REGISTRATION NO. 333-71791

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SECURITIES AND EXCHANGE COMMISSION WASHINGTON, D.C. 20549

AMENDMENT NO. 1

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FORM S-3 REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933 EMCORE CORPORATION (Exact name of Registrant as specified in its charter)

NEW JERSEY (State or other jurisdiction of incorporation or organization) 22-2746503 (I.R.S. Employer Identification No.)

394 ELIZABETH AVENUE, SOMERSET, NEW JERSEY 08873 (732) 271-9090 (Address, including zip code, and telephone number, including area code, of registrant's agent for service and principal executive offices)

EMCORE CORPORATION 394 ELIZABETH AVENUE SOMERSET, NEW JERSEY 08873 (732) 271-9090 (Name, address, including zip code, and telephone number, including area code, of agent for service)

WITH COPIES TO:

JORGE L. FREELAND, ESQ. WHITE & CASE LLP 200 SOUTH BISCAYNE BLVD. MIAMI, FLORIDA 33131 TEL: (305) 371-2700 FAX: (305) 358-5744 ELLEN B. CORENSWET, ESQ. KENNETH R. MCVAY, ESQ. BROBECK, PHLEGER & HARRISON, LLP 1633 BROADWAY, 47TH FLOOR NEW YORK, NEW YORK 10019 TEL: (212) 581-1600 FAX: (212) 586-7878

APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC: as soon as practicable after the effective date of this Registration Statement. If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following

1933, 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 of 1933, please check the following box and list the Securities Act of 1933 registration statement number of the earlier effective registration statement for the same offering. []

of the earlier effective registration statement for the same offering. [] If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act of 1933, check the following box and list the Securities Act of 1933 registration statement number of the earlier effective registration statement for the same offering. []

If delivery of the prospectus is expected to be made pursuant to Rule 434, please check the following box.  $[\ ]$ 

THE REGISTRANT HEREBY AMENDS THIS REGISTRATION STATEMENT ON SUCH DATE OR DATES AS MAY BE NECESSARY TO DELAY ITS EFFECTIVE DATE UNTIL THE REGISTRANT 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 OR UNTIL THE REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE COMMISSION, ACTING PURSUANT TO SAID SECTION 8(A), MAY DETERMINE.

SUBJECT	т0	COMPLETION	 MAY	21,	1999

PROSPECTUS , 1999	
	EMCORE CORPORATION
3 897 441 SHAR	ES OF COMMON STOCK
EMCORE CORPORATION:	
- EMCORE Corporation 394 Elizabeth Avenue Somerset, New Jersey 08873 (732) 271-9090	
- NASDAQ SYMBOL: EMKR	
THE OFFERING:	
EMCORE is offering 3,000,000 of the offering 897,441 of the shares.	e shares and existing shareholders are
The underwriters have an option to from EMCORE to cover over-allotments	•
There is an existing trading market sale price on May 19, 1999 was \$19.63	
<ul> <li>We plan to use the proceeds from the general corporate purposes. We will near shares sold by the selling shareholder</li> </ul>	not receive any proceeds from the
Closing: , 1999.	
	Per Share Total
Public offering price: Jnderwriting fees: Proceeds to EMCORE: Proceeds to selling shareholders:	\$\$
THIS INVESTMENT INVOLVES RISK. SEE	E "RISK FACTORS" BEGINNING ON PAGE 8.
	iminal offense.
DONALDSON, LUFKIN & JENRETTE PRUDENTIAL SECURITIES	
	& COMPANY, INC.

### DLJDIRECT INC.

WE WILL AMEND AND COMPLETE THE INFORMATION IN THIS PROSPECTUS. ALTHOUGH WE ARE PERMITTED BY US FEDERAL SECURITIES LAWS TO OFFER THESE SECURITIES USING THIS PROSPECTUS, WE MAY NOT SELL THEM OR ACCEPT YOUR OFFER TO BUY THEM UNTIL THE DOCUMENTATION FILED WITH THE SEC RELATING TO THESE SECURITIES HAS BEEN DECLARED EFFECTIVE BY THE SEC. THIS PROSPECTUS IS NOT AN OFFER TO SELL THESE SECURITIES OR OUR SOLICITATION OF YOUR OFFER TO BUY THESE SECURITIES IN ANY JURISDICTION WHERE THAT WOULD NOT BE PERMITTED OR LEGAL. [Artwork depicts a cellular relay station antenna, fiber optics, an automobile line drawing showing engine components, a cellular phone handset, a bar code, a satellite, light-emitting diodes, Cds, and, the lights of Times Square at night.

Text of artwork states "Leading manufacturers throughout the world use EMCORE's production systems and process technology, wafers and devices for a variety of advanced electronic applications. Below the artwork text states "Illustrated above are examples of current and future end-use product applications that incorporate the compound semiconductor process, technology or equipment developed and sold by EMCORE Corporation. This illustration contains products of companies other then EMCORE Corporation. (EMCORE logo).]

[Fold out artwork depicts a diagram of flow and heat patterns inside a TurboDisc reactor under heading Technology with text stating EMCORE has developed its compound semiconductor processes and higher performance production systems through substantial investments in research and development. EMCORE works closely with its customers to identify specific performance criteria in its production systems, wafers and devices.

Surrounding the EMCORE logo and "Integrated Compound Semiconductor Solutions"

### TECHNOLOGY

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EMCORE has developed its compound semiconductor processes and higher performance production systems through substantial investments in research and development. EMCORE works closely with its customers to identity specific performance criteria in its production systems, wafers, and devices.

### WAFERS AND DEVICES

EMCORE provides its customers with materials science expertise, process technology and metal-organic chemical vapor deposition (MOCVD) systems that enable the manufacture of commercial volumes of high-performance compound semiconductor wafers and devices. (Pictures of MR Sensors, VCSELs, Solar Cells, 3 LEDs and RF Materials.)

The Company is working with its customers and JV partners to design, engineer and manufacture commercial quantities of compound semiconductor devices and materials. The devices are fabricated from materials grown in our production equipment; and then tested according to specifications worked out in partnership with customers or JV partners.

### SYSTEMS

EMCORE provides production-scale metal organic chemical vapor deposition, MOCVD, equipment using its proprietary TURBODISC technology. By combining material science expertise and proven process technology, EMCORE offers key enabling technology for the low cost, high-volume production of a variety of compound semiconductor wafers and devices. (Picture of TurboDisc System)]

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### PROSPECTUS SUMMARY

This summary is qualified by more detailed information appearing in other sections of this prospectus. The other information is important, so please read this entire prospectus carefully. Unless otherwise indicated, all information in this prospectus: (a) gives effect to a 3.4-for-1 reverse stock split that was completed on February 3, 1997 and (b) assumes that the underwriters do not exercise their over-allotment option. References to EMCORE's fiscal years refer to fiscal years ended on September 30.

### EMCORE CORPORATION

EMCORE designs, develops and manufactures compound semiconductor wafers and devices and is a leading developer and manufacturer of the tools and manufacturing processes used to fabricate compound semiconductor wafers and devices. Our products and technology enable our customers, both in the United States and internationally, to manufacture commercial volumes of high-performance electronic devices using compound semiconductors. Our products are used in a wide variety of applications in the communications (satellite, data, telecommunications and wireless), consumer and automotive electronics, computers and peripherals, and lighting markets. EMCORE's customers include AMP Incorporated, Hewlett Packard, General Motors, Hughes-Spectrolab, Lucent Technologies, Inc., Siemens AG and 12 of the largest electronics manufacturers in Japan.

Compound semiconductors are the key components of electronic systems and electronic circuits and are now used in today's most advanced information systems. Compound semiconductors are composed of two or more elements and usually consist of a metal such as gallium, aluminum or indium and a non-metal such as arsenic, phosphorus or nitrogen. These elements are combined in our proprietary manufacturing process to create a round disk, or wafer, that has multiple layers of thin films of semiconductors on it. The wafers are further processed to create devices that are ready to be packaged by our customers for use in their products, such as solar cells, lasers and transistors. Many compound semiconductor materials have unique physical properties that allow electrons to move at least four times faster than through semiconductors based on silicon. Advantages of compound semiconductor devices over silicon devices include:

- operation at higher speeds;
- lower power consumption;
- less noise and distortion; and
- the ability to emit and detect light, known as optoelectronic properties.

Although compound semiconductors are more expensive to manufacture than the more traditional silicon-based semiconductors that are used in most computers, electronics manufacturers are increasingly integrating compound semiconductors into their products in order to achieve higher performance.

We manufacture and sell, either alone or with our joint venture partners, the following products:

PRODUCT

Solar cells

Compound semiconductor devices that emit light, called high-brightness light-emitting diodes (HB LEDs)\*

Compound semiconductor lasers that emit light in a cylindrical beam, called vertical cavity surface emitting lasers (VCSELs)

Compound semiconductor sensor devices that can detect a magnetic field and position of a metal object called magneto resistive sensors (MR sensors)

Compound semiconductor materials that transmit and receive communications called radio frequency materials (RF materials)

TurboDisc production systems

\* Products under development

Our objective is to capitalize on our position as a leading developer and manufacturer of compound semiconductor tools and manufacturing processes to become the leading supplier of compound semiconductor wafers and devices. The key elements of our strategy are to:

- apply our core scientific and manufacturing technology across multiple product applications;
- target high growth opportunities;
- partner with key industry participants; and
- continue our investment to maintain technology leadership.

We have recently established a number of strategic relationships through joint ventures and long-term supply agreements including:

- an agreement with General Electric Lighting, to form a joint venture to develop and market white light and colored HB LED lighting products.
- a long-term purchase agreement for solar cells with Space Systems/Loral, a wholly-owned subsidiary of Loral Space & Communications.
- a cooperative development agreement and a three-year purchase agreement with Sumitomo Electric to provide certain RF materials for use in cellular handsets.

We were incorporated in the State of New Jersey in September 1986. Our World Wide Web site is www.emcore.com. Our web site is not part of this prospectus. EMCORE and TurboDisc are registered trademarks of EMCORE and Gigalase, Gigarray and the EMCORE logo are trademarks of EMCORE. Each trademark, trade name or service mark of any other company appearing in this prospectus belongs to its holder.

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CURRENT AND POTENTIAL APPLICATIONS

Solar panels in communications satellite power systems

Traffic lights Miniature lamps Automotive lighting Flat panel displays

High performance data and telecommunications lines including fiber optic cables and other network applications

Cam and crank shaft sensors for automobiles Antilock brake systems Brushless motors Engine timing sensors

Cellular phone handsets Fiber optics Satellite transmitters and receivers

Platform technology for all of the above

Common stock offered:	
By EMCORE	3,000,000 shares
By the selling shareholders	897,441 shares
Total	3,897,441 shares
Common stock to be outstanding after this	13,014,204 shares
offering	
Use of proceeds by EMCORE	To repay approximately \$36.8 million of debt and for general corporate purposes. See "Use of Proceeds."
Nasdaq National Market symbol	EMKR

The number of shares of common stock to be outstanding after this offering is based on the 9,500,086 shares outstanding as of May 1, 1999, as further described under "Capitalization."

# SUMMARY CONSOLIDATED FINANCIAL DATA (IN THOUSANDS, EXCEPT PER SHARE AMOUNTS)

	FISCAL YEARS ENDED SEPTEMBER 30,			SIX MONTHS ENDED MARCH 31,	
	1996	1997	1998(*)	1998(*)	1999
STATEMENT OF OPERATIONS DATA:					
Revenues	\$27,779	\$47,753	\$ 43,760	\$ 26,165	\$ 26,197
Gross profit	9,172	17,659	19,084	12,255	10,978
Operating loss	(2,753)	(689)	(34,647)	(20,332)	(7,859)
Net loss Net loss per basic and diluted	(3,176)	(5,619)	(36,419)	(20,661)	(10,856)
share(1) Weighted average shares used in calculating net loss per	\$ (1.06)	\$ (1.20)	\$ (4.15)	\$ (2.52)	\$ (1.17)
share	2,994	4,669	8,775	8,189	9,409

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(\*) As restated -- See Note 20 to the consolidated financial statements

	AS OF	MARCH 31, 1999
	ACTUAL	AS ADJUSTED(2)
BALANCE SHEET DATA:		
Working capital	\$ 6,663	\$ 31,512
Total assets	85,071	109,920
Long-term liabilities	32,570	1,567
Redeemable convertible preferred stock	21,369	14,088
Shareholders' equity	8,967	72,044

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- Basic and diluted earnings per share have been restated for all periods presented to give effect to the Commission's Staff Accounting Bulletin No. 98, which eliminated certain computational requirements of the Commission's Staff Accounting Bulletin No. 64.
- (2) Reflects the sale by EMCORE of 3,000,000 shares of common stock offered by this prospectus, repayment of all long-term debt, the conversion of 364,000 shares of convertible preferred stock into 364,000 shares of common stock and the exercise of 19,898 warrants at \$4.08 per share and 130,220 warrants at \$10.20 per share into 150,118 shares of common stock.

### RISK FACTORS

You should carefully consider the following risks, together with the other information contained in this prospectus, before you decide whether to purchase shares of our common stock. If any of the following risks actually occur, our business, financial condition or results of operations would likely suffer. In such case, the trading price of our common stock could decline, and you may lose all or part of the money you paid to buy our common stock.

This prospectus contains forward-looking statements based on our current expectations, assumptions, estimates and projections about EMCORE and our industry. These forward-looking statements involve numerous risks and uncertainties. Our actual results could differ materially from those anticipated in such forward-looking statements as a result of certain factors, as more fully described in this section and elsewhere in this prospectus. We undertake no obligation to update publicly any forward-looking statements for any reason, even if new information becomes available or other events occur in the future.

### WE EXPECT TO CONTINUE TO INCUR OPERATING LOSSES.

We started operations in 1984 and as of March 31, 1999 had an accumulated deficit of \$71.2 million. We incurred net losses of \$3.2 million in fiscal 1996, \$5.6 million in fiscal 1997, \$36.4 million in fiscal 1998 and \$10.9 million in the first six months of fiscal 1999. We expect to continue to incur losses. To support our growth, we have increased our expense levels and our investments in inventory and capital equipment. As a result, we will need to significantly increase revenues and profit margins to become and stay profitable. If our sales and profit margins do not increase to support the higher levels of operating expenses and if our new product offerings are not successful, our business, financial condition and results of operations will be materially and adversely affected. Please see "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the Financial Statements and the Notes thereto for detailed information on our history of losses.

### OUR RAPID GROWTH PLACES A STRAIN ON OUR RESOURCES.

We are experiencing rapid growth, having added a significant number of new employees, acquired MicroOptical Devices, Inc., or MODE, and entered into joint ventures with General Electric Lighting (pending), Uniroyal Technology Corporation, Optek Technology, Inc. and Union Miniere Inc. We have expanded our facilities to include two manufacturing facilities in Albuquerque, New Mexico in addition to our original facility in Somerset, New Jersey. Our joint venture with Uniroyal Technology Corporation has leased a manufacturing facility in Tampa, Florida. This growth has placed and will continue to place a significant strain on our management, financial, sales and other employees and on our internal systems and controls. If we are unable to effectively manage multiple facilities and multiple joint ventures in geographically distant locations, our business, financial condition and results of operations will be materially and adversely affected. We are also in the process of installing new manufacturing software for all of our facilities and are evaluating replacing our accounting and purchasing systems. Most of the new manufacturing software is customized to our particular business and manufacturing processes. It will take time and require evaluation to eliminate all of the bugs in the software and to train personnel to use the new software. In this transition we may experience delays in production, cost overruns and disruptions in our operations.

Please see "Management's Discussion and Analysis of Financial Condition and Results of Operations" for more information.

SINCE THE TECHNOLOGY IN THE COMPOUND SEMICONDUCTOR INDUSTRY RAPIDLY CHANGES, WE MUST CONTINUALLY IMPROVE EXISTING PRODUCTS, DESIGN AND SELL NEW PRODUCTS AND MANAGE THE COSTS OF RESEARCH AND DEVELOPMENT IN ORDER TO EFFECTIVELY COMPETE.

We compete in markets characterized by rapid technological change, evolving industry standards and continuous improvements in products. Due to constant changes in these markets, our future success depends on our ability to improve our manufacturing processes and tools and our products. For example, our TurboDisc production systems must remain competitive on the basis of cost of ownership and process performance. To remain competitive we must continually introduce manufacturing tools with higher capacity and better production yields.

We have recently introduced a number of new products and, in connection with recent joint ventures and internal development, we will be introducing additional new products in the near future. The commercialization of new products involves substantial expenditures in research and development, production and marketing. We may be unable to successfully design or manufacture these new products and may have difficulty penetrating new markets. In addition, many of our new products are being incorporated into our customers' new products for new applications, such as high speed computer networks.

Because it is generally not possible to predict the amount of time required and the costs involved in achieving certain research, development and engineering objectives, actual development costs may exceed budgeted amounts and estimated product development schedules may be extended. Our business, financial condition and results of operations may be materially and adversely affected if:

- we are unable to improve our existing products on a timely basis;
- our new products are not introduced on a timely basis;
- we incur budget overruns or delays in our research and development efforts; or
- our new products experience reliability or quality problems.

FLUCTUATIONS IN OUR QUARTERLY OPERATING RESULTS MAY NEGATIVELY IMPACT OUR STOCK  $\ensuremath{\mathsf{PRICE}}$  .

Our revenues and operating results may vary significantly from quarter to quarter due to a number of factors particular to EMCORE and the compound semiconductor industry. Not all of these factors are in our control. These factors include:

- the volume and timing of orders for our products, particularly TurboDisc systems, which have an average selling price in excess of \$1 million;

- the timing of our announcement and introduction of new products and of similar announcements by our competitors;
- downturns in the market for our customers' products;
- regional economic conditions, particularly in Asia where we derive a significant portion of our revenues; and
- price volatility in the compound semiconductor industry.

These factors may cause our operating results for future periods to be below the expectations of analysts and investors. This may cause a decline in the price of our common stock. Please see "Management's Discussion and Analysis of Financial Condition and Results of Operations" for detailed information on our annual and quarterly operating results.

OUR JOINT VENTURE PARTNERS, WHO HAVE CONTROL OF THESE VENTURES, MAY MAKE DECISIONS THAT WE DO NOT AGREE WITH AND THAT ADVERSELY AFFECT OUR NET INCOME.

Since December 1997, we have established three joint ventures (with Optek Technology, Inc., Union Miniere, Inc. and Uniroyal Technology Corporation) and have signed an agreement to enter into a fourth joint venture with General Electric Lighting. Certain conditions may not be satisfied and, therefore, it is possible that this joint venture with General Electric Lighting will not be established. Failure to consummate this joint venture with General Electric Lighting could have a material and adverse effect on our business prospects.

Each of our joint ventures involves the creation of a separate company, and we do not have a majority interest in any of these entities. Each of these joint ventures is governed by a board of managers with representatives from both the strategic partner and us. Many fundamental decisions must be approved by both parties to the joint venture, which means we will be unable to direct the operation and direction of these joint ventures without the agreement of our joint venture partners. If we are unable to agree on important issues with a joint venture partner, the business of that joint venture may be delayed or interrupted, which may, in turn, materially and adversely affect our business, financial condition and results of operations.

We have devoted and we will be required to continue to devote significant funds and technologies to our joint ventures to develop and enhance their products. In addition, our joint ventures will require that some of our employees devote much of their time to joint venture projects. This will place a strain on our management, scientific, financial and sales employees. If our joint ventures are unsuccessful in developing and marketing their products, our business, financial condition and results of operations will be materially and adversely affected.

General Electric Lighting and we have agreed that our joint venture will be the sole vehicle for each party's participation in the solid state lighting market. We and General Electric Lighting have also agreed to several limitations during the life of the venture and thereafter relating to use that each of us can make of the joint venture's technology. One consequence of these limitations is that in certain circumstances, such as a material default by us, we would not be permitted to use the joint venture's technology to compete against General Electric Lighting in the solid state lighting market.

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SINCE A LARGE PERCENTAGE OF OUR REVENUES ARE FROM FOREIGN SALES, CERTAIN EXPORT RISKS MAY DISPROPORTIONATELY AFFECT OUR REVENUES.

Sales to customers located outside the United States accounted for approximately 42.5% of our revenues in fiscal 1996, 42.0% of our revenues in fiscal 1997, 39.1% of our revenues in fiscal 1998 and 40.0% of our revenues in the first six months of fiscal 1999. Sales to customers in Asia represent the majority of our international sales. We believe that international sales will continue to account for a significant percentage of our revenues. Because of this, the following export risks may disproportionately affect our revenues:

- political and economic instability may inhibit export of our systems and devices and limit potential customers' access to dollars;
- shipping and installation costs of our systems may increase;
- we have experienced and may continue to experience difficulties in the timeliness of collection of foreign accounts receivable and have been forced to write off receivables from a foreign customer;
- a strong dollar may make our systems less attractive to foreign purchasers who may decide to postpone making the capital expenditure;
- tariffs and other barriers may make our systems and devices less cost competitive;
- we may have difficulty in staffing and managing our international operations;
- the laws of certain foreign countries may not adequately protect our trade secrets and intellectual property; and
- potentially adverse tax consequences to our customers may make our systems and devices not cost competitive.

WE WILL LOSE SALES IF WE ARE UNABLE TO OBTAIN GOVERNMENT AUTHORIZATION TO EXPORT OUR PRODUCTS.

Exports of our products to certain destinations, such as the People's Republic of China, Malaysia and Taiwan, may require pre-shipment authorization from U.S. export control authorities, including the U.S. Departments of Commerce and State. Authorization may be conditioned on end-use restrictions. On certain occasions, we have been denied authorization, particularly with respect to the People's Republic of China. Failure to receive these authorizations may materially and adversely affect our revenues and in turn our business, financial condition and results of operations from international sales. Beginning April 1999, exports of all satellites and associated components require a license from the Department of State. This may cause delays in shipping solar cells abroad. Delays in receiving export licenses for solar cells may materially and adversely affect our revenues and in turn our business, financial condition and results of operations.

THE LOSS OF SALES TO GENERAL MOTORS OR OUR OTHER LARGE CUSTOMERS WOULD BE DIFFICULT TO REPLACE.

We derive a substantial portion of our revenues from a limited number of customers. Sales to Hughes-Spectrolab, primarily of TurboDisc systems and solar cells,

accounted for approximately 23.6% of our revenues in fiscal 1996, 10.2% of our revenues in fiscal 1997, 17.3% of our revenues in fiscal 1998, but only 3.8% of our revenues for the first six months of fiscal 1999. We believe that, at least in the short-term, Hughes-Spectrolab will produce most of its material requirements in-house using TurboDisc systems purchased from us. Consequently, we do not expect sales to Hughes-Spectrolab to continue to be significant in the short term. General Motors, our main customer for MR sensors, accounted for approximately 15.1% of our revenues in fiscal 1997, 12.8% of our revenues in fiscal 1998 and 10.8% of our revenues for the first six months of fiscal 1999. General Motors' three month strike in 1998 adversely affected our operating performance because during that time shipments of sensors to General Motors were halted. In addition to the lost revenues, we incurred the expense of paying salaries to the part of our workforce dedicated to producing sensors. If General Motors, or any of our other significant customers, stops ordering our products, significantly reduces the volume of these orders, or cancels, delays or reschedules any orders, and we are unable to replace these orders, our business, financial condition and results of operations could be materially and adversely affected. Please see "Business -- Customers" for more information on our significant customers.

# OUR PRODUCTS ARE DIFFICULT TO MANUFACTURE AND SMALL MANUFACTURING DEFECTS CAN ADVERSELY AFFECT OUR PRODUCTION YIELDS AND OUR OPERATING RESULTS.

The manufacture of our TurboDisc systems is a highly complex and precise process. We increasingly outsource the fabrication of certain components and sub-assemblies of our systems, often to sole source suppliers or a limited number of suppliers. We have experienced occasional delays in obtaining components and subassemblies because the manufacturing process for these items is very complex and requires long lead times. The revenues derived from sales of our TurboDisc systems will be materially and adversely affected if we are unable to obtain a high quality, reliable and timely supply of these components and subassemblies. In addition, any reduction in the precision of these components will result in sub-standard end products and will cause delays and interruptions in our production cycle.

