the Trustee all money held by the Paying Agent for the payment of principal, premium or Additional Amounts, if any, or interest on the Notes, and will notify the Trustee of any default by the Company in making any such payment. While any such default continues, the Trustee may require a Paying Agent to pay all money held by it to the Trustee. The Company at any time may require a Paying Agent to pay all money held by it to the Trustee. Upon payment over to the Trustee, the Paying Agent (if other than the Company or a Subsidiary) shall have no further liability for the money. If the Company or a Subsidiary acts as Paying Agent, it shall segregate and hold in a separate trust fund for the benefit of the Holders all money held by it as Paying Agent. Upon any bankruptcy or reorganization proceedings relating to the Company, the Trustee shall serve as Paying Agent for the Notes.

Section 2.05 Holder Lists.

The Trustee shall preserve in as current a form as is reasonably practicable the most recent list available to it of the names and addresses of all Holders and shall otherwise comply with TIA (Section) 312(a). If the Trustee is not the Registrar, the Company shall furnish to the Trustee at least five Business Days before each interest payment date and at such other times as the Trustee may request in writing, a list in such form and as of such date as the Trustee may reasonably require of the names and addresses of the Holders of Notes and the Company shall otherwise comply with TIA (Section) 312(a).

Section 2.06 Transfer and Exchange.

(a) Transfer and Exchange of Global Notes. A Global Note may not be transferred as a whole except by the Depositary to a nominee of the Depositary, by a nominee of the Depositary to the Depositary or to another nominee of the Depositary, or by the Depositary or any such nominee to a successor Depositary or a nominee of such successor Depositary. All Global Notes will be exchanged by the Company for Definitive Notes if (i) the Company

delivers to the Trustee notice from the Depositary that it is unwilling or unable to continue to act as Depositary or that it is no longer a clearing agency registered under the Exchange Act and, in either case, a successor Depositary is not appointed by the Company within 120 days after the date of such notice from the Depositary or (ii) the Company in its sole discretion determines that the Global Notes (in whole but not in part) should be exchanged for Definitive Notes and delivers a written notice to such effect to the Trustee. Upon the occurrence of either of the preceding events in (i) or (ii) above, Definitive Notes shall be issued in such names as the Depositary shall instruct the Trustee. Global Notes also may be exchanged or replaced, in whole or in part, as provided in Sections 2.07 and 2.11 hereof. Every Note authenticated and made available for delivery in exchange for, or in lieu of, a Global Note or any portion thereof, pursuant to Section 2.07 or 2.11 hereof, shall be authenticated and made available for delivery in the form of, and shall be, a Global Note. A Global Note may not be exchanged for another Note other than as provided in this Section 2.06(a), however beneficial interests in a Global Note may be transferred and exchanged as provided in Section 2.06(b), (c) or (f) hereof.

(b) Transfer and Exchange of Beneficial Interests in the Global Notes. The transfer and exchange of beneficial interests in the Global Notes shall be effected through the Depositary, in accordance with the provisions of this Indenture and the procedures of the Depositary therefor. Beneficial interests in the Restricted Global Notes shall be subject to restrictions on transfer comparable to those set forth herein to the extent required by the Securities Act. The Trustee shall have no obligation to ascertain the Depositary's compliance with any such restrictions on transfer. Transfers of beneficial interests in the Global Notes also shall require compliance with either subparagraph (i) or (ii) below, as applicable, as well as one or more of the other following subparagraphs as applicable:

(i) Transfer of Beneficial Interests in the Same Global Note. Beneficial interests in any Restricted Global Note may be transferred to Persons who take delivery thereof in the form of a beneficial interest in the same Restricted Global Note in accordance with the transfer restrictions set forth in the Private Placement Legend; provided, however, that prior to the expiration of the Restricted Period transfers of beneficial interests in the Regulation S Global Note may not be made to a U.S. Person or for the account or benefit of a U.S. Person (other than an Initial Purchaser). Beneficial interests in any Unrestricted Global Note may be transferred only to Persons who take delivery thereof in the form of a beneficial interest in an Unrestricted Global Note. No written orders or instructions shall be required to be delivered to the Registrar to effect the transfers described in this Section 2.06(b)(i).

(ii) All Other Transfers and Exchanges of Beneficial Interests in Global Notes. In connection with all transfers and exchanges of beneficial interests (other than transfers of beneficial interests in a Global Note to Persons who take delivery thereof in the form of a beneficial interest in the same Global Note), the transferor of such beneficial interest must deliver to the Registrar either (A)(1) a written order from a Participant or an Indirect Participant given to the Depositary in accordance with the Applicable Procedures directing the Depositary to credit or cause to be credited a beneficial interest in the specified Global Note in an amount equal to the beneficial interest to be transferred or exchanged and (2) instructions given in accordance with the Applicable Procedures containing information regarding the Participant account to be

credited with such increase or (B)(1) a written order from a Participant or an Indirect Participant given to the Depositary in accordance with the Applicable Procedures directing the Depositary to cause to be issued a Definitive Note in an amount equal to the beneficial interest to be transferred or exchanged and (2) instructions given by the Depositary to the Registrar containing information regarding the Person in whose name such Definitive Note shall be registered to effect the transfer or exchange referred to in (1) above. Upon an Exchange Offer by the Company in accordance with Section 2.06(f) hereof, the requirements of this Section 2.06(b)(ii) shall be deemed to have been satisfied upon receipt by the Registrar of the instructions contained in the Letter of Transmittal delivered by the Holder of such beneficial interests in the Restricted Global Notes. Upon satisfaction of all of the requirements for transfer or exchange of beneficial interests in Global Notes contained in this Indenture, the Notes and otherwise applicable under the Securities Act, the Trustee shall adjust the principal amount of the relevant Global Note(s) pursuant to Section 2.06(h) hereof.

(iii) Transfer of Beneficial Interests to Another Restricted Global Note. Beneficial interests in any Restricted Global Note may be transferred to Persons who take delivery thereof in the form of a beneficial interest in another Restricted Global Note if the Registrar receives the following:

(A) if the transferee will take delivery in the form of a beneficial interest in the 144A Global Note, then the transferor must deliver a certificate in the form of Exhibit B hereto, including the certifications in item (1) thereof;

(B) if the transferee will take delivery in the form of a beneficial interest in the Regulation S Global Note, then the transferor must deliver a certificate in the form of Exhibit B hereto, including the certifications in item (2) thereof; and

(C) if the transferee will take delivery in the form of a beneficial interest in the IAI Global Note, then the transferor must deliver (x) a certificate in the form of Exhibit B hereto, including the certifications in item (3) thereof, (y) to the extent required by item 3(d) of Exhibit B hereto, an Opinion of Counsel in form reasonably acceptable to the Company to the effect that such transfer is in compliance with the Securities Act and such beneficial interest is being transferred in compliance with any applicable blue sky securities laws of any State of the United States and (z) if the transfer is being made to an Institutional Accredited Investor and effected pursuant to an exemption from the registration requirements of the Securities Act other than Rule 144A under the Securities Act, Rule 144 under the Securities Act or Rule 904 under the Securities Act, a certificate from the transferee in the form of Exhibit D hereto.

(iv) Transfer and Exchange of Beneficial Interests in a Restricted Global Note for Beneficial Interests in the Unrestricted Global Note. Beneficial interests in any Restricted Global Note may be exchanged by any holder thereof for a beneficial interest in the Unrestricted Global Note or transferred to Persons who take delivery thereof in the form of a beneficial interest in the Unrestricted Global Note if:

(A) such exchange or transfer is effected pursuant to the Exchange Offer in accordance with the Registration Rights Agreement and the holder, in the case of an exchange, or the transferee, in the case of a transfer, is not (1) a broker-dealer, (2) a Person participating in the distribution of the Exchange Notes or (3) a Person who is an affiliate (as defined in Rule 144) of the Company;

(B) any such transfer is effected pursuant to the Shelf Registration Statement in accordance with the Registration Rights Agreement;

(C) any such transfer is effected by a Broker-Dealer pursuant to the Exchange Offer Registration Statement in accordance with the Registration Rights Agreement; or

(D) the Registrar receives the following:

(1) if the holder of such beneficial interest in a Restricted Global Note proposes to exchange such beneficial interest for a beneficial interest in the Unrestricted Global Note, a certificate from such holder in the form of Exhibit C hereto, including the certifications in item (1)(a) thereof;

(2) if the holder of such beneficial interest in a Restricted Global Note proposes to transfer such beneficial interest to a Person who shall take delivery thereof in the form of a beneficial interest in the Unrestricted Global Note, a certificate from such holder in the form of Exhibit B hereto, including the certifications in item (4) thereof;

(3) in each such case set forth in this subparagraph (D), an Opinion of Counsel in form reasonably acceptable to the Registrar to the effect that such exchange or transfer is in compliance with the Securities Act, that the restrictions on transfer contained herein and in the Private Placement Legend are not required in order to maintain compliance with the Securities Act, and such beneficial interest is being exchanged or transferred in compliance with any applicable blue sky securities laws of any State of the United States.

If any such transfer is effected pursuant to subparagraph (B) or (D) above at a time when an Unrestricted Global Note has not yet been issued, the Company shall issue and, upon receipt of an authentication order in accordance with Section 2.02 hereof, the Trustee shall authenticate one or more Unrestricted Global Notes in an aggregate principal amount equal to the principal amount of beneficial interests transferred pursuant to subparagraph (B) or (D) above.

Beneficial interests in an Unrestricted Global Note cannot be exchanged for, or transferred to Persons who take delivery thereof in the form of, a beneficial interest in any Restricted Global Note.

(c) Transfer or Exchange of Beneficial Interests for Definitive Notes.

(i) If any holder of a beneficial interest in a Restricted Global Note proposes to exchange such beneficial interest for a Definitive Note or to transfer such beneficial interest to a Person who takes delivery thereof in the form of a Definitive Note, then, upon receipt by the Registrar of the following documentation (all of which may be submitted by facsimile):

(A) if the holder of such beneficial interest in a Restricted Global Note proposes to exchange such beneficial interest for a Definitive Note, a certificate from such holder in the form of Exhibit C hereto, including the certifications in item (2)(a) thereof;

(B) if such beneficial interest is being transferred to a QIB in accordance with Rule 144A under the Securities Act, a certificate to the effect set forth in Exhibit B hereto, including the certifications in item (1) thereof;

(C) if such beneficial interest is being transferred to a Non-U.S. Person in an offshore transaction in accordance with Rule 904 under the Securities Act, a certificate to the effect set forth in Exhibit B hereto, including the certifications in item (2) thereof;

(D) if such beneficial interest is being transferred pursuant to an exemption from the registration requirements of the Securities Act in accordance with Rule 144 under the Securities Act, a certificate to the effect set forth in Exhibit B hereto, including the certifications in item (3)(a) thereof;

(E) if such beneficial interest is being transferred to an Institutional Accredited Investor in reliance on an exemption from the registration requirements of the Securities Act other than those listed in subparagraphs (B) through (D) above, a certificate to the effect set forth in Exhibit B hereto, including the certifications in item (3)(d) thereof, a certificate from the transferee to the effect set forth in Exhibit D hereof and, to the extent required by item 3(d) of Exhibit B, an Opinion of Counsel from the transferee or the transferor reasonably acceptable to the Company to the effect that such transfer is in compliance with the Securities Act and such beneficial interest is being transferred in compliance with any applicable blue sky securities laws of any State of the United States;

(F) if such beneficial interest is being transferred to the Company or any of its Subsidiaries, a certificate to the effect set forth in Exhibit B hereto, including the certifications in item (3)(b) thereof; or

(G) if such beneficial interest is being transferred pursuant to an effective registration statement under the Securities Act, a certificate to the effect set forth in Exhibit B hereto, including the certifications in item (3)(c) thereof, the Trustee shall cause the aggregate principal amount of the applicable Global Note to be reduced accordingly pursuant to Section 2.06(h) hereof, and the Company shall execute and the Trustee shall authenticate and deliver to the Person

designated in the instructions a Definitive Note in the appropriate principal amount. Definitive Notes issued in exchange for beneficial interests in a Restricted Global Note pursuant to this Section 2.06(c) shall be registered in such names and in such authorized denominations as the holder shall instruct the Registrar through instructions from the Depositary and the Participant or Indirect Participant. The Trustee shall deliver such Definitive Notes to the Persons in whose names such Notes are so registered. Definitive Notes issued in exchange for a beneficial interest in a Restricted Global Note pursuant to this Section 2.06(c)(i) shall bear the Private Placement Legend and shall be subject to all restrictions on transfer contained therein.

(ii) Notwithstanding 2.06(c)(i), a holder of a beneficial interest in a Restricted Global Note may exchange such beneficial interest for an Unrestricted Definitive Note or may transfer such beneficial interest to a Person who takes delivery thereof in the form of an Unrestricted Definitive Note only if:

(A) such exchange or transfer is effected pursuant to the Exchange Offer in accordance with the Registration Rights Agreement and the holder, in the case of an exchange, or the transferee, in the case of a transfer, is not (1) a broker-dealer, (2) a Person participating in the distribution of the Exchange Notes or (3) a Person who is an affiliate (as defined in Rule 144) of the Company;

(B) any such transfer is effected pursuant to the Shelf Registration Statement in accordance with the Registration Rights Agreement;

(C) any such transfer is effected by a Broker-Dealer pursuant to the Exchange Offer Registration Statement in accordance with the Registration Rights Agreement; or

(D) the Registrar receives the following:

(1) if the holder of such beneficial interest in a Restricted Global Note proposes to exchange such beneficial interest for a Definitive Note that does not bear the Private Placement Legend, a certificate from such holder in the form of Exhibit C hereto, including the certifications in item (1)(b) thereof;

(2) if the holder of such beneficial interest in a Restricted Global Note proposes to transfer such beneficial interest to a Person who shall take delivery thereof in the form of a Definitive Note that does not bear the Private Placement Legend, a certificate from such holder in the form of Exhibit B hereto, including the certifications in item (4) thereof; and

(3) in each such case set forth in this subparagraph (D), an Opinion of Counsel in form reasonably acceptable to the Company, to the effect that such exchange or transfer is in compliance with the Securities Act, that the restrictions on transfer contained herein and in the Private

Placement Legend are not required in order to maintain compliance with the Securities Act, and such beneficial interest in a Restricted Global Note is being exchanged or transferred in compliance with any applicable blue sky securities laws of any State of the United States.

(iii) If any holder of a beneficial interest in an Unrestricted Global Note proposes to exchange such beneficial interest for a Definitive Note or to transfer such beneficial interest to a Person who takes delivery thereof in the form of a Definitive Note, then, upon satisfaction of the conditions set forth in Section 2.06(b)(ii), the Trustee shall cause the aggregate principal amount of the applicable Global Note to be reduced accordingly pursuant to Section 2.06(h) hereof, and the Company shall execute and the Trustee shall authenticate and deliver to the Person designated in the instructions a Definitive Note in the appropriate principal amount. Definitive Notes issued in exchange for a beneficial interest pursuant to this Section 2.06(c)(iii) shall be registered in such names and in such authorized denominations as the holder shall instruct the Registrar through instructions from the Depositary and the Participant or Indirect Participant. The Trustee shall deliver such Definitive Notes to the Persons in whose names such Notes are so registered. Definitive Notes issued in exchange for a beneficial interest pursuant to this section 2.06(c)(iii) shall not bear the Private Placement Legend. Beneficial interests in an Unrestricted Global Note cannot be exchanged for a Definitive Note bearing the Private Placement Legend or transferred to a Person who takes delivery thereof in the form of a Definitive Note bearing the Private Placement Legend.

(d) Transfer or Exchange of Definitive Notes for Beneficial Interests.

(i) If any Holder of Restricted Definitive Notes proposes to exchange such Notes for a beneficial interest in a Restricted Global Note or to transfer such Definitive Notes to a Person who takes delivery thereof in the form of a beneficial interest in a Restricted Global Note, then, upon receipt by the Registrar of the following documentation (all of which may be submitted by facsimile):

(A) if the Holder of such Restricted Definitive Notes proposes to exchange such Notes for a beneficial interest in a Restricted Global Note, a certificate from such Holder in the form of Exhibit C hereto, including the certifications in item (2)(b) thereof;

(B) if such Definitive Notes are being transferred to a QIB in accordance with Rule 144A under the Securities Act, a certificate to the effect set forth in Exhibit B hereto, including the certifications in item (1) thereof;

(C) if such Definitive Notes are being transferred to a Non-U.S. Person in an offshore transaction in accordance with Rule 904 under the Securities Act, a certificate to the effect set forth in Exhibit B hereto, including the certifications in item (2) thereof;

(D) if such Definitive Notes are being transferred pursuant to an exemption from the registration requirements of the Securities Act in accordance

with Rule 144 under the Securities Act, a certificate to the effect set forth in Exhibit B hereto, including the certifications in item (3)(a) thereof;

(E) if such Definitive Notes are being transferred to an Institutional Accredited Investor in reliance on an exemption from the registration requirements of the Securities Act other than those listed in subparagraphs (B) through (D) above, a certificate to the effect set forth in Exhibit B hereto, including the certifications in item (3)(d) thereof, a certificate from the transferee to the effect set forth in Exhibit D hereof and, to the extent required by item 3(d) of Exhibit B, an Opinion of Counsel from the transferee or the transferor reasonably acceptable to the Company to the effect that such transfer is in compliance with the Securities Act and such Definitive Notes are being transferred in compliance with any applicable blue sky securities laws of any State of the United States;

(F) if such Definitive Notes are being transferred to the Company or any of its Subsidiaries, a certificate to the effect set forth in Exhibit B hereto, including the certifications in item (3)(b) thereof; or

(G) if such Definitive Notes are being transferred pursuant to an effective registration statement under the Securities Act, a certificate to the effect set forth in Exhibit B hereto, including the certifications in item (3)(c) thereof,

the Trustee shall cancel the Definitive Notes, increase or cause to be increased the aggregate principal amount of, in the case of clause (A) above, the appropriate Restricted Global Note, in the case of clause (B) above, the 144A Global Note, in the case of clause (C) above, the Regulation S Global Note, and in all other cases, the IAI Global Note.

(ii) A Holder of Restricted Definitive Notes may exchange such Notes for a beneficial interest in the Unrestricted Global Note or transfer such Restricted Definitive Notes to a Person who takes delivery thereof in the form of a beneficial interest in the Unrestricted Global Note only if:

(A) such exchange or transfer is effected pursuant to the Exchange Offer in accordance with the Registration Rights Agreement and the Holder, in the case of an exchange, or the transferee, in the case of a transfer, is not (1) a broker-dealer, (2) a Person participating in the distribution of the Exchange Notes or (3) a Person who is an affiliate (as defined in Rule 144) of the Company;

(B) any such transfer is effected pursuant to the Shelf Registration Statement in accordance with the Registration Rights Agreement;

(C) any such transfer is effected by a Broker-Dealer pursuant to the Exchange Offer Registration Statement in accordance with the Registration Rights Agreement; or

(D) the Registrar receives the following:

(1) if the Holder of such Definitive Notes proposes to exchange such Notes for a beneficial interest in the Unrestricted Global Note, a certificate from such Holder in the form of Exhibit C hereto, including the certifications in item (1)(c) thereof;

(2) if the Holder of such Definitive Notes proposes to transfer such Notes to a Person who shall take delivery thereof in the form of a beneficial interest in the Unrestricted Global Note, a certificate from such Holder in the form of Exhibit B hereto, including the certifications in item (4) thereof; and

(3) in each such case set forth in this subparagraph (D), an Opinion of Counsel in form reasonably acceptable to the Company to the effect that such exchange or transfer is in compliance with the Securities Act, that the restrictions on transfer contained herein and in the Private Placement Legend are not required in order to maintain compliance with the Securities Act, and such Definitive Notes are being exchanged or transferred in compliance with any applicable blue sky securities laws of any State of the United States.

Upon satisfaction of the conditions of any of the subparagraphs in this Section 2.06(d)(ii), the Trustee shall cancel the Definitive Notes and increase or cause to be increased the aggregate principal amount of the Unrestricted Global Note.

(iii) A Holder of Unrestricted Definitive Notes may exchange such Notes for a beneficial interest in the Unrestricted Global Note or transfer such Definitive Notes to a Person who takes delivery thereof in the form of a beneficial interest in the Unrestricted Global Note. Upon receipt of a request for such an exchange or transfer, the Trustee shall cancel the Unrestricted Definitive Notes and increase or cause to be increased the aggregate principal amount of the Unrestricted Global Note.

If any such exchange or transfer from a Definitive Note to a beneficial interest is effected pursuant to subparagraphs (ii)(B), (ii)(D) or (iii) above at a time when an Unrestricted Global Note has not yet been issued, the Company shall issue and, upon receipt of an authentication order in accordance with Section 2.02 hereof, the Trustee shall authenticate one or more Unrestricted Global Notes in an aggregate principal amount equal to the principal amount of beneficial interests transferred pursuant to subparagraphs (ii)(B), (ii)(D) or (iii) above.

(e) Transfer and Exchange of Definitive Notes. Upon request by a Holder of Definitive Notes and such Holder's compliance with the provisions of this Section 2.06(e), the Registrar shall register the transfer or exchange of Definitive Notes. Prior to such registration of transfer or exchange, the requesting Holder shall present or surrender to the Registrar the Definitive Notes duly endorsed or accompanied by a written instruction of transfer in form satisfactory to the Registrar duly executed by such Holder or by his attorney, duly authorized in writing. In addition, the requesting Holder shall provide any additional certifications, documents and information, as applicable, pursuant to the provisions of this Section 2.06(e).

(i) Restricted Definitive Notes may be transferred to and registered in the name of Persons who take delivery thereof if the Registrar receives the following:

(A) if the transfer will be made pursuant to Rule 144A under the Securities Act, then the transferor must deliver a certificate in the form of Exhibit B hereto, including the certifications in item (1) thereof;

(B) if the transfer will be made pursuant to Rule 904, then the transferor must deliver a certificate in the form of Exhibit B hereto, including the certifications in item (2) thereof; and

(C) if the transfer will be made pursuant to any other exemption from the registration requirements of the Securities Act, then the transferor must deliver (x) a certificate in the form of Exhibit B hereto, including the certifications in item (3) thereof, (y) to the extent required by item 3(d) of Exhibit B hereto, an Opinion of Counsel in form reasonably acceptable to the Company to the effect that such transfer is in compliance with the Securities Act and such beneficial interest is being transferred in compliance with any applicable blue sky securities laws of any State of the United States and (z) if the transfer is being made to an Institutional Accredited Investor and effected pursuant to an exemption from the registration requirements of the Securities Act other than Rule 144A under the Securities Act, Rule 144 under the Securities Act or Rule 904 under the Securities Act, a certificate from the transferee in the form of Exhibit D hereto.

(ii) Restricted Definitive Notes may be exchanged by any Holder thereof for an Unrestricted Definitive Note or transferred to Persons who take delivery thereof in the form of an Unrestricted Definitive Note if:

(A) such exchange or transfer is effected pursuant to the Exchange Offer in accordance with the Registration Rights Agreement and the holder, in the case of an exchange, or the transferee, in the case of a transfer, is not (1) a broker-dealer, (2) a Person participating in the distribution of the Exchange Notes or (3) a Person who is an affiliate (as defined in Rule 144) of the Company;

(B) any such transfer is effected pursuant to the Shelf Registration Statement in accordance with the Registration Rights Agreement;

(C) any such transfer is effected by a Broker-Dealer pursuant to the Exchange Offer Registration Statement in accordance with the Registration Rights Agreement; or

(D) the Registrar receives the following:

(1) if the Holder of such Restricted Definitive Notes proposes to exchange such Notes for an Unrestricted Definitive Note, a certificate from such Holder in the form of Exhibit C hereto, including the certifications in item (1)(a) thereof;

(2) if the Holder of such Restricted Definitive Notes proposes to transfer such Notes to a Person who shall take delivery thereof in the form of an Unrestricted Definitive Note, a certificate from such Holder in the form of Exhibit B hereto, including the certifications in item (4) thereof; and

(3) in each such case set forth in this subparagraph (D), an Opinion of Counsel in form reasonably acceptable to the Company to the effect that such exchange or transfer is in compliance with the Securities Act, that the restrictions on transfer contained herein and in the Private Placement Legend are not required in order to maintain compliance with the Securities Act, and such Restricted Definitive Note is being exchanged or transferred in compliance with any applicable blue sky securities laws of any State of the United States.

(iii) A Holder of Unrestricted Definitive Notes may transfer such Notes to a Person who takes delivery thereof in the form of an Unrestricted Definitive Note. Upon receipt of a request for such a transfer, the Registrar shall register the Unrestricted Definitive Notes pursuant to the instructions from the Holder thereof. Unrestricted Definitive Notes cannot be exchanged for or transferred to Persons who take delivery thereof in the form of a Restricted Definitive Note.

(f) Exchange Offer. Upon the occurrence of the Exchange Offer in accordance with the Registration Rights Agreement, the Company shall issue and, upon receipt of an authentication order in accordance with Section 2.02, the Trustee shall authenticate (i) one or more Unrestricted Global Notes in an aggregate principal amount equal to the principal amount of the beneficial interests in the Restricted Global Notes tendered for acceptance by persons that are not (x) broker-dealers, (y) Persons participating in the distribution of the Exchange Notes or (z) Persons who are affiliates (as defined in Rule 144) of the Company and accepted for exchange in the exchange Offer and (ii) Definitive Notes in an aggregate principal amount equal to the principal amount of the Restricted Definitive Notes accepted for exchange in the Exchange Offer. Concurrent with the issuance of such Notes, the Trustee shall cause the aggregate principal amount of the applicable Restricted Global Notes to be reduced accordingly, and the Company shall execute and the Trustee shall authenticate and make available for delivery to the Persons designated by the Holders of Definitive Notes so accepted Definitive Notes in the appropriate principal amount.

(g) Legends. The following legends shall appear on the face of all Global Notes and Definitive Notes issued under this Indenture unless specifically stated otherwise in the applicable provisions of this Indenture.

(i) Private Placement Legend.

(A) Except as permitted by subparagraph (B) below, each Global Note and each Definitive Note (and all Notes issued in exchange therefor or substitution thereof) shall bear the legend in substantially the following form:

"THE SECURITY (OR ITS PREDECESSOR) EVIDENCED HEREBY WAS ORIGINALLY ISSUED IN A TRANSACTION EXEMPT FROM REGISTRATION UNDER SECTION 5 OF THE UNITED STATES SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND THE SECURITY EVIDENCED HEREBY MAY NOT BE OFFERED, SOLD OR OTHERWISE TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION OR AN APPLICABLE EXEMPTION THEREFROM. EACH PURCHASER OF THE SECURITY EVIDENCED HEREBY IS HEREBY NOTIFIED THAT THE SELLER MAY BE RELYING ON THE EXEMPTION FROM THE PROVISION OF SECTION 5 OF THE SECURITIES ACT PROVIDED BY RULE 144A THEREUNDER. THE HOLDER OF THE SECURITY EVIDENCED HEREBY AGREES FOR THE BENEFIT OF L-3 COMMUNICATIONS CORPORATION THAT (A) SUCH SECURITY MAY BE RESOLD, PLEDGED OR OTHERWISE TRANSFERRED, ONLY (1)(a) TO A PERSON WHO THE SELLER REASONABLY BELIEVES IS A QUALIFIED INSTITUTIONAL BUYER (AS DEFINED IN RULE 144A UNDER THE SECURITIES ACT) IN A TRANSACTION MEETING THE REQUIREMENTS OF RULE 144A, (b) IN A TRANSACTION MEETING THE REQUIREMENTS OF RULE 144 UNDER THE SECURITIES ACT, (c) OUTSIDE THE UNITED STATES TO A FOREIGN PERSON IN A TRANSACTION MEETING THE REQUIREMENTS OF RULE 904 UNDER THE SECURITIES ACT OR (d) IN ACCORDANCE WITH ANOTHER EXEMPTION FROM THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT (AND BASED UPON AN OPINION OF COUNSEL IF L-3 COMMUNICATIONS CORPORATION SO REQUESTS), (2) TO L-3 COMMUNICATION CORPORATION OR (3) PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT AND, IN EACH CASE, IN ACCORDANCE WITH ANY APPLICABLE SECURITIES LAWS OF ANY STATE OF THE UNITED STATES OR ANY OTHER APPLICABLE JURISDICTION AND (B) THE HOLDER WILL, AND EACH SUBSEQUENT HOLDER IS REQUIRED TO, NOTIFY ANY PURCHASER FROM IT OF THE SECURITY EVIDENCED HEREBY OF THE RESALE RESTRICTIONS SET FORTH IN (A) ABOVE."

(B) Notwithstanding the foregoing, any Global Note or Definitive Note issued pursuant to subparagraphs (b)(iv), (c)(ii), (c)(iii), (d)(ii), (d)(iii), (e)(ii), (e)(iii) or (f) to this Section 2.06 (and all Notes issued in exchange therefor or substitution thereof) shall not bear the Private Placement Legend.

(ii) Global Note Legend. Each Global Note shall bear a legend in substantially the following form:

"THIS GLOBAL NOTE IS HELD BY THE DEPOSITARY (AS DEFINED IN THE INDENTURE GOVERNING THIS NOTE) OR ITS NOMINEE IN CUSTODY FOR THE BENEFIT OF THE BENEFICIAL OWNERS HEREOF, AND IS NOT TRANSFERABLE TO ANY PERSON UNDER ANY CIRCUMSTANCES EXCEPT THAT (I) THE TRUSTEE MAY MAKE SUCH NOTATIONS HEREON AS MAY BE REQUIRED PURSUANT TO SECTION 2.07 OF THE INDENTURE, (II) THIS GLOBAL NOTE MAY BE EXCHANGED IN WHOLE BUT NOT IN PART PURSUANT TO SECTION 2.06(a) OF THE INDENTURE, (III) THIS GLOBAL NOTE

MAY BE DELIVERED TO THE TRUSTEE FOR CANCELLATION PURSUANT TO SECTION 2.11 OF THE INDENTURE AND (IV) THIS GLOBAL NOTE MAY BE TRANSFERRED TO A SUCCESSOR DEPOSITARY WITH THE PRIOR WRITTEN CONSENT OF THE COMPANY."

(h) Cancellation and/or Adjustment of Global Notes. At such time as all beneficial interests in a particular Global Note have been exchanged for Definitive Notes or a particular Global Note has been redeemed, repurchased or canceled in whole and not in part, each such Global Note shall be returned to or retained and canceled by the Trustee in accordance with Section 2.11 hereof. At any time prior to such cancellation, if any beneficial interest in a Global Note is exchanged for or transferred to a Person who will take delivery thereof in the form of a beneficial interest in another Global Note or for Definitive Notes, the principal amount of Notes represented by such Global Note shall be reduced accordingly and an endorsement shall be made on such Global Note, by the Trustee or by the Depositary at the direction of the Trustee, to reflect such reduction; and if the beneficial interest is being exchanged for or transferred to a Person who will take delivery thereof in the form of a beneficial interest in another Global Note, such other Global Note shall be increased accordingly and an endorsement shall be made on such Global Note, by the Trustee or by the Depositary at the direction of the Trustee, to reflect such increase.

(i) General Provisions Relating to Transfers and Exchanges.

(i) To permit registrations of transfers and exchanges, the Company shall execute and the Trustee shall authenticate Global Notes and Definitive Notes upon the Company's order or at the Registrar's request.

(ii) No service charge shall be made to a holder of a beneficial interest in a Global Note or to a Holder of a Definitive Note for any registration of transfer or exchange, but the Company may require payment of a sum sufficient to cover any transfer tax or similar governmental charge payable in connection therewith (other than any such transfer taxes or similar governmental charge payable upon exchange or transfer pursuant to Sections 2.10, 3.06, 4.10, 4.15 and 9.05 hereof).

(iii) The Registrar shall not be required to register the transfer of or exchange any Note selected for redemption in whole or in part, except the unredeemed portion of any Note being redeemed in part.

(iv) All Global Notes and Definitive Notes issued upon any registration of transfer or exchange of Global Notes or Definitive Notes shall be the valid obligations of the Company, evidencing the same debt, and entitled to the same benefits under this Indenture, as the Global Notes or Definitive Notes surrendered upon such registration of transfer or exchange.

(v) The Company shall not be required (A) to issue, to register the transfer of or to exchange Notes during a period beginning at the opening of business 15 days before the day of any selection of Notes for redemption under Section 3.02 hereof and ending at the close of business on the day of selection, (B) to register the transfer of or to exchange

any Note so selected for redemption in whole or in part, except the unredeemed portion of any Note being redeemed in part or (C) to register the transfer of or to exchange a Note between a record date and the next succeeding interest payment date.

(vi) Prior to due presentment for the registration of a transfer of any Note, the Trustee, any Agent and the Company may deem and treat the Person in whose name any Note is registered as the absolute owner of such Note for the purpose of receiving payment of principal of and interest on such Notes and for all other purposes, and none of the Trustee, any Agent or the Company shall be affected by notice to the contrary.

(vii) The Trustee shall authenticate Global Notes and Definitive Notes in accordance with the provisions of Section 2.02 hereof.

Section 2.07 Replacement Notes.

If any mutilated Note is surrendered to the Trustee, or the Company and the Trustee receives evidence to its satisfaction of the destruction, loss or theft of any Note, the Company shall issue and the Trustee, upon the written order of the Company signed by two Officers of the Company, shall authenticate a replacement Note if the Trustee's requirements are met. If required by the Trustee or the Company, an indemnity bond must be supplied by the Holder that is sufficient in the judgment of the Trustee and the Company to protect the Company, the Trustee, any Agent and any authenticating agent from any loss that any of them may suffer if a Note is replaced. The Company may charge for its expenses in replacing a Note.

Every replacement Note is an additional obligation of the Company and shall be entitled to all of the benefits of this Indenture equally and proportionately with all other Notes duly issued hereunder.

Section 2.08 Outstanding Notes.

The Notes outstanding at any time are all the Notes authenticated by the Trustee except for those canceled by it, those delivered to it for cancellation, those reductions in the interest in a Global Note effected by the Trustee in accordance with the provisions hereof, and those described in this Section as not outstanding. Except as set forth in Section 2.09 hereof, a Note does not cease to be outstanding because the Company or an Affiliate of the Company holds the Note.

If a Note is replaced pursuant to Section 2.07 hereof, it ceases to be outstanding unless the Trustee receives proof satisfactory to it that the replaced Note is held by a bona fide purchaser.

If the principal amount of any Note is considered paid under Section 4.01 hereof, it ceases to be outstanding and interest on it ceases to accrue.

If the Paying Agent (other than the Company, a Subsidiary or an Affiliate of any thereof) holds, on a redemption date or maturity date, money sufficient to pay Notes payable on that date, then on and after that date such Notes shall be deemed to be no longer outstanding and shall cease to accrue interest.

Section 2.09 Treasury Notes.

In determining whether the Holders of the required principal amount of Notes have concurred in any direction, waiver or consent, Notes owned by the Company, or by any Person directly or indirectly controlling or controlled by or under direct or indirect common control with the Company, shall be considered as though not outstanding, except that for the purposes of determining whether the Trustee shall be protected in relying on any such direction, waiver or consent, only Notes that a Trustee knows are so owned shall be so disregarded.

Section 2.10 Temporary Notes.

Until Definitive Notes are ready for delivery, the Company may prepare and the Trustee shall authenticate temporary Notes upon a written order of the Company signed by two Officers of the Company. Temporary Notes shall be substantially in the form of Definitive Notes but may have variations that the Company considers appropriate for temporary Notes and as shall be reasonably acceptable to the Trustee. Without unreasonable delay, the Company shall prepare and the Trustee shall authenticate Definitive Notes in exchange for temporary Notes.

Holders of temporary Notes shall be entitled to all of the benefits of this Indenture.

Section 2.11 Cancellation.

The Company at any time may deliver Notes to the Trustee for cancellation. The Registrar and Paying Agent shall forward to the Trustee any Notes surrendered to them for registration of transfer, exchange or payment. The Trustee and no one else shall cancel all Notes surrendered for registration of transfer, exchange, payment, replacement or cancellation and shall destroy canceled Notes (subject to the record retention requirement of the Exchange Act). Certification of the destruction of all canceled Notes shall be delivered to the Company. The Company may not issue new Notes to replace Notes that it has paid or that have been delivered to the Trustee for cancellation.

Section 2.12 Defaulted Interest.

If the Company defaults in a payment of interest on the Notes, it shall pay the defaulted interest in any lawful manner plus, to the extent lawful, interest payable on the defaulted interest, to the Persons who are Holders on a subsequent special record date, in each case at the rate provided in the Notes and in Section 4.01 hereof. The Company shall notify the Trustee in writing of the amount of defaulted interest proposed to be paid on each Note and the date of the proposed payment. The Company shall fix or cause to be fixed each such special record date and payment date, provided that no such special record date shall be less than 10 days prior to the related payment date for such defaulted interest. At least 15 days before the special record date, the Company (or, upon the written request of the Company, the Trustee in the name and at the expense of the Company) shall mail or cause to be mailed to Holders a notice that states the special record date, the related payment date and the amount of such interest to be paid.

Section 2.13 CUSIP Numbers.

The Company in issuing the Notes may use CUSIP numbers (if then generally in use), and, if so, the Trustee shall use CUSIP numbers in notices of redemption as a convenience to Holders; provided that any such notice may state that no representation is made as to the correctness of such numbers either as printed on the Notes or as contained in any notice of a redemption and that reliance may be placed only on the other identification numbers printed on the Notes, and any such redemption shall not be affected by any defect in or omission of such numbers. The Company will promptly notify the Trustee of any change in the CUSIP numbers.

ARTICLE 3.
REDEMPTION AND PREPAYMENT

Section 3.01 Notices to Trustee.

If the Company elects to redeem Notes pursuant to the optional redemption provisions of Section 3.07 hereof, it shall furnish to the Trustee, at least 30 days but not more than 60 days before a redemption date, an Officers' Certificate setting forth (i) the clause of this Indenture pursuant to which the redemption shall occur, (ii) the redemption date, (iii) the principal amount of Notes to be redeemed and (iv) the redemption price.

Section 3.02 Selection of Notes to Be Redeemed.

If less than all of the Notes are to be redeemed at any time, selection of Notes for redemption shall be made by the Trustee in compliance with the requirements of the principal national securities exchange, if any, on which the Notes are listed, or, if the Notes are not so listed, on a pro rata basis, by lot or by such method as the Trustee shall deem fair and appropriate; provided that no Notes of $1,000 or less shall be redeemed in part. Notices of redemption shall be mailed by first class mail at least 30 but not more than 60 days before the redemption date to each Holder of Notes to be redeemed at its registered address. Notices of redemption may not be conditional. If any Note is to be redeemed in part only, the notice of redemption that relates to such Note shall state the portion of the principal amount thereof to be redeemed. A new Note in principal amount equal to the unredeemed portion thereof shall be issued in the name of the Holder thereof upon cancellation of the original Note. Notes called for redemption become due on the date fixed for redemption. On and after the redemption date, interest ceases to accrue on Notes or portions of them called for redemption.

The Trustee shall promptly notify the Company in writing of the Notes selected for redemption and, in the case of any Note selected for partial redemption, the principal amount thereof to be redeemed. Notes and portions of Notes selected shall be in amounts of $1,000 or whole multiples of $1,000; except that if all of the Notes of a Holder are to be redeemed, the entire outstanding amount of Notes held by such Holder, even if not a multiple of $1,000, shall be redeemed. Except as provided in the preceding sentence, provisions of this Indenture that apply to Notes called for redemption also apply to portions of Notes called for redemption.

Section 3.03 Notice Of Redemption.

Subject to the provisions of Section 3.09 hereof, at least 30 days but not more than 60 days before a redemption date, the Company shall mail or cause to be mailed, by first class mail, a notice of redemption to each Holder whose Notes are to be redeemed at its registered address.

The notice shall identify the Notes to be redeemed (including CUSIP Numbers, if any) and shall state:

(a) the redemption date;

(b) the redemption price;

(c) if any Note is being redeemed in part, the portion of the principal amount of such Note to be redeemed and that, after the redemption date upon surrender of such Note, a new Note or Notes in principal amount equal to the unredeemed portion shall be issued upon cancellation of the original Note;

(d) the name and address of the Paying Agent;

(e) that Notes called for redemption must be surrendered to the Paying Agent to collect the redemption price;

(f) that, unless the Company defaults in making such redemption payment, interest on Notes called for redemption ceases to accrue on and after the redemption date;

(g) the paragraph of the Notes and/or Section of this Indenture pursuant to which the Notes called for redemption are being redeemed; and

(h) that no representation is made as to the correctness or accuracy of the CUSIP number, if any, listed in such notice or printed on the Notes.

At the Company's request, the Trustee shall give the notice of redemption in the Company's name and at its expense; provided, however, that the Company shall have delivered to the Trustee, at least 45 days prior to the redemption date, an Officers' Certificate requesting that the Trustee give such notice and setting forth the information to be stated in such notice as provided in the preceding paragraph.

Section 3.04 Effect Of Notice Of Redemption.

Once notice of redemption is mailed in accordance with Section 3.03 hereof, Notes called for redemption become irrevocably due and payable on the redemption date at the redemption price. A notice of redemption may not be conditional.

Section 3.05 Deposit Of Redemption Price.

Prior to 11:00 a.m. on the Business Day prior to the redemption date, the Company shall deposit with the Trustee or with the Paying Agent money sufficient to pay the redemption price of and accrued interest on all Notes to be redeemed on that date. The Trustee or the Paying Agent shall promptly return to the Company any money deposited with the Trustee or the Paying Agent by the Company in excess of the amounts necessary to pay the redemption price of, and accrued interest on, all Notes to be redeemed.

If the Company complies with the provisions of the preceding paragraph, on and after the redemption date, interest shall cease to accrue on the Notes or the portions of Notes called for redemption. If a Note is redeemed on or after an interest record date but on or prior to the related interest payment date, then any accrued and unpaid interest shall be paid to the Person in whose name such Note was registered at the close of business on such record date. If any Note called for redemption shall not be so paid upon surrender for redemption because of the failure of the Company to comply with the preceding paragraph, interest shall be paid on the unpaid principal, from the redemption date until such principal is paid, and to the extent lawful on any interest not paid on such unpaid principal, in each case at the rate provided in the Notes and in Section 4.01 hereof.

Section 3.06 Notes Redeemed In Part.

Upon surrender of a Note that is redeemed in part, the Company shall issue and, upon the Company's written request, the Trustee shall authenticate for the Holder at the expense of the Company a new Note equal in principal amount to the unredeemed portion of the Note surrendered.

Section 3.07 Optional Redemption.

(a) Except as set forth in clause (b) of this Section 3.7, the Notes shall not be redeemable at the Company's option prior to June 15, 2007. Thereafter, the Notes shall be subject to redemption at any time at the option of the Company, in whole or in part, upon not less than 30 nor more than 60 days' notice, at the redemption prices (expressed as percentages of principal amount) set forth below plus accrued and unpaid interest and Additional Amounts thereon, if any, to the applicable redemption date, if redeemed during the twelve-month period beginning on June 15 of the years indicated below:

Year	Percentage
2007.....	103.813%
2008.....	102.542%
2009.....	101.271%
2010 and thereafter.....	100.000%

(b) Notwithstanding the foregoing clause (a), before June 15, 2005, the Company may on any one or more occasions redeem up to an aggregate of 35% of the Notes originally issued at a redemption price of 107.625% of the principal amount thereof, plus accrued and unpaid interest and Additional Amounts thereon, if any, to the redemption date, with the net

cash proceeds of one or more Equity Offerings by the Company or the net cash proceeds of one or more Equity Offerings by Holdings that are contributed to the Company as common equity capital; provided that at least 65% of the Notes originally issued remain outstanding immediately after the occurrence of each such redemption; and provided, further, that any such redemption must occur within 120 days of the date of the closing of such Equity Offering.

Section 3.08 Mandatory Redemption.

Except as set forth under Sections 4.10 and 4.15, the Company is not required to make mandatory redemption or sinking fund payments with respect to the Notes.

Section 3.09 Offer To Purchase By Application Of Excess Proceeds.

In the event that, pursuant to Section 4.10 hereof, the Company shall be required to commence an offer to all Holders to purchase Notes (an "Asset Sale Offer"), it shall follow the procedures specified below.