We manufacture all of our wafers and devices in our manufacturing facilities and our joint venture with Uniroyal Technology Corporation plans to manufacture HB LED wafers and package-ready devices at its facility. Minute impurities, difficulties in the production process, defects in the layering of the devices' constituent compounds, wafer breakage or other factors can cause a substantial percentage of wafers and devices to be rejected or numerous devices on each wafer to be non-functional. These factors can result in lower than expected production yields, which would delay product shipments and may materially and adversely affect our operating results. Because the majority of our costs of manufacture are relatively fixed, the number of shippable devices per wafer for a given product is critical to our financial results. Additionally, because we manufacture all of our products at our facilities in Somerset, New Jersey and Albuquerque, New Mexico, and our joint venture with Uniroyal Technology Corporation will manufacture HB LED wafers and package-ready devices at its sole facility in Tampa, Florida, any interruption in manufacturing resulting from fire, natural disaster, equipment failures or otherwise would materially and adversely affect our business, financial condition and results of operations. Please see "Business -- Manufacturing" for a more detailed description of our manufacturing processes. WE FACE LENGTHY SALES AND QUALIFICATIONS CYCLES FOR OUR PRODUCTS AND, IN MANY CASES, MUST INVEST A SUBSTANTIAL AMOUNT OF TIME AND FUNDS BEFORE WE RECEIVE ORDERS.

Sales of our TurboDisc systems primarily depend upon the decision of a prospective customer to increase its manufacturing capacity, which typically involves a significant capital commitment by the customer. Customers usually place orders with us on average two to nine months after our initial contact with them. We often experience delays in obtaining system sales orders while customers evaluate and receive internal approvals for the purchase of these systems. These delays may include the time necessary to plan, design or complete a new or expanded compound semiconductor fabrication facility. Due to these factors, we expend substantial funds and sales, marketing and management efforts to sell our compound semiconductor production systems. These expenditures and efforts may not result in sales.

In order to expand our materials production capabilities, we have dedicated a number of our TurboDisc systems to the manufacture of wafers and devices. Several of our products are currently being tested to determine whether they meet customer or industry specifications. During this qualification period, we invest significant resources and dedicate substantial production capacity to the manufacture of these new products, prior to any commitment to purchase by the prospective customer and without generating significant revenues from the qualification process. If we are unable to meet these specifications or do not receive sufficient orders to profitably use the dedicated production capacity, our business, financial condition and results of operations would be materially and adversely affected. Please see "Business -- Products," "Business --Marketing and Sales" and "Business -- Competition" for more information on our products and our marketing and sales efforts.

INDUSTRY DEMAND FOR SKILLED EMPLOYEES, PARTICULARLY SCIENTIFIC AND TECHNICAL PERSONNEL WITH COMPOUND SEMICONDUCTOR EXPERIENCE, EXCEEDS THE NUMBER OF SKILLED PERSONNEL AVAILABLE.

Our future success depends, in part, on our ability to attract and retain certain key personnel, including scientific, operational and management personnel. We anticipate that we will need to hire additional skilled personnel to continue to expand all areas of our business. The competition for attracting and retaining these employees, especially scientists, is intense. Because of this intense competition for these skilled employees, we may be unable to retain our existing personnel or attract additional qualified employees in the future. If we are unable to retain our skilled employees and attract additional qualified employees to keep up with our expansion, our business, financial condition and results of operations will be materially and adversely affected.

PROTECTING OUR TRADE SECRETS IS CRITICAL TO OUR ABILITY TO EFFECTIVELY COMPETE FOR BUSINESS.

Our success and competitive position depend on protecting our trade secrets and other intellectual property. Our strategy is to rely more on trade secrets than patents to protect our manufacturing and sales processes and products, but reliance on trade secrets is only an effective business practice insofar as trade secrets remain undisclosed and a proprietary product or process is not reverse engineered or independently developed. We take certain measures to protect our trade secrets, including executing non-disclosure agreements with our employees, joint venture partners, customers and suppliers. If parties breach these agreements or the measures we take are not properly 13 implemented, we may not have an adequate remedy. Disclosure of our trade secrets or reverse engineering of our proprietary products, processes or devices would materially and adversely affect our business, financial condition and results of operations.

Although we currently hold 11 U.S. patents, these patents do not protect any material aspects of the current or planned commercial versions of our systems, wafers or devices. We are actively pursuing patents on some of our recent inventions, but these patents may not be issued. Even if these patents are issued, they may be challenged, invalidated or circumvented. In addition, the laws of certain other countries may not protect our intellectual property to the same extent as U.S. laws. Please see "Business -- Intellectual Property and Licensing" for more information regarding our trade secrets, patents and other intellectual property.

WE MAY REQUIRE LICENSES TO CONTINUE TO MANUFACTURE AND SELL CERTAIN OF OUR COMPOUND SEMICONDUCTOR WAFERS AND DEVICES, THE EXPENSE OF WHICH MAY ADVERSELY AFFECT OUR RESULTS OF OPERATIONS.

We may require licenses from Rockwell International Corporation to continue to sell our compound semiconductor wafers and devices to current customers who do not hold licenses from Rockwell International Corporation. In addition, we may be required to pay royalties for certain of our past sales of wafers and devices to these customers. If we are required to pay significant royalties in connection with these sales, our business, financial condition and results of operations may be materially and adversely affected. The failure to obtain or maintain these licenses on commercially reasonable terms may materially and adversely affect our business, financial condition and results of operations. Please see "Business -- Intellectual Property and Licensing" for more details regarding our patents and licenses.

INTERRUPTIONS IN OUR BUSINESS AND A SIGNIFICANT LOSS OF SALES TO ASIA MAY RESULT IF OUR PRIMARY ASIAN DISTRIBUTOR FAILS TO EFFECTIVELY MARKET AND SERVICE OUR PRODUCTS.

We rely on a single marketing, distribution and service provider, Hakuto Co. Ltd. to market and service many of our products in Japan, China and Singapore. Hakuto is one of our shareholders and Hakuto's president is a member of our Board of Directors. We have distributorship agreements with Hakuto which expire in March 2008 and give Hakuto exclusive distribution rights for certain of our products in Japan. Hakuto's failure to effectively market and service our products or termination of our relationship with Hakuto would result in significant delays or interruption in our marketing and service programs in Asia. This would materially and adversely affect our business, financial condition and results of operations.

YEAR 2000 PROBLEMS MAY DISRUPT OUR BUSINESS AND THE COSTS TO CORRECT THESE PROBLEMS MAY BE MATERIAL.

Many currently installed computer systems and software products are coded to accept or recognize only two digit entries in the date code field. These systems and software products will need to accept four digit entries to distinguish 21st century dates from 20th century dates. As a result, computer systems and/or software used by many companies and governmental agencies may need to be upgraded to comply with such Year 2000 requirements or risk system failure or miscalculations causing disruptions of normal business activities. We have made a preliminary assessment of our Year 2000 readiness. We plan to perform a Year 2000 simulation on our software during the second and third calendar quarter of 1999. We are also in the process of contacting certain third-party vendors, licensors and providers of software, hardware and services regarding their Year 2000 readiness. Following this testing and after contacting these vendors and licensors, we will be better able to make a complete evaluation of Year 2000 readiness, to determine what costs will be necessary to be Year 2000 compliant and to determine whether contingency plans need to be developed. We may discover Year 2000 compliance problems in our TurboDisc systems that will require substantial modifications. In addition, we may discover that third-party software or hardware incorporated into EMCORE's TurboDisc systems will need to be revised or replaced, all of which could be time-consuming and expensive.

Any failure on our part to fix or replace our internally developed proprietary software or third-party software or hardware or services on a timely basis could result in lost revenues, increased operating costs, the loss of customers and other business interruptions. Moreover, we could be subject to lawsuits which could be costly and time-consuming to defend. The failure of governmental agencies, utility companies, third party service providers and others outside of our control to be Year 2000 compliant could result in systemic failure such as telecommunications or electrical failure, which could have a material adverse effect on our business, results of operations and financial condition. Please see "Management's Discussion and Analysis of Financial Condition" for detailed information on our state of readiness, potential risks and contingency plans regarding the Year 2000 issue.

OUR MANAGEMENT'S STOCK OWNERSHIP GIVES THEM THE POWER TO CONTROL BUSINESS AFFAIRS AND PREVENT A TAKEOVER THAT COULD BE BENEFICIAL TO UNAFFILIATED SHAREHOLDERS.

Certain members of our management, specifically Thomas J. Russell, Chairman of our Board, Reuben F. Richards, President, Chief Executive Officer and a director, and Robert Louis-Dreyfus, a director, are former members of Jesup & Lamont Merchant Partners, L.L.C. They collectively beneficially own approximately 45.9% of our common stock immediately prior to this offering and will own approximately 34.1% of our common stock after the offering. Accordingly, such persons will continue to hold sufficient voting power to control our business and affairs for the foreseeable future. This concentration of ownership may also have the effect of delaying, deferring or preventing a change in control of our company, which could have a material adverse effect on our stock price.

UNSUCCESSFUL CONTROL OF THE HAZARDOUS RAW MATERIALS USED IN OUR MANUFACTURING PROCESS COULD RESULT IN COSTLY REMEDIATION FEES, PENALTIES OR DAMAGES UNDER ENVIRONMENTAL AND SAFETY REGULATIONS.

The production of wafers and devices involves the use of certain hazardous raw materials, including, but not limited to, ammonia, phosphine and arsene. If our control systems are unsuccessful in preventing a release of these materials into the environment or other adverse environmental conditions occur, we could experience interruptions in our operations and incur substantial remediation and other costs. Failure to comply with environmental and health and safety laws and regulations may materially and adversely affect our business, financial condition and results of operations.

OUR BUSINESS OR OUR STOCK PRICE COULD BE ADVERSELY AFFECTED BY REDEMPTION OF OUTSTANDING CONVERTIBLE PREFERRED STOCK OR ISSUANCE OF ADDITIONAL PREFERRED STOCK.

We have 1,550,000 shares of convertible preferred stock issued and outstanding, all of which are subject to mandatory redemption by us on November 17, 2003. If we do not have the funds available to redeem the convertible preferred stock at that time, we will need to raise additional funds to finance this redemption or we will be in default under the terms of the convertible preferred stock. We may be unable to obtain adequate financing on acceptable terms, which may adversely affect our business and financial condition.

Our board of directors is authorized to issue up to an additional 4,332,353 shares of preferred stock with such dividend rates, liquidation preferences, voting rights, redemption and conversion terms and privileges as our board of directors, in its sole discretion, may determine. The issuance of additional shares of preferred stock may result in a decrease in the value or market price of our common stock, or our board of directors could use the preferred stock to delay or discourage hostile bids for control of us in which shareholders may receive premiums for their common stock or to make the possible sale of the company or the removal of our management more difficult. The issuance of additional shares of preferred stock could adversely affect the voting and other rights of the holders of common stock.

CERTAIN PROVISIONS OF NEW JERSEY LAW AND OUR CHARTER MAY MAKE A TAKEOVER OF OUR COMPANY DIFFICULT EVEN IF SUCH TAKEOVER COULD BE BENEFICIAL TO SOME OF OUR SHAREHOLDERS.

New Jersey law contains and our certificate of incorporation, as amended, contains certain provisions that could delay or prevent a takeover attempt that our shareholders may consider in their best interests. Our board of directors is divided into three classes. Directors are elected to serve staggered three-year terms and are not subject to removal except for cause by the vote of the holders of at least 80% of our capital stock. In addition, if these amendments are adopted, approval by the holders of 80% of our voting stock is required for certain business combinations unless these transactions meet certain fair price criteria and procedural requirements or are approved by two-thirds of our continuing directors. We may in the future adopt other measures that may have the effect of delaying or discouraging an unsolicited takeover, even if the takeover were at a premium price or favored by a majority of unaffiliated shareholders. Certain of these measures may be adopted without any further vote or action by our shareholders.

FUTURE SALES BY EXISTING SHAREHOLDERS COULD DEPRESS THE MARKET PRICE OF OUR COMMON STOCK AND MAKE IT MORE DIFFICULT FOR US TO SELL STOCK IN THE FUTURE.

If our shareholders sell substantial amounts of our common stock in the public market following this offering, the market price of our common stock could fall. These sales also might make it more difficult for us to sell equity or equity-related securities in the future at a time and price that we deem appropriate. Upon completion of this offering, we will have 13,014,204 shares of common stock outstanding (based on the number of shares outstanding as of May 1, 1999 and assuming no exercise of outstanding options or warrants). Of these shares, 5,600,226 shares are freely tradeable. This leaves 5,887,883 shares eligible for sale in the public market at various times after the date of this prospectus pursuant to Rule 144.

In addition, as of May 1, 1999, stock options to purchase 1,143,293 shares of our common stock, warrants to purchase 1,371,262 shares of our common stock and 1,550,000 shares of our convertible preferred stock, which are convertible into shares of common stock on a one-for-one basis, were outstanding. In connection with our joint venture with General Electric Lighting, we will issue to General Electric common stock purchase warrants at an exercise price of \$22.875 to acquire 282,010 shares of common stock, and a \$7.8 million subordinated convertible debenture with an interest rate of 4.75% per annum due in seven years. The debenture will be convertible into 340,984 shares of common stock at a conversion price equal to \$22 7/8.

Certain shareholders, representing approximately 6,240,585 shares of our common stock (including shares of common stock issuable upon conversion of our convertible preferred stock and warrants) have the right to require us to register their shares. We agreed to file a shelf registration, for the benefit of the holders of our convertible preferred stock and those holders of up to 5,210,585 shares of common stock who choose to participate, 90 days after completion of this offering. This shelf registration will remain effective until November 17, 2003 or such earlier time as all of the shares of our convertible preferred stock and the common stock issued upon conversion thereof are no longer restricted under Rule 144.

### USE OF PROCEEDS

The net proceeds to EMCORE from the sale of the 3,000,000 shares of common stock being offered by EMCORE are estimated to be \$54.5 million (\$66.0 million if the underwriters' over-allotment option is exercised in full), assuming a public offering price of \$19.63 per share and after deducting the underwriting discounts and commissions and estimated offering expenses. EMCORE will not receive any proceeds from the sale of shares of common stock by the selling shareholders. EMCORE intends to use \$27.5 million to repay outstanding bank indebtedness to First Union National Bank under two credit facilities, approximately \$8.8 million to repay subordinated notes to an affiliate and other investors, and the balance for general corporate purposes, including working capital.

The two credit facilities have the following principal amounts, interest rates, maturity dates and use of proceeds:

CREDIT FACILITIES	INTEREST RATE	MATURITY DATE	PROCEEDS USED TO:
\$10.0 million	Prime plus 50 basis points (8.25% at May 1, 1999)	October 1, 1999	Purchase and equip a new facility in Albuquerque, New Mexico, and for working capital purposes.
<pre>\$19 million (\$18 million     outstanding)</pre>	One month LIBOR plus 75 basis points (5.62% at May 1, 1999)	October 1, 1999	Purchase and equip a new facility in Albuquerque, New Mexico, repay amounts advanced by Thomas Russell, the Chairman of the Board of EMCORE, and for working capital purposes.

When the debt is extinguished, there will be an extraordinary charge in 1999 of approximately 700,000 related to the early extinguishment of debt.

The subordinated notes were issued in May and September of 1996, bear interest at 6.0% and mature on May 1, 2001. Thomas Russell holds approximately \$8.4 million of the subordinated notes that are being repaid. The balance of the subordinated notes being repaid are held by approximately ten other non-affiliated investors.

We may also use a portion of the net proceeds to fund acquisitions of complementary businesses, products or technologies in the semiconductor sector. Although we periodically review potential acquisition opportunities, we have not reached any agreements, commitments or understanding for any future acquisitions. Pending such uses, the net proceeds of this offering will be invested in short-term, investment-grade, income producing investments.

We believe that the remaining net proceeds from this offering will be sufficient to fund our anticipated capital expenditures and to provide adequate working capital at least through July 2000. However, future events may require EMCORE to seek additional capital which may not be available on terms acceptable to us.

### PRICE RANGE OF COMMON STOCK AND DIVIDEND POLICY

EMCORE's common stock has traded on the Nasdaq National Market under the symbol "EMKR" since March 6, 1997, the date of EMCORE's initial public offering. The following table sets forth, for the periods indicated, the high and low sale prices per share of common stock, as reported on the Nasdaq National Market:

	PRICE RANGE OF COMMON STOCK	
	HIGH	LOW
FISCAL YEAR ENDED SEPTEMBER 30, 1997:		
Second Quarter (from March 6, 1997)	\$12 3/4	\$ 9 1/4
Third Quarter	19 1/2	11
Fourth Quarter	25 1/4	16
FISCAL YEAR ENDED SEPTEMBER 30, 1998:		
First Quarter	\$23 3/8	\$15 1/2
Second Quarter	19 5/8	11
Third Quarter	16 3/4	9
Fourth Quarter	13 1/2	6
FISCAL YEAR ENDING SEPTEMBER 30, 1999:		
First Quarter	\$18 3/8	\$ 7 1/4
Second Quarter	28 3/4	13 7/8
Third Quarter (through May 19, 1999)	20 1/4	12 7/8

The reported last sale price of the common stock on the Nasdaq National Market on May 19, 1999 was \$19 5/8 per share. As of May 1, 1999, EMCORE had approximately 1,742 shareholders of record.

EMCORE has not declared or paid dividends on its common stock since its formation. EMCORE currently does not intend to pay dividends on its common stock in the foreseeable future so that it may reinvest its earnings in its business. The shares of EMCORE's convertible preferred stock are entitled to receive cumulative quarterly dividends at the annual rate of 2% of their liquidation preference (\$.28 per annum per share). The payment of dividends, if any, on the common stock in the future will be at the discretion of EMCORE's board of directors.

### CAPITALIZATION

The following table sets forth the capitalization of EMCORE as of March 31, 1999, and as adjusted to reflect the sale by EMCORE of 3,000,000 shares of common stock being offered hereby (at an assumed offering price of \$19.63 per share), the conversion of 364,000 shares of convertible preferred stock into 364,000 shares of common stock and the exercise of 19,898 warrants at \$4.08 per share and 130,220 warrants at \$10.20 per share into 150,118 shares of common stock and the estimated net proceeds therefrom.

	AS OF MAR	CH 31, 1999
	ACTUAL	AS ADJUSTED OUSANDS)
Long-term debt Convertible preferred stock; 1,550,000 issued and	\$ 31,003	\$
outstanding; as adjusted 1,186,000Shareholders' equity:	21,369	14,088
Preferred stock; 5,882,353 shares authorized; none issued and outstanding Common stock, 23,529,411 shares authorized; 9,446,347 shares issued and outstanding; 13,014,204 shares		
issued and outstanding as adjusted Notes receivable from warrant issuances and stock	87,855	151,656
sales Accumulated deficit	· · · ·	(7,667) (71,945)
Total shareholders' equity	8,967	72,044
Total capitalization	\$ 61,339 ======	\$ 86,132 ======

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The 13,014,204 shares of common stock as adjusted for this offering exclude:

(1) 1,372,059 shares of common stock reserved for issuance under EMCORE's stock option plan, of which 980,194 shares are subject to outstanding options at exercise prices varying from 3.03 per share to 24.75 per share;

(2) warrants to purchase 314,556 shares of common stock at an exercise price of \$4.08 per share, exercisable until May 1, 2001;

(3) warrants to purchase 1,095,270 shares of common stock at an exercise price of \$10.20 per share, exercisable until September 1, 2001;

(4) options to purchase 163,099 shares of common stock issued in connection with EMCORE's acquisition of MODE at exercise prices ranging from 0.43 to 0.60;

(5) warrants to purchase 47,118 shares of common stock at exercise prices ranging from \$4.32 to \$5.92 per share, exercisable until September 2000;

(6) shares reserved for issuance pursuant to warrants to purchase 284,684 shares of common stock at an exercise price of \$11.375 per share, exercisable until May 1, 2001; and

(7) upon funding of the GELcore joint venture, 282,010 common stock purchase warrants with an exercise price of \$22 7/8 and a subordinated convertible debenture that will be convertible into 340,984 shares of stock at a price of \$22 7/8.

Please see Notes 11, 12, 17 and 18 of the Notes to Financial Statements included elsewhere in this prospectus for more information.

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### SELECTED CONSOLIDATED FINANCIAL DATA

The following selected consolidated financial data for the six months ended March 31, 1998 and 1999 and the five fiscal years ended September 30, 1998 of EMCORE is qualified by reference to and should be read in conjunction with the Financial Statements and the Notes thereto, and Management's Discussion and Analysis of Financial Condition and Results of Operations included elsewhere in this prospectus. The Statement of Income Data set forth below with respect to fiscal 1996, 1997 and 1998 and the Balance Sheet Data as of September 30, 1997 and 1998 are derived from EMCORE's audited financial statements included elsewhere in this prospectus. The Statement of Income Data for fiscal 1994 and 1995 and the Balance Sheet Data as of September 30, 1994, 1995 and 1996 are derived from audited financial statements not included herein. The financial data as of March 31, 1999 and for the six months ended March 31, 1998 and 1999 are derived from unaudited consolidated financial statements that, in the opinion of EMCORE's management, reflect all adjustments (consisting only of normal recurring adjustments) necessary for a fair presentation of the financial position and results of operations for these periods. Operating results for the six months ended March 31, 1999 are not necessarily indicative of the results that may be expected for the entire fiscal year ending September 30, 1999.

On December 5, 1997, the Company acquired MODE in a stock transaction accounted for under the purchase method of accounting for a purchase price of \$32.8 million. In connection with this transaction, the Company recorded a non-recurring, non-cash charge of \$19.5 million for acquired in-process research and development, which affects the comparability of the Company's operating results and financial condition.

	FISCAL YEARS ENDED SEPTEMBER 30,					SIX MONTHS ENDED MARCH 31,		
	1994	1995 (IN	1996 THOUSANDS,	1997		1998(*)	1999	
STATEMENT OF OPERATIONS DATA: Revenues	\$9,038	\$18,137	\$27,779	\$47,753	\$ 43,760	\$ 26,165	\$ 26,197	
Cost of sales	5,213	9,927	18,607	30,094	24,676	13,910	15,219	
Gross profit Operating expenses: Selling, general, and	3,825	8,210	9,172	17,659	19,084	12,255	10,978	
administrative	2,645	4,452	6,524	9,347	14,082	5,753	6,368	
Goodwill amortization Research and development:					3,638	1,442	2,197	
Recurring One-time acquired in-	1,064	1,852	5,401	9,001	16,495	5,876	10,272	
process					19,516	19,516		
Total operating								
expenses	3,709	6,304	11,925	18,348	53,731	32,587	18,837	
Operating income (loss) Stated interest expense,	116	1,906	(2,753)	(689)	(34,647)	(20,332)	(7,859)	
net Imputed warrant interest	286	255	297	519	973	117	693	
expense, non-cash Equity in net loss of unconsolidated			126	3,988	601	192	633	
affiliate					198		1,671	
Other expense		10						
Total other expense (Loss) income before income	286	265	423	4,507	1,773	309	2,997	
taxes Provision for income taxes	(170)	1,641 125	(3,176)	(5,196) 137	(36,419)	(20,641) 20	(10,856)	
(Loss) income before								
extraordinary item	(170)	1,516	(3,176)	(5,333)	(36,419)	(20,661)	(10,856)	
Extraordinary loss				286				
Net (loss) income	\$ (170) ======	\$ 1,516 ======	\$(3,176) ======	\$(5,619) ======	\$(36,419) ======	\$(20,661) ======	\$(10,856) ======	
PER SHARE DATA: Weighted average shares used in calculating diluted per								
share data Net (loss) income per basic and diluted shares before	58	1,701	2,994	4,669	8,775	8,189	9,409	
extraordinary item	\$(2.93) ======	\$ 0.89 ======	\$ (1.06) ======	\$ (1.14) =======	\$ (4.15) =======	\$ (2.52) =======	\$ (1.17) =======	
Net (loss) income per basic								
and diluted shares	\$(2.93) ======	\$ 0.89 ======	\$ (1.06) ======	\$ (1.20) ======	\$ (4.15) ======	\$ (2.52) ======	\$ (1.17) =======	

		AS OF				
	1994	1995	1996 (IN	1997 THOUSANDS)	1998(*)	MARCH 31, 1999
BALANCE SHEET DATA: Working capital						
(deficiency)	\$ 1,041	\$ 2,208	\$ 1,151	\$12,156	\$(2,017)	\$ 6,663
Total assets	5,415	10,143	20, 434	39,463	73,220	85,071
Long-term liabilities	3,000	3,000	8,947	7,577	26,514	32,570
Redeemable convertible preferred stock Shareholders' (deficit)	16,274					21,369
equity	(96)	1,509	522	21,831	19,580	8,967

(\*) As restated -- See Note 20 to consolidated financial statements.

### INTRODUCTION

Subsequent to the issuance of EMCORE's Annual Report on Form 10-K for the year ended September 30, 1998, EMCORE's management revised the amount of the purchase price which was allocated to in-process research and development in accounting for the acquisition of MicroOptical Devices, Inc., MODE, in December 1997. The revised allocation is based upon methods prescribed in a letter from the SEC sent to the American Institute of Certified Public Accountants. The letter sets forth the SEC's views regarding the valuation methodology to be used in allocating a portion of the purchase price to acquired in-process research and development, IPR&D, at the date of acquisition.

The revised valuation is based on management's estimates of the net cash flows associated with expected operations of MODE and gives explicit consideration to the SEC's views on acquired IPR&D as set forth in its letter to the American Institute of Certified Public Accountants.

As a result of the revised allocation, EMCORE's financial statements for the year ended September 30, 1998 have been restated from amounts previously reported to reduce the amount of the acquired in-process research and development expensed by \$9.8 million and to increase goodwill by \$9.8 million. The amount allocated to goodwill includes approximately \$0.5 million related to the value of MODE's workforce. The change had no impact on net cash flows used by operations.

The information included in "Selected Financial Data," and in the discussion following reflect the effects of this restatement. Refer to Note 20 to the consolidated financial statements for further discussion.

### OVERVIEW

EMCORE designs, develops and manufactures compound semiconductor materials and is a leading developer and manufacturer of the tools and manufacturing processes used to fabricate compound semiconductor wafers and devices. Prior to fiscal 1997, EMCORE's revenues consisted primarily of the sales of compound semiconductor production systems. In fiscal 1997, EMCORE expanded its product offerings to include the design and high-volume production of compound semiconductor wafers and package-ready devices. EMCORE's vertically-integrated product offering allows it to provide a complete compound semiconductor solution to its customers. EMCORE assists its customers with device design, process development and optimal configuration of TurboDisc production systems.

Systems-related revenues include sales of EMCORE's TurboDisc production systems as well as spare parts and services. The book-to-ship time period on systems is approximately four to six months, and the average selling price is in excess of \$1.0 million. Materials revenues include wafers, devices and process development technology. The materials sales cycle is generally shorter than for systems and average selling prices vary significantly based on the products and services provided. Generally, EMCORE achieves a higher gross profit on its materials related products.

EMCORE recognizes revenue upon shipment. For systems, EMCORE incurs certain installation and warranty costs subsequent to shipment which are estimated and accrued at the time the sale is recognized. EMCORE reserves for estimated returns and allowances at the time of shipment. For research contracts with the U.S. government and commercial enterprises with durations greater than six months, EMCORE recognizes revenue to the extent of costs incurred plus a pro rata portion of estimated gross profit as stipulated in these contracts, based on contract performance. EMCORE's research contracts require the development or evaluation of new materials applications and have a duration of six to 36 months. Contracts with a duration of six months or less are accounted for on the completed contract method. A contract is considered complete when all costs have been incurred and the research reporting requirements to the customer have been met.

EMCORE has recently established a number of strategic relationships through joint ventures, long-term supply agreements and an acquisition as summarized below.

- In May 1999, Sumitomo Electric and EMCORE entered into a long-term agreement to jointly develop and produce certain RF materials for use in digital wireless and cellular applications. EMCORE will manufacture these RF materials at our Somerset, New Jersey manufacturing facility. Sumitomo Electric will market them in Japan. Sumitomo Electric is one of the world's leading electronics manufacturers. Shipments of these RF materials are expected to begin in June 1999.
- In January 1999, EMCORE signed an agreement with General Electric Lighting to form GELcore, a joint venture to develop and market white light and colored HB LEDs lighting products. GELcore's long-term goal is to develop HB LED products to replace traditional lighting. We anticipate investing approximately \$7.8 million in GELcore upon formation of the joint venture and will second various personnel to the joint venture to assist in the development and marketing of its products. These personnel and the related costs will be charged to the joint venture. In addition, GELcore will hire its own administrative and management personnel. As such, the impact on EMCORE's operations will be limited to the seconded employees who will continue to be managed by EMCORE personnel.
- In November 1998, EMCORE signed a long term purchase agreement with Space Systems/Loral, a wholly owned subsidiary of Loral Space & Communications. Under this agreement, which is contingent upon EMCORE's compliance with Loral's product specification requirements, EMCORE will supply compound semiconductor high-efficiency gallium arsenide solar cells for Loral's satellites. EMCORE anticipates completing this qualification in June 1999. Subject to the product qualification, EMCORE received an initial purchase order for \$5.25 million of solar cells. EMCORE expects to service this agreement through our newly completed facility in Albuquerque, New Mexico. This facility presently employs approximately 40 people, including sales, marketing, administrative and manufacturing personnel.
- In November 1998, EMCORE formed UMCore, a joint venture with Union Miniere Inc., a mining and materials company, to explore and develop alternate uses for germanium using EMCORE's materials science and production platform expertise and Union Miniere's access to and experience with

germanium. EMCORE has invested \$600,000 in UMCore which, together with an equal amount funded by Union Miniere, is expected to fund the operations of UMCore through fiscal 1999. EMCORE will second various personnel to the joint venture to assist in the development of products. Thereafter, any additional funding will be contributed equally.

- In October 1998, EMCORE formed Emtech, a joint venture with Optek Technology, Inc., a packager and distributor of optoelectronic devices, to market an expanded line of magneto resistive sensors to the automotive and related industries. This joint venture combines EMCORE's expertise in the manufacture of magneto resistive die and Optek's expertise in packaging these die. This combination will allow us to offer customers off-the-shelf products. No additional personnel are anticipated to meet the obligations to the joint venture.
- In September 1998, EMCORE entered into an agreement with Lockheed Martin to provide technical management and support for the commercialization of a new high-efficiency solar cell. It is anticipated that we will provide high efficiency solar cells to Lockheed Martin upon completion of the research and development agreement. EMCORE's new facility in Albuquerque, New Mexico, will provide the support necessary to meet our obligations under this agreement.
- EMCORE also signed a four-year purchase agreement with AMP Incorporated to provide high speed VCSELs, for use in transceivers for high speed networks that link computers. The contract requires AMP to purchase a minimum of 80% of their VCSEL needs from EMCORE. EMCORE's MODE facility in Albuquerque, New Mexico, will produce the devices under this contract.
- In February 1998, EMCORE and Uniroyal Technology Corporation formed Uniroyal Optoelectronics, a joint venture to manufacture, sell and distribute HB LED wafers and package-ready devices. This joint venture commenced operations in July 1998. EMCORE has invested \$5.5 million in Uniroyal Optoelectronics. Uniroyal Optoelectronics is hiring its own administrative and management personnel. The impact on EMCORE's operations will be limited to a few seconded employees who will continue to be managed by EMCORE personnel.
- To expand its technology base into the data communications and telecommunications markets, on December 5, 1997, EMCORE acquired MODE in a stock transaction accounted for under the purchase method of accounting for a purchase price of \$32.8 million. These operations are located in Albuquerque, New Mexico and currently employ approximately 40 people including sales, marketing, administrative and manufacturing personnel.

Because we do not have a controlling economic and voting interest in the Uniroyal, Union Miniere, Optek and General Electric Lighting joint ventures, EMCORE will account for these joint ventures under the equity method of accounting and, as such, our share of profits and losses will be included below the operating income line in our statement of operations.

EMCORE sells its products and has generated a significant portion of its sales to customers outside the United States. In fiscal 1996, 1997, 1998 and the first six

months of fiscal 1999, international sales constituted 42.5%, 42.0%, 39.1% and 40.0%, respectively, of revenues. In fiscal 1998, the majority of EMCORE's international sales were made to customers in Asia, particularly in Japan. EMCORE's sales revenues from Europe have f luctuated because most of our sales of TurboDisc systems are to a limited number of customers, who do not purchase these systems regularly. EMCORE anticipates that international sales will continue to account for a significant portion of revenues. Historically, we have received all payments for products and services in U.S. dollars. We do not anticipate that Europe's Euro-currency conversion will have a material effect on our financial condition or results of operations.

The information below summarizes EMCORE's export sales by geographic area. EMCORE's export sales to the Far East and Europe are as follows:

YEAR ENDED SEPTEMBER 30,	ASIA	EUROPE	TOTAL
1996 1997 1998 1999 (6 months)	14,583,981 15,527,169	. , ,	\$11,797,375 20,062,167 17,112,020 8,113,103

As of March 31, 1999, EMCORE had an order backlog of \$38.3 million scheduled to be shipped through March 31, 2000. This represented an increase of 69% since September 30, 1998 which primarily relates to increased systems bookings in Asia and an initial order for solar cells from Loral, which is subject to product qualification. EMCORE includes in backlog only customer purchase orders that have been accepted by EMCORE and for which shipment dates have been assigned within the 12 months to follow and research contracts that are in process or awarded. Wafer and device agreements extending longer than one year in duration are included in backlog only for the ensuing 12 months. EMCORE preceives partial advance payments or irrevocable letters of credit on most production system orders.

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The following table sets forth the statement of operations data of EMCORE expressed as a percentage of total revenues for the fiscal years ended September 30, 1996, 1997 and 1998 and the six months ended March 31, 1998 and 1999.

	SI	AL YEARS EI EPTEMBER 30	SIX MONTHS ENDED MARCH 31,		
		1997		1998(*)	
Revenues Cost of sales	100.0% 67.0	100.0% 63.0	100.0% 56.4	100.0% 53.2	100.0% 58.1
Gross profit Operating expenses: Selling, general and	33.0	37.0	43.6	46.8	41.9
administrative Goodwill amortization Research and development	23.5	19.6	32.2 8.3	22.0 5.5	24.3 8.4
Recurring One-time acquired	19.4	18.8	37.7	22.4	39.2
in-process			44.6	74.6	
Operating loss Stated interest expense, net Imputed warrant interest	(9.9) 1.1	(1.4) 1.1	(79.2) 2.2	(77.7) 0.5	(30.0) 2.6
expense, non-cash Equity in net loss of associated	0.4	8.4	1.4	0.7	2.4
companies			0.4		6.4
Loss before income taxes and extraordinary item Provision for income taxes	(11.4)	(10.9) 0.3	(83.2)	(78.9) 0.1	(41.4)
Net loss before extraordinary item Extraordinary loss	(11.4)	(11.2) (0.6)	(83.2)	(79.0)	(41.4)
Net loss		(11.8)% =====		(79.0)% ======	

(\*) as restated, see Note 20 to the financial statements.

COMPARISON OF SIX MONTHS ENDED MARCH 31, 1998 AND 1999

### **RESULTS OF OPERATIONS:**

Revenues. For both the six-month periods ended March 31, 1998 and 1999, revenues were \$26.2 million. Revenues from systems-related sales and materials-related sales were \$14.4 million and \$11.7 million, respectively, for the six months ended March 31, 1998 and \$20.6 million and \$5.6 million, respectively, for the six months ended March 31, 1999. As a percentage of revenues, production systems and wafers and devices accounted for 55.2% and 44.8%, respectively, for the six months ended March 31, 1998 and 78.8% and 21.2%, respectively, for the six months ended March 31, 1999. EMCORE expects these percentages to approach 50% in each category as its new products such as solar cells, VCSELS and HBT's are introduced and production ramps. International sales accounted for 43.5% of revenues for the six months ended March 31, 1999.

Cost Of Sales/Gross Profit. Cost of sales includes direct material and labor costs, allocated manufacturing and service overhead, and installation and warranty costs. EMCORE's gross profit decreased 10.4% from \$12.3 million for the six months ended March 31, 1998, to \$11.0 million for the six months ended March 31, 1999. The decrease was due principally to EMCORE's sale of three compound semiconductor production systems for approximately \$5.3 million to a joint venture in which it has a 49% minority interest. EMCORE eliminated \$1.3 million of gross profit on these sales, which deferred gross profit will be recognized ratably over the assigned life of the production systems purchased by the joint venture.

Selling, General and Administrative. Selling, general and administrative expenses increased by 10.7% from \$5.8 million for the six months ended March 31, 1998 to \$6.4 million in the six months ended March 31, 1999. As a percentage of revenue, selling, general and administrative expenses increased from 22.0% for the six months ended March 31, 1998 to 24.3% for the six months ended March 31, 1999. A significant portion of the increase was due to increases in sales personnel headcount to support both domestic and foreign markets and general headcount additions to sustain internal administrative support.

Goodwill Amortization. EMCORE recognized approximately \$2.2 million of goodwill amortization for the six months ended March 31, 1999 in connection with the acquisition of MODE on December 5, 1997. As of March 31, 1999, EMCORE had approximately \$7.3 million of goodwill remaining, which will be fully amortized by December 2000.

Research and Development. Research and development expenses increased 74.8% from \$5.9 million in the six months ended March 31, 1998 to \$10.3 million in the six months ended March 31, 1999. As a percentage of revenue, recurring research and development expenses increased from 22.5% for the six months ended March 31, 1998 to 39.2% for the six months ended March 31, 1999. The increase was primarily attributable to EMCORE's acquisition of MODE, the startup of our new Albuquerque, New Mexico facility and increased staffing and equipment costs necessary to enhance current products and develop new product offerings. Products introduced or under development include HB LEDs, high efficiency solar cells, new generation TurboDisc production systems, VCSELs, RF materials and other optoelectronic devices. During the six months ended March 31, 1998, EMCORE recognized a \$19.5 million one-time charge for acquired in-process research and development relating to the purchase of MODE. To maintain growth and to continue to pursue market leadership in materials science technology, EMCORE expects to continue to invest a significant amount of its resources in research and development.

Operating Loss. EMCORE reported an operating loss of \$7.9 million for the six months ended March 31, 1999, as compared to an operating loss of \$20.3 million for the six months ended March 31, 1998. The change in operating loss was principally due to the \$19.5 million one-time charge for acquired in-process research and development in 1998, offset by the elimination of \$1.3 million of gross profit in 1999 on the three compound semiconductor production systems sold to a joint venture in which it has a 49% minority interest. In addition, EMCORE's 1999 operating loss was impacted by increased research and development spending, the loss generated from the

operations of MODE and the startup expenses associated with the opening of EMCORE's new Albuquerque, New Mexico facility.

Other Expense. During fiscal 1996, EMCORE issued detachable warrants along with subordinated notes to certain of its existing shareholders. EMCORE subsequently assigned a value to these detachable warrants issued using the Black-Scholes option pricing model. EMCORE recorded the subordinated notes at a carrying value that is subject to periodic accretions, using the interest method. In June 1998, EMCORE issued 284,684 warrants to its Chairman and its Chief Executive Officer for providing a guarantee in connection with an 18-month credit facility with First Union National Bank. EMCORE also assigned a value to these warrants using the Black-Scholes option pricing model. The consequent expense of these warrant accretion amounts is charged to "Imputed warrant interest, non-cash" and equals approximately \$192,000 and \$633,000 for the six months ended March 31, 1998 and March 31, 1999, respectively.

For the six months ended, March 31, 1999, stated interest expense, net increased by \$577,000 to \$693,000 due to additional borrowing.

Because EMCORE does not have a controlling economic and voting interest in the Uniroyal, Union Miniere, and General Electric Lighting joint ventures, EMCORE accounts for these joint ventures under the equity method of accounting. For the six months ended March 31, 1999, EMCORE incurred a net loss of \$1.0 million related to the Uniroyal joint venture, a \$497,000 net loss related to the GELCore joint venture and a \$141,000 net loss related to the UMCore joint venture.

Net Loss. For the six months period March 31, 1999, EMCORE reported net loss of \$10.9 million, a decrease of 47.5% from a \$20.7 million net loss for the six months ended March 31, 1998. The decrease in the year-to-date loss was attributable to the \$19.5 million write-off of acquired in-process research and development in connection with the acquisition of MODE on December 5, 1997 offset in part by an increase in research and development expenses and the net loss from unconsolidated affiliates.

COMPARISON OF FISCAL YEARS ENDED SEPTEMBER 30, 1997 AND 1998

Revenues. EMCORE's revenues decreased 8.4% from \$47.8 million for the fiscal year ended September 30, 1997 to \$43.8 million for the fiscal year ended September 30, 1998. The revenue decrease represented a shift in product mix during the year. Equipment related revenues decreased approximately 22.3% while materials related revenues increased approximately 26.5%. The decrease in equipment revenues was primarily attributable to the financial issues in the Asian economies as well as a general slowdown in the semiconductor equipment market overall. While materials related revenues did experience a 26.5% increase, the General Motors three month strike adversely affected revenue, as shipments to General Motors were halted during the strike. Revenues relating to TurboDisc systems were \$34.1 million for the fiscal year ended September 30, 1997 and \$26.5 million for the fiscal year ended September 30, 1997 and \$26.5 million for the fiscal year ended September 30, 1997 and \$17.3 million for the fiscal year ended September 30, 1998. As a percentage of revenues, TurboDisc systems accounted for 71.4% for the fiscal year ended September 30, 1997 and \$20.5 million for the fiscal year ended September 30, 1997 and \$20.5 million for the fiscal year ended September 30, 1997 and \$20.5 million for the fiscal year ended September 30, 1997 and \$20.5 million for the fiscal year ended September 30, 1997 and \$20.5 million for the fiscal year ended September 30, 1997 and \$20.5 million for the fiscal year ended September 30, 1997 and \$20.5 million for the fiscal year ended September 30, 1997 and \$20.5 million for the fiscal year ended September 30, 1997 and \$20.5 million for the fiscal year ended September 30, 1997 and \$20.5 million for the fiscal year ended September 30, 1997 and \$20.5 million for the fiscal year ended September 30, 1997 and \$20.5 million for the fiscal year ended September 30, 1997 and \$20.5 million for the fiscal year ended September 30, 1997 and \$20.5 million for the fiscal year ended September 30, 1998 and 50.5 millio

ended September 30, 1998. As a percentage of revenues, wafers and devices accounted for 28.6% for the fiscal year ended September 30, 1997 and 39.5% for the fiscal year ended September 30, 1998. International sales accounted for approximately 42.0% and 39.1% of revenues for the fiscal years ended September 30, 1997 and 1998, respectively.

Cost Of Sales/Gross Profit. Cost of sales includes direct material and labor costs, allocated manufacturing and service overhead, and installation and warranty costs. Gross profit increased from 37.0% of revenue to 43.6% of revenue for the fiscal years ended September 30, 1997 and 1998, respectively. The gross profit percentage increase was attributable to a shift in product mix towards higher gross margin materials related revenues.

Selling, General and Administrative. Selling, general and administrative expenses increased by 50.7% from \$9.3 million for the year ended September 30, 1997, to \$14.1 million for the year ended September 30, 1998. The increase was largely due to sales personnel headcount increases to support both domestic and foreign markets and general headcount additions to sustain the internal administrative support necessary for EMCORE's expanded product lines and new locations. During fiscal 1998, EMCORE wrote-off a \$1.0 million receivable due from an Asian customer which was deemed to be uncollectible. As a percentage of revenue, selling, general and administrative expenses increased from 19.6% of revenue during fiscal 1997 to 32.2% of revenue for fiscal 1998.

Goodwill Amortization. In connection with the purchase of MODE, EMCORE recorded goodwill of \$3.4 million which is being amortized over 36 months. Goodwill amortization expense amounted to \$3.6 million for the year ended September 30, 1998. Net goodwill at September 30, 1998 was \$9.5 million.

Research and Development. Recurring research and development expenses increased by 83.3% from \$9.0 million for the year ended September 30, 1997, to \$16.5 million for the year ended September 30, 1998. The increase was primarily attributable to EMCORE's acquisition of MODE and increased staffing and equipment costs necessary to enhance current products and develop new product offerings. Products introduced or under development include HB LEDs, high efficiency solar cells, new generation TurboDisc production systems, VCSELs and other optoelectronic devices. For the year ended September 30, 1998, EMCORE incurred \$1.1 million of research and development costs associated with MODE's in-process (at the date of acquisition) research and development projects. As a percentage of revenue, research and development expenses increased from 18.8% of revenue during fiscal 1997 to 37.7% of revenue for fiscal 1998. To maintain growth and market leadership in epitaxial technology, EMCORE expects to continue to invest a significant amount of its resources in research and development.

In connection with the MODE acquisition, EMCORE incurred a one-time charge for the write-off of acquired in-process research and development amounting to 19.5 million.

The acquisition of MODE, a development stage company, constituted a significant and strategic investment for EMCORE. The principal investment consideration was to acquire and gain access to MODE's micro-optical technology, which was under development at the time. EMCORE plans to use MODE's micro-optical laser technology in new products for data communications and telecommunications

applications. As of the date of acquisition, MODE was engaged in the following six significant VCSEL research and development projects:

- Gigalase -- a high speed (modulation), near-infrared single optical laser component for serial selica fiber optic applications.
- Visilase -- a visible, red light, single optical laser component to be used for fiber optic links and optical storage and identification.
- Gigarray -- an array of optical lasers to be used in transmission in parallel optical interconnects.
- Microscan -- an integrated near-infrared optical laser, visible laser and focusing element.
- Optical Laser Source Module (OLSM) -- incorporates optical lasers and fast detector specialized circuitry and electronics.
- Optical Laser Array Source Module (OLASM) -- incorporates optical lasers, array detection and specialized circuitry and electronics.

The value assigned to each project and the estimated time and cost to reach technological feasibility was as follows (in 00's):

	GIGALASE	VISILASE	GIGARRAY	MICROSCAN	OLSM	OLASM
Value Assigned	\$6,509	\$2,004	\$7,214	\$2,691	\$934	\$639
Original estimated time to complete	1.5 man years	3 man years	1 man year	3.5 man years	8 man years	4 man years
Original estimated cost to complete	\$124	\$249	\$83	\$290	\$663	\$332
Revised estimated time to complete	Completed 2/98 in production	Completed 5/98 not in production	Completed 12/98 in production	3.5 man years	8 man years	4 man years
Revised cost to complete	Completed	Completed	Completed	\$314	\$717	\$358

The fair value assumptions relating to pricing, product margins and expense levels were based upon management's experience with its own operations and the compound semiconductor industry as a whole. In developing EMCORE's future estimated revenues and costs, new product introductions were expected to commence in calendar 1998 and net cash flows were expected to commence in calendar 1999 and 2000. In determining fair value of the acquired projects, a risk-adjusted discount rate of 20% was utilized. EMCORE has capitalized approximately \$0.5 million for MODE's workforce, which is included in goodwill.

If all of MODE's in-process projects are not successfully completed and if management's estimated product pricing and growth rates are not achieved, EMCORE may not realize the product, market and financial benefits expected from the MODE acquisition.

Operating Loss. During fiscal 1998, operating loss increased from a loss of 0.7 million for the fiscal year ended September 30, 1997 to a loss of 34.6 million for the year ended September 30, 1998. The change in operating loss was primarily due to the 19.5 million one-time charge for in-process research and development written off in connection with the purchase of MODE. Additionally, recurring research and

development expense increased by \$7.5 million from the prior year, as a result of increased research and development activities at MODE and in our core business. In addition, the General Motors three month strike adversely affected operating performance as shipments to General Motors were halted during the strike. General Motors is among EMCORE's largest customers. EMCORE was unable to furlough or reduce their workforce during the strike and thereby incurred charges without the benefit of related revenues.

Other Expense. Other expenses decreased, particularly due to the reduced imputed warrant interest expense associated with EMCORE's subordinated debt and debt issuance guarantee cost. During fiscal 1996, EMCORE issued detachable warrants along with subordinated notes to certain of its existing shareholders. In fiscal year 1997, EMCORE also issued detachable warrants in return for a \$10.0 million demand note facility guarantee by the Chairman of the Board of EMCORE, who provided collateral for the facility. EMCORE subsequently assigned a value to these detachable warrants issued using the Black-Scholes option pricing model. EMCORE recorded the subordinated notes at a carrying value that is subject to periodic accretions, using the interest method, and reflected the facility's detachable warrant value as debt issuance cost which was written off in its entirety in fiscal 1997. The consequent expense of these subordinated note accretion amounts and the now terminated facility's debt issuance cost is charged to "imputed warrant interest, non-cash," and amounted to approximately \$4.0 million and \$370,000 for the fiscal years ended September 30, 1997 and 1998, respectively. In June 1998, EMCORE issued 284,684 warrants to its Chairman and its Chief Executive Officer for providing a guarantee in connection with the 1998 Agreement, an \$8.0 million 18 month credit facility with First Union National Bank. EMCORE assigned a value to these warrants using the Black-Scholes option pricing model. As a result, EMCORE will record imputed warrant interest, non-cash of approximately \$1.3 million over the life of the credit facility.