The Asset Sale Offer shall remain open for a period of 20 Business Days following its commencement and no longer, except to the extent that a longer period is required by applicable law (the "Offer Period"). No later than five Business Days after the termination of the Offer Period (the "Purchase Date"), the Company shall purchase the principal amount of Notes required to be purchased pursuant to Section 4.10 hereof (the "Offer Amount") or, if less than the Offer Amount has been tendered, all Notes tendered in response to the Asset Sale Offer. Payment for any Notes so purchased shall be made in the same manner as interest payments are made.

If the Purchase Date is on or after an interest record date and on or before the related interest payment date, any accrued and unpaid interest shall be paid to the Person in whose name a Note is registered at the close of business on such record date, and no additional interest shall be payable to Holders who tender Notes pursuant to the Asset Sale Offer.

Upon the commencement of an Asset Sale Offer, the Company shall send, by first class mail, a notice to the Trustee and each of the Holders, with a copy to the Trustee. The notice shall contain all instructions and materials necessary to enable such Holders to tender Notes pursuant to the Asset Sale Offer. The Asset Sale Offer shall be made to all Holders. The notice, which shall govern the terms of the Asset Sale Offer, shall state:

(a) that the Asset Sale Offer is being made pursuant to this Section 3.09 and Section 4.10 hereof and the length of time the Asset Sale Offer shall remain open;

(b) the Offer Amount, the purchase price and the Purchase Date;

(c) that any Note not tendered or accepted for payment shall continue to accrete or accrue interest;

(d) that, unless the Company defaults in making such payment, any Note accepted for payment pursuant to the Asset Sale Offer shall cease to accrete or accrue interest after the Purchase Date;

(e) that Holders electing to have a Note purchased pursuant to an Asset Sale Offer may only elect to have all of such Note purchased and may not elect to have only a portion of such Note purchased;

(f) that Holders electing to have a Note purchased pursuant to any Asset Sale Offer shall be required to surrender the Note, with the form entitled "Option of Holder to Elect Purchase" on the reverse of the Note completed, or transfer by book-entry transfer, to the Company, a depositary, if appointed by the Company, or a Paying Agent at the address specified in the notice at least three days before the Purchase Date;

(g) that Holders shall be entitled to withdraw their election if the Company, the Depositary or the Paying Agent, as the case may be, receives, not later than the expiration of the Offer Period, a facsimile transmission or letter setting forth the name of the Holder, the principal amount of the Note the Holder delivered for purchase and a statement that such Holder is withdrawing his election to have such Note purchased;

(h) that, if the aggregate principal amount of Notes surrendered by Holders exceeds the Offer Amount, the Company shall select the Notes to be purchased on a pro rata basis (with such adjustments as may be deemed appropriate by the Company so that only Notes in denominations of $1,000, or integral multiples thereof, shall be purchased); and

(i) that Holders whose Notes were purchased only in part shall be issued new Notes equal in principal amount to the unpurchased portion of the Notes surrendered (or transferred by book-entry transfer).

On or before the Purchase Date, the Company shall, to the extent lawful, accept for payment, on a pro rata basis to the extent necessary, the Offer Amount of Notes or portions thereof tendered pursuant to the Asset Sale Offer, or if less than the Offer Amount has been tendered, all Notes tendered, and shall deliver to the Trustee an Officers' Certificate stating that such Notes or portions thereof were accepted for payment by the Company in accordance with the terms of this Section 3.09. The Company, the Depositary or the Paying Agent, as the case may be, shall promptly (but in any case not later than five days after the Purchase Date) mail or deliver to each tendering Holder an amount equal to the purchase price of the Notes tendered by such Holder and accepted by the Company for purchase, and the Company shall promptly issue a new Note, and the Trustee, upon written request from the Company shall authenticate and mail or deliver such new Note to such Holder, in a principal amount equal to any unpurchased portion of the Note surrendered. Any Note not so accepted shall be promptly mailed or delivered by the Company to the Holder thereof. The Company shall publicly announce the results of the Asset Sale Offer on the Purchase Date.

Other than as specifically provided in this Section 3.09, any purchase pursuant to this Section 3.09 shall be made pursuant to the provisions of Sections 3.01 through 3.06 hereof.

ARTICLE 4.
COVENANTS

Section 4.01 Payment Of Notes.

The Company shall pay or cause to be paid the principal of, premium, if any, and interest on the Notes on the dates and in the manner provided in the Notes. Principal, premium, if any, and interest shall be considered paid on the date due if the Paying Agent, if other than the Company or a Subsidiary thereof, holds as of 10:00 a.m. Eastern Time on the due date money deposited by the Company in immediately available funds and designated for and sufficient to pay all principal, premium, if any, and interest then due. The Company shall pay all Additional Amounts, if any, in the same manner on the dates and in the amounts set forth in the Registration Rights Agreement.

The Company shall pay interest (including post-petition interest in any proceeding under any Bankruptcy Law) on overdue principal at the rate equal to 1.0% per annum in excess of the then applicable interest rate on the Notes to the extent lawful; it shall pay interest (including post-petition interest in any proceeding under any Bankruptcy Law) on overdue installments of interest and Additional Amounts (without regard to any applicable grace period) at the same rate to the extent lawful.

Section 4.02 Maintenance Of Office Or Agency.

The Company shall maintain in the Borough of Manhattan, The City of New York, an office or agency (which may be an office of the Trustee or an affiliate of the Trustee, Registrar or co-registrar) where Notes may be surrendered for registration of transfer or for exchange and where notices and demands to or upon the Company in respect of the Notes and this Indenture may be served. The Company shall give prompt written notice to the Trustee of the location, and any change in the location, of such office or agency. If at any time the Company shall fail to maintain any such required office or agency or shall fail to furnish the Trustee with the address thereof, such presentations, surrenders, notices and demands may be made or served at the Corporate Trust Office of the Trustee.

The Company may also from time to time designate one or more other offices or agencies where the Notes may be presented or surrendered for any or all such purposes and may from time to time rescind such designations; provided, however, that no such designation or rescission shall in any manner relieve the Company of its obligation to maintain an office or agency in the Borough of Manhattan, The City of New York for such purposes. The Company shall give prompt written notice to the Trustee of any such designation or rescission and of any change in the location of any such other office or agency.

The Company hereby designates the Corporate Trust Office of the Trustee as one such office or agency of the Company in accordance with Section 2.03.

Section 4.03 Reports.

Notwithstanding that the Company may not be subject to the reporting requirements of Section 13 or 15(d) of the Exchange Act or otherwise report on an annual and

quarterly basis on forms provided for such annual and quarterly reporting pursuant to rules and regulations promulgated by the SEC, the Company shall file with the SEC (and provide the Trustee and Holders with copies thereof), without cost to each Holder, within 15 days after it files them with the SEC:

(a) within 90 days after the end of each fiscal year, annual reports on Form 10-K (or any successor or comparable form) containing the information required to be contained therein (or required in such successor or comparable form);

(b) within 45 days after the end of each of the first three fiscal quarters of each fiscal year, reports on Form 10-Q (or any successor or comparable form);

(c) promptly from time to time after the occurrence of an event required to be therein reported, such other reports on Form 8-K (or any successor or comparable form); and

(d) any other information, documents and other reports which the Company would be required to file with the SEC if it were subject to Section 13 or 15(d) of the Exchange Act; provided, however, the Company shall not be so obligated to file such reports with the SEC if the SEC does not permit such filing, in which event the Company will make available such information to prospective purchasers of Notes, in addition to providing such information to the Trustee and the Holders, in each case within 15 days after the time the Company would be required to file such information with the SEC, if it were subject to Sections 13 or 15(d) of the Exchange Act.

Subject to the provisions of Article 7, delivery of such reports, information and documents to the Trustee is for informational purposes only and the Trustee's receipt of such shall not constitute constructive notice of any information contained therein or determinable from information contained therein, including the Company's compliance with any of its covenants hereunder (as to which the Trustee is entitled to rely exclusively on Officers' Certificates).

Section 4.04 Compliance Certificate.

(a) The Company shall deliver to the Trustee, within 90 days after the end of each fiscal year, an Officers' Certificate stating that a review of the activities of the Company and its Subsidiaries during the preceding fiscal year has been made under the supervision of the signing Officers with a view to determining whether the Company has kept, observed, performed and fulfilled its obligations under this Indenture, and further stating, as to each such Officer signing such certificate, that to the best of his or her knowledge the Company has kept, observed, performed and fulfilled each and every covenant contained in this Indenture and is not in default in the performance or observance of any of the terms, provisions and conditions of this Indenture (or, if a Default or Event of Default shall have occurred, describing all such Defaults or Events of Default of which he or she may have knowledge and what action the Company is taking or proposes to take with respect thereto) and that to the best of his or her knowledge no event has occurred and remains in existence by reason of which payments on account of the principal of or

interest, if any, on the Notes is prohibited or if such event has occurred, a description of the event and what action the Company is taking or proposes to take with respect thereto.

(b) So long as not contrary to the then current recommendations of the American Institute of Certified Public Accountants, the year-end financial statements delivered pursuant to Section 4.03(a) above shall be accompanied by a written statement of the Company's independent public accountants (who shall be a firm of established national reputation) that in making the examination necessary for certification of such financial statements, nothing has come to their attention that would lead them to believe that the Company has violated any provisions of Article 4 or Article 5 hereof or, if any such violation has occurred, specifying the nature and period of existence thereof, it being understood that such accountants shall not be liable directly or indirectly to any Person for any failure to obtain knowledge of any such violation.

(c) The Company shall, so long as any of the Notes are outstanding, deliver to the Trustee, as soon as possible and in any event within five Business Days after any Officer becoming aware of any Default or Event of Default, an Officers' Certificate specifying such Default or Event of Default and what action the Company is taking or proposes to take with respect thereto.

Section 4.05 Taxes.

The Company shall pay, and shall cause each of its Subsidiaries to pay, prior to delinquency, all material taxes, assessments, and governmental levies except such as are contested in good faith and by appropriate proceedings or where the failure to effect such payment is not adverse in any material respect to the Holders of the Notes.

Section 4.06 [Intentionally Omitted]

Section 4.07 Restricted Payments.

The Company shall not, and shall not permit any of its Restricted Subsidiaries to, directly or indirectly: (i) declare or pay any dividend or make any other payment or distribution on account of the Company's or any of its Restricted Subsidiaries' Equity Interests (including, without limitation, any payment in connection with any merger or consolidation involving the Company) or to the direct or indirect holders of the Company's or any of its Restricted Subsidiaries' Equity Interests in their capacity as such (other than (A) dividends or distributions payable in Equity Interests (other than Disqualified Stock) of the Company or (B) dividends or distributions by a Restricted Subsidiary so long as, in the case of any dividend or distribution payable on or in respect of any class or series of securities issued by a Restricted Subsidiary other than a Wholly Owned Restricted Subsidiary, the Company or a Restricted Subsidiary receives at least its pro rata share of such dividend or distribution in accordance with its Equity Interests in such class or series of securities); (ii) purchase, redeem or otherwise acquire or retire for value (including without limitation, in connection with any merger or consolidation involving the Company) any Equity Interests of the Company or any direct or indirect parent of the Company; (iii) make any payment on or with respect to, or purchase, redeem, defease or otherwise acquire or retire for value any Indebtedness that is subordinated to the Notes except a

payment of interest or principal at Stated Maturity; or (iv) make any Restricted Investment (all such payments and other actions set forth in clauses (i) through (iv) above being collectively referred to as "Restricted Payments"), unless, at the time of and after giving effect to such Restricted Payment:

(a) no Default or Event of Default shall have occurred and be continuing or would occur as a consequence thereof; and

(b) the Company would, at the time of such Restricted Payment and after giving pro forma effect thereto as if such Restricted Payment had been made at the beginning of the applicable four-quarter period, have been permitted to incur at least $1.00 of additional Indebtedness pursuant to the Fixed Charge Coverage Ratio test set forth in the first paragraph of Section 4.09; and

(c) such Restricted Payment, together with the aggregate amount of all other Restricted Payments made by the Company and its Restricted Subsidiaries since April 30, 1997 (excluding Restricted Payments permitted by clauses (ii) through (viii) of the next succeeding paragraph or of the kind contemplated by such clauses that were made prior to the date of this Indenture), is less than the sum of (i) 50% of the Consolidated Net Income of the Company for the period (taken as one accounting period) from July 1, 1997 to the end of the Company's most recently ended fiscal quarter for which internal financial statements are available at the time of such Restricted Payment (or, if such Consolidated Net Income for such period is a deficit, less 100% of such deficit), plus (ii) 100% of the aggregate net cash proceeds received by the Company since April 30, 1997 as a contribution to its common equity capital or from the issue or sale of Equity Interests of the Company (other than Disqualified Stock) or from the issue or sale of Disqualified Stock or debt securities of the Company that have been converted into such Equity Interests (other than Equity Interests (or Disqualified Stock or convertible debt securities) sold to a Subsidiary of the Company and other than Disqualified Stock or convertible debt securities that have been converted into Disqualified Stock), plus (iii) to the extent that any Restricted Investment that was made after April 30, 1997 is sold for cash or otherwise liquidated or repaid for cash, the amount of cash received in connection therewith (or from the sale of Marketable Securities received in connection therewith), plus (iv) to the extent not already included in such Consolidated Net Income of the Company for such period and without duplication, (A) 100% of the aggregate amount of cash received as a dividend from an Unrestricted Subsidiary, (B) 100% of the cash received upon the sale of Marketable Securities received as a dividend from an Unrestricted Subsidiary, and (C) 100% of the net assets of any Unrestricted Subsidiary on the date that it becomes a Restricted Subsidiary.

The foregoing provisions shall not prohibit: (i) the payment of any dividend within 60 days after the date of declaration thereof, if at said date of declaration such payment would have complied with the provisions of this Indenture; (ii) the redemption, repurchase, retirement, defeasance or other acquisition of any subordinated Indebtedness or Equity Interests of the Company in exchange for, or out of the net cash proceeds of the substantially concurrent sale (other than to a Subsidiary of the Company) of, other Equity Interests of the Company (other than any Disqualified Stock); provided that the amount of any such net cash proceeds that are

utilized for any such redemption, repurchase, retirement, defeasance or other acquisition shall be excluded from clause (c)(ii) of the preceding paragraph; (iii) the defeasance, redemption, repurchase or other acquisition of subordinated Indebtedness (other than intercompany Indebtedness) in exchange for, or with the net cash proceeds from an incurrence of, Permitted Refinancing Indebtedness; (iv) the repurchase, retirement or other acquisition or retirement for value of common Equity Interests of the Company or Holdings held by any future, present or former employee, director or consultant of the Company or any Subsidiary or Holdings issued pursuant to any management equity plan or stock option plan or any other management or employee benefit plan or agreement; provided, however, that the aggregate amount of Restricted Payments made under this clause (iv) does not exceed $1.5 million in any calendar year and provided further that cancellation of Indebtedness owing to the Company from members of management of the Company or any of its Restricted Subsidiaries in connection with a repurchase of Equity Interests of the Company shall not be deemed to constitute a Restricted Payment for purposes of this covenant or any other provision of this Indenture; (v) repurchases of Equity Interests deemed to occur upon exercise of stock options upon surrender of Equity Interests to pay the exercise price of such options; (vi) payments to Holdings (A) in amounts equal to the amounts required for Holdings to pay franchise taxes and other fees required to maintain its legal existence and provide for other operating costs of up to $500,000 per fiscal year and (B) in amounts equal to amounts required for Holdings to pay federal, state and local income taxes to the extent such income taxes are actually due and owing; provided that the aggregate amount paid under this clause (B) does not exceed the amount that the Company would be required to pay in respect of the income of the Company and its Subsidiaries if the Company were a stand alone entity that was not owned by Holdings; (vii) dividends paid to Holdings in amounts equal to amounts required for Holdings to pay interest and/or principal on Indebtedness that has been guaranteed by, or is otherwise considered Indebtedness of, the Company; and (viii) other Restricted Payments in an aggregate amount since May 22, 1998 not to exceed $20.0 million.

The Board of Directors of the Company may designate any Restricted Subsidiary to be an Unrestricted Subsidiary if such designation would not cause a Default. For purposes of making such determination, all outstanding Investments by the Company and its Restricted Subsidiaries (except to the extent repaid in cash) in the Subsidiary so designated shall be deemed to be Restricted Payments at the time of such designation and shall reduce the amount available for Restricted Payments under the first paragraph of this covenant. All such outstanding Investments shall be deemed to constitute Investments in an amount equal to the fair market value of such Investments at the time of such designation. Such designation shall only be permitted if such Restricted Payment would be permitted at such time and if such Restricted Subsidiary otherwise meets the definition of an Unrestricted Subsidiary.

The amount of all Restricted Payments (other than cash) shall be the fair market value on the date of the Restricted Payment of the asset(s) or securities proposed to be transferred or issued by the Company or such Restricted Subsidiary, as the case may be, pursuant to the Restricted Payment. The fair market value of any non-cash Restricted Payment shall be determined by the Board of Directors whose resolution with respect thereto shall be delivered to the Trustee. Not later than the date of making any Restricted Payment, the Company shall deliver to the Trustee an Officers' Certificate stating that such Restricted Payment is permitted and setting forth the basis upon which the calculations required by Section 4.07 were computed.

Section 4.08 Dividend And Other Payment Restrictions Affecting Restricted Subsidiaries.

The Company shall not, and shall not permit any of its Restricted Subsidiaries to, directly or indirectly, create or otherwise cause or suffer to exist or become effective any encumbrance or restriction on the ability of any Restricted Subsidiary to (i)(A) pay dividends or make any other distributions to the Company or any of its Restricted Subsidiaries (1) on its Capital Stock or (2) with respect to any other interest or participation in, or measured by, its profits, or (B) pay any indebtedness owed to the Company or any of its Restricted Subsidiaries, (ii) make loans or advances to the Company or any of its Restricted Subsidiaries, or (iii) transfer any of its properties or assets to the Company or any of its Restricted Subsidiaries. However, the preceding restrictions will not apply to encumbrances or restrictions existing under or by reason of (A) the provisions of security agreements that restrict the transfer of assets that are subject to a Lien created by such security agreements, (B) the provisions of agreements governing Indebtedness incurred pursuant to clause (v) of the second paragraph of Section 4.09, (C) the Senior Credit Facilities, this Indenture, the Notes, the Exchange Notes, the 1997 Indenture, the 1997 Notes, the May 1998 Indenture, the May 1998 Notes, the December 1998 Indenture and the December 1998 Notes, (D) applicable law, (E) any instrument governing Indebtedness or Capital Stock of a Person acquired by the Company or any of its Restricted Subsidiaries as in effect at the time of such acquisition (except to the extent such Indebtedness was incurred in connection with or in contemplation of such acquisition), which encumbrance or restriction is not applicable to any Person, or the properties or assets of any Person, other than the Person, or the property or assets of the Person, so acquired, provided that, in the case of Indebtedness, such Indebtedness was permitted by the terms of this Indenture to be incurred, (F) by reason of customary non-assignment provisions in leases entered into in the ordinary course of business and consistent with past practices, (G) purchase money obligations for property acquired in the ordinary course of business that impose restrictions of the nature described in this clause (iii) of the preceding paragraph, (H) Permitted Refinancing Indebtedness, provided that the restrictions contained in the agreements governing such Permitted Refinancing Indebtedness are not materially more restrictive, taken as a whole, than those contained in the agreements governing the Indebtedness being refinanced, (I) contracts for the sale of assets, including, without limitation, customary restrictions with respect to a Subsidiary pursuant to an agreement that has been entered into for the sale or disposition of all or substantially all of the Capital Stock or assets of such Subsidiary, (J) agreements relating to secured Indebtedness otherwise permitted to be incurred pursuant to 4.09 and 4.12 that limit the right of the debtor to dispose of the assets securing such Indebtedness, (K) restrictions on cash or other deposits or net worth imposed by customers under contracts entered into in the ordinary course of business, or (L) customary provisions in joint venture agreements and other similar agreements entered into in the ordinary course of business.

Section 4.09 Incurrence of Indebtedness and Issuance Of Preferred Stock.

The Company shall not, and shall not permit any of its Restricted Subsidiaries to, directly or indirectly, create, incur, issue, assume, guarantee or otherwise become directly or indirectly liable, contingently or otherwise, with respect to (collectively, "incur") any Indebtedness (including Acquired Debt) and that the Company shall not issue any Disqualified Stock and shall not permit any of its Restricted Subsidiaries to issue any shares of preferred stock; provided, however, that the Company and any Restricted Subsidiary may incur Indebtedness (including Acquired Debt) or issue shares of preferred stock if the Fixed Charge

Coverage Ratio for the Company's most recently ended four full fiscal quarters for which internal financial statements are available immediately preceding the date on which such additional Indebtedness is incurred or such preferred stock is issued would have been at least 2.0 to 1.0, determined on a pro forma basis (including a pro forma application of the net proceeds therefrom), as if the additional Indebtedness had been incurred, or the preferred stock had been issued, as the case may be, at the beginning of such four-quarter period.

The provisions of the first paragraph of this Section 4.09 shall not apply to the incurrence of any of the following items of Indebtedness (collectively, "Permitted Debt"):

(i) the incurrence by the Company of additional Indebtedness under Credit Facilities (and the guarantee thereof by the Guarantors) in an aggregate principal amount outstanding pursuant to this clause (i) at any one time (with letters of credit being deemed to have a principal amount equal to the maximum potential liability of the Company and its Restricted Subsidiaries thereunder), including all Permitted Refinancing Indebtedness then outstanding incurred to refund, refinance or replace any other Indebtedness incurred pursuant to this clause (i), not to exceed $750.0 million less the aggregate amount of all Net Proceeds of Asset Sales applied to repay any such Indebtedness pursuant to Section 4.10;

(ii) the incurrence by the Company and its Restricted Subsidiaries of the Existing Indebtedness;

(iii) the incurrence by the Company and the Guarantors of $750.0 million in aggregate principal amount of each of the Notes and the Exchange Notes and the Subsidiary Guarantees thereof;

(iv) the incurrence by the Company or any of its Restricted Subsidiaries of Indebtedness represented by Capital Lease Obligations, mortgage financings or purchase money obligations, in each case incurred for the purpose of financing all or any part of the purchase price or cost of construction or improvement of property, plant or equipment used in the business of the Company or such Restricted Subsidiary, in an aggregate principal amount, including all Permitted Refinancing Indebtedness then outstanding incurred to refund, refinance or replace any other Indebtedness incurred pursuant to this clause (iv), not to exceed $100.0 million at any time outstanding;

(v) the incurrence by the Company or any of its Restricted Subsidiaries of Indebtedness in connection with the acquisition of assets or a new Restricted Subsidiary; provided that such Indebtedness was incurred by the prior owner of such assets or such Restricted Subsidiary prior to such acquisition by the Company or one of its Restricted Subsidiaries and was not incurred in connection with, or in contemplation of, such acquisition by the Company or one of its Restricted Subsidiaries; and provided further that the principal amount (or accreted value, as applicable) of such Indebtedness, together with any other outstanding Indebtedness incurred pursuant to this clause (v), does not exceed $50.0 million;

(vi) the incurrence by the Company or any of its Restricted Subsidiaries of Permitted Refinancing Indebtedness in exchange for, or the net proceeds of which are used to refund, refinance or replace, Indebtedness that was permitted by this Indenture to be incurred (other than intercompany Indebtedness or Indebtedness incurred pursuant to clause (i) above);

(vii) Indebtedness incurred by the Company or any of its Restricted Subsidiaries constituting reimbursement obligations with respect to letters of credit issued in the ordinary course of business in respect of workers' compensation claims or self-insurance, or other Indebtedness with respect to reimbursement type obligations regarding workers' compensation claims; provided, however, that upon the drawing of such letters of credit or the incurrence of such Indebtedness, such obligations are reimbursed within 30 days following such drawing or incurrence;

(viii) Indebtedness arising from agreements of the Company or a Restricted Subsidiary providing for indemnification, adjustment of purchase price or similar obligations, in each case, incurred or assumed in connection with the disposition of any business, assets or a Subsidiary, other than guarantees of Indebtedness incurred by any Person acquiring all or any portion of such business, assets or a Subsidiary for the purpose of financing such acquisition; provided, however, that (A) such Indebtedness is not reflected on the balance sheet of the Company or any Restricted Subsidiary (contingent obligations referred to in a footnote to financial statements and not otherwise reflected on the balance sheet shall not be deemed to be reflected on such balance sheet for purposes of this clause (A)) and (B) the maximum assumable liability in respect of all such Indebtedness shall at no time exceed the gross proceeds including noncash proceeds (the fair market value of such noncash proceeds being measured at the time received and without giving effect to any subsequent changes in value) actually received by the Company and its Restricted Subsidiaries in connection with such disposition;

(ix) the incurrence by the Company or any of its Restricted Subsidiaries of intercompany Indebtedness between or among the Company and any of its Restricted Subsidiaries; provided, however, that (A) if the Company is the obligor on such Indebtedness, such Indebtedness is expressly subordinated to the prior payment in full in cash of all Obligations with respect to the Notes and (B)(1) any subsequent issuance or transfer of Equity Interests that results in any such Indebtedness being held by a Person other than the Company or one of its Restricted Subsidiaries and (2) any sale or other transfer of any such Indebtedness to a Person that is not either the Company or one of its Restricted Subsidiaries shall be deemed, in each case, to constitute an incurrence of such Indebtedness by the Company or such Restricted Subsidiary, as the case may be;

(x) the incurrence by the Company or any of the Guarantors of Hedging Obligations that are incurred for the purpose of (A) fixing, hedging or capping interest rate risk with respect to any floating rate Indebtedness that is permitted by the terms of this Indenture to be outstanding or (B) protecting the Company and its Restricted Subsidiaries against changes in currency exchange rates;

(xi) the guarantee by the Company or any of the Guarantors of Indebtedness of the Company or a Restricted Subsidiary of the Company that was permitted to be incurred by another provision of this Section 4.09;

(xii) the incurrence by the Company's Unrestricted Subsidiaries of Non-Recourse Debt, provided, however, that if any such Indebtedness ceases to be Non-Recourse Debt of an Unrestricted Subsidiary, such event shall be deemed to constitute an incurrence of Indebtedness by a Restricted Subsidiary of the Company that was not permitted by this clause (xii), and the issuance of preferred stock by Unrestricted Subsidiaries;

(xiii) obligations in respect of performance and surety bonds and completion guarantees provided by the Company or any Restricted Subsidiaries in the ordinary course of business; and

(xiv) the incurrence by the Company or any of its Restricted Subsidiaries of additional Indebtedness in an aggregate principal amount (or accreted value, as applicable) at any time outstanding, including all Permitted Refinancing Indebtedness then outstanding incurred to refund, refinance or replace any other Indebtedness incurred pursuant to this clause (xiv), not to exceed $100.0 million.

For purposes of determining compliance with this Section 4.09, in the event that an item of Indebtedness meets the criteria of more than one of the categories of Permitted Debt described in clauses (i) through (xiv) above or is entitled to be incurred pursuant to the first paragraph of this Section 4.09, the Company shall, in its sole discretion, classify, or later reclassify, such item of Indebtedness in any manner that complies with this covenant. Accrual of interest, the accretion of accreted value and the payment of interest in the form of additional Indebtedness shall not be deemed to be an incurrence of Indebtedness for purposes of this Section 4.09.

Section 4.10 Asset Sales.

The Company shall not, and shall not permit any of its Restricted Subsidiaries to, consummate an Asset Sale unless (i) the Company or the Restricted Subsidiary, as the case may be, receives consideration at the time of such Asset Sale at least equal to the fair market value (evidenced by an Officers' Certificate delivered to the Trustee which will include a resolution of the Board of Directors with respect to such fair market value in the event such Asset Sale involves aggregate consideration in excess of $10.0 million) of the assets or Equity Interests issued or sold or otherwise disposed of and (ii) at least 80% of the consideration therefor received by the Company or such Restricted Subsidiary, as the case may be, consists of cash, Cash Equivalents and/or Marketable Securities; provided, however, that (A) the amount of any Senior Debt of the Company or such Restricted Subsidiary that is assumed by the transferee in any such transaction and (B) any consideration received by the Company or such Restricted Subsidiary, as the case may be, that consists of (1) all or substantially all of the assets of one or more Similar Businesses, (2) other long-term assets that are used or useful in one or more Similar Businesses and (3) Permitted Securities shall be deemed to be cash for purposes of this provision.

Within 365 days after the receipt of any Net Proceeds from an Asset Sale, the Company may apply such Net Proceeds, at its option, (i) to repay Indebtedness under a Credit Facility, (ii) to the acquisition of Permitted Securities, (iii) to the acquisition of all or substantially all of the assets of one or more Similar Businesses, (iv) to the making of a capital expenditure or (v) to the acquisition of other long-term assets in a Similar Business. Pending the final application of any such Net Proceeds, the Company may temporarily reduce Indebtedness under a Credit Facility or otherwise invest such Net Proceeds in any manner that is not prohibited by this Indenture. Any Net Proceeds from Asset Sales that are not applied or invested as provided in the first sentence of this paragraph shall be deemed to constitute "Excess Proceeds". When the aggregate amount of Excess Proceeds exceeds $10.0 million, the Company shall make an offer to all holders of 1997 Notes (an "Asset Sale Offer") to purchase the maximum principal amount of 1997 Notes that may be purchased out of the Excess Proceeds, at an offer price in cash in an amount equal to 100% of the principal amount thereof plus accrued and unpaid interest to the date of purchase, in accordance with the procedures set forth in the 1997 Indenture. To the extent that (i) there are no outstanding 1997 Notes at the time an Asset Sale Offer is required to be made or (ii) the aggregate amount of 1997 Notes tendered pursuant to an Asset Sale Offer is less than the remaining Excess Proceeds ("Remaining Excess Proceeds") and the sum of (A) such amount of Remaining Excess Proceeds and (B) the Remaining Excess Proceeds from any subsequent Asset Sale Offers exceeds $10.0 million, the Company will be required to make an offer to all Holders of Notes and any other Indebtedness that ranks pari passu with the Notes (including, without limitation, the May 1998 Notes and the December 1998 Notes) that, by its terms, requires the Company to offer to repurchase such Indebtedness with such Excess Proceeds or Remaining Excess Proceeds, as the case may be (a "Secondary Asset Sale Offer"), to purchase the maximum principal amount of Notes and pari passu Indebtedness that may be purchased out of such Excess Proceeds or Remaining Excess Proceeds, as the case may be, at an offer price in cash in an amount equal to 100% of the principal amount thereof plus accrued and unpaid interest thereon, if any, to the date of purchase, in accordance with the procedures set forth in this Indenture. To the extent that the aggregate amount of Notes or pari passu Indebtedness tendered pursuant to a Secondary Asset Sale Offer is less than the Excess Proceeds or Remaining Excess Proceeds, as the case may be, the Company may use any Excess Proceeds or Remaining Excess Proceeds, as the case may be, for general corporate purposes. If the aggregate principal amount of Notes or pari passu Indebtedness surrendered by Holders thereof exceeds the amount of Excess Proceeds or Remaining Excess Proceeds, as the case may be, in a Secondary Asset Sale Offer, the Company shall repurchase such Indebtedness on a pro rata basis and the Trustee shall select the Notes to be purchased on a pro rata basis. Upon completion of such offer to purchase, the amount of Excess Proceeds shall be reset at zero.

Section 4.11 Transactions With Affiliates.

The Company shall not, and shall not permit any of its Restricted Subsidiaries to, make any payment to, or sell, lease, transfer or otherwise dispose of any of its properties or assets to, or purchase any property or assets from, or enter into or make or amend any transaction, contract, agreement, understanding, loan, advance or guarantee with, or for the benefit of, any Affiliate (each of the foregoing, an "Affiliate Transaction"), unless (i) such Affiliate Transaction is on terms that are no less favorable to the Company or the relevant Restricted Subsidiary than those that would have been obtained in a comparable transaction by

the Company or such Restricted Subsidiary with an unrelated Person and (ii) the Company delivers to the Trustee (A) with respect to any Affiliate Transaction or series of related Affiliate Transactions involving aggregate consideration in excess of $5.0 million, a resolution of the Board of Directors set forth in an Officers' Certificate certifying that such Affiliate Transaction complies with clause (i) above and that such Affiliate Transaction has been approved by a majority of the disinterested members of the Board of Directors and (B) with respect to any Affiliate Transaction or series of related Affiliate Transactions involving aggregate consideration in excess of $15.0 million, an opinion as to the fairness to the Holders of such Affiliate Transaction from a financial point of view issued by an accounting, appraisal or investment banking firm of national standing.

The foregoing provisions shall not prohibit: (i) any employment agreement entered into by the Company or any of its Restricted Subsidiaries in the ordinary course of business; (ii) any transaction with a Lehman Investor; (iii) any transaction between or among the Company and/or its Restricted Subsidiaries; (iv) transactions between the Company or any of its Restricted Subsidiaries, on the one hand, and a Permitted Joint Venture, on the other hand, on terms that are not materially less favorable to the Company or the applicable Restricted Subsidiary of the Company than those that could have been obtained from an unaffiliated third party; provided that (A) in the case of any such transaction or series of related transactions pursuant to this clause (iv) involving aggregate consideration in excess of $5.0 million but less than $25.0 million, such transaction or series of transactions (or the agreement pursuant to which the transactions were executed) was approved by the Company's Chief Executive Officer or Chief Financial Officer and (B) in the case of any such transaction or series of related transactions pursuant to this clause (iv) involving aggregate consideration equal to or in excess of $25.0 million, such transaction or series of related transactions (or the agreement pursuant to which the transactions were executed) was approved by a majority of the disinterested members of the Board of Directors; (v) any transaction pursuant to and in accordance with the provisions of the Transaction Documents as the same are in effect on the date of this Indenture; and (vi) any Restricted Payment that is permitted by the provisions of Section 4.07.

Section 4.12 Liens.

The Company shall not, and shall not permit any of its Restricted Subsidiaries to, directly or indirectly, create, incur, assume or suffer to exist any Lien (other than Permitted Liens) securing Indebtedness on any asset now owned or hereafter acquired, or any income or profits therefrom or assign or convey any right to receive income therefrom, unless all payments due under this Indenture and the Notes are secured on an equal and ratable basis with the Obligations so secured until such time as such Obligations are no longer secured by a Lien.

Section 4.13 Future Subsidiary Guarantees.

If the Company or any of its Subsidiaries shall acquire or create a Subsidiary (other than a Foreign Subsidiary or an Unrestricted Subsidiary) after the date of this Indenture, then such Subsidiary shall execute a Subsidiary Guarantee, in the form of the Supplemental Indenture attached hereto as Exhibit E, and the Form of Notation on Senior Subordinated Note, attached hereto as Exhibit F, and deliver an opinion of counsel as to the validity of such Subsidiary Guarantee, in accordance with the terms of this Indenture. The Subsidiary Guarantee

of each Guarantor will be subordinated to the prior payment in full of all Senior Debt of such Guarantor, which would include the guarantees of amounts borrowed under the Senior Credit Facilities. The obligations of each Guarantor under its Subsidiary Guarantee will be limited so as not to constitute a fraudulent conveyance under applicable law.

Notwithstanding the foregoing paragraph, for so long as certain covenants are suspended pursuant to Section 4.18 hereof, no newly acquired or created Subsidiary will be required to execute a Subsidiary Guarantee or the related Notation on Senior Subordinated Note unless such Subsidiary Guarantees Indebtedness of the Company under a Credit Facility. However, any Subsidiary (other than a Foreign Subsidiary or an Unrestricted Subsidiary) that Guarantees any Indebtedness of the Company under a Credit Facility will become a Subsidiary Guarantor and, if at any time certain covenants are reinstituted pursuant to Section 4.18 hereof, any newly acquired or created Subsidiary(other than a Foreign Subsidiary or an Unrestricted Subsidiary) will Guarantee the Notes on the terms and conditions set forth in this Indenture.

No Guarantor may consolidate with or merge with or into (whether or not such Guarantor is the surviving Person) another Person (except the Company or another Guarantor) unless (i) subject to the provisions of the following paragraph, the Person formed by or surviving any such consolidation or merger (if other than such Guarantor) or to which such sale, assignment, transfer, lease, conveyance or other disposition shall have been made assumes all the obligations of such Guarantor pursuant to a supplemental indenture in form and substance reasonably satisfactory to the Trustee, under the Notes and this Indenture; (ii) immediately after giving effect to such transaction, no Default or Event of Default exists; (iii) the Company (A) would be permitted by virtue of the Company's pro forma Fixed Charge Coverage Ratio, immediately after giving effect to such transaction, to incur at least $1.00 of additional Indebtedness pursuant to the Fixed Charge Coverage Ratio test set forth in Section 4.09 or (B) would have a pro forma Fixed Charge Coverage Ratio that is greater than the actual Fixed Charge Coverage Ratio for the same four-quarter period without giving pro forma effect to such transaction.

Notwithstanding the foregoing clause (iii), (i) any Guarantor may consolidate with, merge into or transfer all or part of its properties and assets to the Company or to another Guarantor and (ii) any Guarantor may merge with an Affiliate that has no significant assets or liabilities and was incorporated solely for the purpose of reincorporating such Guarantor in another State of the United States so long as the amount of Indebtedness of the Company and its Restricted Subsidiaries is not increased thereby.

In the event of a sale or other disposition of all of the assets of any Guarantor, by way of merger, consolidation or otherwise, or a sale or other disposition of all of the capital stock of any Guarantor, then such Guarantor (in the event of a sale or other disposition, by way of such a merger, consolidation or otherwise, of all of the capital stock of such Guarantor) or the corporation acquiring the property (in the event of a sale or other disposition of all of the assets of such Guarantor) will be released and relieved of any obligations under its Subsidiary Guarantee; provided that the Net Proceeds of such sale or other disposition are applied in accordance with the applicable provisions of Section 4.10.

Section 4.14 Corporate Existence.

Subject to Article 5 hereof, the Company shall do or cause to be done all things necessary to preserve and keep in full force and effect (i) its corporate existence, and the corporate, partnership or other existence of each of its Restricted Subsidiaries, in accordance with the respective organizational documents (as the same may be amended from time to time) of the Company or any such Restricted Subsidiary and (ii) the rights (charter and statutory), licenses and franchises of the Company and its Restricted Subsidiaries; provided, however, that the Company shall not be required to preserve any such right, license or franchise, or the corporate, partnership or other existence of any of its Restricted Subsidiaries, if the Board of Directors shall determine that the preservation thereof is no longer desirable in the conduct of the business of the Company and its Restricted Subsidiaries, taken as a whole, and that the loss thereof is not adverse in any material respect to the Holders of the Notes.

Section 4.15 Offer To Repurchase Upon Change Of Control.

(a) Upon the occurrence of a Change of Control, each Holder of Notes shall have the right to require the Company to repurchase all or any part (equal to $1,000 or an integral multiple thereof) of such Holder's Notes pursuant to the offer described below (the "Change of Control Offer") at an offer price in cash equal to 101% of the aggregate principal amount thereof plus accrued and unpaid interest and Additional Amounts thereon, if any, to the date of purchase (the "Change of Control Payment"). Within ten days following any Change of Control, the Company shall mail a notice to each Holder describing the transaction or transactions that constitute the Change of Control and offering to repurchase Notes on the date specified in such notice, which date shall be no earlier than 30 days and no later than 60 days from the date such notice is mailed (the "Change of Control Payment Date"). Such notice, which shall govern the terms of the Change of Control offer, shall state: (i) that the Change of Control Offer is being made pursuant to this Section 4.15 and that all Notes tendered will be accepted for payment; (ii) the purchase price and the purchase date; (iii) that any Note not tendered will continue to accrue interest; (iv) that, unless the Company defaults in the payment of the Change of Control Payment, all Notes accepted for payment pursuant to the Change of Control Offer shall cease to accrue interest after the Change of Control Payment Date; (v) that Holders electing to have any Notes purchased pursuant to a Change of Control Offer will be required to surrender the Notes, with the form entitled "Option of Holder to Elect Purchase" on the reverse of the Notes completed, to the Paying Agent at the address specified in the notice prior to the close of business on the third Business Day preceding the Change of Control Payment Date; (vi) that Holders will be entitled to withdraw their election if the Paying Agent receives, not later than the close of business on the second Business Day preceding the Change of Control Payment Date, a telegram, telex, facsimile transmission or letter setting forth the name of the Holder, the principal amount of Notes delivered for purchase, and a statement that such Holder is withdrawing his election to have the Notes purchased; and (vii) that Holders whose Notes are being purchased only in part will be issued new Notes equal in principal amount to the unpurchased portion of the Notes surrendered, which unpurchased portion must be equal to $1,000 in principal amount or an integral multiple thereof. The Company shall comply with the requirements of Rule 14e-1 under the Exchange Act and any other securities laws and regulations thereunder to the extent such laws and regulations are applicable in connection with the repurchase of Notes in connection with a Change of Control.

(b) On the Change of Control Payment Date, the Company shall, to the extent lawful, (i) accept for payment all Notes or portions thereof properly tendered pursuant to the Change of Control Offer, (ii) deposit with the Paying Agent an amount equal to the Change of Control Payment in respect of all Notes or portions thereof so tendered and (iii) deliver or cause to be delivered to the Trustee the Notes so accepted together with an Officers' Certificate stating the aggregate principal amount of Notes or portions thereof being purchased by the Company. The Paying Agent shall promptly mail to each Holder of Notes so tendered the Change of Control Payment for such Notes, and the Trustee shall promptly authenticate and mail (or cause to be transferred by book entry) to each Holder a new Note equal in principal amount to any unpurchased portion of the Notes surrendered, if any; provided that each such new Note shall be in a principal amount of $1,000 or an integral multiple thereof. Prior to mailing a Change of Control Offer, but in any event within 90 days following a Change of Control, the Company shall either repay all outstanding Senior Debt or offer to repay all Senior Debt and terminate all commitments thereunder of each lender who has accepted such offer or obtain the requisite consents, if any, under all agreements governing outstanding Senior Debt to permit the repurchase of Notes required by this Section 4.15. The Company shall publicly announce the results of the Change of Control Offer on or as soon as practicable after the Change of Control Payment Date.

Section 4.16 No Senior Subordinated Debt.

The Company shall not incur, create, issue, assume, guarantee or otherwise become liable for any Indebtedness that is subordinate or junior in right of payment to any Senior Debt and senior in any respect in right of payment to the Notes. No Guarantor shall incur, create, issue, assume, guarantee or otherwise become liable for any Indebtedness that is subordinate or junior in right of payment to any Senior Debt of a Guarantor and senior in any respect in right of payment to any of the Subsidiary Guarantees.

Section 4.17 Payments For Consent.

Neither the Company nor any of its Subsidiaries shall, directly or indirectly, pay or cause to be paid any consideration, whether by way of interest, fee or otherwise, to any Holder of any Notes for or as an inducement to any consent, waiver or amendment of any of the terms or provisions of this Indenture or the Notes unless such consideration is offered to be paid or is paid to all Holders of the Notes that consent, waive or agree to amend in the time frame set forth in the solicitation documents relating to such consent, waiver or agreement.

Section 4.18 Changes in Covenants when Notes Rated Investment Grade.

If on any date following the date of this Indenture: (i) the Notes are rated Baa3 or better by Moody's and BBB- or better by S&P (or, if either such entity ceases to rate the Notes for reasons outside of the control of the Company, the equivalent investment grade credit rating from any other "nationally recognized statistical rating organization" within the meaning of Rule 15c3-1(c)(2)(vi)(F) under the Exchange Act selected by Company as a replacement agency) and (ii) no Default or Event of Default shall have occurred and be continuing, then, beginning on that day and subject to the provisions of the following paragraph, the provisions and covenants contained in Sections 4.07, 4.08, 4.09, 4.10, 4.11 and 4.17 hereof, clauses (iii)(A) and (B) of the

third paragraph of Section 4.13 hereof and clauses (iv)(A) and (B) of the first paragraph of Section 5.01 hereof will be suspended.

In addition, following the achievement of such investment grade ratings, (i) the Subsidiary Guarantees of the Company's Restricted Subsidiaries will be released at the time of the release of Guarantees under all outstanding Credit Facilities; provided that in the event that any such Restricted Subsidiary thereafter Guarantees any Indebtedness of the Company under any Credit Facility (or if any released Guarantee under any Credit Facility is reinstated or renewed), or if at any time certain covenants are reinstituted as provided in the following paragraph, then such Restricted Subsidiary will Guarantee the Notes on the terms and conditions set forth in this Indenture and (ii) as described in Section 4.13 hereof, no Restricted Subsidiary thereafter acquired or created will be required to execute a Subsidiary Guarantee unless such Subsidiary Guarantees Indebtedness of the Company under a Credit Facility.