Income Taxes. EMCORE's effective income tax rate was 0.0% in fiscal 1998, 2.6% in fiscal 1997 and 0.0% in fiscal 1996. The lower effective rate in fiscal 1998 and 1996, relative to fiscal 1997, was attributable to a federal income tax benefit offset by net operating loss and expenses not utilized or deductible for tax purposes.

As of September 30, 1998, EMCORE has net operating loss carryforwards for regular tax purposes of approximately \$22.0 million which expire in the years 2003 through 2013. EMCORE believes that the consummation of certain equity transactions and a significant change in the ownership during fiscal year 1995 has constituted a change in control under Section 382 of the Internal Revenue Code. Due to the change in control, EMCORE's ability to use its federal net operating loss carryovers and federal research credit carryovers to offset future income and income taxes, respectively, are subject to annual limitations under Internal Revenue Code Section 382 and 383.

EMCORE believes that the acquisition of MODE and the consummation of certain other equity transactions has constituted a change in control in fiscal 1998 under Section 382 of the Internal Revenue Code. As such, federal net operating loss carryovers and research credit carryovers incurred subsequent to EMCORE's fiscal 1995 change in control (as described above) will also be subject to annual limitations under Internal Revenue Code Sections 382 and 383.

Extraordinary Item. In the fiscal year ended September 30, 1997, EMCORE repaid \$2.0 million of its outstanding subordinated notes due May 1, 2001. In connection with this discharge of EMCORE's subordinated notes, an extraordinary loss of \$286,000 was recognized in fiscal 1997 relating to such early extinguishment of debt.

Net Loss. Net loss increased from \$5.6 million for the fiscal year ended September 30, 1997 to \$36.4 million for the fiscal year ended September 30, 1998. This increase was primarily attributable to the acquisition of MODE and subsequent write-off of in-process research and development of \$19.5 million as well as an increase in recurring research and development expenses of \$7.5 million. In addition, the General Motors three month prolonged strike adversely affected operating performance.

### COMPARISON OF FISCAL YEARS ENDED SEPTEMBER 30, 1996 AND 1997

Revenues. EMCORE's revenues for fiscal 1997 increased 71.9% from \$27.8 million for the fiscal year ended September 30, 1996 to \$47.8 million. The revenue increase was primarily attributable to increased demand for compound semiconductor production systems and package-ready devices, as well as the introduction of compound semiconductor wafer products. Revenues relating to TurboDisc systems were \$23.8 million for the fiscal year ended September 30, 1996 and \$34.1 million for the fiscal year ended September 30, 1997. Revenues relating to wafers and devices were \$4.0 million for the fiscal year ended September 30, 1997. As a percentage of revenues, TurboDisc systems accounted for 85.6% for the fiscal year ended September 30, 1997. As a percentage of revenues, wafers and devices accounted for 14.4% for the fiscal year ended September 30, 1997. International sales accounted for approximately 42.5% and 42.0% of revenues for the fiscal years ended September 30, 1997. respectively.

Cost Of Sales/Gross Profit. Cost of sales includes direct material and labor costs, allocated manufacturing and service overhead, and installation and warranty costs. Gross profit increased from 33.0% of revenue to 37.0% of revenue for the fiscal years ended September 30, 1996 and 1997, respectively. The gross profit percentage increase was attributable to higher margins on wafer, device and licensing revenues.

Selling, General And Administrative. Selling, general and administrative expenses increased by 43.3% from \$6.5 million for the year ended September 30, 1996, to \$9.3 million for the year ended September 30, 1997. The increase was largely due to increases in sales personnel headcount to support both domestic and foreign markets and general headcount additions to sustain the internal administrative support necessary for EMCORE's increased business as well as higher expenses attributable to increased revenues. As a percentage of revenue, selling, general and administrative expenses decreased from 23.5% of revenue during fiscal 1996 to 19.6% of revenue for fiscal 1997.

Research And Development. Research and development expenses increased by 66.6% from \$5.4 million for the year ended September 30, 1996, to \$9.0 million for the year ended September 30, 1997. The increase was primarily attributable to increased staffing and equipment costs necessary to enhance current products and research and development activities related to wafers and package-ready devices. As a

percentage of revenue, research and development expenses decreased from 19.4% of revenue during fiscal 1996 to 18.8% of revenue for fiscal 1997. To maintain growth and market leadership in epitaxial technology, EMCORE expects to continue to invest a significant amount of its resources in research and development.

Operating Loss. Operating loss decreased \$2.1 million from a loss of \$2.8 million for the fiscal year ended September 30, 1996, to a loss of \$0.7 million for the year ended September 30, 1997. The change in operating loss was primarily due to higher revenues generating greater overall gross profit.

Other Expense. During fiscal 1996, EMCORE issued detachable warrants along with subordinated notes to certain of its existing shareholders. In the first quarter of fiscal year 1997, EMCORE also issued detachable warrants in return for the \$10.0 million facility guarantee by the Chairman of the Board of EMCORE, who provided collateral for the Facility. EMCORE subsequently assigned a value to these detachable warrants issued using the Black-Scholes option pricing model. EMCORE recorded the subordinated notes at a carrying value that is subject to periodic accretions, using the interest method, and reflected the facility's detachable warrant value as debt issuance cost. The consequent expense of these subordinated note accretion amounts and the now terminated facility's debt issuance cost is charged to "Imputed warrant interest, non-cash," related to the warrant issuances in connection with the \$10.0 million facility, and amounted to approximately \$126,000 and \$4.0 million for the fiscal years ended September 30, 1996 and 1997.

Borrowings totaling \$8.0 million under the facility were utilized to fund capital expenditures in connection with the build-out of EMCORE's manufacturing facility during the six months ended March 31, 1997. The resultant interest expense was the primary reason for the increase in "Stated interest expense" for the year ended September 30, 1997. The outstanding \$8.0 million under this demand note facility was repaid in March 1997.

Extraordinary Item. EMCORE repaid \$10.0 million of its outstanding debt with proceeds from its initial public offering. The entire \$8.0 million outstanding of its credit facility was repaid and \$2.0 million was used to repay a portion of EMCORE's outstanding subordinated notes due May 1, 2001. In connection with this discharge of EMCORE's subordinated notes, an extraordinary loss of \$286,000 was recognized in fiscal 1997 relating to such early extinguishment of debt.

Net Loss. Net loss increased \$2.4 million from \$3.2 million for the fiscal year ended September 30, 1996 to \$5.6 million for the fiscal year ended September 30, 1997. This increase was primarily attributable to the \$4.0 million of non-cash imputed warrant interest associated with certain financing transactions.

## QUARTERLY RESULTS OF OPERATIONS

The following tables present EMCORE's unaudited results of operations expressed in dollars and as a percentage of revenues for the ten most recently ended fiscal quarters. EMCORE believes that all necessary adjustments, consisting only of normal recurring adjustments, have been included in the amounts below to present fairly the selected quarterly information when read in conjunction with the consolidated financial statements and notes included elsewhere in this prospectus. EMCORE's results from operations may vary substantially from quarter to quarter. Accordingly, the operating results for a quarter are not necessarily indicative of results for any subsequent quarter or for the full year.

			т	HREE MONTHS	ENDED		
	DEC. 31, 1997	MAR. 31, 1997	JUNE 30, 1997	SEPT. 30, 1997 (IN THOUSAN	DEC. 31,* 1998 DS)	MAR. 31,* 1998	JUNE 30,* 1998
Revenues Cost of sales	\$ 8,591 6,724	\$12,929 8,855	\$14,106 8,208	\$12,127 6,307	\$12,357 6,376	\$13,808 7,534	\$ 9,074 5,448
Gross profit Operating expenses: Selling, general and	1,867	4,074	5,898	5,820	5,981	6,274	3,626
administrative Goodwill	2,202	1,940	2,573	2,632	3,003	2,901	4,596
amortization Research and development:					343	1,098	1,098
Recurring One-time acquired	2,250	1,987	2,418	2,346	2,836	2,889	5,887
in process					19,516		
Total operating expenses	4,452	3,927	4,991	4,978	25,698	6,888	11,581
Operating (loss) income Stated interest	(2,585)	147	907	842	(19,717)	(614)	(7,955)
expense, net Imputed warrant interest,	197	249	(8)	82	70	47	211
non-cash Equity in net loss of unconsolidated	1,016	2,792	85	94	96	96	94
affiliate							
Total other expense	1,213	3,041	77	176	166	143	305
(Loss) income before income taxes Provision for income	(3,798)	(2,894)	830	666	(19,883)	(757)	(8,260)
taxes				137		20	
(Loss) income before extraordinary							
item Extraordinary loss	(3,798)	(2,894) 256	830	529 30	(19,883)	(777)	(8,260)
Net (loss) income	\$(3,798) ======	\$(3,150) ======	\$    830 ======	\$    499 ======	(19,883) ======	\$ (777) ======	\$(8,260) ======

	SEPT. 30,*	DEC. 31,*	MAR. 31,
	1998	1998	1999
	(IN	N THOUSANDS)	
Revenues	\$ 8,521	\$10,125	\$16,072
Cost of sales	5,317	6,016	9,203
0050 01 50105		0,010	5,205
Gross profit	3,204	4,109	6,869
Operating expenses:	,		
Selling, general and			
administrative	3,582	3,143	3,225
Goodwill			
amortization	1,098	1,099	1,098
Research and			
development: Recurring	4,883	5,924	4,348
One-time acquired	4,003	5,924	4,340
in process			
Total operating			
expenses	9,563	10,166	8,671
Operating (loss)	(0.050)	(0.055)	((
income	(6,359)	(6,057)	(1,802)
Stated interest	626	230	463
expense, net	020	230	403

THREE MONTHS ENDED

## 36

Imputed warrant interest,

non-cash Equity in net loss of unconsolidated	315	316	317
affiliate	198	276	1,395
Total other expense	1,139	822	2,175
(Loss) income before income taxes Provision for income	(7,498)	(6,879)	(3,977)
taxes			
(Loss) income before extraordinary			
item	(7,498)	(6,879)	(3,977)
Extraordinary loss Net (loss) income	\$(7,498) ======	\$(6,879) ======	\$(3,977) ======

			THREE MC	ONTHS ENDED		
	DEC. 31, 1997	MAR. 31, 1997 (AS			1998	MAR. 31,* 1998
Revenues Cost of sales	100.0% 78.3	100.0% 68.5	100.0% 58.2	100.0% 52.0	100.0% 51.6	100.0% 54.6
Gross profit Operating expenses: Selling, general and	21.7	31.5	41.8	48.0	48.4	45.4
administrative Goodwill	25.6	15.0	18.2	21.7	24.3	21.0
amortization Research and development:					2.8	7.9
Recurring One-time acquired	26.2	15.4	17.1	19.3	23.0	20.9
in process					157.9	
Total operating expenses	51.8	30.4	35.3	41.0	208.0	49.8
Operating (loss) income Stated interest		1.1	6.5	7.0	(159.6)	(4.4)
expense, net Imputed warrant	2.3	1.9	(0.1)	0.7	0.6	0.3
interest, non-cash Equity net loss of unconsolidated	11.8	21.6	0.6	0.8	0.8	0.7
affiliate						
Other expense	14.1	23.5	0.5	1.5	1.4	1.0
(Loss) income before income taxes Provision for income	(44.2)	(22.4)	6.0	5.5	(161.0)	(5.4)
taxes				1.1		0.2
(Loss) income before extraordinary item	(44.2)	(22.4)	6.0	4.4	(161.0)	(5.6)
Extraordinary loss Net (loss) income	(44.2)%	2.0 (24.4)% ======	 6.0%	0.2 4.2% ======	(161.0)%	 (5.6)% ======

	THREE MONTHS ENDED				
	1998	SEPT. 30,* 1998 A PERCENTAGE	DEC. 31,* 1998	MAR. 31, 1999	
Revenues Cost of sales	100.0% 60.0	100.0% 62.4	100.0% 59.4	100.0% 57.3	
Gross profit Operating expenses: Selling, general and		37.6		42.7	
administrative Goodwill	50.7	42.0	31.0	20.1	
amortization Research and development:	12.1	12.9	10.9	6.8	
Recurring One-time acquired	64.9	57.3	58.5	27.0	
in process					
Total operating expenses	127.7	112.2	100.4	53.9	
Operating (loss) income Stated interest			(59.8)	(11.2)	
expense, net Imputed warrant	2.3	7.3	2.3	2.9	
interest, non-cash Equity net loss of unconsolidated	1.0	3.7	3.1	2.0	
affiliate		2.3	2.7	8.6	
Other expense		13.3	8.1	13.5	
(Loss) income before income taxes Provision for income		(87.9)			
taxes					
(Loss) income before extraordinary item	(91.0)	(87.9)	(67.9)	(24.7)	

Extraordinary loss				
Net (loss) income	\$ (91.0)%	(87.9)%	(67.9)%	(24.7)%
	=======	======	======	=======

 $^{*}$  As restated -- see Notes 15 and 20 to consolidated financial statements.

From inception through December 31, 1996, EMCORE derived the majority of its revenues from the sale of TurboDisc production systems. Beginning in January 1997, EMCORE expanded its product line to offer wafers and devices. Throughout fiscal 1997 and the first half of fiscal 1998, EMCORE benefited from the expanded product offerings. Early in fiscal 1998, the capital equipment market experienced a downturn and bookings of TurboDisc systems decreased substantially. The result was lower revenues for the last two quarters of fiscal 1998 and the first quarter of fiscal 1999.

Cost of sales was also affected by revenue shifts. Gross profit improved consistently from the introduction of the new product lines through the second quarter of fiscal 1998. Thereafter, gross profit was affected primarily by reduced revenues and the resulting under-absorbed overhead.

Operating expenses have generally increased both in absolute dollars and as a percentage of revenues, due to increased staffing in research and development, sales and marketing, and general and administrative functions. The increase in research expenditures was related to the development of systems for the processing of gallium nitride materials used in the production of blue HB LEDs, enhancement of production systems, and the introduction of wafers and devices, in particular, MR sensors,

VCSELs and solar cells. Selling, general and administrative expenses increased as a result of increased marketing and sales related activities, including the hiring of additional personnel, commissions, customer samples, expansion of facilities, and the opening of field offices in Taiwan and California.

EMCORE has experienced and expects to continue to experience significant fluctuations in quarterly results. Factors which have had an influence on and may continue to influence EMCORE's operating results in a particular quarter include, but are not limited to the timing of receipt of orders, cancellation, rescheduling or delay in product shipment or supply deliveries, product mix, competitive pricing pressures, EMCORE's ability to design, manufacture and ship products on a cost effective and timely basis, including the ability of EMCORE to achieve and maintain acceptable production yields for wafers and devices, regional economic conditions and the announcement and introduction of new products by EMCORE and by its competitors. The timing of sales of EMCORE's TurboDisc production systems may cause substantial fluctuations in quarterly operating results due to the substantially higher per unit price of these products relative to EMCORE's other products. If the compound semiconductor industry experiences downturns or slowdowns, EMCORE's business, financial condition and results of operations may be materially and adversely affected.

## LIQUIDITY AND CAPITAL RESOURCES

Cash and cash equivalents decreased by \$2.8 million from \$4.5 million at September 30, 1998 to \$1.6 million at March 31, 1999. For the six months ended March 31, 1999, net cash used for operations amounted to \$5.9 million, primarily due to EMCORE's net losses and an increase in accounts receivable which was partially offset by EMCORE's non-cash depreciation and amortization charges and an increase in advance billings.

For the six months ended March 31, 1999, net cash used for investment activities amounted to \$16.2 million, primarily due to the purchase and manufacture of new equipment for the facilitation of EMCORE's wafer and device product lines, and clean room modifications and enhancements of approximately \$10.4 million, as well as investments in unconsolidated affiliates of approximately \$5.8 million.

Net cash provided by financing activities for the six months ended March 31, 1999 amounted to approximately \$19.2 million, primarily due to the \$21.2 million of net proceeds from the private placement of preferred stock in November 1998 and short-term related party borrowings of \$5.1 million. This was offset by debt repayments of \$7.0 million on short-term related party debt.

EMCORE's Chairman has committed to provide up to \$30.0 million of long-term financing to EMCORE through July 1, 2000. This commitment terminates upon completion of any public offering of EMCORE's common stock, subject to a minimum offering size requirement of \$40.0 million.

On January 27, 1999 EMCORE borrowed \$3.0 million from its Chairman, Thomas J. Russell. This loan bears interest at 8% per annum. On February 1, 1999, EMCORE repaid this loan from borrowings under a new loan from First Union National Bank. On February 1, 1999, EMCORE entered into a \$5.0 million short-term note with First Union that matures in May 1999. This note bears interest at a rate equal to one-month LIBOR plus three quarters of one percent per annum.

On April 29, 1999, EMCORE borrowed \$2.5 million from its Chairman. The loan bears interest at prime rate plus 2% per annum. On May 7, 1999, the loan was repaid from borrowings under EMCORE's \$19.0 million short-term note, as discussed below.

On April 29, 1999, EMCORE entered into a \$19.0 million short-term loan agreement with First Union. This loan agreement represented a consolidation of the \$8.0 million loan agreement dated June 22, 1998 and \$5.0 million short-term loan agreements dated February 1, 1999, and an additional note of \$6.0 million. This new loan agreement is due and payable on October 1, 1999 and bears interest at a rate equal to one-month LIBOR plus three-quarters of one percent per annum (5.75% at May 14, 1999). On May 7, 1999, EMCORE used borrowings under this new loan agreement to repay the \$2.5 million short-term note from EMCORE's Chairman. As of May 14, 1999, EMCORE had borrowed approximately \$17.5 million under this new loan agreement. This new loan agreement is guaranteed by EMCORE's Chairman and Chief Executive Officer.

EMCORE's planned capital expenditures are expected to total approximately \$26 million during fiscal 1999, including approximately \$13.4 million in expenditures related to investments in our joint ventures. Capital spending in 1999 also is expected to include upgrading manufacturing facilities, continued investment in analytical and diagnostic research and development equipment, upgrading and purchasing computer equipment, and the manufacture of TurboDisc systems for in-house use.

EMCORE believes that its current liquidity, together with available credit, should be sufficient to meet its cash needs for working capital through July 2000. However, if the available credit facilities, cash generated from operations and cash on hand are not sufficient to satisfy EMCORE's liquidity requirements, EMCORE will seek to obtain additional equity or debt financing. Additional funding may not be available when needed or on terms acceptable to EMCORE. If EMCORE is required to raise additional financing and if adequate funds are not available or not available on acceptable terms, the ability to continue to fund expansion, develop and enhance products and services, or otherwise respond to competitive pressures will be severely limited. Such a limitation could have a material adverse effect on EMCORE's business, financial condition or operations.

Under the agreement signed in January 1999 by EMCORE and General Electric Lighting, when the GELcore joint venture is funded, EMCORE will issue to General Electric common stock purchase warrants to purchase 282,010 shares of EMCORE's common stock at an exercise price of \$22.875, which will expire in 2006. The number of common stock purchase warrants was determined based on the market price of EMCORE's common stock on March 31, 1999. General Electric will purchase a \$7.8 million subordinated convertible debenture bearing interest at 4.75% per annum and maturing in 2006. The debenture's interest rate will be subject to adjustment in the event EMCORE does not complete a public offering by June 30, 1999. The debenture will be convertible into 340,984 shares of common stock at a conversion price equal to \$22.875. Proceeds from the debenture will be used to fund EMCORE's investment in GELcore.

In January 1999, Rockwell settled litigation which challenged the validity of certain patents which EMCORE licensed from Rockwell prior to the commencement of the litigation. As a result of this settlement, EMCORE will be required to pay

Rockwell a royalty including interest under our license agreement relating to TurboDisc tools. EMCORE believes it has adequately accrued for these royalties. In addition, prior to the commencement of the litigation, EMCORE had initiated discussions with Rockwell to receive additional licenses to permit EMCORE to use the technology to manufacture and sell wafers and devices. EMCORE may be required to pay royalties to Rockwell for certain past sales of wafers and devices to customers who do not hold licenses directly from Rockwell. If these royalties are significant, our business, financial condition and results of operations may be materially affected. The Rockwell patent expires in January 2000 and we may require additional licenses from Rockwell in order to continue to manufacture and sell wafers and devices. The failure to obtain licenses to manufacture these wafers and devices on commercially reasonable terms may materially and adversely affect our business, financial condition and results of operations through January 2000.

## YEAR 2000 COMPLIANCE

Many currently installed computer systems and software products are coded to accept or recognize only two digit entries in the date code field. These systems and software products will need to accept four digit entries to distinguish 21st century dates from 20th century dates. As a result, computer systems and/or software used by many companies and governmental agencies may need to be upgraded to comply with such Year 2000 requirements or risk system failure or miscalculations causing disruptions of normal business activities.

State Of Readiness. EMCORE has made a preliminary assessment of the Year 2000 readiness of its operating financial and administrative systems, including the hardware and software that support such systems. EMCORE's assessment plan consists of

- (1) quality assurance testing of its internally developed proprietary software;
- (2) contacting third-party vendors and licensors of material hardware, software and services that are both directly and indirectly related to EMCORE's business;
- (3) contacting vendors of third-party systems;
- (4) assessing repair or replacement requirements;
- (5) implementing repair or replacement; and
- (6) creating contingency plans in the event of Year 2000 failures.

Our compound semiconductor wafers and devices are date insensitive and, therefore, do not have any Year 2000 issues associated with them. Our TurboDisc production systems have several components that could give rise to Year 2000 compliance concerns. We have preliminarily assessed the Year 2000 issues associated with these components and have found that they have either been certified by the vendor to be compliant or are date insensitive.

Our principal concern has been the status of our operating, financial and administrative systems. These systems include accounting and production control software at our New Jersey, MODE and EmcoreWest facilities. All software has been certified as Year 2000 compliant by the vendors, except our New Jersey office's

accounting software. However, the software's manufacturer has a new version of the software that is Year 2000 compliant. We are planning this upgrade. The upgrade will be installed and tested by June 1999.

There are other information technology systems and non-information technology systems that could give rise to Year 2000 concerns. These include scientific and engineering applications, desktop applications (such as Microsoft Word and Excel) and facilities controls such as HVAC and security. A review of these systems leads us to believe that the systems are Year 2000 compliant, are not critical to business operations, are used on a limited basis or are date insensitive.

We are continuing the evaluation of the Year 2000 compliance of all our systems and have developed an enterprise-wide database that we will use to document these Year 2000 issues. EMCORE plans to complete its evaluation by September 30, 1999 including Year 2000 simulation on its systems during the second and third quarter of calendar 1999 to test systems readiness.

Costs. To date, EMCORE has not incurred any material expenditures in connection with identifying, evaluating or addressing Year 2000 compliance issues. Most of EMCORE expenses have related to, and are expected to continue to relate to, the operating costs associated with time spent by employees in the evaluation process and Year 2000 compliance matters generally.

The exact costs related to Year 2000 compliance are difficult to determine. Several known costs relating to our information technology systems are:

- Updating New Jersey's accounting system, 2 man-weeks or \$4,000, and
- Reviewing software and completing Year 2000 database, 1 man-month or \$8,000.

We will be able to make a reasonable determination of the remediation costs for Year 2000 compliance after we have completed our Year 2000 evaluation. At present EMCORE believes that the costs for bringing our in-house information technology systems into compliance should not exceed \$200,000.

EMCORE does not anticipate that remediation expenses will be material. If the remediation expenses are higher than anticipated EMCORE's business, financial condition and results of operations could be materially and adversely affected.