Notwithstanding the foregoing, if the rating assigned to the Notes by any such rating agency should subsequently decline to below Baa3 or BBB-, respectively, the foregoing covenants shall be reinstituted as of and from the date of such rating decline. For purposes of determining whether a Restricted Payment exceeds the allowable amount under the calculation described in subparagraphs (i) through (iv) of Section 4.07(c) hereof, the covenant contained in Section 4.07 hereof will be interpreted as if it had been in effect since the date of this Indenture. However, no default will be deemed to have occurred as a result of the provisions and covenants contained in Sections 4.07, 4.08, 4.09, 4.10, 4.11 and 4.17 hereof, clauses (iii)(A) and (B) of the third paragraph of Section 4.13 hereof and clauses (iv)(A) and (B) of the first paragraph of Section 5.01 hereof while those provisions and covenants were suspended.

ARTICLE 5.
SUCCESSORS

Section 5.01 Merger, Consolidation, Or Sale Of Assets.

The Company may not consolidate or merge with or into (whether or not the Company is the surviving corporation), or sell, assign, transfer, lease, convey or otherwise dispose of all or substantially all of its properties or assets in one or more related transactions, to another Person unless (i) the Company is the surviving corporation or the Person formed by or surviving any such consolidation or merger (if other than the Company) or to which such sale, assignment, transfer, lease, conveyance or other disposition shall have been made is a corporation organized or existing under the laws of the United States, any state thereof or the District of Columbia; (ii) the Person formed by or surviving any such consolidation or merger (if other than the Company) or the Person to which such sale, assignment, transfer, lease, conveyance or other disposition shall have been made assumes all the obligations of the Company under the Registration Rights Agreement, the Notes and this Indenture pursuant to a supplemental indenture in a form reasonably satisfactory to the Trustee; (iii) immediately after such transaction no Default or Event of Default exists; and (iv) except in the case of a merger of the Company with or into a Wholly Owned Restricted Subsidiary of the Company, the Company or the Person formed by or surviving any such consolidation or merger (if other than the Company), or to which such sale, assignment, transfer, lease, conveyance or other disposition shall have been made, after giving pro forma effect to such transaction as if such transaction had

occurred at the beginning of the most recently ended four full fiscal quarters for which internal financial statements are available immediately preceding such transaction either: (A) would be permitted to incur at least $1.00 of additional Indebtedness pursuant to the Fixed Charge Coverage Ratio test set forth in the first paragraph of Section 4.09 or (B) would have a pro forma Fixed Charge Coverage Ratio that is greater than the actual Fixed Charge Coverage Ratio for the same four-quarter period without giving pro forma effect to such transaction.

Notwithstanding clause (iv) in the immediately foregoing paragraph, (i) any Restricted Subsidiary may consolidate with, merge into or transfer all or part of its properties and assets to the Company; and (ii) the Company may merge with an Affiliate that has no significant assets or liabilities and was incorporated solely for the purpose of reincorporating the Company in another State of the United States so long as the amount of Indebtedness of the Company and its Restricted Subsidiaries is not increased thereby.

Section 5.02 Successor Corporation Substituted.

Upon any consolidation or merger, or any sale, assignment, transfer, lease, conveyance or other disposition of all or substantially all of the assets of the Company in accordance with Section 5.01 hereof, the successor corporation formed by such consolidation or into or with which the Company is merged or to which such sale, assignment, transfer, lease, conveyance or other disposition is made shall succeed to, be substituted for (so that from and after the date of such consolidation, merger, sale, lease, conveyance or other disposition, the provisions of this Indenture referring to the "Company" shall refer instead to the successor corporation and not to the Company), and may exercise every right and power of, the Company under this Indenture with the same effect as if such successor Person had been named as the Company herein; provided, however, that the predecessor Company shall not be relieved from the obligation to pay the principal of and interest on the Notes except in the case of a sale of all of the Company's assets that meets the requirements of Section 5.01 hereof.

ARTICLE 6.
DEFAULTS AND REMEDIES

Section 6.01 Events of Default.

An "Event of Default" occurs if:

(a) the Company defaults in the payment when due of interest on, or Additional Amounts, if any, with respect to, the Notes and such default continues for a period of 30 days (whether or not prohibited by the subordination provisions of this Indenture);

(b) the Company defaults in the payment when due of the principal of or premium, if any, on the Notes (whether or not prohibited by the subordination provisions of this Indenture);

(c) the Company fails to comply with any of the provisions of Section 4.10, 4.15, or 5.01 hereof;

(d) the Company fails to observe or perform any other covenant or other agreement in this Indenture or the Notes for 60 days after notice to the Company by the Trustee or the Holders of at least 25% in aggregate principal amount of the Notes then outstanding;

(e) a default occurs under any mortgage, indenture or instrument under which there may be issued or by which there may be secured or evidenced any Indebtedness for money borrowed by the Company or any of its Restricted Subsidiaries (or the payment of which is guaranteed by the Company or any of its Restricted Subsidiaries), whether such Indebtedness or guarantee now exists, or is created after the date of this Indenture, which default results in the acceleration of such Indebtedness prior to its express maturity and, in each case, the principal amount of such Indebtedness, together with the principal amount of any other such Indebtedness, the maturity of which has been so accelerated, aggregates $25.0 million or more;

(f) the Company or any of its Restricted Subsidiaries is subject to a final judgments aggregating in excess of $25.0 million, which judgments are not paid, discharged or stayed for a period of 60 days;

(g) the Company or any of its Significant Subsidiaries or any group of Subsidiaries that, taken as a whole, would constitute a Significant Subsidiary pursuant to or within the meaning of Bankruptcy Law:

(i) commences a voluntary case,

(ii) consents to the entry of an order for relief against it in an involuntary case,

(iii) consents to the appointment of a custodian of it or for all or substantially all of its property,

(iv) makes a general assignment for the benefit of its creditors, or

(v) generally is not paying its debts as they become due;

(h) a court of competent jurisdiction enters an order or decree under any Bankruptcy Law that:

(i) is for relief against the Company or any of its Significant Subsidiaries or any group of Subsidiaries that, taken as a whole, would constitute a Significant Subsidiary in an involuntary case;

(ii) appoints a custodian of the Company or any of its Significant Subsidiaries or any group of Subsidiaries that, taken as a whole, would constitute a Significant Subsidiary or for all or substantially all of the property of the Company or any of its Significant Subsidiaries or any group of Subsidiaries that, taken as a whole, would constitute a Significant Subsidiary; or

(iii) orders the liquidation of the Company or any of its Significant Subsidiaries or any group of Subsidiaries that, taken as a whole, would constitute a Significant Subsidiary;

and the order or decree remains unstayed and in effect for 60 consecutive days; or

(i) except as permitted herein, any Subsidiary Guarantee shall be held in any judicial proceeding to be unenforceable or invalid.

The Holders of a majority in aggregate principal amount of the Notes then outstanding by notice to the Trustee may on behalf of the Holders of all of the Notes waive any existing Default or Event of Default and its consequences under this Indenture except a continuing Default or Event of Default in the payment of interest on, or the principal of, the Notes.

Section 6.02 Acceleration.

If any Event of Default occurs and is continuing, the Trustee or the Holders of at least 25% in principal amount of the then outstanding Notes may declare all the Notes to be due and payable immediately; provided, however, that so long as any Designated Senior Debt is outstanding, such declaration shall not become effective until the earlier of (i) the day which is five Business Days after receipt by the Representatives of Designated Senior Debt of such notice of acceleration or (ii) the date of acceleration of any Designated Senior Debt. Notwithstanding the foregoing, in the case of an Event of Default arising from certain events of bankruptcy or insolvency, with respect to the Company or any Significant Subsidiary or any group of Subsidiaries that, taken as a whole, would constitute a Significant Subsidiary, all outstanding Notes will become due and payable without further action or notice. Holders of the Notes may not enforce this Indenture or the Notes except as provided in this Indenture. Subject to certain limitations, Holders of a majority in principal amount of the then outstanding Notes may direct the Trustee in its exercise of any trust or power. The Trustee may withhold from Holders of the Notes notice of any continuing Default or Event of Default (except a Default or Event of Default relating to the payment of principal or interest) if it determines that withholding notice is in their interest.

In the case of any Event of Default occurring by reason of any willful action (or inaction) taken (or not taken) by or on behalf of the Company with the intention of avoiding payment of the premium that the Company would have had to pay if the Company then had elected to redeem the Notes pursuant to the optional redemption provisions of this Indenture, an equivalent premium shall also become and be immediately due and payable to the extent permitted by law upon the acceleration of the Notes. If an Event of Default occurs prior to June 15, 2007 by reason of any willful action (or inaction) taken (or not taken) by or on behalf of the Company with the intention of avoiding the prohibition on redemption of the Notes prior to June 15, 2007 then the premium specified below (expressed as a percentage of the principal amount of the Notes on the date of payment that would otherwise be due but for the provisions of this sentence) shall also become immediately due and payable to the extent permitted by law upon the acceleration of the Notes during the twelve-month period ending on June 15 of the years indicated below:

Year	Percentage
2002	10.168%
2003	8.897%
2004	7.626%
2005	6.355%
2006	5.084%
2007	3.813%

Section 6.03 Other Remedies.

If an Event of Default occurs and is continuing, the Trustee may pursue any available remedy to collect the payment of principal, premium, if any, and interest on the Notes or to enforce the performance of any provision of the Notes or this Indenture.

The Trustee may maintain a proceeding even if it does not possess any of the Notes or does not produce any of them in the proceeding. A delay or omission by the Trustee or any Holder of a Note in exercising any right or remedy accruing upon an Event of Default shall not impair the right or remedy or constitute a waiver of or acquiescence in the Event of Default. All remedies are cumulative to the extent permitted by law.

Section 6.04 Waiver of Past Defaults.

Holders of not less than a majority in aggregate principal amount of the then outstanding Notes by notice to the Trustee may on behalf of the Holders of all of the Notes waive an existing Default or Event of Default and its consequences hereunder, except a continuing Default or Event of Default in the payment of the principal of, premium or Additional Amounts, if any, or interest on, the Notes including in connection with an offer to purchase; provided, however, that the Holders of a majority in aggregate principal amount at maturity of the then outstanding Notes may rescind an acceleration and its consequences, including any related payment default that resulted from such acceleration. Upon any such waiver, such Default shall cease to exist, and any Event of Default arising therefrom shall be deemed to have been cured for every purpose of this Indenture; but no such waiver shall extend to any subsequent or other Default or impair any right consequent thereon.

Section 6.05 Control By Majority.

Holders of a majority in principal amount of the then outstanding Notes may direct the time, method and place of conducting any proceeding for exercising any remedy available to the Trustee or exercising any trust or power conferred on it. However, the Trustee may refuse to follow any direction that conflicts with law or this Indenture or that the Trustee determines may be unduly prejudicial to the rights of other Holders of Notes or that may involve the Trustee in personal liability.

Section 6.06 Limitation On Suits.

A Holder of a Note may pursue a remedy with respect to this Indenture or the Notes only if:

(a) the Holder of a Note gives to the Trustee written notice of a continuing Event of Default;

(b) the Holders of at least 25% in principal amount of the then outstanding Notes make a written request to the Trustee to pursue the remedy;

(c) such Holder of a Note or Holders of Notes offer and, if requested, provide to the Trustee indemnity satisfactory to the Trustee against any loss, liability or expense;

(d) the Trustee does not comply with the request within 60 days after receipt of the request and the offer and, if requested, the provision of indemnity; and

(e) during such 60-day period the Holders of a majority in principal amount of the then outstanding Notes do not give the Trustee a direction inconsistent with the request.

A Holder of a Note may not use this Indenture to prejudice the rights of another Holder of a Note or to obtain a preference or priority over another Holder of a Note.

Section 6.07 Rights of Holders of Notes to Receive Payment.

Notwithstanding any other provision of this Indenture, the right of any Holder of a Note to receive payment of principal, premium and Additional Amounts, if any, and interest on the Note, on or after the respective due dates expressed in the Note (including in connection with an offer to purchase), or to bring suit for the enforcement of any such payment on or after such respective dates, shall not be impaired or affected without the consent of such Holder.

Section 6.08 Collection Suit by Trustee.

If an Event of Default specified in Section 6.01(a) or (b) occurs and is continuing, the Trustee is authorized to recover judgment in its own name and as trustee of an express trust against the Company for the whole amount of principal of, premium and Additional Amounts, if any, and interest remaining unpaid on the Notes and interest on overdue principal and, to the extent lawful, interest and such further amount as shall be sufficient to cover the costs and expenses of collection, including the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel.

Section 6.09 Trustee May File Proofs Of Claim.

The Trustee is authorized to file such proofs of claim and other papers or documents as may be necessary or advisable in order to have the claims of the Trustee (including any claim for the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel) and the Holders of the Notes allowed in any judicial proceedings relative to the Company (or any other obligor upon the Notes), its creditors or its property and shall be entitled and empowered to collect, receive and distribute any money or other property payable or deliverable on any such claims and any custodian in any such judicial proceeding is hereby authorized by each Holder to make such payments to the Trustee, and in the event that the Trustee shall consent to the making of such payments directly to the Holders, to pay to the

Trustee any amount due to it for the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel, and any other amounts due the Trustee under Section 7.07 hereof. To the extent that the payment of any such compensation, expenses, disbursements and advances of the Trustee, its agents and counsel, and any other amounts due the Trustee under Section 7.07 hereof out of the estate in any such proceeding, shall be denied for any reason, payment of the same shall be secured by a Lien on, and shall be paid out of, any and all distributions, dividends, money, securities and other properties that the Holders may be entitled to receive in such proceeding whether in liquidation or under any plan of reorganization or arrangement or otherwise. Nothing herein contained shall be deemed to authorize the Trustee to authorize or consent to or accept or adopt on behalf of any Holder any plan of reorganization, arrangement, adjustment or composition affecting the Notes or the rights of any Holder, or to authorize the Trustee to vote in respect of the claim of any Holder in any such proceeding.

Section 6.10 Priorities.

If the Trustee collects any money pursuant to this Article, it shall pay out the money in the following order:

First: to the Trustee, its agents and attorneys for amounts due under Section 7.07 hereof, including payment of all compensation, expense and liabilities incurred, and all advances made, by the Trustee and the costs and expenses of collection;

Second: to Holders of Notes for amounts due and unpaid on the Notes for principal, premium and Additional Amounts, if any, and interest, ratably, without preference or priority of any kind, according to the amounts due and payable on the Notes for principal, premium and Additional Amounts, if any, and interest, respectively; and

Third: to the Company or to such party as a court of competent jurisdiction shall direct.

The Trustee may fix a record date and payment date for any payment to Holders of Notes pursuant to this Section 6.10.

Section 6.11 Undertaking for Costs.

In any suit for the enforcement of any right or remedy under this Indenture or in any suit against the Trustee for any action taken or omitted by it as a Trustee, a court in its discretion may require the filing by any party litigant in the suit of an undertaking to pay the costs of the suit, and the court in its discretion may assess reasonable costs, including reasonable attorneys' fees, against any party litigant in the suit, having due regard to the merits and good faith of the claims or defenses made by the party litigant. This Section does not apply to a suit by the Trustee, a suit by a Holder of a Note pursuant to Section 6.07 hereof, or a suit by Holders of more than 10% in principal amount of the then outstanding Notes.

ARTICLE 7.
TRUSTEE

Section 7.01 Duties Of Trustee.

(a) If an Event of Default has occurred and is continuing, the Trustee shall exercise such of the rights and powers vested in it by this Indenture, and use the same degree of care and skill in its exercise, as a prudent person would exercise or use under the circumstances in the conduct of such person's affairs.

(b) Except during the continuance of an Event of Default:

(i) the duties of the Trustee shall be determined solely by the express provisions of this Indenture and the Trustee need perform only those duties that are specifically set forth in this Indenture and no others, and no implied covenants or obligations shall be read into this Indenture against the Trustee; and

(ii) in the absence of bad faith or negligence on its part, the Trustee may conclusively rely, as to the truth of the statements and the correctness of the opinions expressed therein, upon certificates or opinions furnished to the Trustee and conforming to the requirements of this Indenture. However, the Trustee shall examine the certificates and opinions to determine whether or not they conform to the requirements of this Indenture (but need not confirm or investigate the accuracy of mathematical calculations or other facts stated therein).

(c) The Trustee may not be relieved from liabilities for its own negligent action, its own negligent failure to act, or its own willful misconduct, except that:

(i) this paragraph does not limit the effect of paragraph (b) of this Section;

(ii) the Trustee shall not be liable for any error of judgment made in good faith by a Responsible Officer, unless it is proved that the Trustee was negligent in ascertaining the pertinent facts; and

(iii) the Trustee shall not be liable with respect to any action it takes or omits to take in good faith in accordance with a direction received by it pursuant to Section 6.05 hereof.

(d) Whether or not therein expressly so provided, every provision of this Indenture that in any way relates to the Trustee is subject to paragraphs (a), (b), and (c) of this Section.

(e) No provision of this Indenture shall require the Trustee to expend or risk its own funds or incur any liability. The Trustee shall be under no obligation to exercise any of its rights and powers under this Indenture at the request of any Holders, unless such Holder shall have offered to the Trustee security and indemnity satisfactory to it against any loss, liability or expense.

(f) The Trustee shall not be liable for interest on any money received by it except as the Trustee may agree in writing with the Company. Money held in trust by the Trustee need not be segregated from other funds except to the extent required by law.

Section 7.02 Rights Of Trustee.

(a) The Trustee may conclusively rely upon any document believed by it to be genuine and to have been signed or presented by the proper Person. The Trustee need not investigate any fact or matter stated in such document.

(b) Before the Trustee acts or refrains from acting, it may require an Officers' Certificate or an Opinion of Counsel or both. The Trustee shall not be liable for any action it takes or omits to take in good faith in reliance on such Officers' Certificate or Opinion of Counsel. The Trustee may consult with counsel and the advice of such counsel or any Opinion of Counsel shall be full and complete authorization and protection from liability in respect of any action taken, suffered or omitted by it hereunder in good faith and in reliance thereon.

(c) The Trustee may act through its attorneys and agents and shall not be responsible for the misconduct or negligence of any agent appointed with due care.

(d) The Trustee shall not be liable for any action it takes or omits to take in good faith that it believes to be authorized or within the rights or powers conferred upon it by this Indenture.

(e) Unless otherwise specifically provided in this Indenture, any demand, request, direction or notice from the Company shall be sufficient if signed by an Officer of the Company.

(f) The Trustee shall be under no obligation to exercise any of the rights or powers vested in it by this Indenture at the request or direction of any of the Holders unless such Holders shall have offered to the Trustee reasonable security or indemnity against the costs, expenses and liabilities that might be incurred by it in compliance with such request or direction.

(g) The Trustee may execute any of the trusts or powers hereunder or perform any duties hereunder either directly or by or through agents or attorneys and the Trustee shall not be responsible for any misconduct or negligence on the part of any agent or attorney appointed with due care by it hereunder.

(h) The Trustee shall not be deemed to have notice of any Default or Event of Default unless a Responsible Officer of the Trustee has actual knowledge thereof or unless written notice of any event which is in fact such a default is received by the Trustee at the Corporate Trust Office of the Trustee, and such notice references the Notes and this Indenture.

(i) Money held by the Trustee in trust hereunder need not be segregated from other funds except to the extent required by law. The Trustee shall be under no liability for interest on any money received by it hereunder except as otherwise agreed in writing with the Company.

(j) The rights, privileges, protections, immunities and benefits given to the Trustee, including, without limitation, its right to be indemnified, are extended to, and shall be enforceable by, the Trustee in each of its capacities hereunder, and to each agent, custodian and other Person employed to act hereunder.

(k) The Trustee may request that the Company deliver an Officers' Certificate setting forth the names of individuals and/or titles of officers authorized at such time to take specified actions pursuant to this Indenture, which Officers' Certificate may be signed by any person authorized to sign an Officers' Certificate, including any person specified as so authorized in any such certificate previously delivered send not superseded.

Section 7.03 Individual Rights of Trustee.

The Trustee in its individual or any other capacity may become the owner or pledgee of Notes and may otherwise deal with the Company or any Affiliate of the Company with the same rights it would have if it were not Trustee. However, in the event that the Trustee acquires any conflicting interest it must eliminate such conflict within 90 days, apply to the SEC for permission to continue as trustee or resign. Any Agent may do the same with like rights and duties. The Trustee is also subject to Sections 7.10 and 7.11 hereof.

Section 7.04 Trustee's Disclaimers.

The Trustee shall not be responsible for and makes no representation as to the validity or adequacy of this Indenture or the Notes, it shall not be accountable for the Company's use of the proceeds from the Notes or any money paid to the Company or upon the Company's direction under any provision of this Indenture, it shall not be responsible for the use or application of any money received by any Paying Agent other than the Trustee, and it shall not be responsible for any statement or recital herein or any statement in the Notes or any other document in connection with the sale of the Notes or pursuant to this Indenture other than its certificate of authentication.

Section 7.05 Notice of Defaults.

If a Default or Event of Default occurs and is continuing and if it is known to the Trustee, the Trustee shall mail to Holders of Notes a notice of the Default or Event of Default within 90 days after it occurs. Except in the case of a Default or Event of Default in payment of principal of, premium, if any, or interest on any Note, the Trustee may withhold the notice if and so long as a committee of its Responsible Officers in good faith determines that withholding the notice is in the interests of the Holders of the Notes.

Section 7.06 Reports by Trustee to Holders of the Notes.

Within 60 days after each May 15 beginning with the May 15 following the date of this Indenture, and for so long as Notes remain outstanding, the Trustee shall mail to the Holders of the Notes a brief report dated as of such reporting date that complies with TIA (Section) 313(a) (but if no event described in TIA (Section) 313(a) has occurred within the twelve months preceding the reporting date, no report need be transmitted). The Trustee also shall comply with TIA (Section) 313(b)(2). The Trustee shall also transmit by mail all reports as required by TIA (Section) 313(c).

A copy of each report at the time of its mailing to the Holders of Notes shall be mailed to the Company and filed with the SEC and each stock exchange on which the Notes are listed in accordance with TIA (Section) 313(d). The Company shall promptly notify the Trustee when the Notes are listed on any stock exchange.

Section 7.07 Compensation and Indemnity.

The Company shall pay to the Trustee from time to time such compensation as the Company and the Trustee shall from time to time agree in writing for its acceptance of this Indenture and services hereunder. The Trustee's compensation shall not be limited by any law on compensation of a trustee of an express trust. The Company shall reimburse the Trustee promptly upon request for all reasonable disbursements, advances and expenses incurred or made by it in addition to the compensation for its services. Such expenses shall include the reasonable compensation, disbursements and expenses of the Trustee's agents and counsel.

The Company shall indemnify the Trustee or any predecessor Trustee against any and all losses, liabilities or expenses, including taxes (except for taxes based upon the income of the Trustee), incurred by it arising out of or in connection with the acceptance or administration of its duties under this Indenture, including the costs and expenses of enforcing this Indenture against the Company (including this Section 7.07) and defending itself against any claim (whether asserted by the Company or any Holder or any other person) or liability in connection with the exercise or performance of any of its powers or duties hereunder, except to the extent any such loss, liability or expense may be attributable to its negligence or bad faith. The Trustee shall notify the Company promptly of any claim for which it may seek indemnity. Failure by the Trustee to so notify the Company shall not relieve the Company of its obligations hereunder. The Company shall defend the claim and the Trustee shall cooperate in the defense. The Trustee may have separate counsel and the Company shall pay the reasonable fees and expenses of such counsel. The Company need not pay for any settlement made without its consent, which consent shall not be unreasonably withheld.

The obligations of the Company under this Section 7.07 shall survive the satisfaction and discharge of this Indenture and the resignation or removal of the Trustee.

When the Trustee incurs expenses or renders services after an Event of Default specified in Section 6.01(g) or (h) hereof occurs, the expenses and the compensation for the services (including the fees and expenses of its agents and counsel) are intended to constitute expenses of administration under any Bankruptcy Law.

The Trustee shall comply with the provisions of TIA (Section) 313(b)(2) to the extent applicable.

Section 7.08 Replacement of Trustee.

A resignation or removal of the Trustee and appointment of a successor Trustee shall become effective only upon the successor Trustee's acceptance of appointment as provided in this Section.

The Trustee may resign in writing at any time and be discharged from the trust hereby created by so notifying the Company. The Holders of Notes of a majority in principal amount of the then outstanding Notes may remove the Trustee by so notifying the Trustee and the Company in writing. The Company may remove the Trustee if:

(a) the Trustee fails to comply with Section 7.10 hereof;

(b) the Trustee is adjudged a bankrupt or an insolvent or an order for relief is entered with respect to the Trustee under any Bankruptcy Law;

(c) a custodian or public officer takes charge of the Trustee or its property; or

(d) the Trustee becomes incapable of acting.

If the Trustee resigns or is removed or if a vacancy exists in the office of Trustee for any reason, the Company shall promptly appoint a successor Trustee. Within one year after the successor Trustee takes office, the Holders of a majority in principal amount of the then outstanding Notes may appoint a successor Trustee to replace the successor Trustee appointed by the Company.

If a successor Trustee does not take office within 30 days after the retiring Trustee resigns or is removed, the retiring Trustee (at the Company's expense), the Company, or the Holders of Notes of at least 10% in principal amount of the then outstanding Notes may petition any court of competent jurisdiction for the appointment of a successor Trustee.

If the Trustee, after written request by any Holder of a Note who has been a Holder of a Note for at least six months, fails to comply with Section 7.10, such Holder of a Note may petition any court of competent jurisdiction for the removal of the Trustee and the appointment of a successor Trustee.

A successor Trustee shall deliver a written acceptance of its appointment to the retiring Trustee and to the Company. Thereupon, the resignation or removal of the retiring Trustee shall become effective, and the successor Trustee shall have all the rights, powers and duties of the Trustee under this Indenture. The successor Trustee shall mail a notice of its succession to Holders of the Notes. The retiring Trustee shall promptly transfer all property held by it as Trustee to the successor Trustee, provided all sums owing to the Trustee hereunder have been paid and subject to the Lien provided for in Section 7.07 hereof. Notwithstanding replacement of the Trustee pursuant to this Section 7.08, the Company's obligations under Section 7.07 hereof shall continue for the benefit of the retiring Trustee.

Section 7.09 Successor Trustee by Merger, Etc.

If the Trustee consolidates, merges or converts into, or transfers all or substantially all of its corporate trust business to, another corporation, the successor corporation without any further act shall be the successor Trustee.

Section 7.10 Eligibility; Disqualification.

There shall at all times be a Trustee hereunder that is a corporation organized and doing business under the laws of the United States of America or of any state thereof that is authorized under such laws to exercise corporate trustee power, that is subject to supervision or examination by federal or state authorities and that has a combined capital and surplus of at least $50 million as set forth in its most recent published annual report of condition.

This Indenture shall always have a Trustee who satisfies the requirements of TIA (Section) 310(a)(1), (2) and (5). The Trustee is subject to TIA (Section) 310(b).

Section 7.11 Preferential Collection of Claims Against Company.

The Trustee is subject to TIA (Section) 311(a), excluding any creditor relationship listed in TIA (Section) 311(b). A Trustee who has resigned or been removed shall be subject to TIA (Section) 311(a) to the extent indicated therein.

ARTICLE 8.
LEGAL DEFEASANCE AND COVENANT DEFEASANCE

Section 8.01 Option to Effect Legal Defeasance or Covenant Defeasance.

The Company may, at the option of its Board of Directors evidenced by a resolution set forth in an Officers' Certificate, at any time, elect to have either Section 8.02 or 8.03 hereof be applied to all outstanding Notes upon compliance with the conditions set forth below in this Article 8.

Section 8.02 Legal Defeasance and Discharge.

Upon the Company's exercise under Section 8.01 hereof of the option applicable to this Section 8.02, the Company shall, subject to the satisfaction of the conditions set forth in Section 8.04 hereof, be deemed to have been discharged from its obligations with respect to all outstanding Notes on the date the conditions set forth below are satisfied (hereinafter, "Legal Defeasance"). For this purpose, Legal Defeasance means that the Company shall be deemed to have paid and discharged the entire Indebtedness represented by the outstanding Notes, which shall thereafter be deemed to be "outstanding" only for the purposes of Section 8.05 hereof and the other Sections of this Indenture referred to in (a) and (b) below, and to have satisfied all its other obligations under such Notes and this Indenture (and the Trustee, on demand of and at the expense of the Company, shall execute proper instruments acknowledging the same), except for the following provisions which shall survive until otherwise terminated or discharged hereunder: (a) the rights of Holders of outstanding Notes to receive solely from the trust fund described in Section 8.04 hereof, and as more fully set forth in such Section, payments in respect of the principal of, premium and Additional Amounts, if any, and interest on such Notes when such payments are due, (b) the Company's obligations with respect to such Notes under Sections 2.06, 2.07, 2.10 and 4.02 hereof, (c) the rights, powers, trusts, duties and immunities of the Trustee hereunder and the Company's obligations in connection therewith and (d) this Article 8. Subject to compliance with this Article 8, the Company may exercise its option under this Section 8.02 notwithstanding the prior exercise of its option under Section 8.03 hereof.

Section 8.03 Covenant defeasance.

Upon the Company's exercise under Section 8.01 hereof of the option applicable to this Section 8.03, the Company shall, subject to the satisfaction of the conditions set forth in Section 8.04 hereof, be released from its obligations under Sections 4.03, 4.07, 4.08, 4.09, 4.10, 4.11, 4.12, 4.13, 4.15 and 4.16 and Article 5 hereof with respect to the outstanding Notes on and after the date the conditions set forth below are satisfied (hereinafter, "Covenant Defeasance"), and the Notes shall thereafter be deemed not "outstanding" for the purposes of any direction, waiver, consent or declaration or act of Holders (and the consequences of any thereof) in connection with such covenants, but shall continue to be deemed "outstanding" for all other purposes hereunder (it being understood that such Notes shall not be deemed outstanding for accounting purposes). For this purpose, Covenant Defeasance means that, with respect to the outstanding Notes, the Company may omit to comply with and shall have no liability in respect of any term, condition or limitation set forth in any such covenant, whether directly or indirectly, by reason of any reference elsewhere herein to any such covenant or by reason of any reference in any such covenant to any other provision herein or in any other document and such omission to comply shall not constitute a Default or an Event of Default under Section 6.01 hereof, but, except as specified above, the remainder of this Indenture and such Notes shall be unaffected thereby. In addition, upon the Company's exercise under Section 8.01 hereof of the option applicable to this Section 8.03 hereof, subject to the satisfaction of the conditions set forth in Section 8.04 hereof, Sections 6.01(d) through 6.01(f) hereof shall not constitute Events of Default.

Section 8.04 Conditions to Legal or Covenant Defeasance.

The following shall be the conditions to the application of either Section 8.02 or 8.03 hereof to the outstanding Notes:

In order to exercise either Legal Defeasance or Covenant Defeasance:

(a) the Company must irrevocably deposit with the Trustee, in trust, for the benefit of the Holders, cash in United States dollars, non-callable Government Securities, or a combination thereof, in such amounts as will be sufficient, in the opinion of a nationally recognized firm of independent public accountants, to pay the principal of, premium and Additional Amounts, if any, and interest on the outstanding Notes on the stated date for payment thereof or on the applicable redemption date, as the case may be, and the Company must specify whether the Notes are being defeased to maturity or to a particular redemption date;

(b) in the case of an election under Section 8.02 hereof, the Company shall have delivered to the Trustee an Opinion of Counsel in the United States reasonably acceptable to the Trustee confirming that (A) the Company has received from, or there has been published by, the Internal Revenue Service a ruling or (B) since the date of this Indenture, there has been a change in the applicable federal income tax law, in either case to the effect that, and based thereon such Opinion of Counsel shall confirm that, the Holders of the outstanding Notes will not recognize income, gain or loss for federal income tax purposes as a result of such Legal Defeasance and will be subject to federal

income tax on the same amounts, in the same manner and at the same times as would have been the case if such Legal Defeasance had not occurred;

(c) in the case of an election under Section 8.03 hereof, the Company shall have delivered to the Trustee an Opinion of Counsel in the United States reasonably acceptable to the Trustee confirming that the Holders of the outstanding Notes will not recognize income, gain or loss for federal income tax purposes as a result of such Covenant Defeasance and will be subject to federal income tax on the same amounts, in the same manner and at the same times as would have been the case if such Covenant Defeasance had not occurred;

(d) no Default or Event of Default shall have occurred and be continuing on the date of such deposit (other than a Default or Event of Default resulting from the incurrence of Indebtedness all or a portion of the proceeds of which will be used to defease the Notes pursuant to this Article 8 concurrently with such incurrence) or insofar as Sections 6.01(g) or 6.01(h) hereof is concerned, at any time in the period ending on the 91st day after the date of deposit;

(e) such Legal Defeasance or Covenant Defeasance shall not result in a breach or violation of, or constitute a default under, any material agreement or instrument (other than this Indenture) to which the Company or any of its Restricted Subsidiaries is a party or by which the Company or any of its Restricted Subsidiaries is bound;

(f) the Company shall have delivered to the Trustee an opinion of counsel to the effect that on the 91st day following the deposit, the trust funds will not be subject to the effect of any applicable bankruptcy, insolvency, reorganization or similar laws affecting creditors' rights generally;

(g) the Company shall have delivered to the Trustee an Officers' Certificate stating that the deposit was not made by the Company with the intent of preferring the Holders over any other creditors of the Company or with the intent of defeating, hindering, delaying or defrauding any other creditors of the Company; and

(h) the Company shall have delivered to the Trustee an Officers' Certificate and an Opinion of Counsel, each stating that all conditions precedent provided for or relating to the Legal Defeasance or the Covenant Defeasance have been complied with.

Section 8.05 Deposited Money and Government Securities to be held in Trust; Other Miscellaneous Provisions.

Subject to Section 8.06 hereof, all money and non-callable Government Securities (including the proceeds thereof) deposited with the Trustee (or other qualifying trustee, collectively for purposes of this Section 8.05, the "Trustee") pursuant to Section 8.04 hereof in respect of the outstanding Notes shall be held in trust and applied by the Trustee, in accordance with the provisions of such Notes and this Indenture, to the payment, either directly or through any Paying Agent (including the Company acting as Paying Agent) as the Trustee may determine, to the Holders of such Notes of all sums due and to become due thereon in respect of

principal, premium and Additional Amounts, if any, and interest, but such money need not be segregated from other funds except to the extent required by law.

The Company shall pay and indemnify the Trustee against any tax, fee or other charge imposed on or assessed against the cash or non-callable Government Securities deposited pursuant to Section 8.04 hereof or the principal and interest received in respect thereof other than any such tax, fee or other charge which by law is for the account of the Holders of the outstanding Notes.

Anything in this Article 8 to the contrary notwithstanding, the Trustee shall deliver or pay to the Company from time to time upon the request of the Company any money or non-callable Government Securities held by it as provided in Section 8.04 hereof which, in the opinion of a nationally recognized firm of independent public accountants expressed in a written certification thereof delivered to the Trustee (which may be the opinion delivered under Section 8.04(a) hereof), are in excess of the amount thereof that would then be required to be deposited to effect an equivalent Legal Defeasance or Covenant Defeasance.

Section 8.06 Repayment to Company.

Any money deposited with the Trustee or any Paying Agent, or then held by the Company, in trust for the payment of the principal of, premium and Additional Amounts, if any, or interest on any Note and remaining unclaimed for two years after such principal, premium and Additional Amounts, if any, or interest has become due and payable shall be paid to the Company on its request or (if then held by the Company) shall be discharged from such trust; and the Holder of such Note shall thereafter, as a secured creditor, look only to the Company for payment thereof, and all liability of the Trustee or such Paying Agent with respect to such trust money, and all liability of the Company as trustee thereof, shall thereupon cease; provided, however, that the Trustee or such Paying Agent, before being required to make any such repayment, may at the expense of the Company cause to be published once, in The New York Times and The Wall Street Journal (national edition), notice that such money remains unclaimed and that, after a date specified therein, which shall not be less than 30 days from the date of such notification or publication, any unclaimed balance of such money then remaining will be repaid to the Company.

Section 8.07 Reinstatement.

If the Trustee or Paying Agent is unable to apply any United States dollars or non-callable Government Securities in accordance with Section 8.02 or 8.03 hereof, as the case may be, by reason of any order or judgment of any court or governmental authority enjoining, restraining or otherwise prohibiting such application, then the Company's obligations under this Indenture and the Notes shall be revived and reinstated as though no deposit had occurred pursuant to Section 8.02 or 8.03 hereof until such time as the Trustee or Paying Agent is permitted to apply all such money in accordance with Section 8.02 or 8.03 hereof, as the case may be; provided, however, that, if the Company makes any payment of principal of, premium, if any, or interest on any Note following the reinstatement of its obligations, the Company shall be subrogated to the rights of the Holders of such Notes to receive such payment from the money held by the Trustee or Paying Agent.

ARTICLE 9.
AMENDMENT, SUPPLEMENT AND WAIVER

Section 9.01 Without Consent of Holders of Notes.

Notwithstanding Section 9.02 of this Indenture, the Company and the Trustee may amend or supplement this Indenture or the Notes without the consent of any Holder of a Note:

(a) to cure any ambiguity, defect or inconsistency;

(b) to provide for uncertificated Notes in addition to or in place of certificated Notes;

(c) to provide for the assumption of the Company's obligations to the Holders of the Notes in the case of a merger or consolidation pursuant to Article 5 hereof;

(d) to make any change that would provide any additional rights or benefits to the Holders of the Notes or that does not adversely affect the legal rights hereunder of any Holder of the Note; or

(e) to comply with requirements of the SEC in order to effect or maintain the qualification of this Indenture under the TIA.

Upon the request of the Company accompanied by a resolution of its Board of Directors authorizing the execution of any such amended or supplemental Indenture, and upon receipt by the Trustee of the documents described in Section 7.02 hereof, the Trustee shall join with the Company in the execution of any amended or supplemental Indenture authorized or permitted by the terms of this Indenture and to make any further appropriate agreements and stipulations that may be therein contained, but the Trustee shall not be obligated to enter into such amended or supplemental Indenture that affects its own rights, duties or immunities under this Indenture or otherwise.

Section 9.02 With Consent of Holders of Notes.

Except as provided below in this Section 9.02, the Company and the Trustee may amend or supplement this Indenture (including Section 3.09, 4.10 and 4.15 hereof) and the Notes may be amended or supplemented with the consent of the Holders of at least a majority in principal amount of the Notes then outstanding (including consents obtained in connection with a tender offer or exchange offer for the Notes), and, subject to Sections 6.04 and 6.07 hereof, any existing Default or Event of Default (other than a Default or Event of Default in the payment of the principal of, premium, if any, or interest on the Notes, except a payment default resulting from an acceleration that has been rescinded) or compliance with any provision of this Indenture or the Notes may be waived with the consent of the Holders of a majority in principal amount of the then outstanding Notes (including consents obtained in connection with a tender offer or exchange offer for the Notes).

Upon the request of the Company accompanied by a resolution of its Board of Directors authorizing the execution of any such amended or supplemental Indenture, and upon the filing with the Trustee of evidence satisfactory to the Trustee of the consent of the Holders of Notes as aforesaid, and upon receipt by the Trustee of the documents described in Section 7.02 hereof, the Trustee shall join with the Company in the execution of such amended or supplemental Indenture unless such amended or supplemental Indenture affects the Trustee's own rights, duties or immunities under this Indenture or otherwise, in which case the Trustee may in its discretion, but shall not be obligated to, enter into such amended or supplemental Indenture.

The Company may, but shall not be obligated to, fix a record date for the purpose of determining the Persons entitled to consent to any indenture supplemental hereto. If a record date is fixed, the Holders on such record date, or their duly designated proxies, and only such Persons, shall be entitled to consent to such supplemental indenture, whether or not such Holders remain Holders after such record date; provided, that unless such consent shall have become effective by virtue of the requisite percentage having been obtained prior to the date which is 180 days after such record date, any such consent previously given shall automatically and without further action by any Holder be canceled and of no further effect.

It shall not be necessary for the consent of the Holders of Notes under this Section 9.02 to approve the particular form of any proposed amendment or waiver, but it shall be sufficient if such consent approves the substance thereof.

After an amendment, supplement or waiver under this Section becomes effective, the Company shall mail to the Holders of Notes affected thereby a notice briefly describing the amendment, supplement or waiver. Any failure of the Company to mail such notice, or any defect therein, shall not, however, in any way impair or affect the validity of any such amended or supplemental Indenture or waiver. Subject to Sections 6.04 and 6.07 hereof, the Holders of a majority in aggregate principal amount of the Notes then outstanding may waive compliance in a particular instance by the Company with any provision of this Indenture or the Notes. However, without the consent of each Holder affected, an amendment or waiver may not (with respect to any Notes held by a non-consenting Holder):

(a) reduce the principal amount of Notes whose Holders must consent to an amendment, supplement or waiver;

(b) reduce the principal of or change the fixed maturity of any Note or alter or waive any of the provisions with respect to the redemption of the Notes except as provided above with respect to Sections 4.10 and 4.15 hereof;

(c) reduce the rate of or change the time for payment of interest, including default interest, on any Note;

(d) waive a Default or Event of Default in the payment of principal of, or premium and Additional Amounts, if any, or interest on the Notes (except a rescission of acceleration of the Notes by the Holders of at least a majority in aggregate principal

amount of the then outstanding Notes and a waiver of the payment default that resulted from such acceleration);

(e) make any Note payable in money other than that stated in the Notes;

(f) make any change in the provisions of this Indenture relating to waivers of past Defaults or the rights of Holders of Notes to receive payments of principal of or premium and Additional Amounts, if any, or interest on the Notes;

(g) waive a redemption payment with respect to any Note (other than a payment required by Sections 3.09, 4.10 and 4.15 hereof); or

(h) make any change in Section 6.04 or 6.07 hereof or in the foregoing amendment and waiver provisions.

Section 9.03 Compliance with Trust Indenture Act.

Every amendment or supplement to this Indenture or the Notes shall be set forth in a amended or supplemental Indenture that complies with the TIA as then in effect.

Section 9.04 Revocation and Effect of Consents.

Until an amendment, supplement or waiver becomes effective, a consent to it by a Holder of a Note is a continuing consent by the Holder of a Note and every subsequent Holder of a Note or portion of a Note that evidences the same debt as the consenting Holder's Note, even if notation of the consent is not made on any Note. However, any such Holder of a Note or subsequent Holder of a Note may revoke the consent as to its Note if the Trustee receives written notice of revocation before the date the waiver, supplement or amendment becomes effective. An amendment, supplement or waiver becomes effective in accordance with its terms and thereafter binds every Holder.

Section 9.05 Notation on or Exchange of Notes.

The Trustee may place an appropriate notation about an amendment, supplement or waiver on any Note thereafter authenticated. The Company in exchange for all Notes may issue and the Trustee shall authenticate new Notes that reflect the amendment, supplement or waiver.

Failure to make the appropriate notation or issue a new Note shall not affect the validity and effect of such amendment, supplement or waiver.

Section 9.06 Trustee to Sign Amendments, Etc.

The Trustee shall sign any amended or supplemental Indenture authorized pursuant to this Article 9 if the amendment or supplement does not adversely affect the rights, duties, liabilities or immunities of the Trustee. The Company may not sign an amendment or supplemental indenture until the Board of Directors approves it. In executing any amended or supplemental indenture, the Trustee shall be entitled to receive and (subject to Section 7.01) shall

be fully protected in relying upon, an Officers' Certificate and an Opinion of Counsel stating that the execution of such amended or supplemental indenture is authorized or permitted by this Indenture.

ARTICLE 10.
SUBSIDIARY GUARANTEES

Section 10.01 Agreement to Guarantee.

Each of the Guarantors hereby agrees as follows:

(a) Such Guarantor, jointly and severally with all other Guarantors, unconditionally guarantees to each Holder of a Note authenticated and delivered by the Trustee and to the Trustee its successors and assigns, regardless of the validity and enforceability of this Indenture, the Notes or the Obligations of the Company under this Indenture or the Notes, that:

(i) the principal of, premium, interest and Additional Amounts, if any, on the Notes will be promptly paid in full when due, whether at maturity, by acceleration, redemption or otherwise, and interest on the overdue principal of, premium, interest and Additional Amounts, if any, on the Notes, to the extent lawful, and all other Obligations of the Company to the Holders or the Trustee thereunder or under this Indenture will be promptly paid in full, all in accordance with the terms thereof; and

(ii) in case of any extension of time for payment or renewal of any Notes or any of such other Obligations, that the same will be promptly paid in full when due in accordance with the terms of the extension or renewal, whether at stated maturity, by acceleration or otherwise.