Risks. EMCORE is not currently aware of any Year 2000 compliance problems relating to its systems that would have a material adverse effect on EMCORE's business, results of operations and financial condition. There can be no assurance that, upon completion of its evaluation, EMCORE will not discover Year 2000 compliance problems in its systems that will require substantial revision. In addition, there can be no assurance that third-party software, hardware or services incorporated into EMCORE's material systems will not need to be revised or replaced, all of which could be time-consuming and expensive. The failure of EMCORE to fix or replace its internally developed proprietary software or third-party software, hardware or services on a timely basis could result in lost revenues, increased operating costs, the loss of customers and other business interruptions, any of which could have a material adverse effect on EMCORE's business, result of operations and financial condition. Moreover, the failure to adequately address Year 2000 compliance issues in its internally

developed proprietary software could result in claims of mismanagement, misrepresentation or breach of contract and related litigation, which could be costly and time-consuming to defend. In addition, the failure of governmental agencies, utility companies, third-party service providers and others outside of EMCORE's control to be Year 2000 compliant could result in systemic failure beyond EMCORE's control such as a telecommunications or electrical failure, which could have a material adverse effect on EMCORE's business, results of operations and financial condition.

Contingency Plan. As discussed above, EMCORE is engaged in an ongoing Year 2000 assessment and has not yet developed any contingency plans. The results of EMCORE's Year 2000 simulation testing and the responses received from third-party vendors and service providers will be taken into account in determining the nature and extent of any contingency plans.

## RECENT ACCOUNTING PRONOUNCEMENTS

In June 1997, the Financial Accounting Standards Board ("FASB") issued Statement of Financial Accounting Standards ("SFAS") No. 131, "Disclosures about Segments of an Enterprise and Related Information" ("SFAS No. 131"), which establishes standards for reporting information about operating segments in annual financial statements. It also establishes standards for related disclosures about products and services, geographic areas and major customers. SFAS No. 131 is effective for fiscal years beginning after December 15, 1997. EMCORE will be required to adopt this standard in its fiscal year ending September 30, 1999. The adoption of SFAS No. 131 is not expected to have an impact on EMCORE's results of operations, financial position or cash flows.

In March 1998, the American Institute of Certified Public Accountants ("AICPA") issued Statement of Position ("SOP") 98-1, "Accounting for the Cost of Computer Software Developed or Obtained for Internal Use" ("SOP 98-1"). SOP 98-1 is effective for financial statements for years beginning after December 14, 1998. SOP 98-1 provides guidance over accounting for computer software developed or obtained for internal use including the requirement to capitalize specified costs and amortization of such costs. EMCORE does not expect the adoption of this standard to have a material effect on results of operations, financial position or cash flows.

In April 1998, the AICPA issued Statement of Position 98-5, "Reporting on the Costs of Start-Up Activities" ("SOP 98-5"). SOP 98-5, which is effective for fiscal years beginning after December 15, 1998, provides guidance on the financial reporting of start-up costs and organization costs. It requires costs of start-up activities and organization costs to be expensed as incurred. As EMCORE has expensed these costs historically, the adoption of this standard is not expected to have a significant impact on EMCORE's results of operations, financial position or cash flows.

In June 1998, the FASB issued SFAS No. 133, "Accounting for Derivative Instruments and Hedging Activities." This statement establishes accounting and reporting standards for derivative instruments and requires recognition of all derivatives as assets or liabilities in the statement of financial position and measurement of these instruments at fair value. The statement is effective for fiscal years beginning after June 15, 1999. Management believes that adopting this statement will not have a material impact on the financial position, results of operations, or cash flows of EMCORE.

#### BUSINESS

## EMCORE CORPORATION

EMCORE designs, develops, and manufactures compound semiconductor materials and is a leading developer and manufacturer of the tools and manufacturing processes used to fabricate compound semiconductor wafers and devices. EMCORE's products and technology enable its customers, both in the United States and internationally, to manufacture commercial volumes of high-performance electronic devices using compound semiconductors. EMCORE has recently established a number of strategic relationships through joint ventures, long-term supply agreements and an acquisition in order to facilitate the development and manufacture of new products in targeted growth markets. EMCORE's products are used for a wide variety of applications in the communications (satellite, data, telecommunications and wireless), consumer and automotive electronics, computers and peripherals, and lighting markets. EMCORE's customers include AMP Incorporated, Hewlett Packard, General Motors, Hughes-Spectrolab, Lucent Technologies, Inc., Siemens AG and 12 of the largest electronics manufacturers in Japan.

## INDUSTRY OVERVIEW

Recent advances in information technologies have created a growing need for efficient, high-performance electronic systems that operate at very high frequencies, have increased storage capacity and computational and display capabilities, and can be produced cost-effectively in commercial volumes. In the past, electronic systems manufacturers have relied on advances in silicon semiconductor technology to meet many of these demands. However, the newest generation of high-performance electronic and optoelectronic applications require certain functions that are generally not achievable using silicon-based components.

Compound semiconductors have emerged as an enabling technology to meet the complex requirements of today's advanced information systems. Many compound semiconductor materials have unique physical properties that allow electrons to move at least four times faster than through silicon-based devices. Advantages of compound semiconductor devices over silicon devices include:

- operation at higher speeds;
- lower power consumption;
- less noise and distortion; and
- optoelectronic properties that enable these devices to emit and detect light.

Compound semiconductor devices can be used to perform individual functions as discrete devices, such as solar cells, HB LEDs, VCSELs, MR sensors and RF materials. Compound semiconductor devices can also be combined into integrated circuits, such as transmitters, receivers and alpha-numeric displays. Although compound semiconductors are more expensive to manufacture than silicon-based devices, electronics manufacturers are increasingly integrating compound semiconductor devices into their products in order to achieve higher performance in applications targeted for a wide variety of markets. These include satellite communications, data communications, telecommunications, wireless communications, consumer and automotive electronics, computers and peripherals, and lighting.

The following factors have resulted in an increased demand for compound semiconductor products and systems that enable electronic systems manufacturers to reach the market faster with large volumes of high-performance products and applications:

- rapid build-out of satellite communications systems;
- widespread deployment of fiber optic networks and the increasing use of optical systems within these networks;
- launch of new wireless services and wireless high speed data systems;
- increasing use of infrared emitters and optical detectors in computer systems;
- emergence of advanced consumer electronics applications, such as DVDs and flat panel displays;
- increasing use of high-performance electronic devices in automobiles; and
- the anticipated conversion to HB LEDs from incandescent, halogen and compact fluorescent lighting.

The following chart summarizes the principal markets, examples of applications for compound semiconductor devices, products incorporating these devices and certain benefits and characteristics of these devices.

MARKET	REPRESENTATIVE APPLICATIONS	PRODUCTS	BENEFITS/CHARACTERISTICS
Satellite communications	Power modules for satellites Satellite to ground communication	Solar cells RF materials	Radiation tolerance Conversion of more light to power than silicon Reduced launch costs Increased bandwidth
Data communications	High-speed fiber optic networks and optical links (including Gigabit Ethernet, asynchronous transfer mode, or ATM, and FibreChannel networks)	VCSEL components and arrays HB LEDs Lasers RF materials	Increased network capacity Increased data transmission speeds Increased bandwidth
Telecommunications	High capacity fiber optic trunk lines	VCSEL components and arrays Lasers RF materials	Increased data transmission speeds Increased bandwidth
Wireless communications	Cellular telephones Pagers PCS handsets Direct broadcast systems	HB LEDS RF materials	Improved display visibility Improved signal to noise performance Lower power consumption Increased network capacity Reduced network congestion Extended battery life
Consumer electronics	DVDs Radios Telephones Calculators CD-Roms	HB LEDS VCSEL components and arrays Integrated circuits Lasers	Improved display visibility High-speed data transmission Low power requirements
Automotive electronics	Engine sensors Dashboard displays Indicator lights Antilock brake systems	MR sensors HB LEDs	Reduced weight Lower power consumption Lower emissions
Computers and peripherals	Local area networks Chip-to-chip and board-to-board optical links	VCSEL components and arrays Transceivers	Increased data transmission speeds Increased bandwidth
Lighting	Flat panel displays Solid state lighting Outdoor signage and display Digital readout signals	HB LEDS Miniature lamps	Lower power consumption Longer life

## COMPOUND SEMICONDUCTOR PROCESS TECHNOLOGY

Compound semiconductors are composed of two or more elements and usually consist of a metal such as gallium, aluminum or indium and a non-metal such as arsenic, phosphorous or nitrogen. The resulting compounds include gallium arsenide, indium phosphide, gallium nitride, indium antimonide and indium aluminum phosphide. The performance characteristics of compound semiconductors are dependent on the composition of these compounds. Many of the unique properties of compound semiconductor devices are achieved by the layering of different compound semiconductor materials in the same device. This layered structure creates an optimal configuration to permit the conversion of electricity into light.

Accordingly, the composition and properties of each layer and the control of the layering process, or epitaxy, are fundamental to the performance of advanced electronic and optoelectronic compound semiconductor devices. The variation of thickness and composition of layers determines the intensity and color of the light emitted or detected and the efficiency of power conversion. The ability to vary the intensity, color and efficiency of light generation and detection enables compound semiconductor devices to be used in a broad range of advanced information systems.

Compound semiconductor device manufacturers predominantly use four methods to deposit compound materials: molecular beam epitaxy, vapor phase epitaxy, liquid phase epitaxy and metal organic chemical vapor deposition (MOCVD). The use of molecular beam epitaxy technology can yield wafers having high thickness uniformity. Compound semiconductor materials fabricated using liquid phase epitaxy or vapor phase epitaxy technologies often have high electronic and optical properties. However, due to the nature of the underlying processes, these methods are not easily scaled up to high volume production, which is necessary for the commercial viability of compound semiconductor devices. All of the methods used to manufacture compound semiconductor devices pose technical, training and safety challenges that are not present in the manufacture of silicon devices. These production systems typically require expensive reactant materials, the use of certain toxic chemicals, and tight control over numerous manufacturing parameters. The key differences between MOCVD and the three other methods is that compound semiconductor wafers fabricated using MOCVD generally possess a better combination of uniformity and optical and electronic properties and are easier to produce in high volumes than wafers manufactured by the three more traditional methods. Currently, MOCVD technology is being used to manufacture a broad range of compound semiconductor devices.

Historically, manufacturers who use compound semiconductor devices in their products have met research, pilot production and capacity needs with in-house systems and technologies. However, as the need for the production of commercial volumes of high-performance compound semiconductor devices and the variety of these devices grows, manufacturers are often unable to meet these requirements using in-house solutions. In response to these growing demands for higher volumes of a broad range of higher performance devices, manufacturers are increasingly turning to outside vendors to meet their needs for compound semiconductor wafers and devices.

## THE EMCORE SOLUTION

EMCORE provides its customers with a broad range of compound semiconductor products and services intended to meet its customers' diverse technology requirements. EMCORE has developed extensive materials science expertise, process technology and MOCVD production systems to address these needs and believes that its proprietary TurboDisc deposition technology makes possible one of the most cost-effective production processes for the commercial volume manufacture of high-performance compound semiconductor wafers and devices. This platform technology provides the

basis for the production of various types of compound semiconductor wafers and devices and enables EMCORE to address the critical need of manufacturers to cost-effectively get to market faster with high volumes of new and improved high-performance products. EMCORE's compound semiconductor products and services include:

- materials and process development;
- design and development of devices;
- MOCVD production systems; and
- manufacture of wafers and devices in high volumes.

Customers can take advantage of EMCORE's vertically integrated approach by purchasing custom-designed wafers and devices from EMCORE or manufacturing their own devices in-house using a TurboDisc production system configured to their specific needs.

#### STRATEGY

EMCORE's objective is to capitalize on its position in MOCVD process technology and production systems to become the leading supplier of compound semiconductor wafers, devices and production systems. The key elements of EMCORE's strategy include:

Apply Core Technology Across Multiple Applications. EMCORE continually leverages its proprietary core technology to develop compound semiconductor products for multiple applications in a variety of markets. These activities include developing new products for targeted applications as well as expanding existing products into new applications. For example, EMCORE's MR sensors, currently used by General Motors as crank shaft sensors, also have other potential product applications, including as sensors in brushless motors and antilock brakes. Other existing products which EMCORE intends to introduce in new applications include VCSELs for communications products and HB LEDs for broader lighting applications.

Target High Growth Opportunities. EMCORE's strategy is to target high growth opportunities where performance characteristics and high volume production efficiencies can give compound semiconductors a competitive advantage over other devices. Historically, while technologically superior, compound semiconductors have not been widely deployed because they are more expensive to manufacture than silicon-based semiconductors and other existing solutions. EMCORE believes that as compound semiconductor production costs are reduced, new customers will be compelled to use these solutions because of their higher performance characteristics. For example, EMCORE has reduced the average cost of compound semiconductor solar cells to the point that they are replacing silicon-based solar cells because of the compound semiconductor solar cells' higher overall efficiency and lower weight.

Partner with Key Industry Participants. EMCORE seeks to identify and develop long-term relationships with leading companies in targeted industries. EMCORE develops these relationships in a number of ways including through long-term high-volume supply agreements, joint ventures, and distribution and other arrangements. For example, EMCORE has agreed to enter into, subject to certain conditions, a joint

venture with General Electric Lighting for the development and marketing of white light and colored HB LED products for automotive, traffic, flat panel display and other lighting applications, and has entered into a long term supply agreement with AMP Incorporated for VCSELs to be used in its transceivers for Gigabit Ethernet and other applications. EMCORE intends to actively seek similar strategic relationships with other key customers and industry participants in order to further expand its technological and production base.

Continue Investment to Maintain Technology Leadership. Through substantial investment in research and development, EMCORE seeks to expand its leadership position in compound semiconductor production systems, wafers and devices. EMCORE works with its customers to identify specific performance criteria and uses this information to enhance the performance of its production systems and to further expand its process and materials science expertise, including the development of new low cost, high-volume wafers and devices for its customers. In addition, EMCORE's development efforts are focused on continually lowering the production costs of its solutions. EMCORE's joint venture with Union Miniere Inc. represents an initiative to explore means to use germanium to improve product performance, identify new product applications and lower the cost and complexity of production of EMCORE's wafers and devices.

## PRODUCTS

## PRODUCTION SYSTEMS

EMCORE is a leading supplier of MOCVD compound semiconductor production systems, with more than 230 systems shipped as of March 31, 1999. According to VLSI Research, Inc., in 1997 EMCORE's share of the MOCVD production systems market was over 25%. EMCORE believes that its TurboDisc systems offer significant ownership advantages over competing systems and that the high throughput capabilities of its TurboDisc systems make possible superior reproducibility of thickness, composition, electronic properties and layer accuracy required for electronic and optoelectronic devices. Each system can be customized for the customer's throughput, wafer size and process chemistry requirements. EMCORE's production systems also achieve a high degree of reliability with an average time available for production, based on customer data, of approximately 95%.

EMCORE believes its TurboDisc systems enable the lowest cost of ownership for the manufacture of compound semiconductor materials. The major components of the cost of ownership include yield, throughput, direct costs and capital costs. Yield primarily relates to material uniformity, which is a function of the precision of the physical and chemical processes by which atomic layers are deposited. Throughput, the volume of wafers produced per unit of time, includes both the time required for a process cycle and the handling time between process steps. Direct costs include consumables used in manufacturing and processing and the clean room space required for the equipment. Capital costs include the cost of acquisition and installation of the process equipment.

EMCORE's proprietary TurboDisc technology utilizes a unique high speed rotating disk in a stainless steel growth chamber with integrated vacuum-compatible loading chambers. To produce a wafer, a bare substrate, such as gallium arsenide, sapphire or germanium, is placed on a wafer carrier in the TurboDisc growth chamber and subjected to high temperatures. Based on a predetermined formula, metal organic gases are released into the growth chamber. These gases decompose on the hot, rapidly spinning wafer. Semiconductor materials are then deposited on the substrate in a highly uniform manner. The resulting wafer thus carries one or more ultra-thin layers of compound semiconductor material such as gallium arsenide, gallium nitride, or indium aluminum phosphide. The TurboDisc technology not only produces uniformity of deposition across the wafer, but also offers flexibility for diverse applications with improved material results and increased production rates. The unique precision control of reactant gas flow in the TurboDisc technology platform allows users to scale easily from research to commercial volumes with substantially reduced time and effort. Upon removal from the growth chamber, the wafer is transferred to a device processing facility for various steps such as photolithography, etching, masking, metallization and dicing. Upon completion of these steps, the devices are then sent for packaging by the customer or other third parties and inclusion in the customer's product.

## (Turbodisc Diagram)

Wafers are loaded on a multiple wafer platter into the growth chamber, where they are subjected to high-temperature vacuum conditions and spun at high speeds. Gases are then introduced into the vacuum growth chamber, and semiconductor materials become deposited onto the substrate in a highly uniform manner.

EMCORE offers the following family of TurboDisc systems:

MODEL	LIST PRICE	APPLICATION
Explorer	\$350,000 \$450,000	Research
Discovery	\$600,000 \$1,300,000	Development/Pilot Production
Enterprise	\$1,300,000 \$2,500,000	Volume Production

50

 $\ensuremath{\mathsf{EMCORE's}}$  next generation of TurboDisc products is being designed to provide a number of innovations including:

- new reactor design to improve efficiency;
- cassette-to-cassette wafer handling to increase automation;
- digital control system to reduce noise;
- real-time process control and data acquisition on WindowsNT platform;
- modular component design to ease outsourcing and upgrading; and
- improved temperature control.

## WAFERS AND DEVICES

Since its inception, EMCORE has worked closely with its customers to design and develop materials processes for use in production systems for its customers' end-use applications. EMCORE has leveraged its process and materials science knowledge base to manufacture a broad range of compound semiconductor wafers and devices such as solar cells, HB LEDs, VCSELs, MR sensors and RF materials.

Within most of these product lines, EMCORE has established strategic relationships through joint ventures, long-term supply agreements and an acquisition. A summary of these relationships is found below.

	PRODUCTS AND STRATE		
PRODUCT LINE	COMPANY	NATURE OF RELATIONSHIP	APPLICATION
Solar Cells	Space Systems/Loral Lockheed Martin	Long-term supply agreement Strategic partner	Solar panels in communications satellite power
	Missiles and Space Union Miniere Inc.	Long-term germanium sourcing agreement	systems.
HB LEDS	General Electric Lighting	from Union Miniere GELcore joint venture (pending) for the development,	Traffic lights
		marketing and distribution of	Miniature lamps Automotive lighting
		white light and colored HB	Flat panel displays
		LED products	Other lighting applications
	Uniroyal Technology Corporation	Uniroyal Optoelectronics Joint venture for the manufacture of HB LED wafers and package-ready devices	
VCSELs	AMP Incorporated	Strategic alliance and long-term supply agreement	Optical links (including Gigabit Ethernet ATM, and FibreChannel networks)
	Micro Optical Devices, Inc.	Acquisition	,
MR sensors	Optek Technology, Inc.	Emtech joint venture for packaging and marketing of MR	Antilock brake systems
		sensors	Brushless motors Engine timing sensors
	General Motors	Long-term supply agreement	Cam and crank shaft sensors
Germanium research and development	Union Miniere Inc.	UMCore joint venture	Exploring alternative uses for germanium substrates
RF materials	Sumitomo Electric Industries, Ltd.	Cooperative development agreement Long-term supply agreement	Digital wireless and cellular applications

Solar Cells. Compound semiconductor solar cells are used to power satellites because they are more resistant to radiation levels in space, convert substantially more light to power and therefore weigh less per unit of power than silicon-based solar cells. These characteristics increase satellite life, increase payload capacity and reduce launch costs. EMCORE is currently involved in four solar cell projects:

- In November 1998, EMCORE signed a four-year purchase agreement with Space Systems/Loral, a wholly owned subsidiary of Loral Space & Communications. Under this agreement, which is contingent upon our compliance with Loral's product specification requirements, EMCORE will supply compound semiconductor high efficiency gallium arsenide solar cells for Loral's satellites. EMCORE anticipates completing this qualification in June 1999. Subject to satisfactorily completing these product qualification requirements, EMCORE has received an initial purchase order from Space Systems/Loral.
- In August 1998, EMCORE and Union Miniere Inc., a mining and materials company, entered into a long term supply agreement for germanium, which EMCORE uses to fabricate solar cells. In addition to their solar cell relationship, in November 1998, EMCORE formed UMCore, a joint venture with Union Miniere to explore and develop alternate uses for germanium using EMCORE's material science and production platform expertise and Union Miniere's access to and experience with germanium. UMCore commenced research and development operations in January 1999.
- In September 1998, EMCORE entered into an agreement with Lockheed Martin Missiles and Space, a strategic business unit of Lockheed Martin Corporation, to provide technical management and support of a Cooperative Research and Development Agreement between Lockheed Martin and Sandia National Laboratory for the advancement and commercialization of a new compound semiconductor high efficiency solar cell. Pursuant to this strategic agreement, (1) Lockheed Martin will grant EMCORE a sub-license for all related intellectual property developed on behalf of or in conjunction with Lockheed Martin, and (2) EMCORE and Lockheed Martin will jointly qualify and validate the high efficiency solar cells for operational satellite use.
- In the summer of 1998, EMCORE received a \$2.2 million contract under the U.S. Air Force's Broad Agency Announcement Program for the development of high-efficiency advanced solar cells.

HB LEDs. High-brightness light-emitting diodes (HB LEDs) are solid state compound semiconductor devices that emit light. The global demand for HB LEDs is experiencing rapid growth because LEDs have a long useful life (approximately 10 years), consume approximately 10% of the power consumed by incandescent or halogen lighting and improve display visibility. In February 1998, EMCORE and Uniroyal Technology Corporation formed Uniroyal Optoelectronics, a joint venture to manufacture, sell and distribute HB LED wafers and package-ready devices.

In January 1999, EMCORE signed an agreement with General Electric Lighting to form GELcore, a joint venture to develop and market HB LED lighting products. General Electric Lighting and EMCORE have agreed that this joint venture will be the exclusive vehicle for each party's participation in solid state lighting. GELcore seeks to combine EMCORE's materials science expertise, process technology and

compound semiconductor production systems with General Electric Lighting's brand name recognition and extensive marketing and distribution capabilities. GELcore's long-term goal is to develop products to replace traditional lighting.

VCSELs. VCSELs are semiconductor lasers that emit light in a cylindrical beam. Leading electronic systems manufacturers are integrating VCSELs into a broad array of end-market applications including Internet access, digital cross-connect telecommunications switches, DVD, and fiber optic switching and routing, such as Gigabit Ethernet. VCSELs offer significant advantages over traditional laser diodes, including:

- greater control over beam size and wavelength;
- reduced manufacturing complexity and packaging costs;
- lower power consumption; and
- higher frequency performance.

In December 1997, EMCORE acquired MODE, a development stage company, primarily dedicated to the research and development of enabling VCSEL technologies. In February 1998, EMCORE announced Gigalase, its first commercial high speed VCSEL laser. In September 1998, EMCORE signed a four-year purchase agreement with AMP Incorporated to provide VCSELs for a family of optical transceivers for the Gigabit Ethernet, FibreChannel and ATM markets. In December 1998, EMCORE announced its second VCSEL product, Gigarray, a micro-optical laser array.

MR Sensors. MR sensors are compound semiconductor devices that possess sensing capabilities. MR sensors improve vehicle performance through more accurate control of engine and crank shaft timing, which allows for improved spark plug efficiency and reduced emissions. In January 1997, EMCORE initiated shipments of compound semiconductor MR sensors using technology licensed to EMCORE from General Motors. This license allows EMCORE to manufacture and sell products using this technology to anyone. As of March 31, 1999 EMCORE has delivered over five million devices to General Motors Powertrain for crank and cam speed and position sensing applications for three engine builds.

In October 1998, EMCORE formed Emtech, a joint venture with Optek Technology, Inc., a packager and distributor of optoelectronic devices, to market an expanded line of MR sensors to the automotive and related industries. This joint venture seeks to combine EMCORE's strength in producing devices with Optek's strength in packaging and distributing devices to offer off-the-shelf products and expand market penetration.

RF materials. Radio frequency materials are compound semiconductor materials which transmit and receive communications. Compound semiconductor RF materials have a broader bandwidth and superior performance at high frequencies than silicon-based materials. EMCORE currently produces RF materials for use as power amplifiers in cellular phone handsets. In addition, EMCORE is exploring opportunities to market these materials for additional uses in fiber optics and satellite communications. EMCORE believes that its ability to produce high volumes of RF materials at a low cost will facilitate their adoption in new applications and new products.

In May 1999, Sumitomo Electric and EMCORE announced a long-term agreement to jointly develop and produce certain RF materials for use in digital wireless and cellular applications. EMCORE will manufacture these RF materials at our Somerset, New Jersey manufacturing facility and Sumitomo Electric will market them in Japan. Sumitomo Electric is one of the world's leading electronics manufacturers. Shipments of these devices are expected to begin in June 1999.

## CUSTOMERS

EMCORE's customers include many of the largest semiconductor, telecommunications, consumer goods and computer manufacturing companies in the world. Sales to Hughes-Spectrolab accounted for 17.3% of EMCORE's revenues in fiscal 1998 and 3.8% of EMCORE's revenues in the first six months of 1999. Sales to General Motors accounted for 12.8% of EMCORE's revenues in fiscal 1998 and 10.8% of EMCORE's revenues in the first six months of 1999. A number of EMCORE's customers are listed below. In addition, EMCORE has sold its products to 12 of the largest electronics manufacturers in Japan.

AMP Incorporated The Boeing Company General Motors Hewlett Packard Honeywell Hughes-Spectrolab Hyundai Electronics TBM LG Semiconductor L.M. Ericsson AB Lucent Technologies Motorola Northrop Grumman Philips AG Polaroid Rockwell International Samsung Sharp U.S.A. Siemens AG Texas Instruments Thomson CSF Westinghouse Electric

EMCORE has a comprehensive total quality management program with special emphasis on total customer satisfaction. EMCORE seeks to encourage active customer involvement with the design and operation of its production systems. To accomplish this, EMCORE conducts user group meetings among its customers in Asia, Europe and North America. At annual meetings, EMCORE's customers provide valuable feedback on key operations, process oriented services, problems and recommendations to improve EMCORE products. This direct customer feedback has enabled EMCORE to constantly update and improve the design of its systems and processes. Changes that affect the reliability and capabilities of EMCORE's systems are embodied in new designs to enable current and future customers to utilize systems which EMCORE believes are high quality and cost-efficient. As of March 31, 1999, EMCORE employed 27 field service engineers who install EMCORE systems and provide on-site support.

#### MARKETING AND SALES

EMCORE markets and sells its wafers, devices and systems through its direct sales force in Europe, North America and Taiwan and through representatives and distributors elsewhere in Asia. To market and service its products in China, Japan and Singapore, EMCORE relies on a single marketing, distribution and service provider, Hakuto. EMCORE's agreements with Hakuto have a term of 10 years, expiring March 2008. Hakuto has exclusive distribution rights for certain of EMCORE's products in Japan. Hakuto has marketed and serviced EMCORE's products since 1988, is a minority shareholder in EMCORE, and the President of Hakuto is a member of EMCORE's board of directors. EMCORE recently opened sales offices in Taiwan and California in order to be closer to its customers. As of March 31, 1999, EMCORE employed 26 persons in sales and marketing.

EMCORE's sales and marketing staff, senior management and technical staff work closely with existing and potential customers to provide compound semiconductor solutions for its customers' needs. The sales process begins by understanding the customer's requirements and then attempting to match these requirements with the optimal solution. EMCORE seeks to match the customer's requirements to an existing design or a modification of a standard design, such as a change in platform or process design. When necessary, EMCORE will work with the customer to develop the appropriate design process and to configure and manufacture the production system to meet the customer's needs. Also, EMCORE will produce samples to demonstrate conformance to the customer's specifications. For production systems, the amount of time from the initial contact with the customer to the customer's placement of an order is typically two to nine months or longer. EMCORE's sales cycle for wafers and devices usually runs three to nine months, during which time EMCORE develops the formula of materials necessary to meet the customer's specifications and qualifies the materials, which may also require the delivery of samples. EMCORE believes that the high level of marketing, management and engineering support involved in this process is beneficial in developing competitive differentiation and long-term relationships with its customers.

The following chart contains a breakdown of EMCORE's worldwide revenues and percentages by geographic region. Historically, EMCORE has received all payments for products and services in U.S. dollars.

		FISCAL YE	EARS END	ED SEPTEME	3ER 30,		SIX MO ENI MARCH	DED
	199	96	199	97	199	98	199	99
REGION				(\$ IN MII	LIONS)			
United States Asia Europe	\$16.0 8.2 3.6	57.6% 29.5 12.9	\$27.7 14.6 5.5	57.9% 30.6 11.5	\$26.7 15.5 1.6	61.0% 35.4 3.6	\$18.1 8.0 0.1	69.1% 30.5 0.4
Total	\$27.8 =====	100.0% =====	\$47.8 =====	100.0% =====	\$43.8 =====	100.0% =====	\$26.2 =====	100.0% =====

## SERVICE AND SUPPORT

EMCORE maintains a worldwide service and support network responsible for on-site maintenance and process monitoring on either a contractual or time-and-materials basis. Customers may purchase annual service contracts under which EMCORE is required to maintain an inventory of replacement parts and to service the equipment upon the request of the customer. EMCORE also sells replacement parts from inventory for customer needs. EMCORE pursues a program of system upgrades for customers to increase the performance of older systems. EMCORE generally does not offer extended payment terms to its customers and generally adheres to a warranty policy of one year. Consistent with industry practice, EMCORE maintains an inventory of components for servicing systems in the field and it believes that its inventory is sufficient to satisfy foreseeable short-term customer requirements. EMCORE recently opened a warehouse depot in Taiwan to provide improved service to its Asian customers.

#### RESEARCH AND DEVELOPMENT

To maintain and improve its competitive position, EMCORE's research and development efforts are focused on designing new proprietary processes and products, improving the performance of existing systems, wafers and devices and reducing costs in the product manufacturing process. EMCORE has dedicated 16 TurboDisc systems for both research and production which are capable of processing virtually all compound semiconductor materials. The research and development staff utilizes x-ray, optical and electrical characterization equipment which provide instant data allowing for shortened development cycles and rapid customer response. EMCORE's recurring research and development expenses were approximately \$10.3 million in the first six months of fiscal 1999, \$16.5 million in fiscal 1998, \$9.0 million in fiscal 1997 and \$5.4 million in fiscal 1996. EMCORE also incurred a one-time, non-cash research and development expense in fiscal 1998 in the amount of \$19.5 million in connection with the acquisition of MODE. EMCORE expects that it will continue to expend substantial resources on research and development. As of March 31, 1999, EMCORE employed 50 persons in research and development, 14 of whom held Ph.D.s in materials science or related fields.

EMCORE also competes for research and development funds. In view of the high cost of development, EMCORE solicits research contracts that provide opportunities to enhance its core technology base or promote the commercialization of targeted products. EMCORE presently has three contracts under the Small Business Innovative Research programs or similar government sponsored programs. From inception until March 31, 1999, government and other external research contracts have provided approximately \$13.3 million to support EMCORE's research and development efforts. EMCORE is also positioned to market technology and process development expertise directly to customers who require it for their own product development efforts.

## INTELLECTUAL PROPERTY AND LICENSING

EMCORE's success and competitive position both for production systems and wafers and devices depend significantly on its ability to maintain trade secrets and other intellectual property protections. Our strategy is to rely more on trade secrets than patents. A "trade secret" is information that has value to the extent it is not generally known, not readily ascertainable by others through legitimate means, and protected in a way that maintains its secrecy. Reliance on trade secrets is only an effective business practice insofar as trade secrets remain undisclosed and a proprietary product or process is not reverse engineered or independently developed. In order to protect its trade secrets, EMCORE takes certain measures to ensure their secrecy, such as executing non-disclosure agreements with its employees, joint venture partners, customers and suppliers.

To date, EMCORE has been issued 11 U.S. patents and others are either pending or under review. These U.S. patents will expire between 2005 and 2013. None of these U.S. patents claim any material aspect of the current or planned commercial versions of EMCORE's systems, wafers or devices. EMCORE relies on trade secrets rather than patents to protect its intellectual property because it believes publishing patents would make it easier for others to reverse engineer EMCORE's proprietary processes.

EMCORE is a licensee of certain VCSEL technology and associated patent rights owned by Sandia Corporation. The Sandia license grants EMCORE:

- exclusive rights (subject to certain rights granted to Department of Energy and AT&T Corporation) to develop, manufacture and sell products containing Sandia VCSEL technologies for barcode scanning and plastic optical fiber communications applications under five U.S. patents that expire between 2007 and 2015;
- nonexclusive rights with respect to all other applications of these patents; and
- nonexclusive rights to employ a proprietary oxidation fabrication method in the manufacture of VCSEL products under a sixth U.S. patent that expires in 2014. Our exclusivity with respect to the barcode scanning and plastic optical fiber communications applications expires in 2003 or such earlier time as we fail to meet certain development and marketing criteria. EMCORE's success and competitive position as a producer of VCSEL products depends on the continuation of its rights under the Sandia license, the scope and duration of those rights and the ability of Sandia to protect its proprietary interests in the underlying technology and patents.

In 1992, we received a royalty-bearing, non-exclusive license under a patent held by Rockwell International Corporation which relates to an aspect of the manufacturing process used by our TurboDisc systems. In October 1996, we initiated discussions with Rockwell to receive additional licenses to permit us to use this technology to manufacture and sell compound semiconductor wafers and devices. In November 1996, we suspended these negotiations because of litigation surrounding the validity of the Rockwell patent. We also ceased making royalty payments to Rockwell under the license during the pendency of the litigation. In January 1999, the case was settled and a judgment was entered in favor of Rockwell. As a result, we may be required to pay royalties to Rockwell for certain of our past sales of wafers and devices to our customers who did not hold licenses directly from Rockwell. If we are required to pay significant royalties in connection with these sales our business, financial condition and results of operations may be materially and adversely affected. In addition, until the patent expires in January 2000, we may require additional licenses from Rockwell under the Rockwell patent in order to continue to manufacture and sell wafers and devices. The failure to obtain or maintain licenses to manufacture these wafers and devices on commercially reasonable terms may materially and adversely affect our business, financial condition and results of operations.

### ENVIRONMENTAL REGULATIONS

EMCORE is subject to federal, state and local laws and regulations concerning the use, storage, handling, generation, treatment, emission, release, discharge and disposal of certain materials used in its research and development and production operations, as well as laws and regulations concerning environmental remediation and employee health and safety. The production of wafers and devices involves the use of certain hazardous raw materials, including, but not limited to, ammonia, phosphine and arsene. If EMCORE's control systems are unsuccessful in preventing release of these or other hazardous materials, EMCORE could experience a substantial interruption of operations. EMCORE has retained an environmental consultant to advise it in complying with applicable environmental and health and safety laws and

regulations, and believes that it is currently, and in the past has been, in substantial compliance with all such laws and regulations.

#### BACKLOG

As of March 31, 1999, EMCORE had an order backlog of \$38.3 million, scheduled to be shipped through March 31, 2000. This represented an increase of 69% since September 30, 1998. This increase primarily relates to increased production systems bookings in Asia and an initial order for solar cells from Loral, which is subject to product qualification. EMCORE includes in backlog only customer purchase orders that have been accepted by EMCORE and for which shipment dates have been assigned within the 12 months to follow and research contracts that are in process or awarded. Wafer and device agreements extending longer than one year in duration are included in backlog only for the ensuing 12 months. EMCORE receives partial advance payments or irrevocable letters of credit on most production system orders. EMCORE recognizes revenue from the sale of its systems and materials upon shipment. For research contracts with the U.S. government and commercial enterprises with durations greater than six months, EMCORE recognizes revenue to the extent of costs incurred plus a portion of estimated gross profit, as stipulated in such contracts, based on contract performance.

## MANUFACTURING

EMCORE's manufacturing operations are located at EMCORE's headquarters in Somerset, New Jersey and in Albuquerque, New Mexico and include systems engineering and production, wafer fabrication, and design and production of devices. Many of EMCORE's manufacturing operations are computer monitored or controlled to enhance reliability and yield. EMCORE manufactures its own systems and outsources some components and sub-assemblies, but performs all final system integration, assembly and testing. As of March 31, 1998, EMCORE had 158 employees involved in manufacturing. EMCORE fabricates wafers and devices at its facilities in Somerset, New Jersey and Albuquerque, New Mexico and has a combined clean room area totaling approximately 12,000 square feet. EMCORE's joint venture with Uniroyal Technology Corporation expects to begin manufacturing HB LED wafers and package-ready devices at its Tampa, Florida manufacturing facility by summer of 1999. In May 1998, EMCORE received ISO 9001 and QS 9002 quality certification for its Somerset, New Jersey facility. EMCORE is pursuing ISO 9001 quality certification for its Albuquerque, New Mexico

Outside contractors and suppliers are used to supply raw materials and standard components and to assemble portions of end systems from EMCORE specifications. EMCORE depends on sole, or a limited number of, suppliers of components and raw materials. EMCORE generally purchases these single or limited source products through standard purchase orders. EMCORE also seeks to maintain ongoing communications with its suppliers to guard against interruptions in supply and has, to date, generally been able to obtain sufficient supplies in a timely manner and maintains inventories it believes are sufficient to meet its near term needs. EMCORE implemented a vendor program through which it inspects quality and reviews suppliers and prices in order to standardize purchasing efficiencies and design requirements to maintain as low a cost of sales as possible. However, operating results could be materially and adversely affected by a stoppage or delay of supply, receipt of defective

parts or contaminated materials, and increase in the pricing of such parts or EMCORE's inability to obtain reduced pricing from its suppliers in response to competitive pressures.

## COMPETITION

The markets in which EMCORE competes are highly competitive. EMCORE competes with several companies for sales of MOCVD systems including Aixtron GmbH, Nippon-Sanso K.K. and Thomas Swann Ltd. The primary competitors for EMCORE's wafer foundry include Epitaxial Products Inc., Kopin Corporation and Quantum Epitaxial Designs, Inc. EMCORE's principal competitors for sales of VCSEL-related products include Honeywell, Inc. and Mitel Corporation. The principal competitors for MR sensors are Honeywell, Inc., Matshushita Electric Industrial Co. Ltd., Siemens AG and Asahi. The principal competitors for HB LEDs and EMCORE's joint venture with Uniroyal Technology Corporation and the pending joint venture with General Electric Lighting include the Phillips Electronics and Hewlett Packard Company joint venture, Siemens AG's Osram GmbH subsidiary, Nichia Chemical Industries and Toshiba Corporation. EMCORE also faces competition from manufacturers that implement in-house systems for their own use. In addition, EMCORE competes with many research institutions and universities for research contract funding. EMCORE also sells its products to current competitors and companies with the capability of becoming competitors. As the markets for  $\ensuremath{\mathsf{EMCORE's}}$  products grow, new competitors are likely to emerge, and present competitors may increase their market share.

EMCORE believes that the primary competitive factors in the markets in which EMCORE's products compete are yield, throughput, performance, breadth of product line, customer satisfaction, customer commitment to competing technologies and, in the case of production systems, capital and directs costs and size of installed base. Competitors may develop enhancements to or future generations of competitive products that offer superior price and performance factors. EMCORE believes that in order to remain competitive, it must invest significant financial resources in developing new product features and enhancements and in maintaining customer satisfaction worldwide.

### EMPLOYEES

At March 31, 1999, EMCORE had 326 full-time employees. None of EMCORE's employees is covered by a collective bargaining agreement. EMCORE considers its relationship with its employees to be good.

## PROPERTIES

The following chart contains certain information regarding each of EMCORE's principal facilities. Each of these facilities contains office space, marketing and sales, and research and development space. EMCORE also leases office space in Hsinchu, Taiwan and Santa Clara, California. In addition to EMCORE's facilities, Uniroyal Optoelectronics, a joint venture between EMCORE and Uniroyal Technology Corporation, leases a 75,000 square foot office and manufacturing facility in Tampa, Florida.

LOCATION	FUNCTION	SQUARE FEET	TERMS
Somerset, New Jersey	Headquarters, manufacturing of systems, wafers and MR sensors	75,900	Lease expires in 2000(1)
Albuquerque, New Mexico	Manufacturing of solar cells	50,000(2)	Owned
Albuquerque, New Mexico	Manufacturing of VCSELs	27,500	Leases expire in 1999(1) and 2001(1)

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- (1) These leases all have options to renew by EMCORE, subject to cost of living adjustments.
- (2) EMCORE plans a three-phase construction project to expand the facility from an initial 50,000 square feet in October 1998 to 70,000 square feet by 2002.

### LEGAL PROCEEDINGS

EMCORE is not aware of any pending or threatened litigation against it that could have a material adverse effect on its business, financial condition and results of operations.

# MANAGEMENT

## EXECUTIVE OFFICERS AND DIRECTORS

 $\ensuremath{\mathsf{EMCORE}}$  's executive officers and directors and their ages and positions are as follows:

NAME	AGE	POSITION
Thomas J. Russell, Ph.D(1)(2)	67	Chairman of the Board
Reuben F. Richards, Jr.(2)	43	President, Chief Executive Officer and Director
Thomas G. Werthan	42	Vice PresidentFinance, Chief Financial Officer, Secretary, and Director
Richard A. Stall(2)	42	Vice PresidentTechnology, Chief Technical Officer and Director
William J. Kroll	54	Executive Vice PresidentStrategic Planning
Paul Rotella	44	Vice President
Louis A. Koszi	54	Vice President
Thomas M. Brennan	45	Vice President
Robert P. Bryan	33	Vice President
Craig W. Farley	39	Vice President
David D. Hess	37	Corporate Controller
Robert Louis-Dreyfus	52	Director
Hugh H. Fenwick(1)(3)	62	Director
Shigeo Takayama(3)	82	Director
Charles T. Scott(1)(3)	49	Director
John J. Hogan, Jr	54	Director

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- (1) Member of Compensation Committee
- (2) Member of Nominating Committee

(3) Member of Audit Committee

Thomas J. Russell, Ph.D. has been a director of EMCORE since May 1995 and was elected Chairman of the Board in December 1996. Dr. Russell founded Bio/Dynamics, Inc. in 1961 and managed the company until its acquisition by IMS International in 1973, following which he served as President of that company's Life Sciences Division. From 1984 until 1988, he served as Director, then as Chairman of IMS International until its acquisition by Dun & Bradstreet in 1988. From 1988 to 1992, he served as Chairman of Applied Biosciences, Inc. Since 1992, he has been an investor and director of several companies. Dr. Russell currently serves as a director of Cordiant plc and Adidas AG. Dr. Russell is one of three trustees of the AER 1997 Trust, and he was Chairman and a member of Jesup & Lamont Merchant Partners, L.L.C. (JLMP). Reuben F. Richards, Jr. joined EMCORE in October 1995 as its President and Chief Operating Officer and became Chief Executive Officer in December 1996. Mr. Richards has been a director of EMCORE since May 1995. From September 1994 to December 1996, Mr. Richards was a Senior Managing Director of Jesup & Lamont Capital Markets Inc. (JLCM), an affiliate of a registered broker-dealer. From December 1994 to 1997, he was a member of and President of JLMP. From 1992 until 1994, Mr. Richards was a principal with Hauser, Richards & Co., a firm engaged in corporate restructuring and management turnarounds. From 1986 until 1992, Mr. Richards was a Director at Prudential-Bache Capital Funding in its Investment Banking Division. Mr. Richards is on the management boards of Emtech, Uniroyal Optoelectronics and GELcore.

Thomas G. Werthan joined EMCORE in 1992 as its Chief Financial Officer, Vice President--Finance, Secretary and a director. Mr. Werthan is a Certified Public Accountant and has over sixteen years experience in assisting high technology, venture capital financed growth companies. Prior to joining EMCORE in 1992, he was associated with The Russell Group, a venture capital partnership, as Chief Financial Officer for several portfolio companies. The Russell Group is affiliated with Thomas J. Russell, who was a member of and Chairman of JLMP and is Chairman of the board of directors of EMCORE. From 1985 to 1989, Mr. Werthan served as Chief Operating Officer and Chief Financial Officer for Audio Visual Labs, Inc., a manufacturer of multimedia and computer graphics equipment.

Richard A. Stall, Ph.D became a director of EMCORE in December 1996. Dr. Stall helped found EMCORE in 1984 and has been Vice President--Technology at EMCORE since October 1984, except for a sabbatical year in 1993 during which Dr. Stall acted as a consultant to EMCORE and his position was left unfilled. Prior to 1984, Dr. Stall was a member of the technical staff of AT&T Bell Laboratories and was responsible for the development of molecular beam expitaxy technologies. He has co-authored more than 75 papers and holds four patents on MBE and MOCVD technology and the characterization of compound semiconductor materials.

William J. Kroll joined EMCORE in 1994 as Vice President--Business Development and in 1998 became Executive Vice President -- Strategic Planning. Prior to 1994, Mr. Kroll served for seven years as Senior Vice President of Sales and Marketing for Matheson Gas Products, Inc., a manufacturer and distributor of specialty gases and gas control and handling equipment. In that position, Mr. Kroll was responsible for \$100 million in sales and 700 employees worldwide. Prior to working at Matheson Gas Products, Mr. Kroll was Vice President of Marketing for Machine Technology, Inc., a manufacturer of semiconductor equipment for photoresistor applications, plasma strip, and related equipment.

Paul Rotella joined EMCORE in 1996 as Director of Manufacturing and has served as Vice President of TurboDisc Manufacturing since October 1997. Prior to 1996, Mr. Rotella served for three years as worldwide Manufacturing Operations Manager for Datacolor International, a manufacturer of color measurement and control instrumentation. Prior to working at Datacolor International, Mr. Rotella spent 18 years with AlliedSignal Inc., where he held various positions including Manufacturing Engineer, Manufacturing Engineering Manager and Program Manager of Quality Improvement Systems.

Louis A. Koszi joined EMCORE in 1995 as Vice President--Device Manufacturing and is presently on a 2 year assignment as Chief Operating Officer of Uniroyal Optoelectronics, LLC the Company's joint venture with Uniroyal Technology, Inc. Prior to 1995, Mr. Koszi was a member of AT&T Bell Laboratories for 25 years. Mr. Koszi has experience in all phases of semiconductor device design and manufacturing processes and associated quality programs. Mr. Koszi holds 17 U.S. patents, five foreign patents, and is a co-author of 35 publications. He was named a Distinguished Member of Technical Staff in 1989. In 1992, he was presented with the Excellence in Engineering from the Optical Society of America.

Thomas M. Brennan joined EMCORE as a result of EMCORE's acquisition of MODE in December 1997 and now serves as a Vice President of EMCORE. Prior to co-founding MODE, Mr. Brennan was a senior member of the technical staff at Sandia National Laboratories from 1986 to 1996. At Sandia, he focused his efforts on the material growth of III-V compound semiconductors, reactor design, in-situ reactor diagnostics, and material characterization. His responsibilities and activities included growth of some of the first VCSEL material at Sandia and in the U.S., and development of new and unique manufacturing techniques for VCSEL material growth. Prior to joining Sandia, Mr. Brennan was a member of the technical staff at AT&T Bell Laboratories from 1980 to 1984. At both facilities, he focused his efforts on expitaxial materials growth and characterization and expitaxial reactor design.

Robert P. Bryan joined EMCORE as a Vice President as a result of EMCORE's acquisition of MODE in December 1997. Prior to co-founding MODE in 1995, he was a co-founder of Vixel Corporation in 1992, a company that develops and manufactures VCSEL devices for data links. At Vixel, he was the executive in charge of optoelectronic product development, including all engineering management. From 1990 to 1992, he was a senior member of the technical staff at Sandia National Laboratories where his research focused on the areas of VCSEL design, fabrication and characterization.

Craig W. Farley joined EMCORE in June 1998 as Vice President--Wafer Manufacturing and is presently Vice President of Electronic Materials which includes responsibility for antimonide sensors, RF materials, optoelectronic devices, and EMCORE's Research and Applications laboratory. Dr. Farley has experience in all phases of compound semiconductor device design and manufacturing. Prior to joining EMCORE, he spent 11 years at Rockwell International Corporation where he served as a member of the technical staff at Rockwell's Science Center from 1987 to 1994 and as Manager of Advanced Device Technology for Rockwell's Gallium Arsenide Manufacturing facility from 1994 to 1998.

David D. Hess joined EMCORE in 1989 as General Accounting Manager. He was named Corporate Controller in 1990. Mr. Hess is a Certified Public Accountant and has more than ten years experience in monitoring and controlling all phases of product and process cost and general accounting systems. Prior to his employment at EMCORE, he held several positions as cost accounting manager, divisional accountant and inventory control supervisor in manufacturing firms such as Emerson Quiet Kool (air conditioner manufacturers), Huls North America (paint/solvent processors), and Brintec Corporation (screw machine manufacturers).