(b) Notwithstanding the foregoing, in the event that this Guarantee would constitute or result in a violation of any applicable fraudulent conveyance or similar law of any relevant jurisdiction, the liability of the Guarantors under this Indenture shall be reduced to the maximum amount permissible under such fraudulent conveyance or similar law.

Section 10.02 Execution and Delivery of Subsidiary Guarantees.

(a) To evidence its Subsidiary Guarantees set forth in this Indenture, each Guarantor hereby agrees that a notation of such Guarantee substantially in the form attached as Exhibit F to this Indenture shall be endorsed by an Officer of such Guarantor on each Note authenticated and delivered by the Trustee on or after the date hereof.

(b) Notwithstanding the foregoing, each Guarantor hereby agrees that its Guarantee set forth herein shall remain in full force and effect notwithstanding any failure to endorse on each Note a notation of such Guarantee.

(c) If an Officer whose signature is on this Indenture no longer holds that office at the time the Trustee authenticates the Note on which a Guarantee is endorsed, the Guarantee shall be valid nevertheless.

(d) The delivery of any Note by the Trustee, after the authentication thereof under this Indenture, shall constitute due delivery of the Guarantee set forth in this Indenture on behalf of each Guarantor.

(e) Each Guarantor hereby agrees that its obligations hereunder shall be unconditional, regardless of the validity, regularity or enforceability of the Notes or this Indenture, the absence of any action to enforce the same, any waiver or consent by any Holder of the Notes with respect to any provisions hereof or thereof, the recovery of any judgment against the Company, any action to enforce the same or any other circumstance which might otherwise constitute a legal or equitable discharge or defense of a guarantor.

(f) Each Guarantor hereby waives diligence, presentment, demand of payment, filing of claims with a court in the event of insolvency or bankruptcy of the Company, any right to require a proceeding first against the Company, protest, notice and all demands whatsoever and covenants that its Guarantee made pursuant to this Indenture will not be discharged except by complete performance of the obligations contained in the Notes and this Indenture.

(g) If any Holder or the Trustee is required by any court or otherwise to return to the Company or any Guarantor, or any custodian, Trustee, liquidator or other similar official acting in relation to either the Company or such Guarantor, any amount paid by either to the Trustee or such Holder, the Guarantee made pursuant to this Indenture, to the extent theretofore discharged, shall be reinstated in full force and effect.

(h) Each Guarantor agrees that it shall not be entitled to any right of subrogation in relation to the Holders in respect of any obligations guaranteed hereby until payment in full of all obligations guaranteed hereby. Each Guarantor further agrees that, as between such Guarantor, on the one hand, and the Holders and the Trustee, on the other hand:

(i) the maturity of the Obligations guaranteed hereby may be accelerated as provided in Article 6 of this Indenture for the purposes of the Guarantee made pursuant to this Indenture, notwithstanding any stay, injunction or other prohibition preventing such acceleration in respect of the obligations guaranteed hereby; and

(ii) in the event of any declaration of acceleration of such Obligations as provided in Article 6 of this Indenture, such Obligations (whether or not due and payable) shall forthwith become due and payable by such Guarantor for the purpose of the Guarantee made pursuant to this Indenture.

(i) Each Guarantor shall have the right to seek contribution from any other non-paying Guarantor so long as the exercise of such right does not impair the rights of the Holders or the Trustee under the Guarantee made pursuant to this Indenture.

Section 10.03 Guarantors May Consolidate, Etc. on Certain Terms.

(a) Except as set forth in Articles 4 and 5 of this Indenture, nothing contained in this Indenture or in the Notes shall prevent any consolidation or merger of any Guarantor with or into the Company or any other Guarantor or shall prevent any transfer, sale or conveyance of

the property of any Guarantor as an entirety or substantially as an entirety, to the Company or any other Guarantor.

(b) Except as set forth in Articles 4 and 5 of this Indenture, nothing contained in this Indenture or in the Notes shall prevent any consolidation or merger of any Guarantor with or into a corporation or corporations other than the Company or any other Guarantor (in each case, whether or not affiliated with the Guarantor), or successive consolidations or mergers in which a Guarantor or its successor or successors shall be a party or parties, or shall prevent any sale or conveyance of the property of any Guarantor as an entirety or substantially as an entirety, to a corporation other than the Company or any other Guarantor (in each case, whether or not affiliated with the Guarantor) authorized to acquire and operate the same; provided, however, that each Guarantor hereby covenants and agrees that (i) subject to this Indenture, upon any such consolidation, merger, sale or conveyance, the due and punctual performance and observance of all of the covenants and conditions of this Indenture to be performed by such Guarantor, shall be expressly assumed (in the event that such Guarantor is not the surviving corporation in the merger), by supplemental indenture satisfactory in form to the Trustee, executed and delivered to the Trustee, by the corporation formed by such consolidation, or into which such Guarantor shall have been merged, or by the corporation which shall have acquired such property and (ii) immediately after giving effect to such consolidation, merger, sale or conveyance no Default or Event of Default exists.

(c) In case of any such consolidation, merger, sale or conveyance and upon the assumption by the successor corporation, by supplemental indenture, executed and delivered to the Trustee and satisfactory in form to the Trustee, of the Guarantee made pursuant to this Indenture and the due and punctual performance of all of the covenants and conditions of this Indenture to be performed by such Guarantor, such successor corporation shall succeed to and be substituted for such Guarantor with the same effect as if it had been named herein as one of the Guarantors. Such successor corporation thereupon may cause to be signed any or all of the Guarantees to be endorsed upon the Notes issuable under this Indenture which theretofore shall not have been signed by the Company and delivered to the Trustee. All the Guarantees so issued shall in all respects have the same legal rank and benefit under this Indenture as the Guarantees theretofore and thereafter issued in accordance with the terms of this Indenture as though all of such Guarantees had been issued at the date of the execution hereof.

Section 10.04 Releases.

(a) Concurrently with any sale of assets (including, if applicable, all of the Capital Stock of a Guarantor), all Liens, if any, in favor of the Trustee in the assets sold thereby shall be released; provided that in the event of an Asset Sale, the Net Proceeds from such sale or other disposition are treated in accordance with the provisions of Section 4.10 of this Indenture. If the assets sold in such sale or other disposition include all or substantially all of the assets of a Guarantor or all of the Capital Stock of a Guarantor, then the Guarantor (in the event of a sale or other disposition of all of the Capital Stock of such Guarantor) or the Person acquiring the property (in the event of a sale or other disposition of all or substantially all of the assets of such Guarantor) shall be released from and relieved of its obligations under this Indenture and its Guarantee made pursuant hereto; provided that in the event of an Asset Sale, the Net Proceeds from such sale or other disposition are treated in accordance with the provisions of Section 4.10

of this Indenture. Upon delivery by the Company to the Trustee of an Officers' Certificate to the effect that such sale or other disposition was made by the Company or the Guarantor, as the case may be, in accordance with the provisions of this Indenture, including, without limitation, Section 4.10 of this Indenture, the Trustee shall execute any documents reasonably required in order to evidence the release of the Guarantor from its obligations under this Indenture and its Guarantee made pursuant hereto. If the Guarantor is not released from its obligations under its Guarantee, it shall remain liable for the full amount of principal of and interest and Additional Amounts, if any, on the Notes and for the other obligations of such Guarantor under this Indenture.

(b) Upon the designation of a Guarantors as an Unrestricted Subsidiary in accordance with the terms of this Indenture, such Guarantor shall be released and relieved of its obligations under this Indenture. Upon delivery by the Company to the Trustee of an Officers' Certificate and an Opinion of Counsel to the effect that such designation of such Guarantor as an Unrestricted Subsidiary was made by the Company in accordance with the provisions of this Indenture, including without limitation Section 4.07 hereof, the Trustee shall execute any documents reasonably required in order to evidence the release of such Guarantor from its obligations under its Guarantee. Any Guarantor not released from its obligations under its Guarantee shall remain liable for the full amount of principal of and interest on the Notes and for the other obligations of any Guarantor under this Indenture as provided in this Article 10.

(c) Each Guarantor shall be released and relieved of its obligations under this Indenture in accordance with, and subject to, Section 4.18 hereof.

Section 10.05 No Recourse Against Others.

No past, present or future director, officer, employee, incorporator, stockholder or agent of any Guarantor, as such, shall have any liability for any obligations of the Company or any Guarantor under the Notes, any Guarantees, this Indenture or for any claim based on, in respect of, or by reason of, such obligations or their creation. Each Holder of the Notes by accepting a Note waives and releases all such liability. The waiver and release are part of the consideration for issuance of the Notes. Such waiver may not be effective to waive liabilities under the federal securities laws and it is the view of the Securities and Exchange Commission that such a waiver is against public policy.

ARTICLE 11.
SUBORDINATION

Section 11.01 Agreement to Subordinate.

The Company agrees, and each Holder by accepting a Note agrees, that the Indebtedness evidenced by the Notes is subordinated in right of payment, to the extent and in the manner provided in this Article 11, to the prior payment in full in cash of all Senior Debt (whether outstanding on the date hereof or hereafter created, incurred, assumed or guaranteed), and that the subordination is for the benefit of the holders of Senior Debt.

Section 11.02 Liquidation; Dissolution; Bankruptcy.

Upon any distribution to creditors of the Company in a liquidation or dissolution of the Company, in a bankruptcy, reorganization, insolvency, receivership or similar proceeding relating to the Company or its property, in an assignment for the benefit of creditors or in any marshalling of the Company's assets and liabilities, the holders of Senior Debt shall be entitled to receive payment in full in cash of all Obligations due in respect of such Senior Debt (including interest after the commencement of any such proceeding at the rate specified in the applicable Senior Debt, whether or not an allowable claim in any such proceeding) before the Holders of Notes will be entitled to receive any payment with respect to the Notes, and until all Obligations with respect to Senior Debt are paid in full in cash, any distribution to which the Holders of Notes would be entitled shall be made to the holders of Senior Debt (except, in each case, that Holders of Notes may receive Permitted Junior Securities and payments made from the trust described under Article 8).

Section 11.03 Default on Designated Senior Debt.

The Company may not make any payment or distribution to the Trustee or any Holder in respect of Obligations with respect to the Notes and may not acquire from the Trustee or any Holder any Notes for cash or property (other than (i) securities that are subordinated to at least the same extent as the Notes to (a) Senior Debt and (b) any securities issued in exchange for Senior Debt and (ii) payments and other distributions made from any defeasance trust created pursuant to Section 8.01 hereof) until all principal and other Obligations with respect to the Senior Debt have been paid in full if:

(i) a default in the payment of any principal or other Obligations with respect to Designated Senior Debt occurs and is continuing; or

(ii) a default, other than a payment default, on Designated Senior Debt occurs and is continuing that then permits holders of the Designated Senior Debt as to which such default relates to accelerate its maturity (or that would permit such holders to accelerate with the giving of notice or the passage of time or both) and the Trustee receives a notice of the default (a "Payment Blockage Notice") from the Company or a Representative with respect to such Designated Senior Debt. If the Trustee receives any such Payment Blockage Notice, no subsequent Payment Blockage Notice shall be effective for purposes of this Section unless and until (i) at least 360 days shall have elapsed since the effectiveness of the immediately prior Payment Blockage Notice and (ii) all scheduled payments of principal, premium and Additional Amounts, if any, and interest on the Notes that have come due have been paid in full in cash. No nonpayment default that existed or was continuing on the date of delivery of any Payment Blockage Notice to the Trustee shall be, or be made, the basis for a subsequent Payment Blockage Notice unless such default shall have been waived or cured for a period of not less than 90 days.

The Company may and shall resume payments on and distributions in respect of the Notes and may acquire them upon the earlier of:

(i) the date upon which the default is cured or waived, or

(ii) in the case of a default referred to in Section 11.03(ii) hereof, 179 days pass after the date on which the applicable Payment Blockage Notice is received if the maturity of such Designated Senior Debt has not been accelerated,

if this Article otherwise permits the payment, distribution or acquisition at the time of such payment or acquisition.

Section 11.04 Acceleration of Securities.

If payment of the Securities is accelerated because of an Event of Default, the Company shall promptly notify holders of Senior Debt of the acceleration.

Section 11.05 When Distribution Must Be Paid Over.

In the event that the Trustee or any Holder receives any payment of any Obligations with respect to the Notes at a time when the Trustee or such Holder, as applicable, has actual knowledge that such payment is prohibited by Article 11 hereof, such payment shall be held by the Trustee or such Holder, in trust for the benefit of, and shall be paid forthwith over and delivered, upon written request, to, the holders of Senior Debt as their interests may appear or their Representative under the indenture or other agreement (if any) pursuant to which Senior Debt may have been issued, as their respective interests may appear, for application to the payment of all Obligations with respect to Senior Debt remaining unpaid to the extent necessary to pay such Obligations in full in accordance with their terms, after giving effect to any concurrent payment or distribution to or for the holders of Senior Debt.

With respect to the holders of Senior Debt, the Trustee undertakes to perform only such obligations on the part of the Trustee as are specifically set forth in this Article 11, and no implied covenants or obligations with respect to the holders of Senior Debt shall be read into this Indenture against the Trustee. The Trustee shall not be deemed to owe any fiduciary duty to the holders of Senior Debt, and shall not be liable to any such holders if the Trustee shall pay over or distribute to or on behalf of Holders or the Company or any other Person money or assets to which any holders of Senior Debt shall be entitled by virtue of this Article 11, except if such payment is made as a result of the willful misconduct or negligence of the Trustee.

Section 11.06 Notice by Company

The Company shall promptly notify the Trustee and the Paying Agent of any facts known to the Company that would cause a payment of any Obligations with respect to the Notes to violate this Article 11, but failure to give such notice shall not affect the subordination of the Notes to the Senior Debt as provided in this Article 11.

The Trustee shall be entitled to rely on the delivery to it of a written notice by a person representing himself to be a holder of Senior Debt (or a trustee or agent on behalf of such holder) to establish that such notice has been given by a holder of Senior Debt (or a trustee or agent on behalf of any such holder). In the event that the Trustee determines in good faith that further evidence is required with respect to the right of any person as holder of Senior Debt to

participate in any payment or distribution pursuant to this Article 11, the Trustee may request such person to furnish evidence to the reasonable satisfaction of the Trustee as to the amount of Senior Debt held by such person, the extent to which such person is entitled to participate in such evidence is not furnish, the Trustee may defer any payment which it may be required to make for the benefit of such person pursuant to the terms of this Indenture pending judicial determination as to the rights of such person to receive such payment.

Section 11.07 Subrogation.

After all Senior Debt is paid in full in cash and until the Notes are paid in full, Holders of Notes shall be subrogated (equally and ratably with all other Indebtedness pari passu with the Notes) to the rights of holders of Senior Debt to receive distributions applicable to Senior Debt to the extent that distributions otherwise payable to the Holders of Notes have been applied to the payment of Senior Debt. A distribution made under this Article 11 to holders of Senior Debt that otherwise would have been made to Holders of Notes is not, as between the Company and Holders, a payment by the Company on the Notes.

Section 11.08 Relative Rights.

This Article 11 defines the relative rights of Holders of Notes and holders of Senior Debt. Nothing in this Indenture shall:

(i) impair, as between the Company and Holders of Notes, the obligation of the Company, which is absolute and unconditional, to pay principal of and interest on the Notes in accordance with their terms;

(ii) affect the relative rights of Holders of Notes and creditors of the Company other than their rights in relation to holders of Senior Debt; or

(iii) prevent the Trustee or any Holder of Notes from exercising its available remedies upon a Default or Event of Default, subject to the rights of holders and owners of Senior Debt to receive distributions and payments otherwise payable to Holders of Notes.

If the Company fails because of this Article 11 to pay principal of or interest on a Note on the due date, the failure is still a Default or Event of Default.

Section 11.09 Subordination May Not Be Impaired by Company.

No right of any holder of Senior Debt to enforce the subordination of the Indebtedness evidenced by the Notes shall be impaired by any act or failure to act by the Company or any Holder or by the failure of the Company or any Holder to comply with this Indenture.

Section 11.10 Distribution or Notice to Representative.

Whenever a distribution is to be made or a notice given to holders of Senior Debt, the distribution may be made and the notice given to their Representative.

Upon any payment or distribution of assets of the Company referred to in this Article 11, the Trustee and the Holders of Notes shall be entitled to rely upon any order or decree made by any court of competent jurisdiction or upon any certificate of such Representative or of the liquidating trustee or agent or other Person making any distribution to the Trustee or to the Holders of Notes for the purpose of ascertaining the Persons entitled to participate in such distribution, the holders of the Senior Debt and other Indebtedness of the Company, the amount thereof or payable thereon, the amount or amounts paid or distributed thereon and all other facts pertinent thereto or to this Article 11.

Section 11.11 Rights of Trustee and Paying Agent.

Notwithstanding the provisions of this Article 11 or any other provision of this Indenture, the Trustee shall not be charged with knowledge of the existence of any facts that would prohibit the making of any payment or distribution by the Trustee, and the Trustee and the Paying Agent may continue to make payments on the Notes, unless the Trustee shall have received at its Corporate Trust Office at least three Business Days prior to the date of such payment written notice of facts that would cause the payment of any Obligations with respect to the Notes to violate this Article 11. Only the Company or a Representative may give the notice. Nothing in this Article 11 shall impair the claims of, or payments to, the Trustee under or pursuant to Section 7.07 hereof.

The Trustee in its individual or any other capacity may hold Senior Debt with the same rights it would have if it were not Trustee. Any Agent may do the same with like rights.

Section 11.12 Authorization to Effect Subordination.

Each Holder of Notes, by the Holder's acceptance thereof, authorizes and directs the Trustee on such Holder's behalf to take such action as may be necessary or appropriate to effectuate the subordination as provided in this Article 11, and appoints the Trustee to act as such Holder's attorney-in-fact for any and all such purposes. If the Trustee does not file a proper proof of claim or proof of debt in the form required in any proceeding referred to in Section 6.09 hereof at least 30 days before the expiration of the time to file such claim, the credit agents are hereby authorized to file an appropriate claim for and on behalf of the Holders of the Notes.

Section 11.13 Amendments.

The provisions of this Article 11 shall not be amended or modified without the written consent of the holders of at least 75% in aggregate principal amount of the Notes then outstanding if such amendment would adversely affect the rights of Holders of Notes.

ARTICLE 12.
MISCELLANEOUS

Section 12.01 Trust Indenture Act Controls.

If any provision of this Indenture limits, qualifies or conflicts with the duties imposed by TIA (Section) 318(c), the imposed duties shall control.

Section 12.02 Notices.

Any notice or communication by the Company or the Trustee to the others is duly given if in writing and delivered in Person or mailed by first class mail (registered or certified, return receipt requested), telecopier or overnight air courier guaranteeing next day delivery, to the others' address:

If to the Company or any Guarantor:

L-3 Communications Corporation
600 Third Avenue, 34th Floor,
New York, New York 10016
Attention: Senior Vice President-Finance (Fax: 212-805-5440)

With a copy to:

Simpson Thacher & Bartlett
425 Lexington Avenue
New York, New York 10017
Attention: Vincent Pagano, Jr. (Fax: 212-455-2502)

If to the Trustee:

The Bank of New York
101 Barclay Street
New York, New York 10286
Attention: Corporate Trust Administration (Fax: 212-896-7299)

The Company or the Trustee, by notice to the others may designate additional or different addresses for subsequent notices or communications.

All notices and communications (other than those sent to Holders) shall be deemed to have been duly given, at the time delivered by hand, if personally delivered; five Business Days after being deposited in the mail, postage prepaid, if mailed; when receipt acknowledged, if telecopied; and the next Business Day after timely delivery to the courier, if sent by overnight air courier guaranteeing next day delivery.

Any notice or communication to a Holder shall be mailed by first class mail, certified or registered, return receipt requested, or by overnight air courier guaranteeing next day delivery to its address shown on the register kept by the Registrar. Any notice or communication shall also be so mailed to any Person described in TIA (Section) 313(c), to the extent required by the TIA. Failure to mail a notice or communication to a Holder or any defect in it shall not affect its sufficiency with respect to other Holders.

If a notice or communication is mailed in the manner provided above within the time prescribed, it is duly given, whether or not the addressee receives it.

If the Company mails a notice or communication to Holders, it shall mail a copy to the Trustee and each Agent at the same time.

Section 12.03 Communications By Holders of Notes with Other Holders of Notes.

Holders may communicate pursuant to TIA (Section) 312(b) with other Holders with respect to their rights under this Indenture or the Notes. The Company, the Trustee, the Registrar and anyone else shall have the protection of TIA (Section) 312(c).

Section 12.04 Certificate and Opinion as to Conditions Precedent.

Upon any request or application by the Company to the Trustee to take any action under this Indenture, the Company shall furnish to the Trustee:

(a) an Officers' Certificate in form and substance reasonably satisfactory to the Trustee (which shall include the statements set forth in Section 12.05 hereof) stating that, in the opinion of the signers, all conditions precedent and covenants, if any, provided for in this Indenture relating to the proposed action have been satisfied; and

(b) an Opinion of Counsel in form and substance reasonably satisfactory to the Trustee (which shall include the statements set forth in Section 12.05 hereof) stating that, in the opinion of such counsel, all such conditions precedent and covenants have been satisfied.

Section 12.05 Statements required in Certificate or Opinion.

Each certificate or opinion with respect to compliance with a condition or covenant provided for in this Indenture (other than a certificate provided pursuant to TIA (Section) 314(a)(4)) shall comply with the provisions of TIA (Section) 314(e) and shall include:

(a) a statement that the Person making such certificate or opinion has read such covenant or condition;

(b) a brief statement as to the nature and scope of the examination or investigation upon which the statements or opinions contained in such certificate or opinion are based;

(c) a statement that, in the opinion of such Person, he or she has made such examination or investigation as is necessary to enable him to express an informed opinion as to whether or not such covenant or condition has been satisfied; and

(d) a statement as to whether or not, in the opinion of such Person, such condition or covenant has been satisfied.

Section 12.06 Rule by Trustee and Agents.

The Trustee may make reasonable rules for action by or at a meeting of Holders. The Registrar or Paying Agent may make reasonable rules and set reasonable requirements for its functions.

Section 12.07 No Personal Liability of Directors, Officers, Employees and Stockholders.

No director, officer, employee, incorporator or stockholder of the Company or any Guarantor, as such, shall have any liability for any obligations of the Company or any Guarantor under the Notes or the Subsidiary Guarantees and this Indenture or for any claim based on, in respect of, or by reason of, such obligations or their creation. Each Holder of Notes by accepting a Note waives and releases all such liability. The waiver and release are part of the consideration for issuance of the Notes. Such waiver may not be effective to waive liabilities under the federal securities laws and it is the view of the SEC that such a waiver is against public policy.

Section 12.08 Governing Law.

THIS INDENTURE, THE NOTES AND THE SUBSIDIARY GUARANTEES SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK.

Section 12.09 No Adverse Interpretation of other Agreements.

This Indenture may not be used to interpret any other indenture, loan or debt agreement of the Company or its Subsidiaries or of any other Person. Any such indenture, loan or debt agreement may not be used to interpret this Indenture.

Section 12.10 Successors.

All agreements of the Company in this Indenture and the Notes shall bind its successors. All agreements of the Trustee in this Indenture shall bind its successors.

Section 12.11 Severability.

In case any provision in this Indenture or in the Notes shall be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

Section 12.12 Counterpart Originals.

The parties may sign any number of copies of this Indenture. Each signed copy shall be an original, but all of them together represent the same agreement.

Section 12.13 Table of Contents, Headings, Etc.

The Table of Contents, Cross-Reference Table and Headings of the Articles and Sections of this Indenture have been inserted for convenience of reference only, are not to be considered a part of this Indenture and shall in no way modify or restrict any of the terms or provisions hereof.

[Signatures on following pages]

SIGNATURES

Dated as of June 28, 2002

L-3 COMMUNICATIONS CORPORATION

By: /s/ Christopher C. Cambria

Name: Christopher C. Cambria
Title: Vice President and Secretary

GUARANTORS:

AMI INSTRUMENTS, INC.
APCOM, INC.
CELERITY SYSTEMS INCORPORATED
COLEMAN RESEARCH CORPORATION
EER SYSTEMS, INC.
ELECTRODYNAMICS, INC.
HENSCHEL, INC.
HYGIENETICS ENVIRONMENTAL SERVICES, INC.
INTERSTATE ELECTRONICS CORPORATION
KDI PRECISION PRODUCTS, INC.
L-3 COMMUNICATIONS AIS GP CORPORATION
L-3 COMMUNICATIONS ANALYTICS CORPORATION
L-3 COMMUNICATIONS ATLANTIC SCIENCE & TECHNOLOGY CORPORATION L-3 COMMUNICATIONS AYDIN CORPORATION L-3 COMMUNICATIONS ESSCO, INC.
L-3 COMMUNICATIONS ILEX SYSTEMS, INC.
L-3 COMMUNICATIONS INVESTMENTS, INC.
L-3 COMMUNICATIONS SPD TECHNOLOGIES, INC.
L-3 COMMUNICATIONS STORM CONTROL SYSTEMS, INC.
MICRODYNE COMMUNICATIONS TECHNOLOGY INCORPORATED
MICRODYNE CORPORATION
MICRODYNE OUTSOURCING INCORPORATED
MPRI, INC.
PAC ORD, INC.
POWER PARAGON, INC.
SOUTHERN CALIFORNIA MICROWAVE, INC.
SPD ELECTRICAL SYSTEMS, INC.
SPD HOLDINGS, INC.
SPD SWITCHGEAR, INC.
as Guarantors

By: /s/ Christopher C. Cambria

Name: Christopher C. Cambria
Title: Vice President and Secretary

L-3 COMMUNICATIONS INTEGRATED SYSTEMS L.P.
as Guarantor

By: L-3 COMMUNICATIONS AIS GP CORPORATION,
as General Partner

By: /s/ Christopher C. Cambria

Name: Christopher C. Cambria
Title: Authorized Person

THE BANK OF NEW YORK,
as Trustee

By: /s/ Kisha A. Holder

Name: Kisha A. Holder
Title: Assistant Treasurer

EXHIBIT A
(Face of Note)

==========

CUSIP _____

7 5/8% Senior Subordinated Notes due 2012

No. ___ $_____

L-3 COMMUNICATIONS CORPORATION

promises to pay to _____
or registered assigns,
the principal sum of_____
Dollars on June 15, 2012.
Interest Payment Dates: June 15 and December 15.
Record Dates: June 1 and December 1.

Dated: June 28, 2002

L-3 COMMUNICATIONS CORPORATION

By:

Name:
Title:

By:

Name:
Title:

This is one of the [Global]
Notes referred to in the
within-mentioned Indenture:

Dated: June 28, 2002

THE BANK OF NEW YORK,
as Trustee

By:

Name:
Title:

==========

(Back of Note)

7 5/8% Senior Subordinated Notes due 2012

THIS GLOBAL NOTE IS HELD BY THE DEPOSITARY (AS DEFINED IN THE INDENTURE GOVERNING THIS NOTE) OR ITS NOMINEE IN CUSTODY FOR THE BENEFIT OF THE BENEFICIAL OWNERS HEREOF, AND IS NOT TRANSFERABLE TO ANY PERSON UNDER ANY CIRCUMSTANCES EXCEPT THAT (I) THE TRUSTEE MAY MAKE SUCH NOTATIONS HEREON AS MAY BE REQUIRED PURSUANT TO SECTION 2.07 OF THE INDENTURE, (II) THIS GLOBAL NOTE MAY BE EXCHANGED IN WHOLE BUT NOT IN PART PURSUANT TO SECTION 2.06(a) OF THE INDENTURE, (III) THIS GLOBAL NOTE MAY BE DELIVERED TO THE TRUSTEE FOR CANCELLATION PURSUANT TO SECTION 2.11 OF THE INDENTURE AND (IV) THIS GLOBAL NOTE MAY BE TRANSFERRED TO A SUCCESSOR DEPOSITARY WITH THE PRIOR WRITTEN CONSENT OF L-3 COMMUNICATION CORPORATION.(1)

THE SECURITY (OR ITS PREDECESSOR) EVIDENCED HEREBY WAS ORIGINALLY ISSUED IN A TRANSACTION EXEMPT FROM REGISTRATION UNDER SECTION 5 OF THE UNITED STATES SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND THE SECURITY EVIDENCED HEREBY MAY NOT BE OFFERED, SOLD OR OTHERWISE TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION OR AN APPLICABLE EXEMPTION THEREFROM. EACH PURCHASER OF THE SECURITY EVIDENCED HEREBY IS HEREBY NOTIFIED THAT THE SELLER MAY BE RELYING ON THE EXEMPTION FROM THE PROVISION OF SECTION 5 OF THE SECURITIES ACT PROVIDED BY RULE 144A THEREUNDER. THE HOLDER OF THE SECURITY EVIDENCED HEREBY AGREES FOR THE BENEFIT OF L-3 COMMUNICATIONS CORPORATION THAT (A) SUCH SECURITY MAY BE RESOLD, PLEDGED OR OTHERWISE TRANSFERRED, ONLY (1) (a) TO A PERSON WHOM THE SELLER REASONABLY BELIEVES IS A QUALIFIED INSTITUTIONAL BUYER (AS DEFINED IN RULE 144A UNDER THE SECURITIES ACT) IN A TRANSACTION MEETING THE REQUIREMENTS OF RULE 144A, (b) IN A TRANSACTION MEETING THE REQUIREMENTS OF RULE 144 UNDER THE SECURITIES ACT, (c) OUTSIDE THE UNITED STATES TO A FOREIGN PERSON IN A TRANSACTION MEETING THE REQUIREMENTS OF RULE 904 UNDER THE SECURITIES ACT OR (d) IN ACCORDANCE WITH ANOTHER EXEMPTION FROM THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT (AND BASED UPON AN OPINION OF COUNSEL IF THE COMPANY SO REQUESTS), (2) TO THE COMPANY OR (3) PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT, IN EACH CASE, IN ACCORDANCE WITH ANY APPLICABLE SECURITIES LAWS OF ANY STATE OF THE UNITED STATES OR ANY OTHER APPLICABLE JURISDICTION AND (B) THE HOLDER WILL, AND EACH SUBSEQUENT HOLDER IS REQUIRED TO, NOTIFY ANY PURCHASER FROM IT OF THE SECURITY EVIDENCED HEREBY OF THE RESALE RESTRICTIONS SET FORTH IN (A) ABOVE.

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(1) This paragraph should be included only if the Note is issued in global form.

Capitalized terms used herein shall have the meanings assigned to them in the Indenture referred to below unless otherwise indicated.

1. INTEREST. L-3 Communications Corporation, a Delaware corporation (the "Company"), promises to pay interest on the principal amount of this Note at 7?% per annum from June 28, 2002 until maturity and shall pay the Additional Amounts payable pursuant to Section 5 of the Registration Rights Agreement referred to below. The Company will pay interest and Additional Amounts, if any, semi-annually on June 15 and December 15 of each year, or if any such day is not a Business Day, on the next succeeding Business Day (each an "Interest Payment Date"), with the same force and effect as if made on the date for such payment. Interest on the Notes will accrue from the most recent date to which interest has been paid or, if no interest has been paid, from 1:00 p.m. June 28, 2002; provided that if there is no existing Default in the payment of interest, and if this Note is authenticated between a record date referred to on the face hereof and the next succeeding Interest Payment Date, interest shall accrue from such next succeeding Interest Payment Date; provided, further, that the first Interest Payment Date shall be December 15, 2002. The Company shall pay interest (including post-petition interest in any proceeding under any Bankruptcy Law) on overdue principal and premium, if any, from time to time on demand at a rate that is 1% per annum in excess of the rate then in effect; it shall pay interest (including post-petition interest in any proceeding under any Bankruptcy Law) on overdue installments of interest and Additional Amounts (without regard to any applicable grace periods) from time to time on demand at the same rate to the extent lawful. Interest will be computed on the basis of a 360-day year of twelve 30-day months.

2. METHOD OF PAYMENT. The Company will pay interest on the Notes (except defaulted interest) and Additional Amounts, if any, to the Persons who are registered Holders of Notes at the close of business on the June 1 or December 1 next (whether or not a Business Day) preceding the Interest Payment Date, even if such Notes are canceled after such record date and on or before such Interest Payment Date, except as provided in Section 2.12 of the Indenture with respect to defaulted interest. The Notes will be payable as to principal, premium and Additional Amounts, if any, and interest at the office or agency of the Company maintained for such purpose within The City and State of New York, or, at the option of the Company, payment of interest and Additional Amounts may be made by check mailed to the Holders at their addresses set forth in the register of Holders; provided that payment by wire transfer of immediately available funds will be required with respect to principal of and interest, premium and Additional Amounts on, all Global Notes and all other Notes the Holders of which shall have provided wire transfer instructions to the Company or the Paying Agent if such Holders shall be registered Holders of at least $250,000 in principal amount of the Notes. Such payment shall be in such coin or currency of the United States of America as at the time of payment is legal tender for payment of public and private debts.

3. PAYING AGENT AND REGISTRAR. Initially, The Bank of New York, the Trustee under the Indenture, will act as Paying Agent and Registrar. The Company may change any Paying Agent or Registrar without notice to any Holder. The Company or any of its Subsidiaries may act in any such capacity.

4. INDENTURE. The Company issued the Notes under an Indenture dated as of June 28, 2002 ("Indenture") among the Company, the Guarantors named therein and the Trustee. The

terms of the Notes include those stated in the Indenture and those made part of the Indenture by reference to the Trust Indenture Act of 1939, as amended (15 U.S. Code (Sections) 77aaa-77bbbb). The Notes are subject to all such terms, and Holders are referred to the Indenture and such Act for a statement of such terms. To the extent any provision of this Note conflicts with the express provisions of the Indenture, the provisions of the Indenture shall govern and be controlling.

5. OPTIONAL REDEMPTION.

(a) Except as set forth in clause (b) of this paragraph 5, the Notes shall not be redeemable at the Company's option prior to June 15, 2007. Thereafter, the Notes shall be subject to redemption at any time at the option of the Company, in whole or in part, upon not less than 30 nor more than 60 days' notice, at the redemption prices (expressed as percentages of principal amount) set forth below plus accrued and unpaid interest and Additional Amounts thereon, if any, to the applicable redemption date, if redeemed during the twelve-month period beginning on June 15 of the years indicated below:

YEAR	PERCENTAGE
2007.....	103.813%
2008.....	102.542%
2009.....	101.271%
2010 and thereafter.....	100.000%

(b) Notwithstanding the foregoing, before June 15, 2005, the Company may on any one or more occasions redeem up to an aggregate of 35% of the Notes originally issued at a redemption price of 107.625% of the principal amount thereof, plus accrued and unpaid interest and Additional Amounts thereon, if any, to the redemption date, with the net cash proceeds of one or more Equity Offerings by the Company or the net cash proceeds of one or more Equity Offerings by Holdings that are contributed to the Company as common equity capital; provided that at least 65% of the Notes originally issued remain outstanding immediately after the occurrence of each such redemption; and provided, further, that any such redemption must occur within 120 days of the date of the closing of such Equity Offering.

6. MANDATORY REDEMPTION.

Except as set forth in paragraph 7 below, the Company shall not be required to make mandatory redemption payments with respect to the Notes.

7. REPURCHASE AT OPTION OF HOLDER.

(a) If there is a Change of Control, the Company shall be required to make an offer (a "Change of Control Offer") to repurchase all or any part (equal to $1,000 or an integral multiple thereof) of each Holder's Notes at a purchase price equal to 101% of aggregate principal amount thereof plus accrued and unpaid interest, if any, to the date of purchase (the "Change of Control Payment"). Within 10 days following any Change of Control, the Company shall mail a notice to each Holder setting forth the procedures governing the Change of Control Offer as required by the Indenture.

(b) If the Company or a Subsidiary consummates any Asset Sales, within five Business Days of each date on which the aggregate amount of Excess Proceeds exceeds $10.0 million, the Company shall commence an offer to all holders of 1997 Notes (an "Asset Sale Offer") pursuant to Section 3.09 of the Indenture to purchase the maximum principal amount of 1997 Notes that may be purchased out of the Excess Proceeds, at an offer price in cash in an amount equal to 100% of the principal amount thereof plus accrued and unpaid interest to the date of purchase, in accordance with the procedures set forth in the 1997 Indenture. To the extent that (i) there are no outstanding 1997 Notes at the time an Asset Sale Offer is required to be made or (ii) the aggregate amount of 1997 Notes tendered pursuant to an Asset Sale Offer is less than the remaining Excess Proceeds ("Remaining Excess Proceeds") and the sum of (A) such amount of Remaining Excess Proceeds and (B) the Remaining Excess Proceeds from any subsequent Asset Sale Offers exceeds $10.0 million, the Company will be required to make an offer to all Holders of Notes and any other Indebtedness that ranks pari passu with the Notes (including the May 1998 Notes and the December 1998 Notes) that, by its terms, requires the Company to offer to repurchase such Indebtedness with such Excess Proceeds or Remaining Excess Proceeds, as the case may be, (a "Secondary Asset Sale Offer") to purchase the maximum principal amount of Notes and pari passu Indebtedness that may be purchased out of such Excess Proceeds or Remaining Excess Proceeds, as the case may be, at an offer price in cash in an amount equal to 100% of the principal amount thereof plus accrued and unpaid interest thereon, if any, to the date of purchase, in accordance with the procedures set forth in the Indenture. To the extent that the aggregate amount of Notes or pari passu Indebtedness tendered pursuant to a Secondary Asset Sale Offer is less than the Excess Proceeds or Remaining Excess Proceeds, as the case may be, the Company may use any Excess Proceeds or Remaining Excess Proceeds, as the case may be, for general corporate purposes. If the aggregate principal amount of Notes or pari passu Indebtedness surrendered by Holders thereof exceeds the amount of Excess Proceeds or Remaining Excess Proceeds, as the case may be, in a Secondary Asset Sale Offer, the Company shall repurchase such Indebtedness on a pro rata basis and the Trustee shall select the Notes to be purchased on a pro rata basis. Holders of Notes that are the subject of an offer to purchase will receive an Asset Sale Offer from the Company prior to any related purchase date and may elect to have such Notes purchased by completing the form entitled "Option of Holder to Elect Purchase" on the reverse of the Notes.

8. NOTICE OF REDEMPTION. Notice of redemption will be mailed at least 30 days but not more than 60 days before the redemption date to each Holder whose Notes are to be redeemed at its registered address. Notes in denominations larger than $1,000 may be redeemed in part but only in whole multiples of $1,000, unless all of the Notes held by a Holder are to be redeemed. On and after the redemption date interest ceases to accrue on Notes or portions thereof called for redemption.

9. DENOMINATIONS, TRANSFER, EXCHANGE. The Notes are in registered form without coupons in denominations of $1,000 and integral multiples of $1,000. The transfer of Notes may be registered and Notes may be exchanged as provided in the Indenture. The Registrar and the Trustee may require a Holder, among other things, to furnish appropriate endorsements and transfer documents and the Company may require a Holder to pay any taxes and fees required by law or permitted by the Indenture. The Company need not exchange or register the transfer of any Note or portion of a Note selected for redemption, except for the unredeemed portion of any Note being redeemed in part. Also, it need not exchange or register the transfer of any Notes for

a period of 15 days before a selection of Notes to be redeemed or during the period between a record date and the corresponding Interest Payment Date.

10. PERSONS DEEMED OWNERS. The registered Holder of a Note may be treated as its owner for all purposes.

11. AMENDMENT, SUPPLEMENT AND WAIVER. Subject to certain exceptions, the Indenture or the Notes may be amended or supplemented with the consent of the Holders of at least a majority in principal amount of the then outstanding Notes, and any existing default or compliance with any provision of the Indenture or the Notes may be waived with the consent of the Holders of a majority in principal amount of the then outstanding Notes. Without the consent of any Holder of a Note, the Indenture or the Notes may be amended or supplemented to cure any ambiguity, defect or inconsistency, to provide for uncertificated Notes in addition to or in place of certificated Notes, to provide for the assumption of the Company's obligations to Holders of the Notes in case of a merger or consolidation, to make any change that would provide any additional rights or benefits to the Holders of the Notes or that does not adversely affect the legal rights under the Indenture of any such Holder, or to comply with the requirements of the SEC in order to effect or maintain the qualification of the Indenture under the Trust Indenture Act.

12. DEFAULTS AND REMEDIES. An "Event of Default" occurs if: (i) default for 30 days in the payment when due of interest on, or Additional Amounts with respect to, the Notes (whether or not prohibited by the subordination provisions of the Indenture); (ii) default in payment when due of the principal of or premium, if any, on the Notes (whether or not prohibited by the subordination provisions of the Indenture); (iii) failure by the Company to comply with the covenants contained in sections 4.10, 4.15 or 5.01 of the Indenture; (iv) failure by the Company for 60 days after notice to comply with any of its other agreements in the Indenture or the Notes; (v) default under any mortgage, indenture or instrument under which there may be issued or by which there may be secured or evidenced any Indebtedness for money borrowed by the Company or any of its Restricted Subsidiaries (or the payment of which is guaranteed by the Company or any of its Restricted Subsidiaries) whether such Indebtedness or guarantee now exists, or is created after the date of the Indenture, which default results in the acceleration of such Indebtedness prior to its express maturity and, in each case, the principal amount of any such Indebtedness, together with the principal amount of any other such Indebtedness the maturity of which has been so accelerated, aggregates $25.0 million or more; (vi) failure by the Company or any of its Restricted Subsidiaries to pay final judgments aggregating in excess of $25.0 million, which judgments are not paid, discharged or stayed for a period of 60 days; (vii) certain events of bankruptcy or insolvency with respect to the Company or any of its Significant Subsidiaries or any group of Subsidiaries that, taken as a whole, would constitute a Significant Subsidiary; and (viii) except as permitted by the Indenture, any Subsidiary Guarantee shall be held in any judicial proceeding to be unenforceable or invalid.

If any Event of Default occurs and is continuing, the Trustee or the Holders of at least 25% in principal amount of the then outstanding Notes may declare all the Notes to be due and payable immediately; provided, however, that so long as any Designated Senior Debt is outstanding, such declaration shall not become effective until the earlier of (i) the day which is five Business Days after receipt by the Representatives of Designated Senior Debt of such notice

of acceleration or (ii) the date of acceleration of any Designated Senior Debt. Notwithstanding the foregoing, in the case of an Event of Default arising from certain events of bankruptcy or insolvency, with respect to the Company or any Significant Subsidiary or any group of Subsidiaries that, taken as a whole, would constitute a Significant Subsidiary, all outstanding Notes will become due and payable without further action or notice. Holders of the Notes may not enforce the Indenture or the Notes except as provided in the Indenture. Subject to certain limitations, Holders of a majority in principal amount of the then outstanding Notes may direct the Trustee in its exercise of any trust or power. The Trustee may withhold from Holders of the Notes notice of any continuing Default or Event of Default (except a Default or Event of Default relating to the payment of principal or interest) if it determines that withholding notice is in their interest.

In the case of any Event of Default occurring by reason of any willful action (or inaction) taken (or not taken) by or on behalf of the Company with the intention of avoiding payment of the premium that the Company would have had to pay if the Company then had elected to redeem the Notes pursuant to the optional redemption provisions of the Indenture, an equivalent premium shall also become and be immediately due and payable to the extent permitted by law upon the acceleration of the Notes. If an Event of Default occurs prior to June 15, 2007 by reason of any willful action (or inaction) taken (or not taken) by or on behalf of the Company with the intention of avoiding the prohibition on redemption of the Notes prior to June 15, 2007, then the premium specified in the Indenture shall also become immediately due and payable to the extent permitted by law upon the acceleration of the Notes.

The Holders of a majority in aggregate principal amount of the Notes then outstanding by notice to the Trustee may on behalf of the Holders of all of the Notes waive any existing Default or Event of Default and its consequences under the Indenture except a continuing Default or Event of Default in the payment of interest on, or the principal of, the Notes.