Robert Louis-Dreyfus has been a director of EMCORE since March 1997. Mr. Louis-Dreyfus has been the Chairman of the Board and Chief Executive Officer of Adidas AG since April 1993. Prior to that time, he had been from 1990 until 1993 the Chief Executive Officer of Saatchi & Saatchi plc (now Cordiant plc) and a Director of Saatchi & Saatchi plc from January 1990 until December 1994. Since 1992, he has been an investor and a Director of several other companies. From 1982 until 1988, he served as Chief Operating Officer (1982 to 1983) and then as Chief Executive Officer (from 1984 to 1988) of IMS International until its acquisition by Dun & Bradstreet in 1988. Mr. Louis-Dreyfus controls Gallium Enterprises Inc., and he was a member of JLMP.

Hugh H. Fenwick served as a director of EMCORE from 1990 until 1995, and was again elected to serve on EMCORE's board of directors in June 1997. Since 1992, Mr. Fenwick has been a private investor and he currently holds the office of Mayor of Bernardsville, New Jersey, to which he was elected in 1994. From 1990 until 1992, Mr. Fenwick was the Executive Director of the Alliance for Technology Management at the Stevens Institute in Hoboken, New Jersey. Prior to that time, Mr. Fenwick worked as a marketing executive with Lockheed Electronics and with Alenia (formerly Selenia), an Italian subsidiary of Raytheon.

Shigeo Takayama became a director of EMCORE in July 1997. Mr. Takayama is the Chairman, President and founder of Hakuto, EMCORE's distributor of EMCORE's products in Japan, China and Singapore. Mr. Takayama is a Director Emeritus of Semiconductor Equipment & Material International (SEMI), Chairman of the Japan Electronics Products Importers Association (JEPIA), and Director of the Japan Machinery Importers' Association (JMIA). Mr. Takayama is also a director of Temptronic Corp., a semiconductor test equipment manufacturer in Newton, Massachusetts, and of Anatel Corp., a TOC high-purity water monitor manufacturer in Boulder, Colorado.

Charles T. Scott became a director of EMCORE in February 1998. Mr. Scott is presently Chairman of Cordiant Communications Group plc, the successor corporation of the Saatchi & Saatchi Advertising Group. He joined Saatchi & Saatchi Company in 1990 and served as Chief Financial Officer until 1992 when he was appointed Chief Operating Officer. In 1993, he became Chief Executive Officer and held that position until 1996 when he assumed the title of Chairman.

John J. Hogan, Jr. became a director of EMCORE in February 1999. Mr. Hogan has been President of a private investment management company since October 1997. Prior to that time, he had been with the law firm of Dewey Ballentine since 1969. He also serves as a director of several other corporations and is a former executive officer and/or director of various subsidiaries of S.A. Louis Dreyfus en Cie.

On April 29, 1999, EMCORE borrowed \$2.5 million from its Chairman at an interest rate of prime plus two percent. On May 7, 1999, EMCORE repaid the loan from borrowings from First Union.

In January 1999, EMCORE'S Chairman advanced \$3.0 million to EMCORE. These funds were repaid with borrowings under a new \$5.0 million credit facility with First Union National Bank. The Chairman has also committed to provide up to \$30.0 million of long-term financing to EMCORE through July 1, 2000. This commitment terminates upon completion of this offering, subject to a minimum offering size requirement of \$40.0 million.

In January 1999, EMCORE and General Electric Lighting agreed, subject to certain conditions, to form a joint venture to develop and market HB LED lighting products. In connection with consummation of this joint venture, EMCORE will issue to General Electric warrants to purchase 282,010 shares of EMCORE common stock, which will expire in 2006, have an exercise price of \$22.875. In addition, General Electric will purchase a \$7.8 million subordinated convertible debenture bearing interest at 4.75% per annum and maturing in 2006. The debenture will be convertible into 340,984 shares of common stock at General Electric's option.

On November 30, 1998, EMCORE completed a private placement of an aggregate of 1,550,000 shares of Series I Preferred Stock to Hakuto, Union Miniere Inc. and Uniroyal Technology Corporation. The net proceeds to EMCORE from the private placement were approximately \$21.2 million which has been used (1) to repay \$8.5 million of debt, plus interest, to EMCORE'S Chairman of the Board, Dr. Thomas Russell, (2) to fund EMCORE'S \$5.0 million portion of a joint venture between EMCORE and Uniroyal Technology Corporation to develop and manufacture HB LEDs and (3) to fund EMCORE'S \$600,000 portion of its joint venture with Union Miniere Inc. The remaining net proceeds from the private placement of convertible preferred stock were used to acquire capital equipment for EMCORE's new Albuquerque, New Mexico manufacturing facility and for working capital purposes.

In September and October 1998, EMCORE borrowed an aggregate of \$8.5 million from its Chairman, Thomas J. Russell. The loan bears interest at 9.75% per annum. The entire \$8.5 million borrowed from Mr. Russell was repaid from the proceeds of the private placement of preferred stock.

On June 22, 1998, EMCORE entered into the 1998 Agreement with First Union National Bank. The 1998 Agreement was guaranteed by the Chairman and the Chief Executive Officer of EMCORE. In return for guaranteeing the facility, EMCORE granted the Chairman and the Chief Executive Officer an aggregate of 284,684 common stock purchase warrants at an exercise price of \$11.375 per share which expire May 1, 2001. These warrants are callable at EMCORE's option at \$0.85 per warrant if EMCORE's common stock has traded at or above 150% of the exercise price for a period of 30 days. The warrant exercise price was equal to the market price of the Company's common stock on the date of grant. An accounting value of \$1.3 million was assigned to these warrants based upon the EMCORE's application of the Black-Scholes option pricing model.

The President of Hakuto Co., Ltd., EMCORE'S Asian distributor, is a member of EMCORE'S board of directors and Hakuto Co., Ltd. is a minority shareholder of EMCORE. During the year ended September 30, 1998, sales made through Hakuto Co., Ltd. approximated \$9.2 million.

In February 1998, EMCORE and Uniroyal Technology Corporation formed Uniroyal Optoelectronics, a joint venture to produce and market compound semiconductor products. EMCORE has a non-controlling minority interest in the joint venture. During the first six months of fiscal 1999, EMCORE sold three TurboDisc systems to the joint venture for a total of \$5.3 million. As of March 31, 1999, EMCORE's investment in this venture amounted to \$4.3 million.

In fiscal 1997, EMCORE signed a non-exclusive and non-refundable technology licensing and royalty agreement with Uniroyal Technology Corporation for the process technology to develop and manufacture HB LEDs. During fiscal 1998 and 1997, revenue associated with the Uniroyal Technology Corporation licensing agreement amounted to \$2.5 million and \$2.5 million, respectively. At the time the transaction was originally entered into, Uniroyal Technology Corporation's Chairman and Chief Executive Officer was a member of EMCORE's board of directors and EMCORE's Chairman was on the Board of Directors of Uniroyal Technology Corporation.

All related party transactions were approved by a majority of the disinterested members of EMCORE's board of directors.

## PRINCIPAL AND SELLING SHAREHOLDERS

The following table sets forth certain information known to EMCORE with respect to beneficial ownership of its common stock as of May 1, 1999 and as adjusted to reflect the sale of the shares offered pursuant to this prospectus by: (1) each person who is known by EMCORE to be the beneficial owner of five percent or more of the its common stock; (2) each of EMCORE's directors; (3) each of EMCORE's executive officers; (4) all officers and directors of EMCORE as a group (16 persons); and (5) each other selling shareholder. Except as otherwise indicated, EMCORE believes, based on information furnished by such persons, that each person listed below has the sole voting and investment power over the shares of common stock shown as beneficially owned, subject to common property laws, where applicable. Unless otherwise noted, the address for the individuals listed below is c/o EMCORE Corporation, 394 Elizabeth Avenue, Somerset, NJ 08873.

	SHARES BENEFICIALLY OWNED PRIOR TO THE OFFERING		SHARES ISSUABLE UPON EXERCISE OF OPTIONS	SHARES ISSUABLE UPON EXERCISE OF WARRANTS	SHARES OFFERED	SHARES BENEFICIALLY OWNED AFTER THE OFFERING	
NAME OF BENEFICIAL OWNER:	NUMBER	PERCENT				NUMBER	PERCENT
Thomas J. Russell Reuben F. Richards,	2,459,991	24.0%		741,657(1)		2,459,991	17.9%
Jr	518,957	5.3	79,412	149,952		518,957	3.9
Thomas G. Werthan	131,536	1.4	64,421	23,586	15,000	116,536	
Richard A. Stall	170,823	1.8	96,248	30,012	10,000	160,823	1.2
Robert Louis-Dreyfus	1,650,582	16.6		432,535(2)		1,650,582	12.3
Hugh H. Fenwick	6,879	*				6,879	*
Shigeo Takayama(3)	706,653	7.4				706,653	5.4
Charles Scott	3,857	*				3,857	*
John J. Hogan, Jr		*					*
Thomas Brennan	265,128	2.8	39,141		40,000	225,128	1.7
Robert Bryan	265,128	2.8	39,141		50,000	215,128	1.6
Craig Farley		*					*
David D. Hess	8,665	*	4,412			8,665	*
Louis A. Koszi	10,098	*	10,098			10,098	*
William J. Kroll	79,990	*	21,085	16,134	6,000	73,900	*
Paul Rotella	3,578	*	3,578			3,578	*
All directors and executive officers as a							
group (16 persons)	6,281,865	57.3	353,957	1,110,357		6,281,865	44.5
The AER 1997 Trust(4) Gallium Enterprises,	1,588,063	16.5		141,504		1,588,063	12.1
Inc.(5)	1,218,047	12.3		432,535		1,218,047	9.1
Union Miniere Inc.(6) Uniroyal Technology	642,857	6.8			250,000	392,857	3.0
Corporation(7)	642,857	6.8			270,000	372,857	2.8
Hakuto Co., Ltd	706,653	7.4			·	706,653	5.4
General Electric(8) Alfred T. Copeland,							*
Jr	8,000	*		8,000	8,000		*
Howard F. Curd	495,078	5.2			93,015	402,063	3.1
Howard R. Curd	513,578	5.4			93,015	420,063	3.2
Charles Maxwell	42,511	*		42,511	10,511	32,000	*
Harold J. O'Keefe	6,869	*		3,069	3,069	3,800	*
Norman E. Schumaker	148,611	1.6		138,831	48,831	99,780	*

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\* Less than 1.0%

(1) With 141,504 held by the AER 1997 Trust -- see note 4.

(2) Held by Gallium Enterprises Inc. -- see note 5.

- (3) Includes 442,368 shares of Common Stock and 264,286 shares of convertible preferred stock owned by Hakuto Co., Ltd., which is controlled by Shigeo Takayama.
- (4) Dr. Thomas J. Russell, one of the three trustees for The AER 1997 Trust, is the Chairman of EMCORE. After January 13, 2002, Avery E. Russell, the daughter of Thomas J. Russell will be the primary beneficiary of the trust. The address of The AER 1997 Trust is c/o Thomas J. Russell, Two North Tamiami Trail, Sarasota, Florida 34236.
- (5) Gallium Enterprises Inc. is controlled by Robert Louis-Dreyfus, a member of the board of directors of EMCORE. The address of Gallium Enterprises, Inc. is c/o Harborstone Capital Management., 152 West 57th Street, 21st Floor, New York, New York 10019.
- (6) Includes 642,857 shares of convertible preferred stock. The address of Union Miniere Inc. is 13847 West Virginia Drive, Lakewood, Colorado 80228.
  (7) Includes 642,857 shares of convertible preferred stock. The address of
- (7) Includes 642,857 shares of convertible preferred stock. The address of Uniroyal Technology Corporation is Two North Tamiami Trail, Suite 900, Sarasota, Florida 34236.
- (8) Upon consummation of the GELcore joint venture, EMCORE will issue to General Electric common stock purchase warrants for between 282,010 and 564,019 shares of EMCORE common stock based on the stock price as of this offering or the closing price on March 31, 1999, whichever is earlier. Those warrants will have an exercise price of \$22.875 and will expire in 2006. General Electric will also purchase a \$7.8 million subordinated convertible debenture that will be convertible into 340,984 shares of common stock at General Electric's option.

#### UNDERWRITING

Subject to the terms and conditions set forth in an underwriting agreement, the underwriters named below, who are represented by Donaldson, Lufkin & Jenrette Securities Corporation, Prudential Securities Incorporated, Needham & Company, Inc. and SoundView Technology, Inc. have severally agreed to purchase from EMCORE and the selling shareholders the respective number of shares of common stock set forth opposite their names below.

NUMBER OF

UNDERWRITERS:	SHARES
Donaldson, Lufkin & Jenrette Securities Corporation Prudential Securities Incorporated Needham & Company, Inc	
SoundView Technology, Inc	
Total	

The underwriting agreement provides that the obligations of the several underwriters to purchase and accept delivery of the shares of common stock offered hereby are subject to approval by their counsel of certain legal matters and certain other conditions. The underwriters are obligated to purchase and accept delivery of all the shares of common stock offered hereby (other than those shares covered by the over-allotment option described below) if any are purchased.

The underwriters initially propose to offer the shares of common stock in part directly to the public at the public offering price set forth on the cover page of this prospectus and in part to certain dealers (including the underwriters) at such price less a concession not in excess of \$ per share. The underwriters may allow, and such dealers may re-allow, to certain other dealers a concession not in excess of \$ per share. After the initial offering of the common stock, the public offering price and other selling terms may be changed by the representatives at any time without notice.

DLJdirect, Inc., an affiliate of Donaldson, Lufkin & Jenrette Securities Corporation and a member of the selling group, is facilitating the distribution of the shares sold in the offering over the Internet. The underwriters have agreed to allocate a limited number of shares to DLJdirect, Inc. for sale to its brokerage account holders.

EMCORE has granted to the underwriters an option, exercisable within 30 days after the date of this prospectus, to purchase, from time to time, in whole or in part, up to an aggregate of 555,000 additional shares of common stock at the public offering price less underwriting discounts and commissions. The underwriters may exercise such option solely to cover over-allotments, if any, made in connection with this offering. To the extent that the underwriters exercise such option, each underwriter will become obligated, subject to certain conditions, to purchase its pro rata portion of such additional shares based on such underwriter's percentage underwriting commitment as indicated in the preceding table.

EMCORE and the selling shareholders have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act of 1933, or to contribute to payments that the underwriters may be required to make in respect thereof.

Each of EMCORE, its executive officers and directors and certain shareholders of EMCORE (including the selling shareholders) has agreed, subject to certain exceptions, not to (i) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase or otherwise transfer or dispose of, directly or indirectly, any shares of common stock or (ii) enter into any swap or other arrangement that transfers all or a portion of the economic consequences associated with the ownership of any common stock (regardless of whether any of the transactions described in clause (i) or (ii) is to be settled by the delivery of common stock, or such other securities, in cash or otherwise) for a period of 90 days after the date of the prospectus without the prior written consent of Donaldson, Lufkin & Jenrette. In addition, during such period, EMCORE has also agreed not to file any registration statement with respect to, and each of its executive officers, directors and certain shareholders of EMCORE (including the selling shareholders) has agreed not to make any demand for, or exercise any right with respect to, the registration of any shares of common stock or any securities convertible into or exercisable or exchangeable for common stock without the prior written consent of Donaldson, Lufkin & Jenrette.

Other than in the United States, no action has been taken by EMCORE, the selling shareholders or the underwriters that would permit a public offering of the shares of common stock offered hereby in any jurisdiction where action for that purpose is required. The shares of common stock offered hereby may not be offered or sold, directly or indirectly, nor may this prospectus or any other offering material or advertisements in connection with the offer and sale of any such shares of common stock be distributed or published in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of such jurisdiction. Persons into whose possession this prospectus comes are advised to inform themselves about and to observe any restrictions relating to this offering of the common stock and the distribution of this prospectus. This prospectus does not constitute an offer to sell or solicitation of an offer to buy any shares of common stock offered hereby in any jurisdiction in which such an offer or a solicitation is unlawful.

The underwriters and dealers may engage in passive market making transactions in the common stock in accordance with Rule 103 of Regulation M promulgated by the Commission. In general, a passive market maker may not bid for or purchase shares of common stock at a price that exceeds the highest independent bid. In addition, the net daily purchases made by any passive market maker generally may not exceed 30% of its average daily trading volume in the common stock during a specified two-month period, or 200 shares, whichever is greater. A passive maker must identify passive market making bids as such on the Nasdaq electronic inter-dealer reporting system. Passive market making may stabilize or maintain the market price of the common stock above independent market levels. Underwriters and dealers are not required to engage in passive market making and may end passive market making activities at any time.

In connection with the offering, the underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the common stock. Specifically, the underwriters may overallot this offering, creating a syndicate short position. In addition, the underwriters may bid for and purchase shares of common stock in the open market to cover syndicate short positions or to stabilize the price of the common stock. Finally, the underwriting syndicate may reclaim selling concessions from

syndicate members in the offering, if the syndicate repurchases previously distributed common stock in syndicate covering transactions, in stabilization transactions or otherwise. Any of these activities may stabilize or maintain the market price of the common stock above independent market levels. The underwriters are not required to engage in these activities, and may end any of these activities at any time.

## LEGAL MATTERS

The validity of the common stock offered hereby will be passed upon for EMCORE by White & Case LLP, Miami, Florida, who may rely upon Dillon, Bitar & Luther, New Jersey counsel for EMCORE as to matters of New Jersey law. Certain legal matters in connection with this offering will be passed upon for the underwriters by Brobeck, Phleger & Harrison LLP, New York, New York.

### EXPERTS

The consolidated financial statements of EMCORE as of September 30, 1998 and for the year then ended included and incorporated by reference in this prospectus, have been audited by Deloitte & Touche LLP, independent auditors, as stated in their report (which expresses an unqualified opinion and includes an explanatory paragraph relating to a restatement described in Note 20), which is included and incorporated by reference herein, and has been so included and incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

The balance sheet as of September 30, 1997, and the statements of operations, shareholders' equity and cash flow for the two year period ended September 30, 1997, included in this prospectus, have been included herein in reliance on the report of PricewaterhouseCoopers LLP, independent accountants, given on the authority of that firm as experts in accounting and auditing.

The financial statements of MicroOptical Devices, Inc. included in this prospectus and elsewhere in the registration statement, to the extent and for the periods indicated in their reports, have been audited by Arthur Andersen LLP, independent public accountants, and are included herein in reliance upon the authority of said firm as experts in giving said reports. EMCORE has agreed to indemnify and hold harmless Arthur Andersen LLP and its personnel for any costs and expenses including attorneys' fees incurred by Arthur Andersen in successful defense of a legal action or proceeding that arises as a result of Arthur Andersen's consent to the inclusion of its audit reports on MODE's past financial statements in a registration statement filed by EMCORE with the SEC. A successful defense in this context would be one in which Arthur Andersen is neither decreed to have been culpable nor pays any part of MODE's or EMCORE's damages as a result of judgment or settlement.

The statements in this Prospectus set forth under the captions "Risk Factors -- Our ability to protect our trade secrets is crucial to our business." "-- We may require licenses to continue to manufacture and sell certain of our compound semiconductor wafers and devices." and discussions of trade secrets and the Rockwell Patent litigation in "Business -- Intellectual Property and Licensing" have been reviewed and approved by Lerner David Littenberg Krumholz & Mentlik, Westfield, New Jersey, patent counsel for EMCORE, as experts on such matters, and are included herein in reliance upon such review and approval.

#### PRO FORMA CONSOLIDATED STATEMENT OF OPERATIONS (UNAUDITED)

On December 5, 1997, EMCORE acquired all of the outstanding capital stock of MODE in exchange for 1,461,866 shares of EMCORE's common stock, 200,966 common stock purchase options and 47,118 common stock purchase warrants. The purchase price was approximately \$32.8 million, including direct acquisition costs of approximately \$500,000. MODE was a development stage company (incorporated in August 1995) and had 18 employees at the date of acquisition. MODE's activities were substantially directed towards the research and development of optical laser devices. The following unaudited pro forma consolidated statement of operations is based on the historical financial statements of EMCORE and MODE, adjusted to give the effect to the acquisition of MODE by EMCORE. The unaudited pro forma consolidated statements of operations assume that the acquisition of MODE by EMCORE occurred as of October 1, 1997. The pro forma financial information reflects the purchase method of accounting for the acquisition of MODE. The accompanying unaudited pro forma information does not give effect to any cost savings that may be realized as a result of the integration of EMCORE and MODE, or to any changes in the revenues of the combined entity, resulting from such integration. The accompanying unaudited pro forma financial information should be read in conjunction with EMCORE's historical financial statements and the notes thereto and the MODE historical financial statements and the notes thereto included herein. Such unaudited pro forma financial information does not purport to be indicative of the results of operations of EMCORE in the future or what its financial position and results of operations would have been had the acquisition occurred at the dates indicated above.

 ${\tt EMCORE's}$  acquisition of MODE, a development stage company, constituted a significant and strategic investment for EMCORE to acquire and gain access to MODE's in-process research and development of micro-optical technology. EMCORE's over-riding investment consideration was that if MODE's research and development efforts, with continued research and development funding contemplated and required after acquisition, yielded commercial products for targeted applications, EMCORE would possess a broader array of enabling advanced technologies and would be better positioned for entry into certain existing large and/or high growth technology-dependent markets. The primary value enhancing asset acquired in the MODE acquisition was the technology under development by MODE as part of its planned micro-laser and optical subassembly products. EMCORE plans to use MODE's micro-optical laser technology in new products for data communications and telecommunications applications. As of the date of acquisition, MODE had six primary micro-optical laser research and development projects in process. EMCORE expects MODE's microlasers and optical subassemblies to provide design, performance and significant cost advantages over their technical predecessors such as edge-emitting solid state lasers. Through the integration of vertical cavity surface emitting lasers (VCSELs) with leading original equipment manufacturer systems design, VCSELs are expected to provide enhanced performance benefits to market applications such as Internet access, onboard photonics, Gigabit Ethernet, local area networks, microarea network, digital video discs (DVDs) and fiberoptic switching. In developing EMCORE's financial projections for future revenues and costs, new micro-optical laser product introductions were expected to commence in fiscal 1998 and reflected the

impact of entering new markets such as the data communications and telecommunications industries. Should EMCORE be unable to complete the development of any of the six projects, EMCORE may not realize the product, market and financial benefits expected from this acquisition. In February 1998, MODE announced the introduction of its first commercial product, a Gigalase VCSEL. Subsequent to such announcement, MODE's Gigalase product efforts were primarily directed toward engineering, testing and quality control activities to facilitate commercial production which commenced in May 1998. On December 14, 1998, MODE announced its second commercial product, a Gigarray VCSEL.

As part of the acquisition, EMCORE incurred a one-time in-process research and development write-off of \$19.5 million which is reflected in the accompanying financial statements. EMCORE also recorded goodwill of approximately \$13.2 million. This is being charged against operations over a three year period, and will therefore impact financial results through December 2000.

	YEAR ENDED SEPTEMBER 30, 1998			
	HISTORICAL		PR0 F0	RMA
	EMCORE	MODE		COMBINED
Revenues Cost of sales	\$43,760 24,675	\$100 161	\$ 	\$ 43,860 24,836
Gross profit	19,085			19,024
Operating expenses Selling, general and administrative Goodwill amortization(2) Research and development:(3) One-time acquired in-process	14,082 3,655 19,516	346	738 (19,516)	14,428 4,393
Recurring	16,495  53,748	283  629	(18,778)	16,778  35,599
Operating loss		(690)	18,778	(16,575)
Other expenses Stated interest expense (income), net Imputed warrant interest, non-cash Equity in net loss of unconsolidated affiliate	974 601 198	(4)		970 601 198
Total other expense	1,773	(4)		1,769
Loss before income taxes and extraordinary item Provision for income taxes	(36,436)	(686)	18,778	(18,344)
Net loss	(36,436)	(686)		(18,344)
Shares used in computation of net loss	8,775 ======			8,775
Net loss per share before extraordinary item	\$ (4.15) =======			\$ (2.09) =======
Net loss per share				\$ (2.09) =======

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Notes to Pro Forma Statement of Operations

(1) EMCORE acquired MODE on December 5, 1997 in exchange for (i) the issuance of 1,461,866 shares of common stock, and (ii) the assumption of (x) up to 200,966 common stock purchase options at exercise prices ranging from \$0.43 to \$0.59 and (y) 47,118 common stock purchase warrants at exercise prices ranging from \$4.32 to \$5.92. The transaction purchase price amounted to approximately \$32,800,000, including approximately \$500,000 of direct acquisition costs. EMCORE's common stock was valued based upon the average closing price of EMCORE's common stock for the five days before and after the announcement of the acquisition. The purchase price was allocated to the assets acquired (approximately \$2,801,000) and liabilities assumed (approximately \$2,645,000), based upon the fair value at the date of acquisition. In addition, EMCORE recorded a one-time write-off of approximately \$19,516,000 (as restated) relating to purchased in-process research and development. Goodwill of approximately \$13,157,000 (as restated) was recorded as a result of the acquisition.