13. SUBORDINATION. Payment of the principal of, premium and Additional Amounts, if any, or interest on the Notes is subordinated to the prior payment of Senior Debt on the terms provided in the Indenture.

14. TRUSTEE DEALINGS WITH COMPANY. The Trustee, in its individual or any other capacity, may make loans to, accept deposits from, and perform services for the Company or its Affiliates, and may otherwise deal with the Company or its Affiliates, as if it were not the Trustee.

15. NO RECOURSE AGAINST OTHERS. A director, officer, employee, incorporator or stockholder, of the Company or any Guarantor, as such, shall not have any liability for any obligations of the Company or any Guarantor under the Notes, the Indenture or the Subsidiary Guarantees or for any claim based on, in respect of, or by reason of, such obligations or their creation. Each Holder by accepting a Note waives and releases all such liability. The waiver and release are part of the consideration for the issuance of the Notes.

16. AUTHENTICATION. This Note shall not be valid until authenticated by the manual signature of the Trustee or an authenticating agent.

17. ABBREVIATIONS. Customary abbreviations may be used in the name of a Holder or an assignee, such as: TEN COM (= tenants in common), TEN ENT (= tenants by the entireties), JT TEN (= joint tenants with right of survivorship and not as tenants in common), CUST (= custodian), and U/G/M/A (= Uniform Gifts to Minors Act).

18. ADDITIONAL RIGHTS OF HOLDERS OF TRANSFER RESTRICTED SECURITIES. In addition to the rights provided to Holders of Notes under the Indenture, Holders of Transferred Restricted Securities shall have all the rights set forth in the Registration Rights Agreement dated as of June 28, 2002, between the Company and the parties named on the signature pages thereof, or, with respect to any Additional Notes, Holders of Transfer Restricted Securities shall have all the rights set forth in one or more registration rights agreements between the Company and the other parties thereto, relating to rights given by the Company to the purchasers of Additional Notes (collectively, the "Registration Rights Agreement").

19. CUSIP NUMBERS. Pursuant to a recommendation promulgated by the Committee on Uniform Security Identification Procedures, the Company has caused CUSIP numbers to be printed on the Notes and the Trustee may use CUSIP numbers in notices of redemption as a convenience to Holders. No representation is made as to the accuracy of such numbers either as printed on the Notes or as contained in any notice of redemption and reliance may be placed only on the other identification numbers placed thereon.

20. GOVERNING LAW. This Note shall be governed by, and construed in accordance with, the laws of the State of New York.

The Company will furnish to any Holder upon written request and without charge a copy of the Indenture and/or the Registration Rights Agreement. Requests may be made to:

L-3 Communications Corporation
600 Third Avenue, 34th Floor,
New York, New York 10016
Attention: Senior Vice President-Finance (Fax: 212-805-5440)

ASSIGNMENT FORM

To assign this Note, fill in the form below: (I) or (we) assign and transfer this Note to

- ---

(Insert assignee's soc. sec. or tax I.D. no.)

- ---

- ---

- ---

- ---

(Print or type assignee's name, address and zip code)

and irrevocably appoint_____ to transfer this Note on the books of the Company. The agent may substitute another to act for him.

- ---

Date:

Your Signature:

(Sign exactly as your name appears on the face of this Note)

Signature Guarantee.

Option of Holder to Elect Purchase

If you want to elect to have this Note purchased by the Company pursuant to Section 4.10 or 4.15 of the Indenture, check the box below:

[ ] Section 4.10 [ ] Section 4.15

If you want to elect to have only part of the Note purchased by the Company pursuant to Section 4.10 or Section 4.15 of the Indenture, state the amount you elect to have purchased: $_____

Date: _____

Your Signature: _____
(Sign exactly as your name appears on the Note)

Tax Identification No.: _____

Signature Guarantee.

Schedule of Exchanges of Interests in the Global Note

The following exchanges of a part of this Global Note for an interest in another Global Note or for a Definitive Note, or exchanges of a part of another Global Note or Definitive Note for an interest in this Global Note, have been made:

Date of Exchange	Amount of decrease in Principal Amount of this Global Note	Amount of increase in Principal Amount of this Global Note	Principal Amount of this Global Note following such decrease (or increase)	Signature of authorized officer of Trustee or Note Custodian

EXHIBIT B
FORM OF CERTIFICATE OF TRANSFER

L-3 Communications Corporation
600 Third Avenue, 34th Floor,
New York, New York 10016

[Registrar address block]

Re: 7 5/8% Senior Subordinated Notes due 2012.

Reference is hereby made to the Indenture, dated as of June 28, 2002 (the "Indenture"), among L-3 Communications Corporation, as issuer (the "Company"), the Guarantors party thereto and The Bank of New York, as trustee. Capitalized terms used but not defined herein shall have the meanings given to them in the Indenture.

_____, (the "Transferor") owns and proposes to transfer the Note[s] or interest in such Note[s] specified in Annex A hereto, in the principal amount of $_____ in such Note[s] or interests (the "Transfer"), to _____ (the "Transferee"), as further specified in Annex A hereto. In connection with the Transfer, the Transferor hereby certifies that:

[CHECK ALL THAT APPLY]

1. [ ] CHECK IF TRANSFEREE WILL TAKE DELIVERY OF BOOK-ENTRY INTERESTS IN THE 144A GLOBAL NOTE OR DEFINITIVE NOTES PURSUANT TO RULE 144A. The Transfer is being effected pursuant to and in accordance with Rule 144A under the United States Securities Act of 1933, as amended (the "Securities Act"), and, accordingly, the Transferor hereby further certifies that the Book-Entry Interests or Definitive Notes are being transferred to a Person that the Transferor reasonably believes is purchasing the Book-Entry Interests or Definitive Notes for its own account, or for one or more accounts with respect to which such Person exercises sole investment discretion, and such Person and each such account is a "qualified institutional buyer" within the meaning of Rule 144A in a transaction meeting the requirements of Rule 144A and such Transfer is in compliance with any applicable blue sky securities laws of any state of the United States. Upon consummation of the proposed Transfer in accordance with the terms of the Indenture, the transferred Book-Entry Interest or Definitive Note will be subject to the restrictions on transfer enumerated in the Private Placement Legend printed on the 144A Global Note and/or the Definitive Note and in the Indenture and the Securities Act.

2. [ ] CHECK IF TRANSFEREE WILL TAKE DELIVERY OF BOOK-ENTRY INTERESTS IN THE TEMPORARY REGULATION S GLOBAL NOTE, THE REGULATION S GLOBAL NOTE OR DEFINITIVE NOTES PURSUANT TO REGULATION S. The Transfer is being effected pursuant to and in accordance with Rule 903 or Rule 904 under the Securities Act and, accordingly, the Transferor hereby further certifies that (i) the Transfer is not being made to a person in the United States and (x) at the time the buy order was originated, the Transferee was outside the United States or such Transferor and any Person acting on its behalf reasonably believed and believes that the Transferee was outside the United States or (y) the transaction was executed in, on or through the facilities of a designated offshore securities market and neither such Transferor nor any Person acting on its behalf knows that the

transaction was prearranged with a buyer in the United States, (ii) no directed selling efforts have been made in contravention of the requirements of Rule 903(b) or Rule 904(b) of Regulation S under the Securities Act and (iii) the transaction is not part of a plan or scheme to evade the registration requirements of the Securities Act and (iv) if the proposed transfer is being made prior to the expiration of the Restricted Period, the transfer is not being made to a U.S. Person or for the account or benefit of a U.S. Person (other than an Initial Purchaser). Upon consummation of the proposed transfer in accordance with the terms of the Indenture, the transferred Book-Entry Interest or Definitive Note will be subject to the restrictions on Transfer enumerated in the Private Placement Legend printed on the Regulation S Global Note and/or the Definitive Note and in the Indenture and the Securities Act.

3. CHECK AND COMPLETE IF TRANSFEREE WILL TAKE DELIVERY OF BOOK-ENTRY INTERESTS IN THE IAI GLOBAL NOTE OR DEFINITIVE NOTES PURSUANT TO ANY PROVISION OF THE SECURITIES ACT OTHER THAN RULE 144A OR REGULATION S. The Transfer is being effected in compliance with the transfer restrictions applicable to Book-Entry Interests in Restricted Global Notes and Definitive Notes bearing the Private Placement Legend and pursuant to and in accordance with the Securities Act and any applicable blue sky securities laws of any State of the United States, and accordingly the Transferor hereby further certifies that (check one):

(a) [ ] such Transfer is being effected pursuant to and in accordance with Rule 144 under the Securities Act;

OR

(b) [ ] such Transfer is being effected to the Company or a subsidiary thereof,

OR

(c) [ ] such Transfer is being effected pursuant to an effective registration statement under the Securities Act;

OR

(d) [ ] such Transfer is being effected to an Institutional Accredited Investor and pursuant to an exemption from the registration requirements of the Securities Act other than Rule 144A, Rule 144 or Rule 904, and the Transferor hereby further certifies that the Transfer complies with the transfer restrictions applicable to Book-Entry Interests in a Restricted Global Note or Definitive Notes bearing the Private Placement Legend and the requirements of the exemption claimed, which certification is supported by (x) if such Transfer is in respect of a principal amount of Notes at the time of Transfer of $250,000 or more, a certificate executed by the Transferee in the form of Exhibit D to the Indenture, or (y) if such Transfer is in respect of a principal amount of Notes at the time of transfer of less than $250,000, (1) a certificate executed by the Transferee in the form of Exhibit D to the Indenture and (2) an Opinion of Counsel provided by the Transferor or the Transferee (a copy of which the Transferor has attached to this certification), to the effect that (1) such Transfer is in compliance with the Securities Act and (2) such Transfer complies with any applicable blue sky securities laws of any state of the United States. Upon consummation of the proposed transfer in accordance with the terms of the Indenture, the transferred Book-Entry Interest or Definitive Note will be subject to the restrictions on transfer enumerated in the Private Placement Legend printed on the IAI Global Note and/or the Definitive Notes and in the Indenture and the Securities Act.

4. [ ] CHECK IF TRANSFEREE WILL TAKE DELIVERY OF BOOK-ENTRY INTERESTS IN THE UNRESTRICTED GLOBAL NOTE OR IN DEFINITIVE NOTES THAT DO NOT BEAR THE PRIVATE PLACEMENT LEGEND.

(a) [ ] CHECK IF TRANSFER IS PURSUANT TO RULE 144. (i) The Transfer is being effected pursuant to and in accordance with Rule 144 under the Securities Act and in compliance with the transfer restrictions contained in the Indenture and any applicable blue sky securities laws of any state of the United States and (ii) the restrictions on transfer contained in the Indenture and the Private Placement Legend are not required in order to maintain compliance with the Securities Act. Upon consummation of the proposed Transfer in accordance with the terms of the Indenture, the transferred Book-Entry Interests or Definitive Notes will no longer be subject to the restrictions on transfer enumerated in the Private Placement Legend printed on the Restricted Global Notes, on Definitive Notes bearing the Private Placement Legend and in the Indenture.

(b) [ ] CHECK IF TRANSFER IS PURSUANT TO REGULATION S. (i) The Transfer is being effected pursuant to and in accordance with Rule 903 or Rule 904 under the Securities Act and in compliance with the transfer restrictions contained in the Indenture and any applicable blue sky securities laws of any state of the United States and (ii) the restrictions on transfer contained in the Indenture and the Private Placement Legend are not required in order to maintain compliance with the Securities Act. Upon consummation of the proposed Transfer in accordance with the terms of the Indenture, the transferred Book-Entry Interests or Definitive Notes will no longer be subject to the restrictions on transfer enumerated in the Private Placement Legend printed on the Restricted Global Notes, on Definitive Notes bearing the Private Placement Legend and in the Indenture.

(c) [ ] CHECK IF TRANSFER IS PURSUANT TO OTHER EXEMPTION. (i) The Transfer is being effected pursuant to and in compliance with an exemption from the registration requirements of the Securities Act other than Rule 144, Rule 903 or Rule 904 and in compliance with the transfer restrictions contained in the Indenture and any applicable blue sky securities laws of any State of the United States and (ii) the restrictions on transfer contained in the Indenture and the Private Placement Legend are not required in order to maintain compliance with the Securities Act. Upon consummation of the proposed Transfer in accordance with the terms of the Indenture, the transferred Book-Entry Interests or Definitive Notes will not be subject to the restrictions on transfer enumerated in the Private Placement Legend printed on the Restricted Global Notes or Definitive Notes bearing the Private Placement Legend and in the Indenture.

This certificate and the statements contained herein are made for your benefit and the benefit of the Company.

[Insert Name of Transferor]

By:

Name:
Title:

Dated: _____, ____

ANNEX A TO CERTIFICATE OF TRANSFER

1. The Transferor owns and proposes to transfer the following:

[CHECK ONE OF (A) OR (B)]

(a) [ ] Book-Entry Interests in the:

(i) [ ] 144A Global Note (CUSIP _____), or

(ii) [ ] Regulation S Global Note (CUSIP _____), or

(iii) [ ] IAI Global Note (CUSIP _____); or

(b) Restricted Definitive Notes.

2. After the Transfer the Transferee will hold:

[CHECK ONE]

(a) [ ] Book-Entry Interests in the:

(i) [ ] 144A Global Note (CUSIP _____), or

(ii) [ ] Regulation S Global Note (CUSIP _____), or

(iii) [ ] IAI Global Note (CUSIP _____); or

(iv) [ ] Unrestricted Global Note (CUSIP _____); or

(b) Restricted Definitive Notes; or

(c) Definitive Notes that do not bear the Private Placement Legend, in accordance with the terms of the Indenture.

EXHIBIT C

FORM OF CERTIFICATE OF EXCHANGE

L-3 Communications Corporation
600 Third Avenue, 34th Floor,
New York, New York 10016
Attention: Senior Vice President-Finance (Fax: 212-805-5440)

Re: 7 5/8% Senior Subordinated Notes due 2012

(CUSIP _____)

Reference is hereby made to the Indenture, dated as of June 28, 2002 (the "Indenture"), among L-3 Communications Corporation, as issuer (the "Company"), the Guarantors party thereto and The Bank of New York, as trustee. Capitalized terms used but not defined herein shall have the meanings given to them in the Indenture.

_____, (the "Holder") owns and proposes to exchange the Note[s] or interest in such Note[s] specified herein, in the principal amount of $_____ in such Note[s] or interests (the "Exchange"). In connection with the Exchange, the Holder hereby certifies that:

1. EXCHANGE OF RESTRICTED DEFINITIVE NOTES OR RESTRICTED BOOK-ENTRY INTERESTS FOR DEFINITIVE NOTES THAT DO NOT BEAR THE PRIVATE PLACEMENT LEGEND OR UNRESTRICTED BOOK-ENTRY INTERESTS

(a) [ ] CHECK IF EXCHANGE IS FROM RESTRICTED BOOK-ENTRY INTEREST TO UNRESTRICTED BOOK-ENTRY Interest. In connection with the Exchange of the Holder's Restricted Book-Entry Interest for Unrestricted Book-Entry Interests in an equal principal amount, the Holder hereby certifies (i) the Unrestricted Book-Entry Interests are being acquired for the Holder's own account without transfer, (ii) such Exchange has been effected in compliance with the transfer restrictions applicable to the Global Notes and pursuant to and in accordance with the United States Securities Act of 1933, as amended (the "Securities Act"), (iii) the restrictions on transfer contained in the Indenture and the Private Placement Legend are not required in order to maintain compliance with the Securities Act and (iv) the Unrestricted Book-Entry Interests are being acquired in compliance with any applicable blue sky securities laws of any state of the United States.

(b) [ ] CHECK IF EXCHANGE IS FROM RESTRICTED BOOK-ENTRY INTEREST TO DEFINITIVE NOTES THAT DO NOT BEAR THE PRIVATE PLACEMENT LEGEND. In connection with the Exchange of the Holder's Restricted Book-Entry Interests for Definitive Notes that do not bear the Private Placement Legend, the Holder hereby certifies (i) the Definitive Notes are being acquired for the Holder's own account without transfer, (ii) such Exchange has been effected in compliance with the transfer restrictions applicable to the Restricted Global Notes and pursuant to and in accordance with the Securities Act, (iii) the restrictions on transfer contained in the Indenture and the Private Placement Legend are not required in order to maintain compliance with the

Securities Act and (iv) the Definitive Notes are being acquired in compliance with any applicable blue sky securities laws of any state of the United States.

(c) [ ] CHECK IF EXCHANGE IS FROM RESTRICTED DEFINITIVE NOTES TO UNRESTRICTED BOOK-ENTRY INTERESTS. In connection with the Holder's Exchange of Restricted Definitive Notes for Unrestricted Book-Entry Interests, (i) the Unrestricted Book-Entry Interests are being acquired for the Holder's own account without transfer, (ii) such Exchange has been effected in compliance with the transfer restrictions applicable to Restricted Definitive Notes and pursuant to and in accordance with the Securities Act, (iii) the restrictions on transfer contained in the Indenture and the Private Placement Legend are not required in order to maintain compliance with the Securities Act and (iv) the Unrestricted Book-Entry Interests are being acquired in compliance with any applicable blue sky securities laws of any state of the United States.

(d) [ ] CHECK IF EXCHANGE IS FROM RESTRICTED DEFINITIVE NOTES TO DEFINITIVE NOTES THAT DO NOT BEAR THE PRIVATE PLACEMENT LEGEND. In connection with the Holder's Exchange of a Restricted Definitive Note for Definitive Notes that do not bear the Private Placement Legend, the Holder hereby certifies (i) the Definitive Notes that do not bear the Private Placement Legend are being acquired for the Holder's own account without transfer, (ii) such Exchange has been effected in compliance with the transfer restrictions applicable to Restricted Definitive Notes and pursuant to and in accordance with the Securities Act , (iii) the restrictions on transfer contained in the Indenture and the Private Placement Legend are not required in order to maintain compliance with the Securities Act and (iv) the Notes are being acquired in compliance with any applicable blue sky securities laws of any state of the United States.

2. EXCHANGE OF RESTRICTED DEFINITIVE NOTES OR RESTRICTED BOOK-ENTRY INTERESTS FOR RESTRICTED DEFINITIVE NOTES OR RESTRICTED BOOK-ENTRY INTERESTS

(a) [ ] CHECK IF EXCHANGE IS FROM RESTRICTED BOOK-ENTRY INTERESTS TO RESTRICTED DEFINITIVE NOTE. In connection with the Exchange of the Holder's Restricted Book-Entry Interest for Restricted Definitive Notes with an equal principal amount, (i) the Restricted Definitive Notes are being acquired for the Holder's own account without transfer and (ii) such Exchange has been effected in compliance with the transfer restrictions applicable to the Restricted Global Notes and pursuant to and in accordance with the Securities Act, and in compliance with any applicable blue sky securities laws of any state of the United States. Upon consummation of the proposed Exchange in accordance with the terms of the Indenture, the Restricted Definitive Notes issued will be subject to the restrictions on transfer enumerated in the Private Placement Legend printed on the Restricted Definitive Notes and in the Indenture and the Securities Act.

(b) [ ] CHECK IF EXCHANGE IS FROM RESTRICTED DEFINITIVE NOTES TO RESTRICTED BOOK-ENTRY INTERESTS. In connection with the Exchange of the Holder's Restricted Definitive Note for Restricted Book-Entry Interests in the [CHECK ONE] 144A Global Note, Regulation S Global Note, IAI Global Note with an equal principal amount, (i) the Definitive Notes are being acquired for the Holder's own account without transfer and (ii) such Exchange has been effected in compliance with the transfer restrictions applicable to the Restricted Definitive Note and pursuant to and in accordance with the Securities Act, and in compliance with any applicable blue sky securities laws of any state of the United States. Upon

consummation of the proposed Exchange in accordance with the terms of the Indenture, the Book-Entry Interests issued will be subject to the restrictions on transfer enumerated in the Private Placement Legend printed on the relevant Restricted Global Note and in the Indenture and the Securities Act.

This certificate and the statements contained herein are made for your benefit and the benefit of the Company.

[Insert Name of Transferor]

By:

Name:
Title:

Dated: _____, ____

EXHIBIT D

FORM OF CERTIFICATE FROM
ACQUIRING INSTITUTIONAL ACCREDITED INVESTOR

L-3 Communications Corporation
600 Third Avenue, 34th Floor,
New York, New York 10016
Attention: Senior Vice President-Finance (Fax: 212-805-5440)

Re: 7 5/8% Senior Subordinated Notes due 2012

Reference is hereby made to the Indenture, dated as of June 28, 2002 (the "Indenture"), among L-3 Communications Corporation, as issuer (the "Company"), the Guarantors party thereto and The Bank of New York, as trustee. Capitalized terms used but not defined herein shall have the meanings given to them in the Indenture.

In connection with our proposed purchase of $_____ aggregate principal amount at maturity of:

(a) [ ] Book-Entry Interests, or

(b) [ ] Definitive Notes,

we confirm that:

1. We understand that any subsequent transfer of the Notes or any interest therein is subject to certain restrictions and conditions set forth in the Indenture and the undersigned agrees to be bound by, and not to resell, pledge or otherwise transfer the Notes or any interest therein except in compliance with, such restrictions and conditions and the United States Securities Act of 1933, as amended (the "Securities Act").

2. We understand that the offer and sale of the Notes have not been registered under the Securities Act, and that the Notes and any interest therein may not be offered or sold except as permitted in the following sentence. We agree, on our own behalf and on behalf of any accounts for which we are acting as hereinafter stated, that if we should sell the Notes or any interest therein, we will do so only (A) to the Company or any subsidiary thereof, (B) in accordance with Rule 144A under the Securities Act to a "qualified institutional buyer" (as defined therein), (C) to an institutional "accredited investor" (as defined below) that, prior to such transfer, furnishes (or has furnished on its behalf by a U.S. broker-dealer) to you and to the Company a signed letter substantially in the form of this letter and, if such transfer is in respect of a principal amount of Notes, at the time of transfer of less than $250,000, an Opinion of Counsel in form reasonably acceptable to the Company to the effect that such transfer is in compliance with the Securities Act, (D) outside the United States in accordance with Rule 904 of Regulation S under the Securities Act, (E) pursuant to the provisions of Rule 144 under the Securities Act or (F) pursuant to an effective registration statement under the Securities Act, and we further agree to provide to any person purchasing the Definitive Notes or Book-Entry

Interests from us in a transaction meeting the requirements of clauses (A) through (E) of this paragraph a notice advising such purchaser that resales thereof are restricted as stated herein.

3. We understand that, on any proposed resale of the Notes or Book-Entry Interests, we will be required to furnish to you and the Company such certifications, legal opinions and other information as you and the Company may reasonably require to confirm that the proposed sale complies with the foregoing restrictions. We further understand that the Notes purchased by us will bear a legend to the foregoing effect. We further understand that any subsequent transfer by us of the Notes or Book-Entry Interests therein acquired by us must be effected through one of the Placement Agents.

4. We are an institutional "accredited investor" (as defined in Rule 501(a)(1), (2), (3) or (7) of Regulation D under the Securities Act) and have such knowledge and experience in financial and business matters as to be capable of evaluating the merits and risks of our investment in the Notes, and we and any accounts for which we are acting are each able to bear the economic risk of our or its investment.

5. We are acquiring the Notes or Book-Entry Interests purchased by us for our own account or for one or more accounts (each of which is an institutional "accredited investor") as to each of which we exercise sole investment discretion.

You and the Company are entitled to rely upon this letter and are irrevocably authorized to produce this letter or a copy hereof to any interested party in any administrative or legal proceedings or official inquiry with respect to the matters covered hereby.

[Insert Name of Transferor]

By:

Name:
Title:

Dated: _____, ____

EXHIBIT E

FORM OF SUPPLEMENTAL INDENTURE TO BE DELIVERED
BY GUARANTEEING SUBSIDIARY

SUPPLEMENTAL INDENTURE (this "Supplemental Indenture"), dated as of _____, between _____ (the "Guaranteeing Subsidiaries"), each a direct or indirect subsidiary of L-3 Communications Corporation (or its permitted successor), a Delaware corporation (the "Company"), the Company and The Bank of New York, as trustee under the indenture referred to below (the "Trustee").

W I T N E S S E T H

WHEREAS, the Company has heretofore executed and delivered to the Trustee an indenture (the "Indenture"), dated as of June 28, 2002 providing for the issuance of an unlimited amount of 7 5/8% Senior Subordinated Notes due 2012 (the "Notes");

WHEREAS, the Indenture provides that under certain circumstances the Guaranteeing Subsidiaries shall execute and deliver to the Trustee a supplemental indenture pursuant to which the Guaranteeing Subsidiaries shall unconditionally guarantee all of the Company's Obligations (as defined in the Indenture) under the Notes and the Indenture on the terms and conditions set forth herein (the "Subsidiary Guarantee"); and

WHEREAS, pursuant to Section 9.01 of the Indenture, the Trustee is authorized to execute and deliver this Supplemental Indenture.

NOW THEREFORE, in consideration of the foregoing and for other good and valuable consideration, the receipt of which is hereby acknowledged, the Guaranteeing Subsidiaries and the Trustee mutually covenant and agree for the equal and ratable benefit of the Holders of the Notes as follows:

1. CAPITALIZED TERMS. Capitalized terms used herein without definition shall have the meanings assigned to them in the Indenture.

2. AGREEMENT TO GUARANTEE. Each Guaranteeing Subsidiary hereby agrees as follows:

(a) Such Guaranteeing Subsidiary, jointly and severally with all other current and future guarantors of the Notes (collectively, the "Guarantors" and each, a "Guarantor"), unconditionally guarantees to each Holder of a Note authenticated and delivered by the Trustee and to the Trustee and its successors and assigns, regardless of the validity and enforceability of the Indenture, the Notes or the Obligations of the Company under the Indenture or the Notes, that:

(i) the principal of, premium, interest and Additional Amounts, if any, on the Notes will be promptly paid in full when due, whether at maturity, by acceleration, redemption or otherwise, and interest on

the overdue principal of, premium, interest and Additional Amounts, if any, on the Notes, to the extent lawful, and all other Obligations of the Company to the Holders or the Trustee thereunder or under the Indenture will be promptly paid in full, all in accordance with the terms thereof; and

(ii) in case of any extension of time for payment or renewal of any Notes or any of such other Obligations, that the same will be promptly paid in full when due in accordance with the terms of the extension or renewal, whether at stated maturity, by acceleration or otherwise.

(b) Notwithstanding the foregoing, in the event that this Subsidiary Guarantee would constitute or result in a violation of any applicable fraudulent conveyance or similar law of any relevant jurisdiction, the liability of such Guaranteeing Subsidiary under this Supplemental Indenture and its Subsidiary Guarantee shall be reduced to the maximum amount permissible under such fraudulent conveyance or similar law.

3. EXECUTION AND DELIVERY OF SUBSIDIARY GUARANTEES.

(a) To evidence its Subsidiary Guarantee set forth in this Supplemental Indenture, such Guaranteeing Subsidiary hereby agrees that a notation of such Subsidiary Guarantee substantially in the form of Exhibit F to the Indenture shall be endorsed by an officer of such Guaranteeing Subsidiary on each Note authenticated and delivered by the Trustee after the date hereof.

(b) Notwithstanding the foregoing, such Guaranteeing Subsidiary hereby agrees that its Subsidiary Guarantee set forth herein shall remain in full force and effect notwithstanding any failure to endorse on each Note a notation of such Subsidiary Guarantee.

(c) If an Officer whose signature is on this Supplemental Indenture or on the Subsidiary Guarantee no longer holds that office at the time the Trustee authenticates the Note on which a Subsidiary Guarantee is endorsed, the Subsidiary Guarantee shall be valid nevertheless.

(d) The delivery of any Note by the Trustee, after the authentication thereof under the Indenture, shall constitute due delivery of the Subsidiary Guarantee set forth in this Supplemental Indenture on behalf of each Guaranteeing Subsidiary.

(e) Each Guaranteeing Subsidiary hereby agrees that its Obligations hereunder shall be unconditional, regardless of the validity, regularity or enforceability of the Notes or the Indenture, the absence of any action to enforce the same, any waiver or consent by any Holder of the Notes with respect to any provisions hereof or thereof, the recovery of any judgment

against the Company, any action to enforce the same or any other circumstance which might otherwise constitute a legal or equitable discharge or defense of a guarantor.

(f) Each Guaranteeing Subsidiary hereby waives diligence, presentment, demand of payment, filing of claims with a court in the event of insolvency or bankruptcy of the Company, any right to require a proceeding first against the Company, protest, notice and all demands whatsoever and covenants that its Subsidiary Guarantee made pursuant to this Supplemental Indenture will not be discharged except by complete performance of the Obligations contained in the Notes and the Indenture.

(g) If any Holder or the Trustee is required by any court or otherwise to return to the Company or any Guaranteeing Subsidiary, or any custodian, Trustee, liquidator or other similar official acting in relation to either the Company or such Guaranteeing Subsidiary, any amount paid by either to the Trustee or such Holder, the Subsidiary Guarantee made pursuant to this Supplemental Indenture, to the extent theretofore discharged, shall be reinstated in full force and effect.

(h) Each Guaranteeing Subsidiary agrees that it shall not be entitled to any right of subrogation in relation to the Holders in respect of any Obligations guaranteed hereby until payment in full of all Obligations guaranteed hereby. Each Guaranteeing Subsidiary further agrees that, as between such Guaranteeing Subsidiary, on the one hand, and the Holders and the Trustee, on the other hand:

(i) the maturity of the Obligations guaranteed hereby may be accelerated as provided in Article 6 of the Indenture for the purposes of the Subsidiary Guarantee made pursuant to this Supplemental Indenture, notwithstanding any stay, injunction or other prohibition preventing such acceleration in respect of the Obligations guaranteed hereby; and

(ii) in the event of any declaration of acceleration of such Obligations as provided in Article 6 of the Indenture, such Obligations (whether or not due and payable) shall forthwith become due and payable by such Guaranteeing Subsidiary for the purpose of the Subsidiary Guarantee made pursuant to this Supplemental Indenture.

(i) Each Guaranteeing Subsidiary shall have the right to seek contribution from any other non-paying Guaranteeing Subsidiary so long as the exercise of such right does not impair the rights of the Holders or the Trustee under the Subsidiary Guarantee made pursuant to this Supplemental Indenture.

4. GUARANTEEING SUBSIDIARY MAY CONSOLIDATE, ETC. ON CERTAIN TERMS.

(a) Except as set forth in Articles 4 and 5 of the Indenture, nothing contained in the Indenture, this Supplemental Indenture or in the Notes shall prevent any consolidation or merger of any Guaranteeing Subsidiary with or into the Company or any other Guarantor or shall prevent any transfer, sale or conveyance of the property of any Guaranteeing Subsidiary as an entirety or substantially as an entirety, to the Company or any other Guarantor.

(b) Except as set forth in Articles 4 and 5 of the Indenture, nothing contained in the Indenture, this Supplemental Indenture or in the Notes shall prevent any consolidation or merger of any Guaranteeing Subsidiary with or into a corporation or corporations other than the Company or any other Guarantor (in each case, whether or not affiliated with the Guaranteeing Subsidiary), or successive consolidations or mergers in which a Guaranteeing Subsidiary or its successor or successors shall be a party or parties, or shall prevent any sale or conveyance of the property of any Guaranteeing Subsidiary as an entirety or substantially as an entirety, to a corporation other than the Company or any other Guarantor (in each case, whether or not affiliated with the Guaranteeing Subsidiary) authorized to acquire and operate the same; provided, however, that each Guaranteeing Subsidiary hereby covenants and agrees that (i) subject to the Indenture, upon any such consolidation, merger, sale or conveyance, the due and punctual performance and observance of all of the covenants and conditions of the Indenture and this Supplemental Indenture to be performed by such Guaranteeing Subsidiaries, shall be expressly assumed (in the event that such Guaranteeing Subsidiary is not the surviving corporation in the merger), by supplemental indenture satisfactory in form to the Trustee, executed and delivered to the Trustee, by the corporation formed by such consolidation, or into which such Guaranteeing Subsidiary shall have been merged, or by the corporation which shall have acquired such property and (ii) immediately after giving effect to such consolidation, merger, sale or conveyance no Default or Event of Default exists.

(c) In case of any such consolidation, merger, sale or conveyance and upon the assumption by the successor corporation, by supplemental indenture, executed and delivered to the Trustee and satisfactory in form to the Trustee, of the Subsidiary Guarantee made pursuant to this Supplemental Indenture and the due and punctual performance of all of the covenants and conditions of the Indenture and this Supplemental Indenture to be performed by such Guaranteeing Subsidiary, such successor corporation shall succeed to and be substituted for such Guaranteeing Subsidiary with the same effect as if it had been named herein as the Guaranteeing Subsidiary. Such successor corporation thereupon may cause to be signed any or all of the Subsidiary Guarantees to be endorsed upon the Notes issuable under the Indenture which theretofore shall not have been signed

by the Company and delivered to the Trustee. All the Subsidiary Guarantees so issued shall in all respects have the same legal rank and benefit under the Indenture and this Supplemental Indenture as the Subsidiary Guarantees theretofore and thereafter issued in accordance with the terms of the Indenture and this Supplemental Indenture as though all of such Subsidiary Guarantees had been issued at the date of the execution hereof.

5. RELEASES.

(a) Concurrently with any sale of assets (including, if applicable, all of the Capital Stock of a Guaranteeing Subsidiary), all Liens, if any, in favor of the Trustee in the assets sold thereby shall be released; provided that in the event of an Asset Sale, the Net Proceeds from such sale or other disposition are treated in accordance with the provisions of Section 4.10 of the Indenture. If the assets sold in such sale or other disposition include all or substantially all of the assets of a Guaranteeing Subsidiary or all of the Capital Stock of a Guaranteeing Subsidiary, then the Guaranteeing Subsidiary (in the event of a sale or other disposition of all of the Capital Stock of such Guaranteeing Subsidiary) or the Person acquiring the property (in the event of a sale or other disposition of all or substantially all of the assets of such Guaranteeing Subsidiary) shall be released from and relieved of its Obligations under this Supplemental Indenture and its Subsidiary Guarantee made pursuant hereto; provided that in the event of an Asset Sale, the Net Proceeds from such sale or other disposition are treated in accordance with the provisions of Section 4.10 of the Indenture. Upon delivery by the Company to the Trustee of an Officers' Certificate to the effect that such sale or other disposition was made by the Company or the Guaranteeing Subsidiary, as the case may be, in accordance with the provisions of the Indenture and this Supplemental Indenture, including without limitation, Section 4.10 of the Indenture, the Trustee shall execute any documents reasonably required in order to evidence the release of the Guaranteeing Subsidiary from its Obligations under this Supplemental Indenture and its Subsidiary Guarantee made pursuant hereto. If the Guaranteeing Subsidiary is not released from its Obligations under its Subsidiary Guarantee, it shall remain liable for the full amount of principal of and interest on the Notes and for the other Obligations of such Guaranteeing Subsidiary under the Indenture as provided in this Supplemental Indenture.

(b) Upon the designation of a Guaranteeing Subsidiary as an Unrestricted Subsidiary in accordance with the terms of the Indenture, such Guaranteeing Subsidiary shall be released and relieved of its Obligations under its Subsidiary Guarantee and this Supplemental Indenture. Upon delivery by the Company to the Trustee of an Officers' Certificate and an Opinion of Counsel to the effect that such designation of such Guaranteeing Subsidiary as an Unrestricted Subsidiary was made by the

Company in accordance with the provisions of the Indenture, including without limitation Section 4.07 of the Indenture, the Trustee shall execute any documents reasonably required in order to evidence the release of such Guaranteeing Subsidiary from its Obligations under its Subsidiary Guarantee. Any Guaranteeing Subsidiary not released from its Obligations under its Subsidiary Guarantee shall remain liable for the full amount of principal of and interest on the Notes and for the other Obligations of any Guaranteeing Subsidiary under the Indenture as provided herein.

(c) Each Guaranteeing Subsidiary shall be released and relieved of its obligations under this Supplemental Indenture in accordance with, and subject to, Section 4.18 of the Indenture.

6. NO RECOURSE AGAINST OTHERS. No past, present or future director, officer, employee, incorporator, stockholder or agent of any Guaranteeing Subsidiary, as such, shall have any liability for any Obligations of the Company or any Guaranteeing Subsidiary under the Notes, any Subsidiary Guarantees, the Indenture or this Supplemental Indenture or for any claim based on, in respect of, or by reason of, such Obligations or their creation. Each Holder of the Notes by accepting a Note waives and releases all such liability. The waiver and release are part of the consideration for issuance of the Notes. Such waiver may not be effective to waive liabilities under the federal securities laws and it is the view of the SEC that such a waiver is against public policy.

7. NEW YORK LAW TO GOVERN. THIS SUPPLEMENTAL INDENTURE SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK.

8. COUNTERPARTS. The parties may sign any number of copies of this Supplemental Indenture. Each signed copy shall be an original, but all of them together represent the same agreement.

9. EFFECT OF HEADINGS. The Section headings herein are for convenience only and shall not affect the construction hereof.

10. THE TRUSTEE. The Trustee shall not be responsible in any manner whatsoever for or in respect of the validity or sufficiency of this Supplemental Indenture or for or in respect of the recitals contained herein, all of which recitals are made solely by the Guaranteeing Subsidiaries and the Company.

IN WITNESS WHEREOF, the parties hereto have caused this Supplemental Indenture to be duly executed and attested, all as of the date first above written.

Dated: _____, _____

L-3 COMMUNICATIONS CORPORATION

By:

Name:
Title:

GUARANTEEING SUBSIDIARIES:

[EXISTING GUARANTORS]
[ADDITIONAL GUARANTORS]

Dated: _____, _____

THE BANK OF NEW YORK,
as Trustee

By:

Name:
Title:

EXHIBIT F

FORM OF NOTATION ON SENIOR SUBORDINATED NOTE RELATING TO SUBSIDIARY GUARANTEE

Pursuant to the Indenture (the "Indenture") dated as of June 28, 2002 among L-3 Communications Corporation, the Guarantors party thereto (each a "Guarantor" and collectively the "Guarantors") and The Bank of New York, as trustee (the "Trustee"), each Guarantor (i) has jointly and severally unconditionally guaranteed (a) the due and punctual payment of the principal of, and premium, interest and Additional Amounts on the Notes, whether at maturity or an interest payment date, by acceleration, call for redemption or otherwise, (b) the due and punctual payment of interest on the overdue principal and premium of, and interest and Additional Amounts on the Notes, and (c) in case of any extension of time of payment or renewal of any Notes or any of such other Obligations, the same will be promptly paid in full when due in accordance with the terms of the extension or renewal, whether at stated maturity, by acceleration or otherwise and (ii) has agreed to pay any and all costs and expenses (including reasonable attorneys' fees) incurred by the Trustee or any Holder in enforcing any rights under the Subsidiary Guarantee (as defined in the Supplemental Indenture).

Notwithstanding the foregoing, in the event that the Subsidiary Guarantee of any Guarantor would constitute or result in a violation of any applicable fraudulent conveyance or similar law of any relevant jurisdiction, the liability of such Guarantor under its Subsidiary Guarantee shall be reduced to the maximum amount permissible under such fraudulent conveyance or similar law.

No past, present or future director, officer, employee, agent, incorporator, stockholder or agent of any Guarantor, as such, shall have any liability for any Obligations of the Company or any Guarantor under the Notes, any Subsidiary Guarantee, the Indenture, any supplemental indenture delivered pursuant to the Indenture by such Guarantor, or for any claim based on, in respect of or by reason of such Obligations or their creation. Each Holder by accepting a Note waives and releases all such liability.

The Subsidiary Guarantee shall be binding upon each Guarantor and its successors and assigns and shall inure to the benefit of the successors and assigns of the Trustee and the Holders and, in the event of any transfer or assignment of rights by any Holder or the Trustee, the rights and privileges herein conferred upon that party shall automatically extend to and be vested in such transferee or assignee, all subject to the terms and conditions hereof.

The Subsidiary Guarantee shall not be valid or obligatory for any purpose until the certificate of authentication on the Note upon which the Subsidiary Guarantee is noted has been executed by the Trustee under the Indenture by the manual signature of one of its authorized officers. Capitalized terms used herein have the meaning assigned to them in the Indenture.

EXECUTION COPY

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A/B EXCHANGE
REGISTRATION RIGHTS AGREEMENT

Dated as of June 28, 2002

by and among

L-3 COMMUNICATIONS CORPORATION

THE GUARANTORS LISTED ON THE SIGNATURE PAGES HERETO

AND

LEHMAN BROTHERS INC.

BANC OF AMERICA SECURITIES LLC

and

CREDIT SUISSE FIRST BOSTON CORPORATION

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A/B EXCHANGE REGISTRATION RIGHTS AGREEMENT

This Registration Rights Agreement (this "Agreement") is made and entered into as of June 28, 2002 by and among L-3 Communications Corporation, a Delaware corporation (the "Company") the guarantors listed on the signature pages hereto (collectively, the "Existing Guarantors"), and Lehman Brothers Inc., Banc of America Securities LLC and Credit Suisse First Boston Corporation, as representatives of the several initial purchasers (the "Initial Purchasers") named in Schedule 1 to the Purchase Agreement (as defined below), each of whom has agreed to purchase the Company's 7 5/8% Senior Subordinated Notes due 2012 (the "Series A Notes") pursuant to the Purchase Agreement (as defined below).

This Agreement is made pursuant to the Purchase Agreement, dated as of June 25, 2002 (the "Purchase Agreement"), by and among the Company, the Existing Guarantors and the Initial Purchasers. In order to induce the Initial Purchasers to purchase the Series A Notes, the Company and the Existing Guarantors have agreed to provide the registration rights set forth in this Agreement. The execution and delivery of this Agreement is a condition to the obligations of the Initial Purchasers set forth in Section 3 of the Purchase Agreement.

The parties hereby agree as follows:

SECTION 1 DEFINITIONS

As used in this Agreement, the following capitalized terms shall have the following meanings:

Act: The Securities Act of 1933, as amended.

Additional Guarantor: Any subsidiary of the Company that executes a Subsidiary Guarantee under the Indenture after the date of this Agreement.

Broker-Dealer: Any broker or dealer registered under the Exchange Act.

Broker-Dealer Transfer Restricted Securities: Series B Notes (including the Subsidiary Guarantees) that are acquired by a Restricted Broker-Dealer for its own account as a result of market-making activities or other trading activities.

Closing Date: The date of this Agreement.

Commission: The Securities and Exchange Commission.

Consummate: A Registered Exchange Offer shall be deemed "Consummated" for purposes of this Agreement upon the occurrence of (i) the filing and effectiveness under the Act of the Exchange Offer Registration Statement relating to the Series B Notes to be issued in the Exchange Offer, (ii) the maintenance of such Registration Statement continuously effective and the keeping of the Exchange Offer open for a period not less than the minimum period required pursuant to Section 3(b) hereof and (iii) the delivery by the Company to the Registrar under the

Indenture of Series B Notes in the same aggregate principal amount as the aggregate principal amount of Series A Notes that were tendered by Holders thereof pursuant to the Exchange Offer.

Damages Payment Date: With respect to the Series A Notes, each Interest Payment Date.

Effectiveness Target Date: As defined in Section 5.

Exchange Act: The Securities Exchange Act of 1934, as amended.

Exchange Offer: The registration by the Company under the Act of the Series B Notes (including the Subsidiary Guarantees) pursuant to a Registration Statement pursuant to which the Company offers the Holders of all outstanding Transfer Restricted Securities the opportunity to exchange all such outstanding Transfer Restricted Securities held by such Holders for Series B Notes and registered Subsidiary Guarantees in an aggregate principal amount equal to the aggregate principal amount of the Transfer Restricted Securities tendered in such exchange offer by such Holders.

Exchange Offer Registration Statement: The Registration Statement relating to the Exchange Offer, including the related Prospectus.

Exempt Resales: The transactions in which the Initial Purchasers propose to sell the Series A Notes to (i) certain "qualified institutional buyers," as such term is defined in Rule 144A under the Act, (ii) to certain institutional "accredited investors," as such term is defined in Rule 501(a)(1), (2), (3) and (7) under the Act ("Accredited Institutions") and (iii) outside the United States to Persons other than U.S. Persons in offshore transactions meeting the requirements of rule 904 of Regulation S under the Act.

Guarantors: The Additional Guarantors and the Existing Guarantors.

Holders: As defined in Section 2 hereof.

Indenture: The Indenture, dated as of the date hereof, among the Company, the Existing Guarantors and The Bank of New York, as trustee (the "Trustee"), pursuant to which the Notes are to be issued, as such Indenture is amended or supplemented from time to time in accordance with the terms thereof.

Initial Purchasers: As defined in the preamble hereto.

Interest Payment Date: As defined in the Notes.

Market-Maker Prospectus: As defined in Section 4 hereof.

NASD: National Association of Securities Dealers, Inc.

Notes: The Series A Notes and the Series B Notes.

Offering Memorandum: As defined in the Purchase Agreement.

Person: An individual, partnership, corporation, trust or unincorporated organization, or a government or agency or political subdivision thereof.

Prospectus: The prospectus included in a Registration Statement including, without limitation, a Market-Maker Prospectus, as amended or supplemented by any prospectus supplement and by all other amendments thereto, including post-effective amendments, and all material incorporated by reference into such Prospectus.

Record Holder: With respect to any Damages Payment Date relating to Notes, each Person who is a Holder of Notes on the record date with respect to the Interest Payment Date on which such Damages Payment Date shall occur.

Registration Default: As defined in Section 5 hereof.

Registrar: As defined in the Indenture.

Registration Statement: Any registration statement of the Company relating to (a) an offering of Series B Notes pursuant to an Exchange Offer or (b) the registration for resale of Transfer Restricted Securities pursuant to the Shelf Registration Statement, which is filed pursuant to the provisions of this Agreement including the registration for resale of Broker-Dealer Transfer Restricted Securities, in each case including the Prospectus included therein, all amendments and supplements thereto (including post-effective amendments) and all exhibits and material incorporated by reference therein.

Restricted Broker-Dealer: Any Broker-Dealer that is an affiliate of the Company that holds Broker-Dealer Transfer Restricted Securities.

Series B Notes: The Company's 7 5/8% Senior Subordinated Notes due 2012 to be issued pursuant to the Indenture in the Exchange Offer.

Shelf Filing Deadline: As defined in Section 4 hereof.

Shelf Registration Statement: As defined in Section 4 hereof.

Subsidiary Guarantee: The Guarantee by a Guarantor of the Company's obligations under the Notes and Indenture.

TIA: The Trust Indenture Act of 1939 (15 U.S.C. Section 77aaa-77bbbb) as in effect on the date of the Indenture.

Transfer Restricted Securities: Each Note (including the Subsidiary Guarantees), until the earliest to occur of (a) the date on which such Note is exchanged by a person other than a Broker-Dealer for a Series B Note in the Exchange Offer (b) following the exchange by a Broker-Dealer in the Exchange Offer of a Note for a Series B Note, the date on which such Series B Note is sold to a purchaser who receives from such Broker-Dealer on or prior to the date of such sale a copy of the Prospectus contained in the Exchange Offer Registration Statement, (c) the date on which such Note (including the Subsidiary Guarantees) is effectively registered under the Act and disposed of in accordance with the Shelf Registration Statement or (d) the date on

which such Note (including the Subsidiary Guarantees) is distributed to the public pursuant to Rule 144 under the Act.

Underwritten Registration or Underwritten Offering: A registration in which securities of the Company are sold to an underwriter for reoffering to the public.

SECTION 2 SECURITIES SUBJECT TO THIS AGREEMENT

(a) Transfer Restricted Securities and Broker-Dealer Transfer Restricted Securities. The securities entitled to the benefits of this Agreement are the Transfer Restricted Securities and Broker-Dealer Transfer Restricted Securities.

(b) Holders of Transfer Restricted Securities. A Person is deemed to be a holder of Transfer Restricted Securities (each, a "Holder") whenever such Person owns Transfer Restricted Securities.

(c) Holders of Broker-Dealer Transfer Restricted Securities. A Restricted Broker-Dealer is deemed to be a holder of Broker-Dealer Transfer Restricted Securities (each, a "Holder") whenever such Restricted Broker-Dealer owns Broker-Dealer Transfer Restricted Securities.

SECTION 3 REGISTERED EXCHANGE OFFER

(a) Unless the Exchange Offer shall not be permissible under applicable law or Commission policy (after the procedures set forth in Section 6(a) below have been complied with), the Company and the Guarantors shall (i) cause to be filed with the Commission as promptly as practicable after the Closing Date, but in no event later than 90 days after the Closing Date, a Registration Statement under the Act relating to the Series B Notes (including the Subsidiary Guarantees) and the Exchange Offer, (ii) use all commercially reasonable efforts to cause such Registration Statement to be declared effective by the Commission as promptly as practicable, but in no event later than 180 days after the Closing Date (which 180-day period shall be extended for a number of days equal to the number of business days, if any, the Commission is officially closed during such period), (iii) in connection with the foregoing, file (A) all pre-effective amendments to such Registration Statement as may be necessary in order to cause such Registration Statement to become effective, (B) if applicable, a post-effective amendment to such Registration Statement pursuant to Rule 430A under the Act and (C) cause all necessary filings in connection with the registration and qualification of the Series B Notes (including the Subsidiary Guarantees) to be made under the Blue Sky laws of such jurisdictions as are necessary to permit Consummation of the Exchange Offer and (iv) upon the effectiveness of such Registration Statement, commence the Exchange Offer. The Exchange Offer shall be on the appropriate form permitting registration of the Series B Notes (including the Subsidiary Guarantees) to be offered in exchange for the Transfer Restricted Securities and to permit resales of Notes held by Broker-Dealers as contemplated by Section 3(c) below.

(b) The Company and the Guarantors shall cause the Exchange Offer Registration Statement to be effective continuously and shall keep the Exchange Offer open for a period of not less than the minimum period required under applicable federal and state securities laws to Consummate the Exchange Offer; provided, however, that in no event shall such period be less than 20 business days. The Company and the Guarantors shall cause the Exchange Offer to

comply with all applicable federal and state securities laws. No securities other than the Notes (including the Subsidiary Guarantees) shall be included in the Exchange Offer Registration Statement. The Company and the Guarantors shall use all commercially reasonable efforts to cause the Exchange Offer to be Consummated on the earliest practicable date after the Exchange Offer Registration Statement has become effective, but in no event later than 30 business days thereafter.

(c) The Company and the Guarantors shall indicate in a "Plan of Distribution" section contained in the Prospectus contained in the Exchange Offer Registration Statement that any Broker-Dealer who owns Series A Notes that are Transfer Restricted Securities and that were acquired for its own account as a result of market-making activities or other trading activities (other than Transfer Restricted Securities acquired directly from the Company), may exchange such Series A Notes pursuant to the Exchange Offer; however, such Broker-Dealer may be deemed to be an "underwriter" within the meaning of the Act and must, therefore, deliver a Prospectus meeting the requirements of the Act in connection with any resales of the Series B Notes received by such Broker-Dealer in the Exchange Offer, which Prospectus delivery requirement may be satisfied by the delivery by such Broker-Dealer of the Prospectus contained in the Exchange Offer Registration Statement. Such "Plan of Distribution" section shall also contain all other information with respect to such resales by Broker-Dealers that the Commission may require in order to permit such resales pursuant thereto, but such "Plan of Distribution" shall not name any such Broker-Dealer or disclose the amount of Notes held by any such Broker-Dealer except to the extent required by the Commission.

The Company and the Guarantors shall use all commercially reasonable efforts to keep the Exchange Offer Registration Statement continuously effective, supplemented and amended as required by the provisions of Section 6(d) below to the extent necessary to ensure that it is available for resales of Notes acquired by Broker-Dealers for their own accounts as a result of market-making activities or other trading activities, and to ensure that it conforms with the requirements of this Agreement, the Act and the policies, rules and regulations of the Commission as announced from time to time, for a period of 180 days from the date on which the Exchange Offer Registration Statement is declared effective or such shorter period that will terminate when all Notes covered by the Exchange Offer Registration Statement have been exchanged in the Exchange Offer.

The Company and the Guarantors shall provide sufficient copies of the latest version of such Prospectus to Broker-Dealers promptly upon request at any time during such 180 day period in order to facilitate such resales.

SECTION 4 SHELF REGISTRATION; MARKET-MAKER PROSPECTUS

(a) Shelf Registration. If (i) the Company and the Guarantors are not required to file the Exchange Offer Registration Statement or permitted to Consummate the Exchange Offer because the Exchange Offer is not permitted by applicable law or Commission policy (after the procedures set forth in Section 6(a) below have been complied with) or (ii) any Holder of Transfer Restricted Securities that is a "qualified institutional buyer," as such term is defined in Rule 144A under the Act or an institutional "accredited investor," as such term is defined in Rule 501(a)(1), (2), (3) and (7) under the Act shall notify the Company prior to the 20th day following

the Consummation of the Exchange Offer that such Holder alone or together with holders who hold in the aggregate at least $1.0 million in principal amount of Series A Notes (A) is prohibited by applicable law or Commission policy from participating in the Exchange Offer, or (B) may not resell the Series B Notes acquired by it in the Exchange Offer to the public without delivering a prospectus and that the Prospectus contained in the Exchange Offer Registration Statement is not appropriate or available for such resales by such Holder, or (C) is a Broker-Dealer and holds Series A Notes acquired directly from the Company or an affiliate of the Company, the Company and the Guarantors shall:

(i) cause to be filed with the Commission a shelf Registration Statement pursuant to Rule 415 under the Act, which may be an amendment to the Exchange Offer Registration Statement (in either event, the "Shelf Registration Statement") on or prior to the earliest to occur of (A) the 30th day after the date on which the Company determines that it is not required to file the Exchange Offer Registration Statement, or permitted to Consummate the Exchange Offer and (B) the 30th day after the date on which the Company receives notice from a Holder of Transfer Restricted Securities as contemplated by clause (ii) of paragraph (a) above (such earliest date being the "Shelf Filing Deadline"), which Shelf Registration Statement shall provide for resales of all Transfer Restricted Securities the Holders of which shall have provided the information required pursuant to Section 4(b) hereof; and

(ii) use all commercially reasonable efforts to cause such Shelf Registration Statement to be declared effective by the Commission on or before the 90th day after the Shelf Filing Deadline.

The Company and the Guarantors shall use all commercially reasonable efforts to keep such Shelf Registration Statement continuously effective, supplemented and amended as required by the provisions of Sections 6(b) and (d) hereof to the extent necessary to ensure that it is available for resales of Notes by the Holders of Transfer Restricted Securities entitled to the benefit of this Section 4(a), and to ensure that it conforms with the requirements of this Agreement, the Act and the policies, rules and regulations of the Commission as announced from time to time, for a period of at least two years following the Closing Date or such shorter period that will terminate when all Notes covered by the Shelf Registration Statement have been sold pursuant to the Shelf Registration Statement or become eligible for resale pursuant to Rule 144 without volume or other restrictions.

(b) Provision by Holders of Certain Information in Connection with the Shelf Registration Statement. No Holder of Transfer Restricted Securities may include any of its Transfer Restricted Securities in any Shelf Registration Statement pursuant to this Agreement unless and until such Holder furnishes to the Company in writing, within 10 business days after receipt of a request therefor, such information as the Company may reasonably request for use in connection with any Shelf Registration Statement or Prospectus or preliminary Prospectus included therein. No Holder of Transfer Restricted Securities shall be entitled to additional amounts pursuant to Section 5 hereof unless and until such Holder shall have used its best efforts to provide all such reasonably requested information. Each Holder as to which any Shelf Registration Statement is being effected agrees to furnish promptly to the Company all

information required to be disclosed in order to make the information previously furnished to the Company by such Holder not materially misleading.

(c) Market-Maker Prospectus. The Company and the Guarantors acknowledge that any Restricted Broker-Dealer holding Broker-Dealer Transfer Restricted Securities may not resell such Broker-Dealer Transfer Restricted Securities without delivering a Prospectus. Consequently, on the date that the Exchange Offer Registration Statement is filed with the Commission, the Company and the Guarantors shall file a Registration Statement (which may be the Exchange Offer Registration Statement or the Shelf Registration Statement if permitted by the rules and regulations of the Commission) and shall use all commercially reasonable efforts to cause such Registration Statement to be declared effective by the Commission on or prior to the Consummation of the Exchange Offer. The Company and the Guarantors shall use all commercially reasonable efforts to keep such Registration Statement continuously effective, supplemented and amended as required by the provisions of Sections 6(c) and (d) hereof to the extent necessary to ensure that it is available for resales of Broker-Dealer Transfer Restricted Securities by Restricted Broker-Dealers, and to ensure that it conforms with the requirements of this Agreement, the Act and the policies, rules and regulations of the Commission as announced from time to time, until such time as all Restricted Broker-Dealers determine in their judgment that they are no longer required to deliver a Prospectus in connection with sales of Broker-Dealer Transfer Restricted Securities. The Prospectus included in such Registration Statement is referred to in this Agreement as a "Market-Maker Prospectus."

SECTION 5 ADDITIONAL AMOUNTS

If (i) any of the Registration Statements required by this Agreement is not filed with the Commission on or prior to the date specified for such filing in sections 3(a), 4(a), and 4(c), as applicable, (ii) any of such required Registration Statements has not been declared effective by the Commission on or prior to the date specified for such effectiveness in sections 3(a), 4(a), and 4(c), as applicable, (the "Effectiveness Target Date"), (iii) the Exchange Offer has not been Consummated within 30 business days after the Effectiveness Target Date with respect to the Exchange Offer Registration Statement, or (iv) any Registration Statement required by this Agreement is filed and declared effective but shall thereafter cease to be effective or fail to be usable for its intended purpose without being succeeded within five business days by a post-effective amendment to such Registration Statement that cures such failure and that is itself immediately declared effective (each such event referred to in clauses (i) through (iv), a "Registration Default"), the Company and the Guarantors jointly and severally agree to pay additional amounts to each Holder of Transfer Restricted Securities with respect to the first 90-day period immediately following the occurrence of such Registration Default, in an amount equal to $.05 per week per $1,000 principal amount of Transfer Restricted Securities held by such Holder for each week or portion thereof that the Registration Default continues. The amount of the additional amounts shall increase by an additional $.05 per week per $1,000 in principal amount of Transfer Restricted Securities with respect to each subsequent 90-day period until all Registration Defaults have been cured, up to a maximum amount of additional amounts of $.50 per week per $1,000 principal amount of Transfer Restricted Securities. The Company shall in no event be required to pay additional amounts for more than one Registration Default at any given time. All accrued additional amounts shall be paid to Record Holders by the Company and the Guarantors by wire transfer of immediately available funds or by federal funds check on

each Damages Payment Date, as provided in the Indenture. Following the cure of all Registration Defaults relating to any particular Transfer Restricted Securities, the accrual of additional amounts with respect to such Transfer Restricted Securities will cease.

All payment obligations of the Company and the Guarantors set forth in the preceding paragraph that are outstanding with respect to any Transfer Restricted Security at the time such security ceases to be a Transfer Restricted Security shall survive until such time as all such payment obligations with respect to such Security shall have been satisfied in full provided, however, that the additional amounts shall cease to accrue on the day immediately prior to the date such Transfer Restricted Securities cease to be Transfer Restricted Securities.

SECTION 6 REGISTRATION PROCEDURES

(a) Exchange Offer Registration Statement. In connection with the Exchange Offer, the Company and the Guarantors shall comply with all of the provisions of Section 6(d) below, shall use all commercially reasonable efforts to effect such exchange to permit the sale of Transfer Restricted Securities being sold in accordance with the intended method or methods of distribution thereof, and shall comply with all of the following provisions:

(i) If in the reasonable opinion of counsel to the Company and the Guarantors there is a question as to whether the Exchange Offer is permitted by applicable law, the Company and the Guarantors hereby agree to seek a no-action letter or other favorable decision from the Commission allowing the Company and the Guarantors to Consummate an Exchange Offer for such Series A Notes. The Company and the Guarantors hereby agree to pursue the issuance of such a decision to the Commission staff level but shall not be required to take commercially unreasonable action to effect a change of Commission policy. The Company and the Guarantors hereby agree however, to (A) participate in telephonic conferences with the Commission, (B) deliver to the Commission staff an analysis prepared by counsel to the Company and the Guarantors setting forth the legal bases, if any, upon which such counsel has concluded that such an Exchange Offer should be permitted and (C) diligently pursue a resolution (which need not be favorable) by the Commission staff of such submission.

(ii) As a condition to its participation in the Exchange Offer pursuant to the terms of this Agreement, each Holder of Transfer Restricted Securities shall furnish, upon the request of the Company, prior to the Consummation thereof, a written representation to the Company and the Guarantors (which may be contained in the letter of transmittal contemplated by the Exchange Offer Registration Statement) to the effect that (A) it is not an affiliate of the Company, (B) it is not engaged in, and does not intend to engage in, and has no arrangement or understanding with any person to participate in, a distribution of the Series B Notes to be issued in the Exchange Offer and (C) it is acquiring the Series B Notes in its ordinary course of business. In addition, all such Holders of Transfer Restricted Securities shall otherwise cooperate in the Company's and the Guarantors' preparations for the Exchange Offer. Each Holder hereby acknowledges and agrees that any Broker-Dealer and any such Holder using the Exchange Offer to participate in a distribution of the securities to be acquired in the Exchange Offer (A) could not under Commission policy as in effect on the date of this Agreement rely on the position of the

Commission enunciated in Morgan Stanley and Co., Inc. (available June 5, 1991) and Exxon Capital Holdings Corporation (available May 13, 1988), as interpreted in the Commission's letter to Shearman & Sterling dated July 2, 1993, and similar no-action letters (including any no-action letter obtained pursuant to clause (i) above), and (B) must comply with the registration and prospectus delivery requirements of the Act in connection with a secondary resale transaction and that such a secondary resale transaction should be covered by an effective Registration Statement containing the selling security holder information required by Item 507 or 508, as applicable, of Regulation S-K if the resales are of Series B Notes obtained by such Holder in exchange for Series A Notes acquired by such Holder directly from the Company.

(iii) Prior to effectiveness of the Exchange Offer Registration Statement, the Company and the Guarantors shall provide a supplemental letter to the Commission (A) stating that the Company and the Guarantors are registering the Exchange Offer in reliance on the position of the Commission enunciated in Exxon Capital Holdings Corporation (available May 13, 1988), Morgan Stanley and Co., Inc. (available June 5, 1991) and, if applicable, any no-action letter obtained pursuant to clause (i) above and (B) including a representation that neither the Company nor any Guarantor has entered into any arrangement or understanding with any Person to distribute the Series B Notes to be received in the Exchange Offer and that, to the best of the Company's and each Guarantor's information and belief, each Holder participating in the Exchange Offer is acquiring the Series B Notes in its ordinary course of business and has no arrangement or understanding with any Person to participate in the distribution of the Series B Notes received in the Exchange Offer.

(b) Shelf Registration Statement. In connection with the Shelf Registration Statement, the Company and the Guarantors shall comply with all the provisions of Section 6(d) below and shall use all commercially reasonable efforts to effect such registration to permit the sale of the Transfer Restricted Securities being sold in accordance with the intended method or methods of distribution thereof, and pursuant thereto the Company and the Guarantors will as expeditiously as possible prepare and file with the Commission a Registration Statement relating to the registration on any appropriate form under the Act, which form shall be available for the sale of the Transfer Restricted Securities in accordance with the intended method or methods of distribution thereof.

(c) Market-Maker Prospectus. In connection with any Registration Statement filed pursuant to Section 4(c) of this Agreement, the Company and the Guarantors will comply with all of the provisions of Section 6(d) below (other than sub-sections (xiii), (xiv), (xv), (xvii) and (xx)) until such time as all Restricted Broker-Dealers determine in their reasonable judgment that they are no longer required to deliver Market-Maker Prospectuses in connection with sales of Broker-Dealer Transfer Restricted Securities. The Company and the Guarantors shall use all commercially reasonable efforts to deliver Market-Maker Prospectuses to all Restricted Broker-Dealers immediately upon the effectiveness of the Registration Statement and from time to time thereafter upon request, in such quantities as such Restricted Broker-Dealer shall reasonably require.

(d) General Provisions. In connection with any Registration Statement and any Prospectus required by this Agreement to permit the sale or resale of Transfer Restricted Securities (including, without limitation, any Registration Statement and the related Prospectus required to permit resales of Notes by Broker-Dealers) and Broker-Dealer Transfer Restricted Securities, the Company and the Guarantors shall:

(i) use all commercially reasonable efforts to keep such Registration Statement continuously effective and provide all requisite financial statements (including, if required by the Act or any regulation thereunder, financial statements of any Guarantors) for the period specified in Section 3 or 4 of this Agreement, as applicable; upon the occurrence of any event that would cause any such Registration Statement or the Prospectus contained therein (A) to contain a material misstatement or omission or (B) not to be effective and usable for resale of Transfer Restricted Securities or Broker-Dealer Transfer Restricted Securities during the period required by this Agreement, the Company and the Guarantors shall file promptly an appropriate amendment to such Registration Statement, in the case of clause (A), correcting any such misstatement or omission, and, in the case of either clause (A) or (B), use all commercially reasonable efforts to cause such amendment to be declared effective and such Registration Statement and the related Prospectus to become usable for their intended purpose(s) as soon as practicable thereafter. Notwithstanding the foregoing, at any time after Consummation of the Exchange Offer, the Company and the Guarantors may allow the Shelf Registration Statement or Market-Maker Prospectus and the related Registration Statement to cease to become effective and usable if (A) the board of directors of the Company determines in good faith that it is in the best interests of the Company not to disclose the existence of or facts surrounding any proposed or pending material corporate transaction involving the Company and the Guarantors, and the Company notifies the Holders within two business days after the Board of Directors makes such determination, or (B) the Prospectus contained in the Shelf Registration Statement or the Market-Maker Prospectus, as the case may be, contains an untrue statement of the material fact or omits to state a material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading; provided that the two-year period referred to in Section 4(a) hereof during which the Shelf Registration Statement is required to be effective and usable shall be extended by the number of days during which such Registration Statement was not effective or usable pursuant to the foregoing provisions;

(A) subject to Section 6(d)(i), prepare and file with the Commission such amendments and post-effective amendments to the Registration Statement as may be necessary to keep the Registration Statement effective for the applicable period set forth in Section 3 or 4 hereof, as applicable, or such shorter period as will terminate when all Transfer Restricted Securities covered by such Registration Statement have been sold; cause the Prospectus to be supplemented by any required Prospectus supplement, and as so supplemented to be filed pursuant to Rule 424 under the Act, and to comply fully with the applicable provisions of Rules 424 and 430A under the Act in a timely manner; and comply with the provisions of the Act with respect to the disposition of all securities covered by such Registration Statement during the applicable period in accordance with the intended method or methods of distribution

by the sellers thereof set forth in such Registration Statement or supplement to the Prospectus.

(ii) advise the underwriter(s), if any, and selling Holders of Transfer Restricted Securities and, following the Consummation of the Exchange Offer, Holders of Broker Dealer Transfer Restricted Securities, promptly and, if requested by such Persons, to confirm such advice in writing, (A) when the Prospectus or any Prospectus supplement or post-effective amendment has been filed, and, with respect to any Registration Statement or any post-effective amendment thereto, when the same has become effective, (B) of any request by the Commission for amendments to the Registration Statement or amendments or supplements to the Prospectus or for additional information relating thereto, (C) of the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement under the Act or of the suspension by any state securities commission of the qualification of the Transfer Restricted Securities or Broker-Dealer Transfer Restricted Securities, as applicable, for offering or sale in any jurisdiction, or the initiation of any proceeding for any of the preceding purposes and (D) of the existence of any fact or the happening of any event that makes any statement of a material fact made in the Registration Statement, the Prospectus, any amendment or supplement thereto, or any document incorporated by reference therein untrue, or that requires the making of any additions to or changes in the Registration Statement or the Prospectus in order to make the statements therein not misleading. If at any time the Commission shall issue any stop order suspending the effectiveness of the Registration Statement, or any state securities commission or other regulatory authority shall issue an order suspending the qualification or exemption from qualification of the Transfer Restricted Securities or Broker-Dealer Transfer Restricted Securities, as applicable, under state securities or Blue Sky laws, the Company and the Guarantors shall use all commercially reasonable efforts to obtain the withdrawal or lifting of such order at the earliest possible time;

(iii) upon written request, furnish to each of the selling Holders of Transfer Restricted Securities or Holders of Broker-Dealer Transfer-Restricted Securities and each of the underwriter(s), if any, before filing with the Commission, copies of any Registration Statement or any Prospectus included therein or any amendments or supplements to any such Registration Statement or Prospectus (including all documents incorporated by reference after the initial filing of such Registration Statement), which documents will be subject to the review of such Holders and underwriter(s), if any, for a period of at least five business days, and the Company and the Guarantors will not file any such Registration Statement or Prospectus or any amendment or supplement to any such Registration Statement or Prospectus (including all such documents incorporated by reference) if a selling Holder of Transfer Restricted Securities or a Holder of Broker-Dealer Transfer Restricted Securities, as applicable, covered by such Registration Statement or the underwriter(s), if any, shall reasonably object within 5 business days after receipt thereof;

(iv) upon written request, promptly prior to the filing of any document that is to be incorporated by reference into a Registration Statement or Prospectus, provide copies of such document to the selling Holders or the Holders of Broker-Dealer Transfer Restricted Securities, as applicable, and to the underwriter(s), if any, make the

Company's and the Guarantors' representatives available for discussion of such document and other customary due diligence matters, and include such information in such document prior to the filing thereof as such selling Holders or the Holders of Broker-Dealer Transfer Restricted Securities, as applicable, or underwriter(s), if any, reasonably may request;

(v) in the case of a Shelf Registration Statement, make available at reasonable times at the Company's principal place of business for inspection by the selling Holders of Transfer Restricted Securities, any underwriter participating in any disposition pursuant to such Registration Statement, and any attorney or accountant retained by such selling Holders or any of the underwriter(s) who shall certify to the Company and the Guarantors that they have a current intention to sell Transfer Restricted Securities or Broker-Dealer Transfer Restricted Securities pursuant to a Shelf Registration Statement or Market-Maker Prospectus, and, following the Consummation of the Exchange Offer, the Holders of Broker-Dealer Transfer Restricted Securities, such financial and other information of the Company and the Guarantors as reasonably requested and cause the Company's and the Guarantors' officers, directors and employees to respond to such inquiries as shall be reasonably necessary, in the reasonable judgment of counsel to such Holders, to conduct a reasonable investigation; provided, however, that each such party shall be required to maintain in confidence and not to disclose to any other person any information or records reasonably designated by the Company in writing as being confidential, until such time as (A) such information becomes a matter of public record (whether by virtue of its inclusion in such Registration Statement or otherwise), or (B) such person shall be required so to disclose such information pursuant to the subpoena or order of any court or other governmental agency or body having jurisdiction over the matter (subject to the requirements of such order, and only after such person shall have given the Company prompt prior written notice of such requirement), or (C) such information is required to be set forth in such Registration Statement or the Prospectus included therein or in an amendment to such Registration Statement or an amendment or supplement to such Prospectus in order that such Registration Statement, Prospectus, amendment or supplement, as the case may be, does not contain an untrue statement of a material fact or omit to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading;

(vi) if requested by any selling Holders of Transfer Restricted Securities or Holders of Broker-Dealer Transfer Restricted Securities, as applicable, or the underwriter(s), if any, promptly incorporate in any Registration Statement or Prospectus, pursuant to a supplement or post-effective amendment if necessary, such information as such selling Holders and underwriter(s), if any, may reasonably request to have included therein, including, without limitation, information relating to the "Plan of Distribution" of the Transfer Restricted Securities or Broker-Dealer Transfer Restricted Securities, as applicable, information with respect to the principal amount of Transfer Restricted Securities or Broker-Dealer Transfer Restricted Securities, as applicable, being sold to such underwriter(s), the purchase price being paid therefor and any other terms of the offering of the Transfer Restricted Securities or Broker-Dealer Transfer-Restricted Securities, as applicable, to be sold in such offering; and make all required filings of such Prospectus supplement or post-effective amendment as soon as practicable after the

Company is notified of the matters to be incorporated in such Prospectus supplement or post-effective amendment;

(vii) furnish to each selling Holder of Transfer Restricted Securities or Holders of Broker-Dealer Transfer Restricted Securities, as applicable, and each of the underwriter(s), if any, without charge, at least one copy of the Registration Statement, as first filed with the Commission, and of each amendment thereto, including all documents incorporated by reference therein and all exhibits (including exhibits incorporated therein by reference);

(viii) deliver to each selling Holder of Transfer Restricted Securities and each of the underwriter(s), if any, and each Holder of Broker-Dealer Transfer Restricted Securities, without charge, as many copies of the Prospectus (including each preliminary prospectus) and any amendment or supplement thereto as such Persons reasonably may request; the Company and the Guarantors hereby consent to the use of the Prospectus and any amendment or supplement thereto by each of the selling Holders and each of the underwriter(s), if any, and each Holder of Broker-Dealer Transfer Restricted Securities, in connection with the offering and the sale of the Transfer Restricted Securities and Broker-Dealer Transfer Restricted Securities, as applicable, covered by the Prospectus or any amendment or supplement thereto;

(ix) enter into such agreements (including an underwriting agreement), and make such representations and warranties, and take all such other actions in connection therewith in order to expedite or facilitate the disposition of the Transfer Restricted Securities and Broker-Dealer Transfer Restricted Securities, as applicable, pursuant to any Registration Statement contemplated by this Agreement, all to such extent as may be requested by the Initial Purchaser or, in the case of registration for resale of Transfer Restricted Securities pursuant to the Shelf Registration Statement, by any Holder or Holders of Transfer Restricted Securities who hold at least 25% in aggregate principal amount of such class of Transfer Restricted Securities or, in the case of Broker-Dealer Transfer Restricted Securities, by any Holder of Broker-Dealer Transfer Restricted Securities; provided, that, the Company and the Guarantors shall not be required to enter into any such agreement more than once with respect to all of the Transfer Restricted Securities and, in the case of a Shelf Registration Statement, may delay entering into such agreement if the Board of Directors of the Company determines in good faith that it is in the best interests of the Company and the Guarantors not to disclose the existence of or facts surrounding any proposed or pending material corporate transaction involving the Company and the Guarantors; and whether or not an underwriting agreement is entered into and whether or not the registration is an Underwritten Registration, the Company and the Guarantors shall:

(A) furnish to the Initial Purchasers, the Holders of Transfer Restricted Securities who hold at least 25% in aggregate principal amount of such class of Transfer Restricted Securities (in the case of a Shelf Registration Statement), each Holder of Broker-Dealer Transfer Restricted Securities and each underwriter, if any, in such substance and scope as they may request and as are customarily made in connection with an offering of debt securities pursuant to a Registration Statement (i)

upon the effective date of any Registration Statement (and if such Registration Statement contemplates an Underwritten Offering of Transfer Restricted Securities or Broker-Dealer Transfer Restricted Securities, as applicable, upon the date of the closing under the underwriting agreement related thereto) and (ii) upon the filing of any amendment or supplement to any Registration Statement or any other document that is incorporated in any Registration Statement by reference and includes financial data with respect to a fiscal quarter or year:

(1) a certificate, dated the date of effectiveness of the Shelf Registration Statement signed by (y) the respective Chairman of the Board, the respective President or any Vice President and (z) the respective Chief Financial Officer of the Company and each of the Guarantors confirming, as of the date thereof, the matters set forth in paragraph (j) of Section 7 of the Purchase Agreement and such other matters as such parties may reasonably request;

(2) an opinion, dated the date of effectiveness of the Shelf Registration Statement, as the case may be, of counsel for the Company covering the matters set forth in paragraphs (c) (d) and (e) of Section 7 of the Purchase Agreement and such other matter as such parties may reasonably request, and in any event including a statement to the effect that such counsel has participated in conferences with officers and other representatives of the Company, representatives of the independent public accountants for the Company, the Initial Purchasers' representatives and the Initial Purchasers' counsel in connection with the preparation of such Registration Statement and the related Prospectus and have considered the matters required to be stated therein and the statements contained therein, although such counsel has not independently verified the accuracy, completeness or fairness of such statements; and that such counsel advises that, on the basis of the foregoing (relying as to materiality to a large extent upon facts provided to such counsel by officers and other representatives of the Company and without independent check or verification), no facts came to such counsel's attention that caused such counsel to believe that the applicable Registration Statement, at the time such Registration Statement or any post-effective amendment thereto became effective, and, in the case of the Exchange Offer Registration Statement, as of the date of Consummation, contained an untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary to make the statements therein not misleading, or that the Prospectus contained in such Registration Statement as of its date and, in the case of the opinion dated the date of Consummation of the Exchange Offer, as of the date of Consummation, contained an untrue statement of a material fact or omitted to state a material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading. Such counsel may state further that such counsel assumes no responsibility for, and has not independently verified, the accuracy, completeness or fairness of the financial statements, notes and schedules and other financial data included in any Registration Statement contemplated by this Agreement or the related Prospectus; and

(3) a customary comfort letter, dated as of the date of Consummation of the Exchange Offer or the date of effectiveness of the Shelf Registration Statement, as the case may be, from the Company's independent accountants, in the customary form and covering matters of the type customarily covered in comfort letters by underwriters in connection with primary underwritten offerings, and affirming the matters set forth in the comfort letters delivered pursuant to Section 7 of the Purchase Agreement, without exception;

(B) set forth in full or incorporated by reference in the underwriting agreement, if any, the indemnification provisions and procedures of Section 8 hereof with respect to all parties to be indemnified pursuant to said Section; and

(C) deliver such other documents and certificates as may be reasonably requested by such parties to evidence compliance with clause (A) above and with any customary conditions contained in the underwriting agreement or other agreement entered into by the Company and the Guarantors pursuant to this clause (x), if any.

(x) prior to any public offering of Transfer Restricted Securities, or Broker-Dealer Transfer Restricted Securities, as applicable, cooperate with the selling Holders of Transfer Restricted Securities, the Holders of Broker-Dealer Transfer Restricted Securities, the underwriter(s), if any, and their respective counsel in connection with the registration and qualification of the Transfer Restricted Securities or Broker-Dealer Transfer Restricted Securities, as applicable, under the securities or Blue Sky laws of such jurisdictions as the selling Holders of Transfer Restricted Securities or Holders of Broker-Dealer Transfer Restricted Securities or underwriter(s) may reasonably request and do any and all other acts or things necessary or advisable to enable the disposition in such jurisdictions of the Transfer Restricted Securities or Broker-Dealer Transfer Restricted Securities, as applicable, covered by the Shelf Registration Statement filed pursuant to Section 4 hereof; provided, however, that the Company and the Guarantors shall not be required to register or qualify as a foreign corporation where it is not now so qualified or to take any action that would subject it to the service of process in suits or to taxation, other than as to matters and transactions relating to the Registration Statement, in any jurisdiction where it is not now so subject;

(xi) shall issue, upon the request of any Holder of Series A Notes covered by the Shelf Registration Statement, Series B Notes, having an aggregate principal amount equal to the aggregate principal amount of Series A Notes surrendered to the Company by such Holder in exchange therefor or being sold by such Holder; such Series B Notes to be registered in the name of such Holder or in the name of the purchaser(s) of such Notes, as the case may be; in return, the Series A Notes held by such Holder shall be surrendered to the Company for cancellation;

(xii) cooperate with the selling Holders of Transfer Restricted Securities and the underwriter(s), if any, to facilitate the timely preparation and delivery of certificates representing Transfer Restricted Securities to be sold and not bearing any restrictive legends; and enable such Transfer Restricted Securities to be in such denominations and registered in such names as the Holders or the underwriter(s), if any, may request at least

two business days prior to any sale of Transfer Restricted Securities made by such underwriter(s);

(xiii) use all commercially resonable efforts to cause the Transfer Restricted Securities or Broker-Dealer Transfer Restricted Securities, as applicable, covered by the Registration Statement to be registered with or approved by such other governmental agencies or authorities as may be necessary to enable the seller or sellers thereof or the underwriter(s), if any, to consummate the disposition of such Transfer Restricted Securities, subject to the proviso contained in clause (xi) above;

(xiv) subject to clause (d)(i) above, if any fact or event contemplated by clause (d)(iii)(D) above shall exist or have occurred, prepare a supplement or post-effective amendment to the Registration Statement or related Prospectus or any document incorporated therein by reference or file any other required document so that, as thereafter delivered to the purchasers of Transfer Restricted Securities, or Broker-Dealer Transfer Restricted Securities, as applicable, the Prospectus will not contain an untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading;

(xv) provide a CUSIP number for all Transfer Restricted Securities not later than the effective date of the Registration Statement and provide the Trustee under the Indenture with printed certificates for the Transfer Restricted Securities which are in a form eligible for deposit with The Depository Trust Company;

(xvi) cooperate and assist in any filings required to be made with the NASD and in the performance of any due diligence investigation by any underwriter (including any "qualified independent underwriter") that is required to be retained in accordance with the rules and regulations of the NASD;

(xvii) otherwise use all commercially reasonable efforts to comply with all applicable rules and regulations of the Commission, and make generally available to its security holders, as soon as practicable, a consolidated earnings statement meeting the requirements of Rule 158 (which need not be audited) for the twelve-month period (A) commencing at the end of any fiscal quarter in which Transfer Restricted Securities are sold to underwriters in a firm or best efforts Underwritten Offering or (B) if not sold to underwriters in such an offering, beginning with the first month of the Company's first fiscal quarter commencing after the effective date of the Registration Statement;

(xviii) cause the Indenture to be qualified under the TIA not later than the effective date of the first Registration Statement required by this Agreement, and, in connection therewith, cooperate with the Trustee and the Holders of Notes to effect such changes to the Indenture as may be required for such Indenture to be so qualified in accordance with the terms of the TIA; and execute, and use all commercially reasonable efforts to cause the Trustee to execute, all documents that may be required to effect such changes and all other forms and documents required to be filed with the Commission to enable such Indenture to be so qualified in a timely manner;

(xix) provide promptly to each Holder upon request each document filed with the Commission pursuant to the requirements of Section 13 and Section 15 of the Exchange Act; and

(xx) cause each Additional Guarantor upon the creation or acquisition by the Company of such Additional Guarantor, to execute a counterpart to this Agreement in the form attached hereto as Annex A and to deliver such counterpart, together with an opinion of counsel as to the enforceability thereof against such entity, to the Initial Purchasers no later than five business days following the execution thereof.

Each Holder agrees by acquisition of a Transfer Restricted Security or Broker-Dealer Transfer Restricted Securities, as applicable, that, upon receipt of any notice from the Company of the existence of any fact of the kind described in Section 6(d)(iii)(D) hereof, such Holder will forthwith discontinue disposition and will use its reasonable best efforts to cause any underwriter to forthwith discontinue disposition of Transfer Restricted Securities or Broker-Dealer Transfer Restricted Security pursuant to the applicable Registration Statement until such Holder's receipt of the copies of the supplemented or amended Prospectus contemplated by Section 6(d)(xv) hereof, or until it is advised in writing (the "Advice") by the Company that the use of the Prospectus may be resumed, and has received copies of any additional or supplemental filings that are incorporated by reference in the Prospectus. If so directed by the Company, each Holder will deliver to the Company (at the Company's expense) all copies, other than permanent file copies then in such Holder's possession, of the Prospectus covering such Transfer Restricted Securities or Broker-Dealer Transfer Restricted Security, as applicable, that was current at the time of receipt of such notice. In the event the Company shall give any such notice, the time period regarding the effectiveness of such Registration Statement set forth in Section 3 or 4 hereof, as applicable, shall be extended by the number of days during the period from and including the date of the giving of such notice pursuant to Section 6(d)(iii)(D) hereof to and including the date when each selling Holder covered by such Registration Statement shall have received the copies of the supplemented or amended Prospectus contemplated by Section 6(d)(xv) hereof or shall have received the Advice.

The Company and the Guarantors may require each Holder of Transfer Restricted Securities or Broker-Dealer Transfer Restricted Securities as to which any registration is being effected to furnish to the Company such information regarding such Holder and such Holder's intended method of distribution of the applicable Transfer Restricted Securities or Broker-Dealer Transfer Restricted Securities as the Company may from time to time reasonably request in writing, but only to the extent that such information is required in order to comply with the Act. Each such Holder agrees to notify the Company as promptly as practicable of (i) any inaccuracy or change in information previously furnished by such Holder to the Company or (ii) the occurrence of any event, in either case, as a result of which any Prospectus relating to such registration contains or would contain an untrue statement of a material fact regarding such Holder or such Holder's intended method of distribution of the applicable Transfer Restricted Securities or Broker-Dealer Transfer Restricted Securities or omits to state any material fact regarding such Holder or such Holder's intended method of distribution of the applicable Transfer Restricted Securities or Broker-Dealer Transfer Restricted Securities required to be stated therein or necessary to make the statements therein not misleading and promptly to furnish to the Company any additional information required to correct and update any previously furnish

to the Company any additional information required to correct and update any previously furnished information or required so that such Prospectus shall not contain, with respect to such Holder or the distribution of the applicable Transfer Restricted Securities or Broker-Dealer Transfer Restricted Securities an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading.

SECTION 7 REGISTRATION EXPENSES

All expenses incident to the Company's and the Guarantors' performance of or compliance with this Agreement will be borne by the Company regardless of whether a Registration Statement becomes effective, including without limitation: (i) all registration and filing fees and expenses (including filings made by any Initial Purchaser or Holder with the NASD (and, if applicable, the fees and expenses of any "qualified independent underwriter" and its counsel that may be required by the rules and regulations of the NASD)); (ii) all fees and expenses of compliance with federal securities and state Blue Sky or securities laws; (iii) all expenses of printing (including printing certificates for the Series B Notes to be issued in the Exchange Offer and printing of Prospectuses), messenger and delivery services; (iv) all fees and disbursements of counsel for the Company and the Guarantors and the Holders of Transfer Restricted Securities; and (v) all fees and disbursements of independent certified public accountants of the Company (including the expenses of any special audit and comfort letters required by or incident to such performance).

The Company will, in any event, bear its and the Guarantors' internal expenses (including, without limitation, all salaries and expenses of its officers and employees performing legal or accounting duties), the expenses of any annual audit and the fees and expenses of any Person, including special experts, retained by the Company or the Guarantors.

SECTION 8 INDEMNIFICATION

(a) The Company and the Guarantors shall, jointly and severally, indemnify and hold harmless each Holder of Transfer Restricted Securities or Broker Dealer Transfer Restricted Securities, its officers and employees and each person, if any, who controls any such Holders, within the meaning of the Securities Act, from and against any loss, claim, damage or liability, joint or several, or any action in respect thereof (including, but not limited to, any loss, claim, damage, liability or action relating to purchases, sales and registration of Notes), to which that Holder, officer, employee or controlling person may become subject, under the Securities Act or otherwise, insofar as such loss, claim, damage, liability or action arises out of, or is based upon, (i) any untrue statement or alleged untrue statement of a material fact contained (A) in any Registration Statement or Prospectus or in any amendment or supplement thereto or (B) in any blue sky application or other document prepared or executed by the Company or any Guarantor (or based upon any written information furnished by the Company or any Guarantor) specifically for the purpose of qualifying any or all of the Notes under the securities laws of any state or other jurisdiction (any such application, document or information being hereinafter called a "Blue Sky Application"), (ii) the omission or alleged omission to state in any Registration Statement or Prospectus, or in any amendment or supplement thereto, or in any Blue Sky Application any material fact required to be stated therein or necessary to make the statements therein not misleading or (iii) any act or failure to act or any alleged act or failure to act by any

Holder in connection with, or relating in any manner to, the Notes or the offering contemplated hereby, and which is included as part of or referred to in any loss, claim, damage, liability or action arising out of or based upon matters covered by clause (i) or (ii) above (provided that the Company and the Guarantors shall not be liable under this clause (iii) to the extent that it is determined in a final judgment by a court of competent jurisdiction that such loss, claim, damage, liability or action resulted directly from any such acts or failures to act undertaken or omitted to be taken by such Holder through its gross negligence or willful misconduct), and shall reimburse each Holder and each such officer, employee or controlling person promptly upon demand for any legal or other expenses reasonably incurred by that Holder, officer, employee or controlling person in connection with investigating or defending or preparing to defend against any such loss, claim, damage, liability or action as such expenses are incurred; provided, however, that the Company and the Guarantors shall not be liable in any such case to the extent that any such loss, claim, damage, liability or action arises out of, or is based upon, any untrue statement or alleged untrue statement or omission or alleged omission made in any Registration Statement or Prospectus, or in any such amendment or supplement, or in any Blue Sky Application, in reliance upon and in conformity with written information concerning such Holder furnished to the Company by or on behalf of any Holder specifically for inclusion therein. The foregoing indemnity agreement is in addition to any liability which the Company and the Guarantors may otherwise have to any Holder or to any officer, employee or controlling person of that Holder.

(b) Each Holder, severally and not jointly, shall indemnify and hold harmless the Company and the Guarantors, their respective officers and employees, each of their respective directors, and each person, if any, who controls the Company or the Guarantors within the meaning of the Securities Act, from and against any loss, claim, damage or liability, joint or several, or any action in respect thereof, to which the Company, the Guarantors or any such director, officer or controlling person may become subject, under the Securities Act or otherwise, insofar as such loss, claim, damage, liability or action arises out of, or is based upon, (i) any untrue statement or alleged untrue statement of a material fact contained (A) in any Registration Statement or Prospectus, or in any amendment or supplement thereto, or (B) in any Blue Sky Application or (ii) the omission or alleged omission to state in any Registration Statement or Prospectus, or in any amendment or supplement thereto, or in any Blue Sky Application any material fact required to be stated therein or necessary to make the statements therein not misleading, but in each case only to the extent that the untrue statement or alleged untrue statement or omission or alleged omission was made in reliance upon and in conformity with written information concerning such Holders furnished to the Company by or on behalf of that Holder specifically for inclusion therein, and shall reimburse the Company, the Guarantors and any such director, officer or controlling person for any legal or other expenses reasonably incurred by the Company, the Guarantors or any such director, officer or controlling person in connection with investigating or defending or preparing to defend against any such loss, claim, damage, liability or action as such expenses are incurred. The foregoing indemnity agreement is in addition to any liability which any Holder may otherwise have to the Company, the Guarantors or any such director, officer, employee or controlling person. The Company and the Guarantors shall be entitled to receive indemnities from underwriters, selling brokers, dealer managers and similar securities industry professionals participating in the distribution of such Registrable Securities to the same extent as provided above with respect to information or

affidavit furnished in writing by such Persons as provided specifically for in any Prospectus or Registration Statement.

(c) Promptly after receipt by an indemnified party under this Section 8 of notice of any claim or the commencement of any action, the indemnified party shall, if a claim in respect thereof is to be made against the indemnifying party under this Section 8, notify the indemnifying party in writing of the claim or the commencement of that action; provided, however, that the failure to notify the indemnifying party shall not relieve it from any liability which it may have under this Section 8 except to the extent it has been materially prejudiced by such failure and, provided further, that the failure to notify the indemnifying party shall not relieve it from any liability which it may have to an indemnified party otherwise than under this Section 8. If any such claim or action shall be brought against an indemnified party, and it shall notify the indemnifying party thereof, the indemnifying party shall be entitled to participate therein and, to the extent that it wishes, jointly with any other similarly notified indemnifying party, to assume the defense thereof with counsel reasonably satisfactory to the indemnified party. After notice from the indemnifying party to the indemnified party of its election to assume the defense of such claim or action, the indemnifying party shall not be liable to the indemnified party under this Section 8 for any legal or other expenses subsequently incurred by the indemnified party in connection with the defense thereof other than reasonable costs of investigation; provided, however, any indemnified party shall have the right to employ separate counsel in any such action and to participate in the defense thereof but the fees and expenses of such counsel shall be at the expense of the indemnified party unless (i) the employment thereof has been specifically authorized by the indemnifying party in writing, (ii) such indemnified party shall have been advised by such counsel that there may be one or more legal defenses available to it which are different from or additional to those available to the indemnifying party and in the reasonable judgment of such counsel it is advisable for such indemnified party to employ separate counsel or (iii) the indemnifying party has failed to assume the defense of such action and employ counsel reasonably satisfactory to the indemnified party, in which case, if such indemnified party notifies the indemnifying party in writing that it elects to employ separate counsel at the expense of the indemnifying party shall not, in connection with any one such action or separate but substantially similar or related actions in the same jurisdiction arising out of the same general allegations or circumstances, be liable for the reasonable fees and expenses of more than one separate firm of attorneys (in addition to one local counsel) at any time for all such indemnified parties, if the indemnified parties under this Section 8 consist of any Initial Purchaser or any of their respective officers, employees or controlling persons, or by the Company, if the indemnified parties under this Section consist of the Company, the Guarantors or any of their respective directors, officers, employees or controlling persons. No indemnifying party shall (i) without the prior written consent of the indemnified parties (which consent shall not be unreasonably withheld), settle or compromise or consent to the entry of any judgment with respect to any pending or threatened claim, action, suit or proceeding in respect of which indemnification or contribution may be sought hereunder (whether or not the indemnified parties are actual or potential parties to such claim or action) unless such settlement, compromise or consent includes an unconditional release of each indemnified party from all liability arising out of such claim, action, suit or proceeding, or (ii) be liable for any settlement of any such action effected without its written consent (which consent shall not be unreasonably withheld), but if settled with the consent of the indemnifying party or if there be a final judgment of the plaintiff in any such action, the indemnifying party agrees to indemnify and hold harmless any

indemnified party from and against any loss or liability by reason of such settlement or judgment.

(d) If the indemnification provided for in this Section 8 shall for any reason be unavailable to or insufficient to hold harmless an indemnified party under Section 8(a) or 8(b) in respect of any loss, claim, damage or liability, or any action in respect thereof, referred to therein, then each indemnifying party shall, in lieu of indemnifying such indemnified party, contribute to the amount paid or payable by such indemnified party as a result of such loss, claim, damage or liability, or action in respect thereof, (i) in such proportion as shall be appropriate to reflect the relative benefits received by the Company and the Guarantors, on the one hand, and the Holders on the other, from the offering of the Notes or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company and the Guarantors, on the one hand and the Holders on the other with respect to the statements or omissions which resulted in such loss, claim, damage or liability, or action in respect thereof, as well as any other relevant equitable considerations. The relative benefits received by the Company and the Guarantors, on the one hand and the Holders on the other with respect to such offering shall be deemed to be in the same proportion as the total net proceeds from the offering of the Series A Notes purchased under the Purchase Agreement (before deducting expenses) received by the Company and the Guarantors, on the one hand, and the total discounts and commissions received by the Holders with respect to the Series A Notes purchased under this Agreement, on the other hand, bear to the total gross proceeds from the offering of the Series A Notes under the Purchase Agreement, in each case as set forth in the table on the cover page of the Offering Memorandum. The relative fault shall be determined by reference to whether the untrue or alleged untrue statement of a material fact or omission or alleged omission to state a material fact relates to information supplied by the Company, the Guarantors or the Holders, the intent of the parties and their relative knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company, the Guarantors and the Holders agree that it would not be just and equitable if contributions pursuant to this Section 8(d) were to be determined by pro rata allocation (even if the Holders were treated as one entity for such purpose) or by any other method of allocation which does not take into account the equitable considerations referred to herein. The amount paid or payable by an indemnified party as a result of the loss, claim, damage or liability, or action in respect thereof, referred to above in this Section shall be deemed to include, for purposes of this Section 8(d), any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim. Notwithstanding the provisions of this Section 8(d), no Holder shall be required to contribute any amount in excess of the amount by which the net proceeds received by it in connection with its sale of Notes exceeds the amount of any damages which such Holder has otherwise paid or become liable to pay by reason of any untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Holders' obligations to contribute as provided in this Section 8(d) are several and not joint.

SECTION 9 RULE 144A

The Company and each Guarantor hereby agrees with each Holder of Transfer Restricted Securities, during any period in which the Company or such Guarantor is not subject to Section 13 or 15(d) of the Exchange Act within the two-year period following the Closing Date, and each Holder of Broker-Dealer Transfer Restricted Securities, for so long as any Broker-Dealer Transfer Restricted Securities remain outstanding, to make available to any Holder or beneficial owner of Transfer Restricted Securities or any Holder or Broker-Dealer Transfer Restricted Securities, in connection with any sale thereof and any prospective purchaser of such Transfer Restricted Securities from such Holder or beneficial owner, the information required by Rule 144A(d)(4) under the Act in order to permit resales of such Transfer Restricted Securities pursuant to Rule 144A.

SECTION 10 PARTICIPATION IN UNDERWRITTEN REGISTRATIONS

No Holder may participate in any Underwritten Registration hereunder unless such Holder (a) agrees to sell such Holder's Transfer Restricted Securities or Broker-Dealer Transfer Restricted Securities, as applicable, on the basis provided in any underwriting arrangements approved by the Persons entitled hereunder to approve such arrangements and (b) completes and executes all reasonable questionnaires, powers of attorney, indemnities, underwriting agreements, lock-up letters and other documents required under the terms of such underwriting arrangements.

SECTION 11 SELECTION OF UNDERWRITERS

The Holders of Transfer Restricted Securities covered by the Shelf Registration Statement who desire to do so may sell such Transfer Restricted Securities in an Underwritten Offering at such Holders' expense. In any such Underwritten Offering, the investment banker or investment bankers and manager or managers that will administer the offering will be selected by the Holders of a majority in aggregate principal amount of the Transfer Restricted Securities included in such offering; provided, that such investment bankers and managers must be reasonably satisfactory to the Company.

SECTION 12 MISCELLANEOUS

(a) Remedies. The Company and the Guarantors agree that monetary damages (including the additional amounts contemplated hereby) would not be adequate compensation for any loss incurred by reason of a breach by it of the provisions of this Agreement and hereby agree to waive the defense in any action for specific performance that a remedy at law would be adequate.

(b) No Inconsistent Agreements. Neither the Company nor any Guarantor will, on or after the date of this Agreement, enter into any agreement with respect to its securities that is inconsistent with the rights granted to the Holders in this Agreement or otherwise conflicts with the provisions hereof. Except as disclosed in the Offering Memorandum or in the documents incorporated therein by reference, neither the Company nor any Guarantor has previously entered into any agreement granting any registration rights with respect to its securities to any Person. The rights granted to the Holders hereunder do not in any way conflict with and are not

inconsistent with the rights granted to the holders of the Company's or any Guarantor's securities under any agreement in effect on the date hereof.

(c) Adjustments Affecting the Notes. The Company and the Guarantors will not take any action, or permit any change to occur, with respect to the Notes that would materially and adversely affect the ability of the Holders to Consummate any Exchange Offer.

(d) Amendments and Waivers. The provisions of this Agreement may not be amended, modified or supplemented, and waivers or consents to or departures from the provisions hereof may not be given unless the Company has obtained the written consent of Holders of a majority of the outstanding principal amount of Transfer Restricted Securities. Notwithstanding the foregoing, a waiver or consent to departure from the provisions hereof that relates exclusively to the rights of Holders whose securities are being tendered pursuant to the Exchange Offer and that does not affect directly or indirectly the rights of other Holders whose securities are not being tendered pursuant to such Exchange Offer may be given by the Holders of a majority of the outstanding principal amount of Transfer Restricted Securities being tendered or registered.

(e) Notices. All notices and other communications provided for or permitted hereunder shall be made in writing by hand-delivery, first-class mail (registered or certified, return receipt requested), telex, telecopier, or air courier guaranteeing overnight delivery:

(i) if to a Holder, at the address set forth on the records of the Registrar under the Indenture, with a copy to the Registrar under the Indenture; and

(ii) if to the Company or the Guarantors:

L-3 Communications Corporation
600 Third Avenue, 34th Floor,
New York, New York 10016,
Attention: Christopher C. Cambria (Fax: 212-805-5494),

With a copy to:

Simpson Thacher & Bartlett
425 Lexington Avenue
New York, NY, 10017
Attention: Vincent Pagano Jr. (Fax: 212-455-2502)

All such notices and communications shall be deemed to have been duly given: at the time delivered by hand, if personally delivered; five business days after being deposited in the mail, postage prepaid, if mailed; when answered back, if telexed; when receipt acknowledged, if telecopied; and on the next business day, if timely delivered to an air courier guaranteeing overnight delivery.

Copies of all such notices, demands or other communications shall be concurrently delivered by the Person giving the same to the Trustee at the address specified in the Indenture.

(f) Successors and Assigns. This Agreement shall inure to the benefit of and be binding upon the successors and assigns of each of the parties, including without limitation and without

the need for an express assignment, subsequent Holders or Restricted Broker Dealers; provided, however, that this Agreement shall not inure to the benefit of or be binding upon a successor or assign of a Holder unless and to the extent such successor or assign acquired Transfer Restricted Securities or Broker Dealer Transfer Restricted Securities from such Holder.

(g) Counterparts. This Agreement may be executed in any number of counterparts and by the parties hereto in separate counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall constitute one and the same agreement.

(h) Headings. The headings in this Agreement are for convenience of reference only and shall not limit or otherwise affect the meaning hereof.

(i) Governing Law. THIS AGREEMENT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK.

(j) Severability. In the event that any one or more of the provisions contained herein, or the application thereof in any circumstance, is held invalid, illegal or unenforceable, the validity, legality and enforceability of any such provision in every other respect and of the remaining provisions contained herein shall not be affected or impaired thereby.

(k) Entire Agreement. This Agreement together with the other Operative Documents (as defined in the Purchase Agreement) is intended by the parties as a final expression of their agreement and intended to be a complete and exclusive statement of the agreement and understanding of the parties hereto in respect of the subject matter contained herein. There are no restrictions, promises, warranties or undertakings, other than those set forth or referred to herein with respect to the registration rights granted by the Company and the Guarantors with respect to the Transfer Restricted Securities. This Agreement supersedes all prior agreements and understandings between the parties with respect to such subject matter.

[Signature pages follow]

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

L-3 COMMUNICATIONS CORPORATION

By: /s/ Christopher C. Cambria

Name: Christopher C. Cambria
Title: Senior Vice President, Secretary and General Counsel

GUARANTORS:

AMI INSTRUMENTS, INC.
APCOM, INC.
CELERITY SYSTEMS INCORPORATED
COLEMAN RESEARCH CORPORATION
EER SYSTEMS, INC.
ELECTRODYNAMICS, INC.
HENSCHEL, INC.
HYGIENETICS ENVIRONMENTAL SERVICES, INC.
INTERSTATE ELECTRONICS CORPORATION
KDI PRECISION PRODUCTS, INC.
L-3 COMMUNICATIONS AIS GP CORPORATION
L-3 COMMUNICATIONS ANALYTICS CORPORATION
L-3 COMMUNICATIONS ATLANTIC SCIENCE & TECHNOLOGY CORPORATION
L-3 COMMUNICATIONS AYDIN CORPORATION
L-3 COMMUNICATIONS ESSCO, INC.
L-3 COMMUNICATIONS ILEX SYSTEMS, INC.
L-3 COMMUNICATIONS INVESTMENTS, INC.
L-3 COMMUNICATIONS SPD TECHNOLOGIES, INC.
L-3 COMMUNICATIONS STORM CONTROL SYSTEMS, INC.
MICRODYNE COMMUNICATIONS TECHNOLOGY INCORPORATED
MICRODYNE CORPORATION
MICRODYNE OUTSOURCING INCORPORATED
MPRI, INC.
PAC ORD, INC.
POWER PARAGON, INC.
SOUTHERN CALIFORNIA MICROWAVE, INC.
SPD ELECTRICAL SYSTEMS, INC.
SPD HOLDINGS, INC.
SPD SWITCHGEAR, INC.
as Guarantors

By: /s/ Christopher C. Cambria

Name: Christopher C. Cambria
Title: Vice President and Secretary

L-3 COMMUNICATIONS INTEGRATED SYSTEMS L.P.
as Guarantor

By: L-3 COMMUNICATIONS AIS GP CORPORATION,
as general partner

By: /s/ Christopher C. Cambria

Name: Christopher C. Cambria
Title: Authorized Person

LEHMAN BROTHERS INC.
BANC OF AMERICA SECURITIES LLC
CREDIT SUISSE FIRST BOSTON
BY LEHMAN BROTHERS INC.

By: /s/ David Brand

Authorized Representative

COUNTERPART TO REGISTRATION RIGHTS AGREEMENT

The undersigned hereby absolutely, unconditionally and irrevocably agrees (as a "Guarantor") to use all commercially reasonable efforts to include its Subsidiary Guarantee in any Registration Statement required to be filed by the Company and the Guarantors pursuant to the Registration Rights Agreement, dated as of June 28, 2002, (the "Registration Rights Agreement") by and among L-3 Communications Corporation, a Delaware corporation, the guarantors party thereto, Lehman Brothers Inc., Banc of America Securities LLC and Credit Suisse First Boston Corporation; to use all commercially reasonable efforts to cause such Registration Statement to become effective as specified in the Registration Rights Agreement; and to otherwise be bound by the terms and provisions of the Registration Rights Agreement.

IN WITNESS WHEREOF, the undersigned has executed this Counterpart as of _____.

[NAME]

By:

Name:
Title:

Simpson Thacher & Bartlett
425 Lexington Avenue
New York, New York 10017

September 18, 2002

L-3 COMMUNICATIONS CORPORATION
600 Third Avenue, 34th Floor
New York, NY 10016

Ladies and Gentlemen:

We have acted as counsel to L-3 Communications Corporation, a Delaware corporation (the "Company"), and to the Delaware subsidiaries of the Company named on Schedule I attached hereto (each, a "Delaware Guarantor" and collectively, the "Delaware Guarantors") and to the non-Delaware subsidiaries of the Company named on Schedule II attached hereto (each, a "Non-Delaware Guarantor" and collectively, the "Non-Delaware Guarantors," taken together with the Delaware Guarantors, the "Guarantors"), in connection with the Registration Statement on Form S-4 (the "Registration Statement") filed by the Company and the Guarantors with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended, relating to the issuance by the Company of $750,000,000 aggregate principal amount of 7 5/8% Series B Senior Subordinated Notes Due 2012 (the "Exchange Notes") and the issuance by the Guarantors of guarantees (the "Guarantees"), with respect to the Exchange Notes. The Exchange Notes and the Guarantees will be issued under an indenture (the "Indenture") among the Company, the Guarantors (other than MCTI Acquisition

Corporation and L-3 Communications Security and Detection Systems Corporation Delaware) and the Bank of New York, as Trustee (the "Trustee") and a supplemental indenture among the Company, the Guarantors and the Trustee. The Exchange Notes will be offered by the Company in exchange for $750,000,000 aggregate principal amount of its outstanding 7 5/8% Senior Subordinated Notes due 2008.

We have examined the Registration Statement and the Indenture, which has been filed with the Commission as an exhibit to the Registration Statement. We also have examined the originals, or duplicates or certified or conformed copies, of such records, agreements, instruments and other documents and have made such other and further investigations as we have deemed relevant and necessary in connection with the opinions expressed herein. As to questions of fact material to this opinion, we have relied upon certificates of public officials and of officers and representatives of the Company and the Guarantors.

In rendering the opinions set forth below, we have assumed the genuineness of all signatures, the legal capacity of natural persons, the due incorporation of the Non-Delaware Guarantors, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as duplicates or certified or conformed copies, and the authenticity of the originals of such latter documents. We also have assumed that the Indenture is the valid and legally binding obligation of the Trustee. We have assumed further that (a) the Non-Delaware Guarantors have duly authorized, executed and delivered the Indenture, (b) execution, delivery and performance by the Non-Delaware Guarantors of the Indenture, the Exchange Notes and the Guarantees do not and will not violate the laws of the states of incorporation of the respective Non-Delaware Guarantors or any other applicable laws

(excepting the laws of the State of New York and the Federal laws of the United States) and (c) each of the Non-Delaware Guarantors is validly existing under the laws of their respective jurisdiction of organization.

Based upon the foregoing, and subject to the qualifications and limitations stated herein, we are of the opinion that:

1. When the Exchange Notes have been duly executed, authenticated, issued and delivered in accordance with the provisions of the Indenture upon the exchange, the Exchange Notes will constitute valid and legally binding obligations of the Company enforceable against the Company in accordance with their terms.

2. When (a) the Exchange Notes have been duly executed, authenticated, issued and delivered in accordance with the provisions of the Indenture upon the exchange and (b) the Guarantees have been duly indorsed on the Exchange Notes, the Guarantees will constitute valid and legally binding obligations of the Guarantors enforceable against the Guarantors in accordance with their terms.

Our opinion set forth above is subject to the effects of (1) bankruptcy, insolvency, fraudulent conveyance, reorganization, moratorium and other similar laws relating to or affecting creditors' rights generally, (2) general equitable principles (whether considered in a proceeding in equity or at law) and (3) an implied covenant of good faith and fair dealing.

We are members of the Bar of the State of New York and we do not express any opinion herein concerning any law other than the law of the State of New York, the Federal law of the United States, the Delaware General Corporation Law and the Delaware Revised Uniform Limited Partnership Act.

We hereby consent to the filing of this opinion letter as Exhibit 5 to the Registration Statement and to the use of our name under the caption "Legal Matters" in the Prospectus included in the Registration Statement.

Very truly yours,

/s/ Simpson Thacher & Bartlett

SIMPSON THACHER & BARTLETT

SCHEDULE I

HYGIENETICS ENVIRONMENTAL SERVICES, INC., a Delaware Corporation
L-3 COMMUNICATIONS ILEX SYSTEMS, INC., a Delaware Corporation
L-3 COMMUNICATIONS SPD TECHNOLOGIES, INC., a Delaware Corporation
L-3 COMMUNICATIONS ESSCO, INC., a Delaware Corporation
SPD ELECTRICAL SYSTEMS, INC., a Delaware Corporation
SPD SWITCHGEAR, INC., a Delaware Corporation
PAC ORD, INC., a Delaware Corporation
HENSCHEL, INC., a Delaware Corporation
SPD HOLDINGS, INC., a Delaware Corporation
POWER PARAGON, INC., a Delaware Corporation
L-3 COMMUNICATIONS AYDIN CORPORATION, a Delaware Corporation
L-3 COMMUNICATIONS INTEGRATED SYSTEMS L.P., a Delaware Limited Partnership
L-3 COMMUNICATIONS AIS GP CORPORATION, a Delaware Corporation
L-3 COMMUNICATIONS INVESTMENTS, INC., a Delaware Corporation
L-3 COMMUNICATIONS SECURITY AND DETECTION SYSTEMS CORPORATION
DELAWARE, a Delaware Corporation
MPRI, INC., a Delaware Corporation
KDI PRECISION PRODUCTS, INC., a Delaware Corporation

SCHEDULE II

SOUTHERN CALIFORNIA MICROWAVE, INC., a California Corporation
L-3 COMMUNICATIONS STORM CONTROL SYSTEMS, INC., a California Corporation
MICRODYNE CORPORATION, a Maryland Corporation
ELECTRODYNAMICS, INC., an Arizona Corporation
INTERSTATE ELECTRONICS CORPORATION, a California Corporation
COLEMAN RESEARCH CORPORATION, a Florida Corporation
EER SYSTEMS, INC., a Virginia Corporation
L-3 COMMUNICATIONS ANALYTICS CORPORATION, a California Corporation
AMI INSTRUMENTS, INC., an Oklahoma Corporation
L-3 COMMUNICATIONS ATLANTIC SCIENCE AND TECHNOLOGY CORPORATION, a New Jersey Corporation
MICRODYNE COMMUNICATIONS TECHNOLOGIES INCORPORATED, a Maryland Corporation
APCOM, INC., a Maryland Corporation
CELERITY SYSTEMS INCORPORATED, a California Corporation
MCTI ACQUISITION CORPORATION, a Maryland Corporation
MICRODYNE OUTSOURCING INCORPORATED, a Maryland Corporation

EXHIBIT 12

L-3 COMMUNICATIONS HOLDINGS, INC.
AND L-3 COMMUNICATIONS CORPORATION
RATIO OF EARNINGS TO FIXED CHARGES

	L-3						PREDECESSOR COMPANY
	SIX MONTHS ENDED JUNE 30, 2002	YEAR ENDED DECEMBER 31, 2001	2000	1999	1998	NINE MONTHS ENDED DECEMBER 31, 1997	THREE MONTHS ENDED MARCH 31, 1997
Earnings:							
Income before income taxes	$ 109,392	$ 186,222	$ 134,079	$ 95,430	$ 53,450	$ 22,992	$ (505)
Add:							
Interest expense	54,193	80,002	87,308	56,686	47,015	29,884	8,441
Amortization of debt expense	3,470	6,388	5,724	3,904	2,564	1,517	--
Interest component of rent expense	9,496	14,332	11,882	7,500	4,664	3,213	851
Earnings	$ 176,551	$ 286,944	$ 238,993	$ 163,520	$ 107,693	$ 57,606	$ 8,787
Fixed charges:							
Interest expense	54,193	80,002	87,308	56,686	47,015	29,884	8,441
Amortization of debt expense	3.470	6,388	5,724	3,904	2,564	1,517	--
Interest component of rent expense	9,496	14,332	11,882	7,500	4,664	3,213	851
Fixed charges	$ 67,159	$ 100,722	$ 104,914	$ 68,090	$ 54,243	$ 34,614	$ 9,292
Ratio of earnings to fixed charges	2.6x	2.8x	2.3x	2.4x	2.0x	1.7x	n.a.(a)

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(a) For the three months ended March 31, 1997, earnings were insufficient to cover fixed charges by $.5 million.

L-3 COMMUNICATIONS HOLDINGS, INC. AND SUBSIDIARIES
AS OF JULY 30, 2002

L-3 Communications Holdings, Inc.	Delaware
L-3 Communications Corporation	Delaware
AMI Instruments, Inc.	Oklahoma
Aviation Communications & Surveillance Systems, LLC (70%)	Delaware
ACSS - NZSC Limited	New Zealand
C3-ilex, LLC (31.5% or 35%)	California
Coleman Research Corporation	Florida
Delsub, Inc.	Delaware
Digital Technics, L.L.C.	Delaware
Digital Technics, L.P. (25% + 75%)	Delaware
EER Systems, Inc.	Virginia
Electrodynamics, Inc.	Arizona
Honeywell TCAS Inc.	Delaware
Hygienetics Environmental Services, Inc.	Delaware
Interstate Electronics Corporation	California
KDI Precision Products, Inc.	Delaware
L-3 Communications AIS GP Corporation	Delaware
L-3 Communications Intergrated Systems L.P. (1%+99%)	Delaware
L-3 Communications Analytics Corporation	California
Kapos Associates Inc.	Virginia
L-3 Communications Atlantic Science & Technology Corporation	New Jersey
L-3 Communications Australia Proprietary Limited	Australia
L-3 Communications Australia Pty Ltd	Australia
L-3 Communications Aydin Corporation	Delaware
Aydin Foreign Sales Limited	Guam
Aydin S.A. (19%)	Argentina
L-3 Communications Global Network Solutions U.K. Ltd.	United Kingdom
L-3 Communications Investments Inc.	Delaware
Aydin Yazilim ve Elektronik Sanayi A.S. (40%)	Turkey
L-3 Communications Canada Inc.	Canada
Spar Aerospace Limited	Canada
3023001 Canada Inc.	Canada
Godfrey Aerospace Inc.	Ohio
International Aerospace Management Company Scrl (20%)	Republic of Italy
Sovcan Star Satellite Communications Inc. (34%)	Canada
Spar Aviation Services (U.S.) Limited	Delaware
L-3 Communications ESSCO, Inc.	Delaware
Electronic Space Systems International Corp.	U.S. Virgin Islands
Electronic Space Systems (UK) Limited (90%)	United Kingdom
ESSCO Collins Limited (99.99%)	Republic of Ireland
L-3 Communications France S.A.S.	Republic of France
L-3 Communications Holding GmbH	Federal Republic of Germany
L-3 Communications ELAC Nautik GmbH	Federal Republic of Germany
Arbeitsmedizinische Betreungsgesellschaft Kieler Bertriebe mbH (50%)	Federal Republic of Germany
ELAC Nautik Unterstutzungska(beta)e GmbH	Federal Republic of Germany
Power Paragon (Deutschland) Holding GmbH (99% +1%)	Federal Republic of Germany
EuroAtlas Gesellschaft fur Leistungselektronik mbH	Federal Republic of Germany
JovyAtlas Elektrische Umformtechnik GmbH	Federal Republic of Germany
Astrid Energy Enterprises S.R.L (10%)	Republic of Italy
Narda Safety Test Solutions GmbH	Federal Republic of Germany
PMM Costruzioni Electtroniche Centro Misure Radioelettriche S.r.l. (98%)	Republic of Italy
EMC S.r.l. (33%)	Republic of Italy
L-3 Communications Hong Kong Limited	Hong Kong
L-3 Communications ILEX Systems, Inc.	Delaware
ITel Solutions, LLC (100%)	Delaware
Telos Corporation	California
L-3 Communications Korea Corporation	South Korea
L-3 Communications Malaysia Sdn. Bhd.	Malaysia
L-3 Communications Secure Information Technology, Inc.	Delaware
L-3 Communications Security Systems Corporation	Delaware
L-3 Communications Security and Detection Systems Corporation California	California
L-3 Communications Security and Detection Systems Corporation Delaware	Delaware
L-3 Communications SPD Technologies, Inc.	Delaware
SPD Holdings, Inc.	Delaware
Henschel Inc.	Delaware
Pac Ord Inc.	Delaware
Power Paragon, Inc.	Delaware
SPD Electrical Systems, Inc.	Delaware
SPD Switchgear Inc.	Delaware
L-3 Communications Storm Control Systems, Inc.	California
L-3 Communication (Thailand) Co., Ltd.	Thailand
L-3 Communications U.K. Ltd.	United Kingdom
Storm Control Systems Limited	United Kingdom
L-3 Microdyne Holdings Corporation	Maryland
L-3 Satellite Networks, LLC	Delaware
LogiMetrics, Inc. (55%)	Delaware
Logimetrics FSC, Inc. (55%)	U.S. Virgin Islands
mmTECH, INC. (55%)	New Jersey
L-Tres Comunicaciones Costa Rica, S.A.	Costa Rica
Medical Education Technologies, Inc. (33.3%)	Delaware
Microdyne Corporation	Maryland
Microdyne Communications Technologies Incorporated	Maryland
MCTI Acquisition Corporation	Maryland
Apcom, Inc.	Maryland
Celerity Systems Incorporated	California
Microdyne Ltd.	U.S. Virgin Islands
Microdyne Outsourcing Incorporated	Maryland
MPRI, Inc.	Delaware
Southern California Microwave, Inc.	California

EXHIBIT 23.1

CONSENT OF INDEPENDENT AUDITORS

We consent to the use in this registration statement on Form S-4 of L-3 Communications Corporation and subsidiaries of our report dated February 4, 2002 except as to Note 1, Note 2 (Basis of Presentation and Recently Issued Accounting Standards) and Note 16 to the consolidated financial statements, for which the date is May 20, 2002 on our audits of the consolidated financial statements of L-3 Communications Holdings, Inc. and L-3 Communications Corporation and subsidiaries as of December 31, 2001 and 2000 and for the three years ended December 31, 2001, which report appears in such registration statement.

We also consent to the reference to us under the heading "Experts", which is part of this registration statement.

/s/ PricewaterhouseCoopers LLP

New York, New York
September 13, 2002

EXHIBIT 23.2

CONSENT OF INDEPENDENT AUDITORS

We hereby consent to the use in this registration statement on Form S-4 of L-3 Communications Corporation and subsidiaries of our report dated February 19, 2002 relating to the financial statements of the Aircraft Integration Systems Business of Raytheon Company, which appears in such registration statement.

We also consent to the reference to us under the heading "Experts", which is part of this registration statement.

/s/ PricewaterhouseCoopers LLP

Dallas, Texas
September 13, 2002

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FORM T-1

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

STATEMENT OF ELIGIBILITY
UNDER THE TRUST INDENTURE ACT OF 1939 OF A
CORPORATION DESIGNATED TO ACT AS TRUSTEE

CHECK IF AN APPLICATION TO DETERMINE
ELIGIBILITY OF A TRUSTEE PURSUANT TO
SECTION 305(b)(2) |__|

THE BANK OF NEW YORK
(Exact name of trustee as specified in its charter)

New York (State of incorporation if not a U.S. national bank)	13-5160382 (I.R.S. employer identification no.)
One Wall Street, New York, N.Y. (Address of principal executive offices)	10286 (Zip code)

L-3 COMMUNICATIONS CORPORATION
(Exact name of obligor as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization)	13-3937436 (I.R.S. employer identification no.)

AMI INTRUMENTS, INC.
|(Exact name of obligor as specified in its charter)

Oklahoma (State or other jurisdiction of incorporation or organization)	73-1122637 (I.R.S. employer identification no.)

APCOM, INC.
(Exact name of obligor as specified in its charter)

Maryland (State or other jurisdiction of incorporation or organization)	52-1291447 (I.R.S. employer identification no.)

CELERITY SYSTEMS INCORPORATED
(Exact name of obligor as specified in its charter)

California (State or other jurisdiction of incorporation or organization)	77-0365380 (I.R.S. employer identification no.)

COLEMAN RESEARCH CORPORATION
(Exact name of obligor as specified in its charter)

Florida (State or other jurisdiction of incorporation or organization)	59-2039476 (I.R.S. employer identification no.)

EER SYSTEMS, INC.
(Exact name of obligor as specified in its charter)

Virginia (State or other jurisdiction of incorporation or organization)	54-1349668 (I.R.S. employer identification no.)

ELECTRODYNAMICS, INC.
(Exact name of obligor as specified in its charter)

Arizona (State or other jurisdiction of incorporation or organization)	36-3140903 (I.R.S. employer identification no.)

HENSCHEL, INC.
(Exact name of obligor as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization)	23-2554418 (I.R.S. employer identification no.)

HYGIENETICS ENVIRONMENTAL SERVICES, INC.
(Exact name of obligor as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization)	13-3992505 (I.R.S. employer identification no.)

INTERSTATE ELECTRONICS CORPORATION
(Exact name of obligor as specified in its charter)

California (State or other jurisdiction of incorporation or organization)	95-1912832 (I.R.S. employer identification no.)

KDI PRECISION PRODUCTS, INC.
(Exact name of obligar as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization)	31-0740721 (I.R.S. employer identification no.)

L-3 COMMUNICATIONS AIS GP CORPORATION
(Exact name of obligor as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization)	13-4137187 (I.R.S. employer identification no.)

L-3 COMMUNICATIONS ANALYTICS CORPORATION
(Exact name of obligor as specified in its charter)

California (State or other jurisdiction of incorporation or organization)	54-1035921 (I.R.S. employer identification no.)

L-3 COMMUNICATIONS ATLANTIC SCIENCE
AND TECHNOLOGY CORPORATION
(Exact name of obligor as specified in its charter)

New Jersey (State or other jurisdiction of incorporation or organization)	22-2547554 (I.R.S. employer identification no.)

L-3 COMMUNICATIONS AYDIN CORPORATION
(Exact name of obligor as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization)	23-1686808 (I.R.S. employer identification no.)

L-3 COMMUNICATIONS ESSCO, INC.
(Exact name of obligor as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization)	04-2281486 (I.R.S. employer identification no.)

L-3 COMMUNICATIONS ILEX SYSTEMS, INC.
(Exact name of obligor as specified in its charter)

Delaware	13-3992952
(State or other jurisdiction of incorporation or organization)	(I.R.S. employer identification no.)

L-3 COMMUNICATIONS INVESTMENTS, INC.
(Exact name of obligor as specified in its charter)

Delaware	51-0260723
(State or other jurisdiction of incorporation or organization)	(I.R.S. employer identification no.)

L-3 COMMUNICATIONS SECURITY AND DETECTION SYSTEMS CORPORATION DELAWARE
(Exact name of obligor as specified in its charter)

Delaware	04-3054475
(State or other jurisdiction of incorporation or organization)	(I.R.S. employer identification no.)

L-3 COMMUNICATIONS SPD TECHNOLOGIES, INC.
(Exact name of obligor as specified in its charter)

Delaware	23-2869511
(State or other jurisdiction of incorporation or organization)	(I.R.S. employer identification no.)

L-3 COMMUNICATIONS STORM CONTROL SYSTEMS, INC.
(Exact name of obligor as specified in its charter)

California	77-0268547
(State or other jurisdiction of incorporation or organization)	(I.R.S. employer identification no.)

L-3 COMMUNICATIONS INTEGRATED SYSTEMS L.P.
(Exact name of obligor as specified in its charter)

Delaware	03-0391841
(State or other jurisdiction of incorporation or organization)	(I.R.S. employer identification no.)

MCTI ACQUISITION CORPORATION
(Exact name of obligor as specified in its charter)

Maryland	13-4109777
(State or other jurisdiction of incorporation or organization)	(I.R.S. employer identification no.)

MICRODYNE COMMUNICATIONS
TECHNOLOGIES INCORPORATED
(Exact name of obligor as specified in its charter)

Maryland (State or other jurisdiction of incorporation or organization)	59-3500774 (I.R.S. employer identification no.)

MICRODYNE CORPORATION
(Exact name of obligor as specified in its charter)

Maryland (State or other jurisdiction of incorporation or organization)	52-0856493 (I.R.S. employer identification no.)

MICRODYNE OUTSOURCING INCORPORATED
(Exact name of obligor as specified in its charter)

Maryland (State or other jurisdiction of incorporation or organization)	33-0797639 (I.R.S. employer identification no.)

MPRI, INC.
(Exact name of obligor as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization)	54-1439937 (I.R.S. employer identification no.)

PAC ORD, INC.
(Exact name of obligor as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization)	23-2523436 (I.R.S. employer identification no.)

POWER PARAGON, INC.
(Exact name of obligor as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization)	33-0638510 (I.R.S. employer identification no.)

SOUTHERN CALIFORNIA MICROWAVE, INC.
(Exact name of obligor as specified in its charter)

California (State or other jurisdiction of incorporation or organization)	13-0478540 (I.R.S. employer identification no.)

SPD HOLDINGS, INC.
(Exact name of obligor as specified in its charter)

Delaware	23-2977238
(State or other jurisdiction of incorporation or organization)	(I.R.S. employer identification no.)

SPD ELECTRICAL SYSTEMS, INC.
(Exact name of obligor as specified in its charter)

Delaware	23-2457758
(State or other jurisdiction of incorporation or organization)	(I.R.S. employer identification no.)

SPD SWITCHGEAR, INC.
(Exact name of obligor as specified in its charter)

Delaware	23-2510039
(State or other jurisdiction of incorporation or organization)	(I.R.S. employer identification no.)
600 Third Avenue New York, NY	10016
(Address of principal executive offices)	(Zip code)

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7 5/8% Senior Subordinated Notes due 2012
(Title of the indenture securities)

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1. GENERAL INFORMATION. FURNISH THE FOLLOWING INFORMATION AS TO THE TRUSTEE:
(A) NAME AND ADDRESS OF EACH EXAMINING OR SUPERVISING AUTHORITY TO WHICH IT IS SUBJECT.

Name	Address
Superintendent of Banks of the State of New York	2 Rector Street, New York, N.Y. 10006, and Albany, N.Y. 12203
Federal Reserve Bank of New York	33 Liberty Plaza, New York, N.Y. 10045
Federal Deposit Insurance Corporation	Washington, D.C. 20429
New York Clearing House Association	New York, New York 10005

(B) WHETHER IT IS AUTHORIZED TO EXERCISE CORPORATE TRUST POWERS.

Yes.

2. AFFILIATIONS WITH OBLIGOR.

IF THE OBLIGOR IS AN AFFILIATE OF THE TRUSTEE, DESCRIBE EACH SUCH AFFILTION.

None.

16. LIST OF EXHIBITS.

EXHIBITS IDENTIFIED IN PARENTHESES BELOW, ON FILE WITH THE COMMISSION, ARE INCORPORATED HEREIN BY REFERENCE AS AN EXHIBIT HERETO, PURSUANT TO RULE 7A-29 UNDER THE TRUST INDENTURE ACT OF 1939 (THE "ACT") AND 17 C.F.R. 229.10(D).

1. A copy of the Organization Certificate of The Bank of New York (formerly Irving Trust Company) as now in effect, which contains the authority to commence business and a grant of powers to exercise corporate trust powers. (Exhibit 1 to Amendment No. 1 to Form T-1 filed with Registration Statement No. 33-6215, Exhibits 1a and 1b to Form T-1 filed with Registration Statement No. 33-21672 and Exhibit 1 to Form T-1 filed with Registration Statement No. 33-29637.)

4. A copy of the existing By-laws of the Trustee. (Exhibit 4 to Form T-1 filed with Registration Statement No. 33-31019.)

6. The consent of the Trustee required by Section 321(b) of the Act. (Exhibit 6 to Form T-1 filed with Registration Statement No. 33-44051.)

7. A copy of the latest report of condition of the Trustee published pursuant to law or to the requirements of its supervising or examining authority.

SIGNATURE

Pursuant to the requirements of the Act, the Trustee, The Bank of New York, a corporation organized and existing under the laws of the State of New York, has duly caused this statement of eligibility to be signed on its behalf by the undersigned, thereunto duly authorized, all in The City of New York, and State of New York, on the 16th day of July, 2002.

THE BANK OF NEW YORK

By: /s/ STACEY POINDEXTER

Name: STACEY POINDEXTER
Title: ASSISTANT TREASURER

EXHIBIT 7

Consolidated Report of Condition of

THE BANK OF NEW YORK

of One Wall Street, New York, N.Y. 10286
And Foreign and Domestic Subsidiaries,
a member of the Federal Reserve System, at the close of business March 31, 2002, published in accordance with a call made by the Federal Reserve Bank of this District pursuant to the provisions of the Federal Reserve Act.

ASSETS	Dollar Amounts In Thousands
Cash and balances due from depository institutions:	
Noninterest-bearing balances and currency and coin	$3,765,462
Interest-bearing balances	3,835,061
Securities:	
Held-to-maturity securities	1,232,736
Available-for-sale securities	10,522,833
Federal funds sold and Securities purchased under agreements to resell	1,456,635
Loans and lease financing receivables:	
Loans and leases held for sale	801,505
Loans and leases, net of unearned income	46,206,726
LESS: Allowance for loan and lease losses	607,115
Loans and leases, net of unearned income and allowance	35,249,695
Trading Assets	8,132,696
Premises and fixed assets (including capitalized leases)	898,980
Other real estate owned	911
Investments in unconsolidated subsidiaries and associated companies	220,609
Customers' liability to this bank on acceptances outstanding	574,020
Intangible assets	
Goodwill	1,714,761
Other intangible assets	49,213
Other assets	5,001,308
Total assets	$73,954,859

LIABILITIES	
Deposits:	
In domestic offices	$29,175,631
Noninterest-bearing	11,070,277
Interest-bearing	18,105,354
In foreign offices, Edge and Agreement subsidiaries, and IBFs	24,596,600
Noninterest-bearing	321,299
Interest-bearing	24,275,301
Federal funds purchased and securities sold under agreements to repurchase	1,922,197
Trading liabilities	1,970,040
Other borrowed money: (includes mortgage indebtedness and obligations under capitalized leases)	1,577,518
Bank's liability on acceptances executed and outstanding	575,362
Subordinated notes and debentures	1,940,000
Other liabilities	5,317,831
Total liabilities	$67,075,179
EQUITY CAPITAL	
Common stock	1,135,284
Surplus	1,055,508
Retained earnings	4,227,287
Accumulated other comprehensive income	(38,602)
Other equity capital components	0
Total equity capital	6,379,477
Total liabilities and equity capital	$73,954,859

I, Thomas J. Mastro, Senior Vice President and Comptroller of the above-named bank do hereby declare that this Report of Condition has been prepared in conformance with the instructions issued by the Board of Governors of the Federal Reserve System and is true to the best of my knowledge and belief.

Thomas J. Mastro,
Senior Vice President and Comptroller

We, the undersigned directors, attest to the correctness of this Report of Condition and declare that it has been examined by us and to the best of our knowledge and belief has been prepared in conformance with the instructions issued by the Board of Governors of the Federal Reserve System and is true and correct.


Thomas A. Renyi
Gerald L. Hassell
Alan R. Griffith
Directors

FORM OF LETTER OF TRANSMITTAL
FOR
$750,000,000
7 5/8% SENIOR SUBORDINATED NOTES DUE 2012
OF

L-3 COMMUNICATIONS CORPORATION

- ---

THE EXCHANGE OFFER AND WITHDRAWAL RIGHTS WILL EXPIRE AT 5:00 P.M., NEW YORK CITY TIME, ON , , 2002 (THE "EXPIRATION DATE") UNLESS EXTENDED BY
L-3 COMMUNICATIONS CORPORATION

- ---

The Exchange Agent Is:

THE BANK OF NEW YORK

By Mail:	By Facsimile:	By Hand or Overight Delivery:
The Bank of New York Reorganization Unit 101 Barclay Street-7 East New York, NY 10286	The Bank of New York Attention: Kin Lau (212) 298-1915	The Bank of New York Reorganization Unit 101 Barclay Street Lobby Level-Corp. Trust Window New York, NY 10286 Attention: Kin Lau

Confirm Receipt of
Facsimile by telephone
(212) 815-3750

DELIVERY OF THIS LETTER OF TRANSMITTAL TO AN ADDRESS OTHER THAN AS SET FORTH ABOVE OR TRANSMISSION VIA FACSIMILE TRANSMISSION TO A NUMBER OTHER THAN AS SET FORTH ABOVE WILL NOT CONSTITUTE A VALID DELIVERY.

The undersigned acknowledges receipt of the Prospectus dated , 2002 (the "Prospectus") of L-3 Communications Corporation (the "Company"), and this Letter of Transmittal (the "Letter of Transmittal"), which together describe the Company's offer (the "Exchange Offer") to exchange is 7 5/8% Series B Senior Subordinated Notes due 2012, which have been registered under the Securities Act of 1933, as amended (the "Securities Act") (the "Exchange Notes"), for each of its 7 5/8 Senior Subordinated Notes due 2012 (the "Outstanding Notes" and, together with the Exchange Notes, the "Notes") from the holders thereof.

The terms of the Exchange Notes are identical in all material respects (including principal amount, interest rate and maturity) to the terms of the Outstanding Notes for which they may be exchanged pursuant to the Exchange Offer, except that the Exchange Notes are freely transferable by holders thereof (except as provided herein or in the Prospectus) and are not subject to any covenant regarding registration under the Securities Act.

YOUR BANK OR BROKER CAN ASSIST YOU IN COMPLETING THIS FORM. THE INSTRUCTIONS INCLUDED WITH THIS LETTER OF TRANSMITTAL MUST BE FOLLOWED. QUESTIONS AND REQUESTS FOR ASSISTANCE OR FOR ADDITIONAL COPIES OF THE PROSPECTUS AND THIS LETTER OF TRANSMITTAL MAY BE DIRECTED TO THE EXCHANGE AGENT.

The undersigned has checked the appropriate boxes below and signed this Letter of Transmittal to indicate the action the undersigned desires to take with respect to the Exchange Offer.

PLEASE READ THE ENTIRE
LETTER OF TRANSMITTAL AND THE PROSPECTUS
CAREFULLY BEFORE CHECKING ANY BOX BELOW.

List below the Outstanding Notes to which this Letter of Transmittal relates. If the space provided below is inadequate, the certificate numbers and aggregate principal amounts should be listed on a separate signed schedule affixed hereto.

DESCRIPTION OF OUTSTANDING NOTES TENDERED HEREWITH

Name(s) and Address(es) of Registered Holder(s) (Please fill in)	Certificate Number(s)*	Aggregate Principal Amount Represented by Outstanding Notes*	Principal Amount Tendered**
Total			

* Need not be completed by book-entry holders.

** Unless otherwise indicated, the holder will be deemed to have tendered the full aggregate principal amount represented by such Outstanding Notes. See Instruction 2.

Holders of Outstanding Notes whose Outstanding Notes are not immediately available or who cannot deliver all other required documents to the Exchange Agent on or prior to the Expiration Date or who cannot complete the procedures for book-entry transfer on a timely basis, must tender their Outstanding Notes according to the guaranteed delivery procedures set forth in the Prospectus.

Unless the context otherwise requires, the term "holder" for purposes of this Letter of Transmittal means any person in whose name Outstanding Notes are registered or any other person who has obtained a properly completed bond power from the registered holder or any person whose Outstanding Notes are held of record by The Depository Trust Company ("DTC").

[ ] CHECK HERE IF TENDERED OUTSTANDING NOTES ARE BEING DELIVERED PURSUANT TO A NOTICE OF GUARANTEED DELIVERY AND COMPLETE THE FOLLOWING:

Name of Registered Holder(s):

Name of Eligible Institution that Guaranteed Delivery:

Date of Execution of Notice of Guaranteed Delivery:

If Delivered by Book-Entry Transfer:

Name of Tendering Institution:

Account Number:

Transaction Code Number:

[ ] CHECK HERE IF EXCHANGE NOTES ARE TO BE DELIVERED TO A PERSON OTHER THAN THE PERSON SIGNING THIS LETTER OF TRANSMITTAL:

Name:

Address:

[ ] CHECK HERE IF EXCHANGE NOTES ARE TO BE DELIVERED TO AN ADDRESS DIFFERENT FROM THAT LISTED ELSEWHERE IN THIS LETTER OF TRANSMITTAL:

Name: ----------

Address: ----------

[ ] CHECK HERE IF YOU ARE A BROKER-DEALER WHO ACQUIRED OUTSTANDING NOTES FOR YOUR OWN ACCOUNT AS A RESULT OF MARKET MAKING OR OTHER TRADING ACTIVITIES AND WISH TO RECEIVE 10 ADDITIONAL COPIES OF THE PROSPECTUS AND 10 COPIES OF ANY AMENDMENTS OR SUPPLEMENTS THERETO:

Name: ----------

Address: ----------

If the undersigned is not a broker-dealer, the undersigned represents that it is not engaged in, and does not intend to engage in, a distribution of Exchange Notes. If the undersigned is a broker-dealer that will receive Exchange Notes for its own account in exchange for Outstanding Notes that were acquired as a result of market-making activities or other trading activities, it acknowledges that it will deliver a prospectus in connection with any resale of such Exchange Notes; however, by so acknowledging and by delivering a prospectus, the undersigned will not be deemed to admit that it is an "underwriter" within the meaning of the Securities Act. A broker-dealer may not participate in the Exchange Offer with respect to Outstanding Notes acquired other than as a result of market-making activities or other trading activities. Any holder who is an "affiliate" of the Company or who has an arrangement or understanding with respect to the distribution of the Exchange Notes to be acquired pursuant to the Exchange Offer, or any broker-dealer who purchased Outstanding Notes from the Company to resell pursuant to Rule 144A under the Securities Act or any other available exemption under the Securities Act must comply with the registration and prospectus delivery requirements under the Securities Act.

PLEASE READ THE ACCOMPANYING INSTRUCTIONS CAREFULLY

Ladies and Gentlemen:

Upon the terms and subject to the conditions of the Exchange Offer, the undersigned hereby tenders to the Company the principal amount of the Outstanding Notes indicated above. Subject to, and effective upon, the acceptance for exchange of all or any portion of the Outstanding Notes tendered herewith in accordance with the terms and conditions of the Exchange Offer (including, if the Exchange Offer is extended or amended, the terms and conditions of any such extension or amendment), the undersigned hereby exchanges, assigns and transfers to, or upon the order of, the Company all right, title and interest in and to such Outstanding Notes as are being tendered herewith. The undersigned hereby irrevocably constitutes and appoints the Exchange Agent as its true and lawful agent and attorney in-fact of the undersigned (with full knowledge that the Exchange Agent also acts as the agent of the Company, in connection with the Exchange Offer) to cause the Outstanding Notes to be assigned, transferred and exchanged.

The undersigned represents and warrants that it has full power and authority to tender, exchange, assign and transfer the Outstanding Notes and to acquire Exchange Notes issuable upon the exchange of such tendered Outstanding Notes, and that, when the same are accepted for exchange, the Company will acquire good and unencumbered title to the tendered Outstanding Notes, free and clear of all liens, restrictions, charges and encumbrances and not subject to any adverse claim. The undersigned also warrants that it will, upon request, execute and deliver any additional documents deemed by the Exchange Agent or the Company to be necessary or desirable to complete the exchange, assignment and transfer of the tendered Outstanding Notes or transfer ownership of such Outstanding Notes on the account books maintained by the book-entry transfer facility. The undersigned further agrees that acceptance of any and all validly tendered Outstanding Notes by the Company and the issuance of Exchange Notes in exchange therefor shall constitute performance in full by the Company of its obligations under the Registration Rights Agreement, dated as of June 28, 2002 (the "Registration Rights Agreement"), among the Company, the guarantors named therein, Lehman Brothers Inc., Banc of America Securities LLC and Credit Suisse First Boston Corporation and that the Company shall have no further obligations or liabilities thereunder except as provided in the first paragraph of Section 4 of such agreement. The undersigned will comply with its obligations under the Registration Rights Agreement. The undersigned has read and agrees to all terms of the Exchange Offer. The Exchange Offer is subject to certain conditions as set forth in the Prospectus under the caption "The Exchange Offer--Certain Conditions to the Exchange Offer." The undersigned recognizes that as a result of these conditions (which may be waived, in whole or in part, by the Company), as more particularly set forth in the Prospectus, the Company may not be required to exchange any of the Outstanding Notes tendered hereby and, in such event, the Outstanding Notes not exchanged will be returned to the undersigned at the address shown below unless indicated otherwise above, promptly following the expiration or termination of the Exchange Offer. In addition, the Company may amend the Exchange Offer at any time prior to the Expiration Date if any of the conditions set under "The Exchange Offer--Certain Conditions to the Exchange Offer" occur.

The undersigned understands that tenders of Outstanding Notes pursuant to any one of the procedures described in the Prospectus and in the instructions attached hereto will, upon the Company's acceptance for exchange of such tendered Outstanding Notes, constitute a binding agreement between the undersigned and the Company upon the terms and subject to the conditions of the Exchange Offer. The undersigned recognizes that, under circumstances set forth in the Prospectus, the Company may not be required to accept for exchange any of the Outstanding Notes.

By tendering Outstanding Notes and executing this Letter of Transmittal, the undersigned represents that Exchange Notes acquired in the exchange will be obtained in the ordinary course of business of the undersigned, that the undersigned has no arrangement or understanding with any person to participate in a distribution (within the meaning of the Securities Act) of such Exchange Notes, that the undersigned is not an "affiliate" of the Company within the meaning of Rule 405 under the Securities Act and that if the undersigned or the person receiving such Exchange Notes, whether or not such person is the undersigned, is not a broker-dealer, the undersigned represents that it is not engaged in, and does not intend to engage in, a distribution of Exchange Notes. If the undersigned or the person receiving such Exchange Notes, whether or not such person is the undersigned, is a broker-dealer that will receive Exchange Notes for its

own account in exchange for Outstanding Notes that were acquired as a result of market-making activities or other trading activities, it acknowledges that it will deliver a prospectus in connection with any resale of such Exchange Notes; however, by so acknowledging and by delivering a prospectus, the undersigned will not be deemed to admit that it is an "underwriter" within the meaning of the Securities Act. If the undersigned is a person in the United Kingdom, the undersigned represents that its ordinary activities involve it in acquiring, holding, managing or disposing of investments (as principal or agent) for the purposes of its business.

Any holder of Outstanding Notes using the Exchange Offer to participate in a distribution of the Exchange Notes (i) cannot rely on the position of the staff of the Securities and Exchange Commission enunciated in its interpretive letter with respect to Exxon Capital Holdings Corporation (available April 13, 1989) or similar interpretive letters and (ii) must comply with the registration and prospectus requirements of the Securities Act in connection with a secondary resale transaction.

All authority herein conferred or agreed to be conferred shall survive the death, bankruptcy or incapacity of the undersigned and every obligation of the undersigned hereunder shall be binding upon the heirs, personal representatives, successors and assigns of the undersigned. Tendered Outstanding Notes may be withdrawn at any time prior to the Expiration Date in accordance with the terms of this Letter of Transmittal. Except as stated in the Prospectus, this tender is irrevocable.

Certificates for all Exchange Notes delivered in exchange for tendered Outstanding Notes and any Outstanding Notes delivered herewith but not exchanged, and registered in the name of the undersigned, shall be delivered to the undersigned at the address shown below the signature of the undersigned.

The undersigned, by completing the box entitled "Description of Outstanding Notes Tendered Herewith" above and signing this letter, will be deemed to have tendered the Outstanding Notes as set forth in such box.

TENDERING HOLDER(S) SIGN HERE
(COMPLETE ACCOMPANYING SUBSTITUTE FORM W-9)

MUST BE SIGNED BY REGISTERED HOLDER(S) EXACTLY AS NAME(S) APPEAR(S) ON CERTIFICATE(S) FOR OUTSTANDING NOTES HEREBY TENDERED OR IN WHOSE NAME OUTSTANDING NOTES ARE REGISTERED ON THE BOOKS OF DTC OR ONE OF ITS PARTICIPANTS, OR BY ANY PERSON(S) AUTHORIZED TO BECOME THE REGISTERED HOLDER(S) BY ENDORSEMENTS AND DOCUMENTS TRANSMITTED HEREWITH. IF SIGNATURE IS BY A TRUSTEE, EXECUTOR, ADMINISTRATOR, GUARDIAN, ATTORNEY-IN-FACT, OFFICER OF A CORPORATION OR OTHER PERSON ACTING IN A FIDUCIARY OR REPRESENTATIVE CAPACITY, PLEASE SET FORTH THE FULL TITLE OF SUCH PERSON. SEE INSTRUCTION 3.

(Signature(s) of Holder(s))

Date:

Name(s):

(Please Print)

Capacity (full title):

Address:

(Including Zip Code)

Daytime Area Code and Telephone No.:

Taxpayer Identification No.:

GUARANTEE OF SIGNATURE(S)
(IF REQUIRED--SEE INSTRUCTION 3)

Authorized Signature:

Date:

Name(s):

Title:

Name of Firm:

Address:

(Include Zip Code)

Area Code and Telephone No.:

SPECIAL ISSUANCE INSTRUCTIONS
(SEE INSTRUCTIONS 3 AND 4)

To be completed ONLY if Exchange Notes or Outstanding Notes not tendered are to be issued in the name of someone other than the registered holder of the Outstanding Notes whose name(s) appear(s) above.

Issue: [ ] Outstanding Notes not tendered to:
[ ] Exchange Notes to:

Name(s):

(Please Print)

Address:

(Include Zip Code)

Daytime Area Code and
Telephone No.:

Tax Identification
No.:

SPECIAL DELIVERY INSTRUCTIONS
(SEE INSTRUCTIONS 3 AND 4)

To be completed ONLY if Exchange Notes or Outstanding Notes not tendered are to be sent to someone other than the registered holder of the Outstanding Notes whose name(s) appear(s) above, or such registered holder(s) at an address other than that shown above.

Mail: [ ] Outstanding Notes not tendered to:
[ ] Exchange Notes to:

Name(s):

(Please Print)

Address:

(Include Zip Code)

Area Code and
Telephone No.:

INSTRUCTIONS

FORMING PART OF THE TERMS AND CONDITIONS OF THE EXCHANGE OFFER

1. DELIVERY OF THIS LETTER OF TRANSMITTAL AND CERTIFICATES; GUARANTEED DELIVERY PROCEDURES. A holder of Outstanding Notes may tender the same by (i) properly completing and signing this Letter of Transmittal or a facsimile hereof (all references in the Prospectus to the Letter of Transmittal shall be deemed to include a facsimile thereof) and delivering the same, together with the certificate or certificates, if applicable, representing the Outstanding Notes being tendered and any required signature guarantees and any other documents required by this Letter of Transmittal, to the Exchange Agent at its address set forth above on or prior to the Expiration Date, or (ii) complying with the procedure for book-entry transfer described below, or (iii) complying with the guaranteed delivery procedures described below.

Holders of Outstanding Notes may tender Outstanding Notes by book-entry transfer by crediting the Outstanding Notes to the Exchange Agent's account at DTC in accordance with DTC's Automated Tender Offer Program ("ATOP") and by complying with applicable ATOP procedures with respect to the Exchange Offer. DTC participants that are accepting the Exchange Offer should transmit their acceptance to DTC, which will edit and verify the acceptance and execute a book-entry delivery to the Exchange Agent's account at DTC. DTC will then send a computer-generated message (an "Agent's Message") to the Exchange Agent for its acceptance in which the holder of the Outstanding Notes acknowledges and agrees to be bound by the terms of, and makes the representations and warranties contained in, this Letter of Transmittal, the DTC participant confirms on behalf of itself and the beneficial owners of such Outstanding Notes all provisions of this Letter of Transmittal (including any representations and warranties) applicable to it and such beneficial owner as fully as if it had completed the information required herein and executed and transmitted this Letter of Transmittal to the Exchange Agent.

DELIVERY OF THE AGENT'S MESSAGE BY DTC WILL SATISFY THE TERMS OF THE EXCHANGE OFFER AS TO EXECUTION AND DELIVERY OF A LETTER OF TRANSMITTAL BY THE PARTICIPANT IDENTIFIED IN THE AGENT'S MESSAGE. DTC PARTICIPANTS MAY ALSO ACCEPT THE EXCHANGE OFFER BY SUBMITTING A NOTICE OF GUARANTEED DELIVERY THROUGH ATOP.

THE METHOD OF DELIVERY OF THIS LETTER OF TRANSMITTAL, THE OUTSTANDING NOTES AND ANY OTHER REQUIRED DOCUMENTS IS AT THE ELECTION AND RISK OF THE HOLDER, AND EXCEPT AS OTHERWISE PROVIDED BELOW, THE DELIVERY WILL BE DEEMED MADE ONLY WHEN ACTUALLY RECEIVED OR CONFIRMED BY THE EXCHANGE AGENT. IF SUCH DELIVERY IS BY MAIL, IT IS SUGGESTED THAT REGISTERED MAIL WITH RETURN RECEIPT REQUESTED, PROPERLY INSURED, BE USED. IN ALL CASES SUFFICIENT TIME SHOULD BE ALLOWED TO PERMIT TIMELY DELIVERY. NO OUTSTANDING NOTES OR LETTERS OF TRANSMITTAL SHOULD BE SENT TO THE COMPANY.

Holders whose Outstanding Notes are not immediately available or who cannot deliver their Outstanding Notes and all other required documents to the Exchange Agent on or prior to the Expiration Date or comply with book-entry transfer procedures on a timely basis must tender their Outstanding Notes pursuant to the guaranteed delivery procedure set forth in the Prospectus. Pursuant to such procedure: (i) such tender must be made by or through an Eligible Institution (as defined below); (ii) on or prior to the Expiration Date, the Exchange Agent must have received from such Eligible Institution a letter, telegram or facsimile transmission (receipt confirmed by telephone and an original delivered by guaranteed overnight courier) setting forth the name and address of the tendering holder, the names in which such Outstanding Notes are registered, and, if applicable, the certificate numbers of the Outstanding Notes to be tendered; and (iii) all tendered Outstanding Notes (or a confirmation of any book-entry transfer of such Outstanding Notes into the Exchange Agent's account at a book-entry transfer facility) as well as this Letter of Transmittal and all other documents required by this Letter of Transmittal, must be received by the Exchange Agent within three New York Stock Exchange trading days after the date of execution of such letter, telegram or facsimile transmission, all as provided in the Prospectus.

No alternative, conditional, irregular or contingent tenders will be accepted. All tendering holders, by execution of this Letter of Transmittal (or facsimile thereof), shall waive any right to receive notice of the acceptance of the Outstanding Notes for exchange.

2. PARTIAL TENDERS; WITHDRAWALS. If less than the entire principal amount of Outstanding Notes evidenced by a submitted certificate is tendered, the tendering holder must fill in the aggregate principal amount of Outstanding Notes tendered in the box entitled "Description of Outstanding Notes Tendered Herewith." A newly issued certificate for the Outstanding Notes submitted but not tendered will be sent to such holder as soon as practicable after the Expiration Date. All Outstanding Notes delivered to the Exchange Agent will be deemed to have been tendered unless otherwise clearly indicated.

If not yet accepted, a tender pursuant to the Exchange Offer may be withdrawn prior to the Expiration Date.

To be effective with respect to the tender of Outstanding Notes, a written notice of withdrawal must: (i) be received by the Exchange Agent at one of the addresses for the Exchange Agent set forth above before the Company notifies the Exchange Agent that it has accepted the tender of Outstanding Notes Pursuant to the Exchange Offer, (ii) specify the name of the person who tendered the Outstanding Notes to be withdrawn; (iii) identify the Outstanding Notes to be withdrawn (including the principal amount of such Outstanding Notes, or, if applicable, the certificate numbers shown on the particular certificates evidencing such Outstanding Notes and the principal amount of Outstanding Notes represented by such certificates); (iv) include a statement that such holder is withdrawing its election to have such Outstanding Notes exchanged; and (v) be signed by the holder in the same manner as the original signature on this Letter of Transmittal (including any required signature guarantee). The Exchange Agent will return the properly withdrawn Outstanding Notes promptly following receipt of a notice of withdrawal. If Outstanding Notes have been tendered pursuant to the procedure for book-entry transfer, any notice of withdrawal must specify the name and number of the account at the book-entry transfer facility to be credited with the withdrawn Outstanding Notes or otherwise comply with the book-entry transfer facility's procedures. All questions as to the validity of notices of withdrawals, including time of receipt, will be determined by the Company, and such determination will be final and binding on all parties.

Any Outstanding Notes so withdrawn will be deemed not to have been validly tendered for exchange for purposes of the Exchange Offer. Any Outstanding Notes which have been tendered for exchange but which are not exchanged for any reason will be returned to the holder thereof without cost to such holder (or, in the case of Outstanding Notes tendered by book-entry transfer into the Exchange Agent's account at the book-entry transfer facility pursuant to the book-entry transfer procedures described above, such Outstanding Notes will be credited to an account with such book-entry transfer facility specified by the holder) as soon as practicable after withdrawal, rejection of tender or termination of the Exchange Offer. Properly withdrawn Outstanding Notes may be retendered by following one of the procedures described under the caption "The Exchange Offer -- Procedures for Tendering" in the Prospectus at any time prior to the Expiration Date.

3. SIGNATURES ON THIS LETTER OF TRANSMITTAL; WRITTEN INSTRUMENTS AND ENDORSEMENTS; GUARANTEES OF SIGNATURES. If this Letter of Transmittal is signed by the registered holder(s) of the Outstanding Notes tendered hereby, the signature must correspond with the name(s) as written on the face of the certificates without alteration, enlargement or any change whatsoever.

If any of the Outstanding Notes tendered hereby are owned of record by two or more joint owners, all such owners must sign this Letter of Transmittal.

If a number of Outstanding Notes registered in different names are tendered, it will be necessary to complete, sign and submit as many separate copies of this Letter of Transmittal as there are different registrations of Outstanding Notes.

When this Letter of Transmittal is signed by the registered holder or holders (which term, for the purposes described herein, shall include the book-entry transfer facility whose name appears on a security listing as the owner of the Outstanding Notes) of Outstanding Notes listed and tendered hereby, no endorsements of certificates or separate written instruments of transfer or exchange are required.

If this Letter of Transmittal is signed by a person other than the registered holder or holders of the Outstanding Notes listed, such Outstanding Notes must be endorsed or accompanied by separate written instruments of transfer or exchange in form satisfactory to the Company and duly executed by the registered holder, in either case signed exactly as the name or names of the registered holder or holders appear(s) on the Outstanding Notes.

If this Letter of Transmittal, any certificates or separate written instruments of transfer or exchange are signed by trustees, executors, administrators, guardians, attorneys-in-fact, officers of corporations or others acting in a fiduciary or representative capacity, such persons should so indicate when, signing, and, unless waived by the Company, proper evidence satisfactory to the Company of their authority so to act must be submitted.

Endorsements on certificates or signatures on separate written instruments of transfer or exchange required by this Instruction 3 must be guaranteed by an Eligible Institution.

Signatures on this Letter of Transmittal must be guaranteed by an Eligible Institution, unless Outstanding Notes are tendered: (i) by a holder who has not completed the box entitled "Special Issuance Instructions" or "Special Delivery Instructions" on this Letter of Transmittal; or (ii) for the account of an Eligible Institution (as defined below). In the event that the signatures in this Letter of Transmittal or a notice of withdrawal, as the case may be, are required to be guaranteed, such guarantees must be by an eligible guarantor institution which is a member of a firm of a registered national securities exchange or of the National Association of Securities Dealers, Inc., a commercial bank or trust company having an office or correspondent in the United States or another "eligible institution" within the meaning of Rule 17Ad-15 under the Securities Exchange Act of 1934, as amended (an "Eligible Institution"). If Outstanding Notes are registered in the name of a person other than the signer of this Letter of Transmittal, the Outstanding Notes surrendered for exchange must be endorsed by, or be accompanied by a written instrument or instruments of transfer or exchange, in satisfactory form as determined by the Company, in its sole discretion, duly executed by the registered holder with the signature thereon guaranteed by an Eligible Institution.

4. SPECIAL ISSUANCE AND DELIVERY INSTRUCTIONS. Tendering holders should indicate, as applicable, the name and address to which the Exchange Notes or certificates for Outstanding Notes not exchanged are to be issued or sent, if different from the name and address of the person signing this Letter of Transmittal. In the case of issuance in a different name, the tax identification number of the person named must also be indicated. Holders tendering Outstanding Notes by book-entry transfer may request that Outstanding Notes not exchanged be credited to such account maintained at the book-entry transfer facility as such holder may designate.

5. TRANSFER TAXES. The Company shall pay all transfer taxes, if any, applicable to the transfer and exchange of Outstanding Notes to it or its order pursuant to the Exchange Offer, except in the case of deliveries of certificates for Outstanding Notes for Exchange Notes that are to be registered or issued in the name of any person other than the holder of Outstanding Notes tendered thereby. If a transfer tax is imposed for any reason other than the transfer and exchange of Outstanding Notes to the Company or its order pursuant to the Exchange Offer, the amount of any such transfer taxes (whether imposed on the registered holder or any other person) will be payable by the tendering holder. If satisfactory evidence of payment of such taxes or exception therefrom is not submitted herewith the amount of such transfer taxes will be billed directly to such tendering holder.

6. WAIVER OF CONDITIONS. The Company reserves the absolute right to waive, in whole or in part, any of the conditions to the Exchange Offer set forth in the Prospectus.

7. MUTILATED, LOST, STOLEN OR DESTROYED SECURITIES. Any holder whose Outstanding Notes have been mutilated, lost, stolen or destroyed, should contact the Exchange Agent at the address indicated below for further instructions.

8. REQUESTS FOR ASSISTANCE OR ADDITIONAL COPIES. Questions relating to the procedure for tendering, as well as requests for additional copies of the Prospectus and this Letter of Transmittal, may be directed to the Exchange Agent at the address and telephone number set forth above. In addition, all questions relating to the Exchange Offer, as well as requests for assistance or additional copies of the Prospectus and this Letter of Transmittal, may be directed to the Exchange Agent at the address and telephone number indicated above.

If backup withholding applies, the Exchange Agent is required to withhold 31% of any payments to be made to the holder of Outstanding Notes. Backup withholding is not an additional tax. Rather, the tax

liability of persons subject to backup withholding will be reduced by the amount of tax withheld. If withholding results in an overpayment of taxes, a refund may be obtained by filing a tax return with the Internal Revenue Service. The Exchange Agent cannot refund amounts withheld by reason of backup withholding.

9. IRREGULARITIES. All questions as to the validity, form, eligibility (including time of receipt), and acceptance of Letters of Transmittal or Outstanding Notes will be resolved by the Company, whose determination will be final and binding. The Company reserves the absolute right to reject any or all Letters of Transmittal or tenders that are not in proper form or the acceptance of which would, in the opinion of the Company's counsel, be unlawful. The Company also reserves the right to waive any irregularities or conditions of tender as to the particular Outstanding Notes covered by any Letter of Transmittal or tendered pursuant to such Letter of Transmittal. Neither the Company, the Exchange Agent nor any other person will be under any duty to give notification of any defects or irregularities in tenders or incur any liability for failure to give any such notification. The Company's interpretation of the terms and conditions of the Exchange Offer shall be final and binding.

IMPORTANT: THIS LETTER OF TRANSMITTAL OR A FACSIMILE OR COPY THEREOF (TOGETHER WITH CERTIFICATES OF OUTSTANDING NOTES OR CONFORMATION OF BOOK-ENTRY TRANSFER AND ALL OTHER REQUIRED DOCUMENTS) OR A NOTICE OF GUARANTEED DELIVERY MUST BE RECEIVED BY THE EXCHANGE AGENT PRIOR TO THE EXPIRATION DATE.

IMPORTANT TAX INFORMATION

Under U.S. federal income tax law, a holder of Outstanding Notes whose Outstanding Notes are accepted for exchange may be subject to backup withholding unless the holder provides The Bank of New York, as Paying Agent (the "Paying Agent"), through the Exchange Agent, with either (i) such holder's correct taxpayer identification number ("TIN") on Substitute Form W-9 attached hereto, certifying (A) that the TIN provided on Substitute Form W-9 is correct (or that such holder of Outstanding Notes is awaiting a TIN), (B) that the holder of Outstanding Notes is not subject to backup withholding because (x) such holder of Outstanding Notes is exempt from backup withholding, (y) such holder of Outstanding Notes has not been notified by the Internal Revenue Service that he or she is subject to backup withholding as a result of a failure to report all interest or dividends or (z) the Internal Revenue Service has notified the holder of Outstanding Notes that he or she is no longer subject to backup withholding and (C) that the holder of Outstanding Notes is a U.S. person (including a U.S. resident alien); or (ii) an adequate basis for exemption from backup withholding. If such holder of Outstanding Notes is an individual, the TIN is such holder's social security number. If the Paying Agent is not provided with the correct TIN, the holder of Outstanding Notes may also be subject to certain penalties imposed by the Internal Revenue Service.

Certain holders of Outstanding Notes (including, among others, all corporations and certain foreign individuals) are not subject to these backup withholding and reporting requirements. However, exempt holders of Outstanding Notes should indicate their exempt status on Substitute Form W-9. For example, a corporation should complete the Substitute Form W-9, providing its TIN and indicating that it is exempt from backup withholding. In order for a foreign individual to qualify as an exempt recipient, the holder must submit a Form W-8BEN, signed under penalties of perjury, attesting to that individual's exempt status. A Form W-8BEN can be obtained from the Paying Agent. See the enclosed "Guidelines for Certification of Taxpayer Identification Number on Substitute Form W-9" for more instructions.

If backup withholding applies, the Paying Agent is required to withhold 30% of any payments made to the holder of Outstanding Notes or other payee. Backup withholding is not an additional tax. Rather, the tax liability of persons subject to backup withholding will be reduced by the amount of tax withheld. If withholding results in an overpayment of taxes, a refund may be obtained from the Internal Revenue Service, provided the required information is furnished.

The box in Part 3 of the Substitute Form W-9 may be checked if the surrendering holder of Outstanding Notes has not been issued a TIN and has applied for a TIN or intends to apply for a TIN in the near future. If the box in Part 3 is checked, the holder of Outstanding Notes or other payee must also complete the Certificate of Awaiting Taxpayer Identification Number below in order to avoid backup withholding. Notwithstanding that the box in Part 3 is checked and the Certificate of Awaiting Taxpayer

Identification Number is completed, the Paying Agent will withhold 30% of all payments made prior to the time a properly certified TIN is provided to the Paying Agent and, if the Paying Agent is not provided with a TIN within 60 days, such amounts will be paid over to the Internal Revenue Service.

The holder of Outstanding Notes is required to give the Paying Agent the TIN (e.g., social security number or employer identification number) of the record owner of the Outstanding Notes. If the Outstanding Notes are in more than one name or are not in the name of the actual owner, consult the enclosed "Guidelines for Certification of Taxpayer Identification Number on Substitute Form W-9" for additional guidance on which number to report.

GUIDELINES FOR CERTIFICATION OF TAXPAYER IDENTIFICATION NUMBER ON SUBSTITUTE FORM W-9

GUIDELINES FOR DETERMINING THE PROPER IDENTIFICATION NUMBER FOR THE PAYEE (YOU) TO GIVE THE PAYER. -- Social security numbers have nine digits separated by two hyphens: i.e., 000-00-0000. Employee identification numbers have nine digits separated by only one hyphen: i.e., 00-0000000. The table below will help determine the number to give the payer. All "Section" references are to the Internal Revenue Code of 1986, as amended. "IRS" is the Internal Revenue Service.

	FOR THIS TYPE OF ACCOUNT:	GIVE THE SOCIAL SECURITY NUMBER OF--
1.	Individual	The individual
2.	Two or more individuals (joint account)	The actual owner of the account or, if combined fund, the first individual on the account(1)
3.	Custodian account of a minor (Uniform Gift to Minors Act)	The minor(2)
4.	a. The usual revocable savings trust account (grantor is also trustee)	The grantor-trustee(1)
	b. So-called trust that is not a legal or valid trust under state law	The actual owner(1)
5.	Sole proprietorship	The owner(3)

	FOR THIS TYPE OF ACCOUNT:	GIVE THE SOCIAL SECURITY NUMBER OF--
6.	Sole proprietorship	The owner(3)
7.	A valid trust, estate, or pension trust	The legal entity(4)
8.	Corporate	The corporation
9.	Association, club, religious, charitable, educational, or other tax-exempt organization account	The organization
10.	Partnership	The partnership
11.	A broker or registered nominee	The broker or nominee
12.	Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity

(1) List first and circle the name of the person whose number you furnish. If only one person on a joint account has a social security number, that person's number must be furnished.

(2) Circle the minor's name and furnish the minor's social security number.

(3) You must show your individual name, but you may also enter your business or "doing business as" name. You may use either your social security number or your employer identification number (if you have one).

(4) List first and circle the name of the legal trust, estate, or pension trust. (Do not furnish the taxpayer identification number of the personal representative or trustee unless the legal entity itself is not designated in the account title.)

NOTE: IF NO NAME IS CIRCLED WHEN THERE IS MORE THAN ONE NAME, THE NUMBER WILL BE CONSIDERED TO BE THAT OF THE FIRST NAME LISTED.

OBTAINING A NUMBER

If you don't have a taxpayer identification number or you don't know your number, obtain Form SS-5, Application for a Social Security Card, at the local Social Administration office, or Form SS-4, Application for Employer Identification Number, by calling 1 (800) TAX-FORM, and apply for a number.

PAYEES EXEMPT FROM BACKUP WITHHOLDING

Payees specifically exempted from withholding include:

- An organization exempt from tax under Section 501(a), an individual retirement account (IRA), or a custodial account under Section 403(b)(7), if the account satisfies the requirements of Section 401(f)(2).
- The United States or a state thereof, the District of Columbia, a possession of the United States, or a political subdivision or wholly-owned agency or instrumentality of any one or more of the foregoing.
- An international organization or any agency or instrumentality thereof.
- A foreign government and any political subdivision, agency or instrumentality thereof.

PAYEES THAT MAY BE EXEMPT FROM BACKUP WITHHOLDING INCLUDE:

- A corporation.
- A financial institution.
- A dealer in securities or commodities required to register in the United States, the District of Columbia, or a possession of the United States.
- A real estate investment trust.
- A common trust fund operated by a bank under Section 584(a).
- An entity registered at all times during the tax year under the Investment Company Act of 1940.
- A middleman known in the investment community as a nominee or custodian.
- A futures commission merchant registered with the Commodity Futures Trading Commission.
- A foreign central bank of issue.

Payments of dividends and patronage dividends generally exempt from backup withholding include:

- Payments to nonresident aliens subject to withholding under Section 1441.
- Payments to partnerships not engaged in a trade or business in the United States and that have at least one nonresident alien partner.
- Payments of patronage dividends not paid in money.
- Payments made by certain foreign organizations.
- Section 404(k) payments made by an ESOP.

Payments of interest generally exempt from backup withholding include:

- Payments of interest on obligations issued by individuals. Note: You may be subject to backup withholding if this interest is $600 or more and you have not provided your correct taxpayer identification number to the payer.
- Payments of tax-exempt interest (including exempt-interest dividends under Section 852).
- Payments described in Section 6049(b)(5) to nonresident aliens.
- Payments on tax-free covenant bonds under Section 1451.
- Payments made by certain foreign organizations.
- Mortgage interest paid to you.

Certain payments, other than payments of interest, dividends, and patronage dividends, that are exempt from information reporting are also exempt from backup withholding. For details, see the regulations under sections 6041, 6041A, 6042, 6044, 6045, 6049, 6050A and 6050N.

Exempt payees described above must file Form W-9 or a substitute Form W-9 to avoid possible erroneous backup withholding. FILE THIS FORM WITH THE PAYER. FURNISH YOUR TAXPAYER IDENTIFICATION NUMBER. WRITE "EXEMPT" IN PART 2 OF THE FORM, SIGN AND DATE THE FORM AND RETURN IT TO THE PAYER.

PRIVACY ACT NOTICE. -- Section 6109 requires you to provide your correct taxpayer identification number to payers, who must report the payments to the IRS. The IRS uses the number for identification purposes and may also provide

this information to various government agencies for tax enforcement or litigation purposes. Payers must be given the numbers whether or not recipients are required to file tax returns. Payers must generally withhold 30% of taxable interest, dividend, and certain other payments to a payee who does not furnish a taxpayer identification number to payer. Certain penalties may also apply.

PENALTIES

(1) FAILURE TO FURNISH TAXPAYER IDENTIFICATION NUMBER. -- If you fail to furnish your taxpayer identification number to a payer, you are subject to a penalty of $50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

(2) CIVIL PENALTY FOR FALSE INFORMATION WITH RESPECT TO WITHHOLDING. -- If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a $500 penalty.

(3) CRIMINAL PENALTY FOR FALSIFYING INFORMATION. -- Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

FOR ADDITIONAL INFORMATION CONTACT YOUR TAX CONSULTANT OR THE INTERNAL REVENUE SERVICE.

PAYER'S NAME: THE BANK OF NEW YORK

SUBSTITUTE FORM W-9	PART 1 -- PLEASE PROVIDE YOUR TIN IN THE BOX AT RIGHT AND CERTIFY BY SIGNING AND DATING BELOW.	Name Social Security Number OR Employer Identification Number
DEPARTMENT OF THE TREASURY INTERNAL REVENUE SERVICE		
PAYER'S REQUEST FOR TAXPAYER IDENTIFICATION NUMBER (TIN)	PART 3 -- - Awaiting TIN	

PART 2 -- CERTIFICATION -- Under the penalties of perjury, I certify that:

(1) The number shown on this form is my correct Taxpayer Identification Number (or I am waiting for a number to be issued to me), and

(2) I am not subject to backup withholding because (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (the "IRS") that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and

(3) I am a U.S. person (including a U.S. resident alien).

CERTIFICATE INSTRUCTIONS -- You must cross out item (2) above if you have been notified by the IRS that you are currently subject to backup withholding because of under-reporting interest or dividends on your tax return. However, if after being notified by the IRS that you were subject to backup withholding you received another notification from the IRS that you are no longer subject to backup withholding, do not cross out such item (2).

The Internal Revenue Service does not require your consent to any provision of this document other than the certifications required to avoid backup withholding.

SIGN HERE --> Signature _____ Date _____, 2002

NOTE: FAILURE TO COMPLETE AND RETURN THIS FORM MAY RESULT IN BACKUP WITHHOLDING OF 30% OF ANY PAYMENTS MADE TO YOU PURSUANT TO THE OFFER. PLEASE REVIEW THE ENCLOSED GUIDELINES FOR CERTIFICATION OF TAXPAYER IDENTIFICATION NUMBER ON SUBSTITUTE FORM W-9 FOR ADDITIONAL DETAILS.

YOU MUST COMPLETE THE FOLLOWING CERTIFICATE IF YOU CHECKED THE BOX IN PART 3 OF THE SUBSTITUTE FORM W-9.

CERTIFICATE OF AWAITING TAXPAYER IDENTIFICATION NUMBER

I certify under penalties of perjury that a taxpayer identification number has not been issued to me, and either (1) I have mailed or delivered an application to receive a taxpayer identification number to the appropriate Internal Revenue Service Center or Social Security Administration Office, or (2) I intend to mail or deliver an application in the near future. I understand that if I do not provide a taxpayer identification number by the time of payment, 30% of all reportable payments made to me will be withheld.

Signature _____ Date _____, 2002

FORM OF NOTICE OF GUARANTEED DELIVERY
FOR
TENDER OF ALL OUTSTANDING
750,000,000 7 5/8% SENIOR SUBORDINATED NOTES DUE 2012
IN EXCHANGE FOR
NEW 750,000,000 7 5/8% SERIES B SENIOR SUBORDINATED NOTES DUE 2012
OF
L-3 COMMUNICATIONS CORPORATION

Registered holders of outstanding 7 5/8% Senior Subordinated Notes due 2012 (the "Outstanding Notes") who wish to tender their Outstanding Notes in exchange for a like principal amount of new 7 5/8% Series B Senior Subordinated Notes due 2012 (the "Exchange Notes") and whose Outstanding Notes are not immediately available or who cannot deliver their Outstanding Notes and Letter of Transmittal (and any other documents required by the Letter of Transmittal) to The Bank of New York (the "Exchange Agent") prior to the Expiration Date, may use this Notice of Guaranteed Delivery or one substantially equivalent hereto. This Notice of Guaranteed Delivery may be delivered by hand or sent by facsimile transmission (receipt confirmed by telephone and an original delivered by guaranteed overnight courier) or mail to the Exchange Agent. See "The Exchange Offer -- Procedures for Tendering" in the Prospectus.

The Exchange Agent for the Exchange Offer is:

THE BANK OF NEW YORK

By Mail:	By Facsimile:	By Hand or Overnight Delivery
The Bank of New York	The Bank of New York	The Bank of New York
Reorganization Unit	Attention: Kin Lau	Reorganization Unit
101 Barclay Street - 7 East	(212) 298-1915	101 Barclay Street
New York, NY 10286	Confirm Receipt of	Lobby Level - Corp. Trust Window
Attention: Kin Lau	Facsimile by telephone	New York, NY 10286
	(212) 815-3750	Attention: Kin Lau

DELIVERY OF THIS NOTICE OF GUARANTEED DELIVERY TO AN ADDRESS OTHER THAN AS SET FORTH ABOVE OR TRANSMISSION VIA A FACSIMILE TRANSMISSION TO A NUMBER OTHER THAN AS SET FORTH ABOVE WILL NOT CONSTITUTE A VALID DELIVERY.

This Notice of Guaranteed Delivery is not to be used to guarantee signatures. If a signature on a Letter of Transmittal is required to be guaranteed by an eligible institution (as defined in the Prospectus), such signature guarantee must appear in the applicable space provided on the Letter of Transmittal for Guarantee of Signatures.

Ladies and Gentlemen:

The undersigned hereby tenders the principal amount of Outstanding Notes indicated below, upon the terms and subject to the conditions contained in the Prospectus dated , 2002 of L-3 Communications Corporation (the "Prospectus"), receipt of which is hereby acknowledged.

DESCRIPTION OF OUTSTANDING NOTES TENDERED

Name of Tendering Holder	Name and Address of Registered Holder as it Appears on the Outstanding Notes (Please print)	Certificate Number(s) of Outstanding Notes Tendered (or Account Number at Book-Entry Facility)	Principal Amount Outstanding Notes Tendered

SIGN HERE

Name of Registered or Acting Holder:

Signature(s): ---

Name(s) (Please Print):

Address:

Telephone Number:

Date:

IF OUTSTANDING NOTES WILL BE TENDERED BY BOOK-ENTRY TRANSFER, PROVIDE THE FOLLOWING INFORMATION:

DTC Account Number:

Date:

THE FOLLOWING GUARANTEE MUST BE COMPLETED
GUARANTEE OF DELIVERY
(NOT TO BE USED FOR SIGNATURE GUARANTEE)

The undersigned, a member of a recognized signature guarantee medallion program within the meaning of Rule 17Ad-15 under the Securities Exchange Act of 1934, as amended, hereby guarantees to deliver to the Exchange Agent at one of its addresses set forth on the reverse hereof, the certificates representing the Outstanding Notes (or a confirmation of book-entry transfer of such Outstanding Notes into the Exchange Agent's account at the book-entry transfer facility), together with a properly completed and duly executed Letter of Transmittal (or facsimile thereof), with any required signature guarantees, and any other documents required by the Letter of Transmittal within three New York Stock Exchange trading days after the Expiration date (as defined in the Letter of Transmittal).

Name of Firm: _____ (authorized signature)

Address: _____ Title: _____

_____ Name: _____

(zip code) (please type or print)

Area Code and
Telephone No.: _____ Date: _____

NOTE: DO NOT SEND OUTSTANDING NOTES WITH THIS NOTICE OF GUARANTEED DELIVERY. OUTSTANDING NOTES SHOULD BE SENT WITH YOUR LETTER OF TRANSMITTAL.