- (2) To reflect the amortization of goodwill over a period of three years.
- (3) To reverse the non-recurring, one-time write-off of \$19,516,000 (as restated) relating to purchased in-process research and development.
- (4) The operating results of MODE are from the period of October 1, 1997 through the date of acquisition. Subsequent to the date of acquisition, MODE's operations are included with those of EMCORE.

The pro forma statement of operations for the year ended September 30, 1998, does not reflect the non-recurring write-off of the acquired in-process research and development.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The following documents have been filed by EMCORE with the Commission under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and are incorporated herein by reference:

1. EMCORE'S Annual Report on Form 10-K and 10-K/A for the fiscal year ended September 30, 1998;

2. EMCORE's Quarterly Reports on Form 10-Q and 10-Q/A for the period ended December 31, 1998 and on Form 10-Q for the period ended March 31, 1999;

3. EMCORE's Current Report on Form 8-K dated May 13, 1999; and

4. The description of the common stock, contained in EMCORE's Registration Statement on Form 8-A filed pursuant to Section 12 of the Exchange Act and all amendments thereto and reports filed for the purpose of updating such description.

All documents filed by us pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act: (1) subsequent to the initial filing of this prospectus and prior to the date it is declared effective; and (2) subsequent to the date of this prospectus and prior to the termination of this offering are incorporated by reference and become a part of this prospectus and to be a part hereof from their date of filing. Any statement contained in this prospectus to the extent that a statement contained in any such document modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

On request, we will provide anyone who receives a copy of this prospectus with a copy of any or all of the documents incorporated in this prospectus by reference. We will provide this information at no cost to you. Written or telephone requests for such copies should be directed to our principal office: EMCORE Corporation, 394 Elizabeth Avenue, Somerset, New Jersey 08872, Attn: Thomas G. Werthan, Secretary, Telephone (732) 271-9090.

#### AVAILABLE INFORMATION

We file reports, proxy statement and other information with the Commission. Those reports, proxy statements and other information may be obtained:

- At the Public Reference Room of the Commission, Room 1024 -- Judiciary Plaza, 450 Fifth Street, N.W., Washington, DC 20549 (for information, please call 1-800-SEC-0330);
- At the public reference facilities at the Commission's regional offices located at Seven World Trade Center, 13th Floor, New York, New York 10048 or Northwestern Atrium Center, 500 West Madison Street, Suite 1400, Chicago, Illinois 60661;
- By writing to the Commission, Public Reference Section, Judiciary Plaza, 450 Fifth Street, N.W., Washington, DC 20549;
- At the offices of the National Association of Securities Dealers, Inc., Reports Section, 1735 K Street, N.W., Washington, DC 20006; or
- From the Internet site maintained by the Commission at http://www.sec.gov. which contains reports, proxy and information statements and other information regarding issuers that file electronically with the Commission.

Some locations may charge prescribed or modest fees for copies.

EMCORE has filed with the Commission a Registration Statement on Form S-3 (together with any amendments or supplements thereto, the "Registration Statement") under the Securities Act covering the shares of common stock offered hereby. As permitted by the Commission, this prospectus, which constitutes a part of the Registration Statement, does not contain all the information included in the Registration Statement. Such additional information may be obtained from the locations described above. Statements contained in this prospectus as to the contents of any contract or other document are not necessarily complete. You should refer to the contract or other document for all the details.

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To the Board of Directors and Shareholders of EMCORE Corporation Somerset, New Jersey

We have audited the accompanying consolidated balance sheet of EMCORE Corporation, (the "Company") as of September 30, 1998, and the related consolidated statements of operations, shareholders' equity, and cash flows for the year then ended. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the financial statements based on our audit.

We conducted our audit in accordance with generally accepted auditing standards. Those standards 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. 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 audit provides a reasonable basis for our opinion.

In our opinion, the 1998 consolidated financial statements present fairly, in all material respects, the financial position of the Company as of September 30, 1998, and the results of their operations and their cash flows for the year then ended in conformity with generally accepted accounting principles.

As discussed in Note 20 the accompanying 1998 consolidated financial statements have been restated.

DELOITTE & TOUCHE LLP

Parsippany, New Jersey May 14, 1999 To the Board of Directors and Shareholders of EMCORE Corporation

We have audited the accompanying balance sheet of EMCORE Corporation (the "Company") as of September 30, 1997, the related statements of operations, shareholders' (deficit) equity and cash flows for each of the two years in the period ended September 30, 1997. These financial statements schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements schedule based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards 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. 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 financial statements referred to above present fairly, in all material respects, the financial position of EMCORE Corporation as of September 30, 1997, and the results of its operations and its cash flows for each of the two years in the period ended September 30, 1997, in conformity with generally accepted accounting principles.

Coopers & Lybrand L.L.P.

Parsippany, New Jersey November 3, 1997, except for note 15, as to which the date is December 5, 1997

# CONSOLIDATED BALANCE SHEETS

	AS OF SEPT	TEMBER 30,	AS OF MARCH 31,
	1997	1998 (AS RESTATED SEE NOTE 20)	1999 (UNAUDITED) (AS RESTATED SEE NOTE 20)
Current assets: Cash and cash equivalents Restricted cash Accounts receivable, net of allowance for doubtful accounts of approximately \$697,000, \$611,000 and	\$ 3,653,145 312,500	\$ 4,455,836 62,500	\$ 1,640,437 
<pre>\$577,000 at September 30, 1997, September 30, 1998 and March 31, 1999, respectively Accounts receivable related parties Inventories, net Costs in excess of billings on uncompleted</pre>	8,439,704 2,500,000 7,185,626	7,437,822 500,000 12,445,326	11,462,660 2,746,731 12,684,046
contracts Prepaid expenses and other current assets	120,393	77,531 130,075	93,962 199,919
Total current assets Property, plant and equipment, net Goodwill, net	22,211,368 16,797,833	25,109,090 36,209,831 9,519,000	28,827,755 43,259,928 7,322,000
Investments in unconsolidated affiliates Other assets, net	453,608	291,504 2,090,219	4,391,762 1,269,705
Total assets		\$ 73,219,644 ======	\$ 85,071,150 ======
Current liabilities: Note payable related party Accounts payable Accrued expenses. Advanced billings Capitalized lease obligation current	\$ 4,050,216 3,867,589 1,998,183 15,030	\$ 7,000,000 12,022,628 4,197,405 3,180,370 673,036	\$ 9,131,425 5,457,262 6,682,305 731,908
Other current liabilities	124,279	52,778	161,815
Total current liabilities Long-term debt: Bank loans	10,055,297	27,126,217 17,950,000	22,164,715 23,000,000
Subordinated notes, net Capitalized lease obligation, net of current	7,499,070	7,808,772	8,002,588
portion Other liabilities	77,870 	754,517 	470,242 1,097,389
Total liabilities	17,632,237	53,639,506	54,734,934
Mandatorily redeemable convertible preferred stock, 1,550,000 shares issued and outstanding at March 31, 1999 (redeemable at maturity for \$21,700,000) Shareholders' equity: Preferred stock, \$.0001 par value, 5,882,353 shares			21,368,476
authorized, no shares outstanding in all periods Common stock, no par value, 23,529,411 shares authorized, 6,000,391, 9,375,952, and 9,446,347 issued and outstanding September 30, 1997, September 30, 1998 and March 31, 1999,			
respectively Accumulated deficit Notes receivable from warrant issuances and stock	45,816,774 (23,777,658)	87,443,237 (60,196,454)	
sales	(208,544)		
Total shareholders' equity	21,830,572	19,580,138	8,967,740
Total shareholders' equity and mandatorily redeemable convertible preferred stock	21,830,572	19,580,138	30,336,216
Total liabilities, shareholders' equity, and mandatorily redeemable convertible preferred stock	\$ 39,462,809	\$ 73,219,644	\$ 85,071,150
	===========	==========	==========

The accompanying notes are an integral part of these consolidated financial statements.

# CONSOLIDATED STATEMENTS OF OPERATIONS

	YEARS ENDED SEPTEMBER 30,			SIX MONTHS ENDED MARCH 31,		
	1996	1997	1998 (AS RESTATED SEE NOTE 20)	1998		
				(AS RESTATED SEE NOTE 20)	(AS RESTATED SEE NOTE 20)	
Revenues: Systems and materials Services		1,160,910	939,192	\$25,881,555 283,020	\$ 26,048,272 148,402	
Total revenues Cost of sales:			43,759,983		26,196,674	
Systems and materials	16,121,938 2,484,482	29,309,898 784,117	24,148,783 526,706	13,808,098 101,071	15,165,847 52,998	
Total cost of sales		30,094,015	24,675,489	13,909,169		
Gross profit	9,172,465		19,084,494			
Operating expenses:						
Selling, general and administrative Goodwill amortization Research and development		9,346,329	14,082,438 3,637,941	5,753,766 1,441,941	6,367,485 2,197,000	
Research and development one-time acquired in-process,	5,401,413	9,001,188	16,494,888	5,876,593	10,272,376	
non-cash			19,516,000	19,516,000		
Total operating expenses			53,731,267	32,588,300	18,836,861	
Operating loss	(2,753,430)	(688,960)	(34,646,773)	(20,332,894)	(7,859,032)	
Other expenses: Stated interest, net of interest income of \$71,000, \$237,000, and \$448,000 for the years ended September 30, 1996, 1997 and 1998, respectively, and \$192,000 and \$285,000 for the six months ended March 31, 1998						
and 1999, respectively Imputed warrant interest expense,	297,093	519,422		·	693,112	
non-cash Equity in net loss of	125,791	3,988,390	600,536	192,121		
unconsolidated affiliate			198,495		1,671,021	
Loss before income taxes and extraordinary item Provision for income taxes	(3,176,314)	(5,196,772) 137,000	(36,418,796)	(20,640,937) 20,000	(10,856,138) 	
Net loss before extraordinary item Extraordinary item loss on early extinguishment of debt	(3,176,314)	(5,333,772) 285,595	(36,418,796)	(20,660,937)	(10,856,138)	
Net loss	\$(3,176,314)		\$(36,418,796)	\$(20,660,937)	\$(10,856,138)	
Per share data: Weighted average basic and diluted shares used in per share data calculations Net loss per basic and diluted share before extraordinary			8,775,270	8,189,112	9,408,570	
item	\$ (1.06) =======	\$ (1.14) ========	\$ (4.15) ========	\$ (2.52) ======	\$ (1.17) =======	
Net loss per basic and diluted share	\$ (1.06) ======	\$ (1.20) =======	\$ (4.15) =======	\$ (2.52) ======	\$ (1.17) =======	

The accompanying notes are an integral part of these consolidated financial statements.

# CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY FOR THE YEARS ENDED SEPTEMBER 30, 1996, 1997, 1998 AND THE SIX-MONTH PERIOD ENDED MARCH 31, 1999

	COMMON STOCK			SHAREHOLDERS'	
	SHARES	AMOUNT	ACCUMULATED DEFICIT	NOTES RECEIVABLE	SHAREHOLDERS' EQUITY
BALANCE AT SEPTEMBER 30, 1995 Issuance of common stock purchase	2,994,461	\$16,637,566	\$(14,981,977)	\$ (146,107)	\$ 1,509,482
warrants Notes receivable due from shareholders		2,340,000			2,340,000
in connection with issuance of detachable warrants				(151,579)	(151,579)
Net loss			(3,176,314)		(3,176,314)
BALANCE AT SEPTEMBER 30, 1996 Issuance of common stock purchase	2,994,461	18,977,566	(18,158,291)	(297,686)	521,589
warrants Issuance of common stock in initial public offering, net of issuance cost		3,601,455			3,601,455
of \$3,110,345 Issuance of common stock on exercise of	2,875,000	22,764,655			22,764,655
warrants Issuance of common stock on exercise of	94,124	384,027			384,027
stock options Redemptions of notes receivable from	34,965	53,640			53,640
shareholders Forgiveness of notes receivable from				31,842	31,842
shareholder Compensatory stock issuances	1,841	35,431	(5 610 267)	57,300	57,300 35,431 (5,610,267)
Net loss			(5,619,367)		(5,619,367)
BALANCE AT SEPTEMBER 30, 1997 Issuance of common stock purchase	6,000,391	45,816,774	(23,777,658)	(208,544)	21,830,572
warrants Issuance of common stock on exercise of warrants in exchange for notes		1,309,546			1,309,546
receivable Issuance of common stock and common stock purchase options and warrants in connection with the acquisition of	1,827,966	7,458,101		(7,458,101)	
MODEStock option exercise	1,461,866 35,809	32,329,000 83,486			32,329,000 83,486
Stock purchase warrant exercise Issuance of common stock on exercise of warrants in exchange for subordinated	5,660	23,092			23,092
notes	17,605	71,841			71,841
Compensatory stock issuances Net loss (as restated, see Note 20)	26,655	351,397	(36,418,796)		351,397 (36,418,796)
BALANCE AT SEPTEMBER 30, 1998 (AS RESTATED, SEE NOTE 20) Preferred stock dividends Periodic accretion of redeemable preferred stock to mandatory	9,375,952	87,443,237	(60,196,454) (144,663)	(7,666,645)	19,580,138 (144,663)
redemption value			(23,810)		(23,810)
Stock purchase warrant exercise Stock option exercise	359 55,564	1,157 200,069			1,157 200,069
Compensatory stock issuances	14,472	210,987	(10 956 120)		210,987
Net loss			(10,856,138)		(10,856,138)
BALANCE AT MARCH 31, 1999 (UNAUDITED)	9,446,347 ======	\$87,855,450 ======	\$(71,221,065) ======	\$(7,666,645) ======	\$ 8,967,740 ======

The accompanying notes are an integral part of these consolidated financial statements.

# CONSOLIDATED STATEMENTS OF CASH FLOWS

	YEARS ENDED SEPTEMBER 30,			SIX MONTHS ENDED MARCH 31,	
	1996	1997	1998 (AS RESTATED SEE NOTE 20)	1998 (UNAUD	1999 DITED)
				(AS RESTATED SEE NOTE 20)	(AS RESTATED SEE NOTE 20)
CASH FLOWS FROM OPERATING ACTIVITIES:					
Net loss Adjustments to reconcile net loss to net cash provided by (used for) operating activities: Acquired in-process research	\$ (3,176,314)	\$ (5,619,367)	\$(36,418,796)	\$(20,660,937)	\$(10,856,138)
and development, non-cash Depreciation and			19,516,000	19,516,000	
amortization Provision for doubtful	1,871,016	3,187,755	8,767,105	4,087,116	5,661,977
accounts Provision for inventory	146,418	515,000	1,118,000	(80,200)	120,000
valuation Deferred gain on sale to	105,000	120,000	120,000	60,000	
associated company Detachable warrant accretion and debt issuance cost					1,259,204
amortization	125,792	3,988,390	600,536	192,121	632,973
Extraordinary loss on early extinguishment of debt Equity in net loss of an		285,595			
unconsolidated affiliate Compensatory stock issuances Write-off note receivable due		35,431	198,495 351,397	169,833	1,671,021 210,987
from shareholder Change in assets and liabilities:		57,300			
Accounts receivable trade Accounts receivable related	(1,041,956)	(5,929,533)	1,882	(2,559,591)	(4,144,838)
party Inventories	(4,410,566)	(2,500,000) 339,414	2,000,000 (5,243,187)	(2,636,638)	(2,246,731) (238,719)
Costs in excess of billings on uncompleted contracts	(2,882)	19,322	(77,531)	(19,281)	(16,431)
Prepaid expenses and other current assets Other assets Accounts payable	(26,784) (468,565) 3,398,078	(60,458) 27,568 (2,029,154)	12,632 (623,775) 7,949,760	(258,792) (168,226) 1,413,423 (1,255,428)	(69,844) 315,876 (2,891,203)
Accrued expenses Advanced billings Billings in excess of costs on	777,899 1,122,667	1,880,943 (1,308,279)	(970,148) 1,182,187	(1,255,438) (1,912,317)	1,259,857 3,501,935
uncompleted contracts Unearned service revenue	(306,359) 12,315	 111,964	(71,501)	(94,279)	(52,778)
Total adjustments	1,302,073	(1,258,742)	34,831,852	16,453,731	4,973,286
Net cash and cash equivalents used for operating					
activities	(1,874,241)	(6,878,109)		(4,207,206)	(5,882,852)
CASH FLOWS FROM INVESTING ACTIVITIES:					
Purchase of property, plant, and equipment Acquisition, cash acquired Investments in unconsolidated	(7,090,869) 	(11,631,642)	(22,132,071) 192,799	(4,995,579) 192,799	(10,448,436) 
affiliates			(490,000)		(5,771,279)
restricted cash		(312,500)	250,000	124,999	62,501
Net cash and cash equivalents used for investing					
activities	(7,090,869)	(11,944,142)	(22,179,272)	(4,677,781)	(16,157,214)

	YEARS ENDED SEPTEMBER 30,			SIX MONTHS ENDED MARCH 31,		
	1996	1997	1998 (AS RESTATED SEE NOTE 20)	1998 (UNAUI		
			SEE NOTE 20)	(AS RESTATED SEE NOTE 20)		
CASH FLOWS FROM FINANCING ACTIVITIES:						
Proceeds from preferred stock offering net of issuance costs of \$500,000 Proceeds from initial public					21,200,000	
offering, net of issuance cost of \$3,110,345 Proceeds (payments) under bank		22,764,655				
<pre>loans Proceeds (payments) from notes payable, related party,</pre>		8,000,000	17,950,000	7,950,000	5,050,000	
net Proceeds from subordinated note			7,000,000		(7,000,000)	
issuance Payments on demand note facility and subordinated	11,009,600					
debt Proceeds from exercise of stock		(10,000,000)				
purchase warrants Proceeds from exercise of stock		85,121	23,092	19,131	308	
options Payments on capital lease		53,640	83,486	41,926	199,763	
obligations Reduction in notes receivable	(3,000,000)	(5,723)	(487,671)	(187,105)	(225,403)	
from shareholders		210,317				
Net cash and cash equivalents provided by financing						
activities	8,009,600	21,108,010	24,568,907	7,823,952	19,224,668	
Net (decrease) increase in cash and cash equivalents Cash and cash equivalents at	(955,510)	2,285,759	802,691	(1,061,035)	(2,815,398)	
	2,322,896	1,367,386	3,653,145	3,653,145	4,455,835	
Cash and cash equivalents at end of period	¢ 1 267 296	\$ 3,653,145	\$ 4,455,836	\$ 2,592,110	¢ 1 640 427	
SUPPLEMENTAL DISCLOSURES OF CASH		============			\$ 1,640,437 =======	
FLOW INFORMATION: Cash paid for interest	¢ 276 000	¢ 600 000	\$ 1,347,000	314,521	96E 097	
Cash paid for income taxes NONCASH INVESTING AND FINANCING ACTIVITIES:		\$    600,000 	ф <u>1,347,000</u> 		865,087 	
Common stock issued on the exercise of warrants in exchange for subordinated						
notes Issuance of common stock on the exercise of warrants in exchange for notes			\$ 71,841			
receivable Issuance of common stock, and common stock purchase options and warrants in connection with			\$ 7,458,101	\$ 7,458,101		
the acquisition of MicroOptical Devices, Inc			\$ 32,329,003	\$32,329,003		

Reference is made to Note 8 -- Debt Facilities -- for disclosure relating to certain non-cash warrant issuance.

The accompanying notes are an integral part of these consolidated financial statements.

#### NOTES TO FINANCIAL STATEMENTS

### NOTE 1. DESCRIPTION OF BUSINESS

EMCORE is a designer and developer of compound semiconductor materials and process technology and a manufacturer of production systems used to fabricate compound semiconductor wafers. Compound semiconductors are used in a broad range of applications in wireless communications, telecommunications, computers, and consumer and automotive electronics. The Company has recently capitalized on its technology base by expanding into the design and production of compound semiconductor wafers and package-ready devices and under specific arrangements has licensed certain process technologies. During fiscal 1998, the Company completed the acquisition of a development stage company focused on the research and development of optical laser technologies (see Note 3). The Company offers its customers a complete, vertically-integrated solution for the design, development and production of compound semiconductor wafers and devices.

Basis of Presentation and Liquidity. The accompanying financial statements have been prepared on a going concern basis. For the year ended September 30, 1998, the Company experienced an 8% decline in revenue of approximately \$4.0 million and a substantial operating loss amounting to approximately \$34.6 million (approximately \$15.1 million excluding the effect of acquired in-process research and development) and had a working capital deficiency of \$2.0 million.

The Company's operations are subject to a number of risks, including but not limited to a history of net losses from operations, future capital needs, dependence on key personnel, competition and risk of technological obsolescence, governmental regulations and approvals, technology research and development results, continued development of its compound semiconductor manufacturing and marketing capabilities and a concentration of international sales in Asia. The Company's operations for the year ended September 30, 1998 were primarily funded through borrowings under existing credit facilities and short-term advances from the Company's Chairman -- aggregating \$7.0 million as of September 30, 1998. The Company's Chairman has from time to time provided credit enhancements in the form of debt guarantees and has loaned the Company funds to support its expansion and capital equipment requirements. The Company's Chief Executive Officer has also provided credit enhancement in the form of debt guarantees for the Company. On November 30, 1998, the Company completed a preferred stock private placement (the "Private Placement" see Note 17), resulting in net proceeds of \$21.2 million. The Company repaid its Chairman \$8.5 million (including \$1.5 million advanced to the Company subsequent to September 30, 1998), invested approximately \$5.6 million in two unconsolidated ventures, used \$2 million to repay debt and the balance is being used for general working capital purposes. In addition, the Company's \$10.0 million credit facility was extended to October 1, 1999. The Company's Chairman has committed to provide the Company with \$30 million of long-term financing through July 1, 2000. The Chairman's financing commitment terminates if the Company completes a secondary offering of approximately \$40.0 million. The Company's operating plans include, among other things attempting to improve (i) operating cash flow through increased sales of compound semiconductor systems, wafers and package-ready devices

#### NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

and (ii) managing its cost structure in relation to its anticipated level of revenues. The Company believes that its current liquidity, together with available credit facilities and the proceeds from the Private Placement, should be sufficient to meet its cash needs for working capital through fiscal 1999. If the working capital generated from the Private Placement and cash generated from operations is not sufficient to satisfy the Company's liquidity requirements, the Company will seek to obtain additional equity or debt financing. Additional funding may not be available when needed or on terms acceptable to the Company. If the Company is required to raise additional financing and if adequate funds are not available or are not available on acceptable terms, the ability to continue to fund expansion, develop and enhance products and services, or otherwise respond to competitive pressures would be severely limited. Such a limitation could have a material adverse effect on the Company's business, financial condition or operations and the financial statements do not include any adjustment that could result therefrom.

## NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Interim Financial Information. The financial information as of March 31, 1999 and for the six-month periods ended March 31, 1998 and 1999 is unaudited, but includes all adjustments (consisting only of normal recurring accruals) that the Company considers necessary for a fair presentation of the financial position at such date and the operating results and cash flows for those periods. Operating results for the six months ended March 31, 1999 are not necessarily indicative of the results that may be expected for the entire year.

Principles of Consolidation. The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiary. The equity method of accounting is used for unconsolidated affiliates in which the Company's equity is at least 20% and not more than 50%. All significant intercompany transactions are eliminated upon consolidation.

Cash and Cash Equivalents. The Company considers all highly liquid short-term investments purchased with an original maturity of three months or less to be cash equivalents. The Company had approximately \$2.3 million and \$3.0 million in cash equivalents at September 30, 1997 and 1998, respectively. As of September 30, 1998, the Company had restricted cash in the amount of \$62,500 due to a contractual obligation.

Inventories. Inventories are stated at the lower of FIFO (first-in, first-out) cost or market. Reserves are established for slow moving or obsolete inventory based upon historical and anticipated usage.

Property and Equipment. Property and equipment are stated at cost. Significant renewals and betterments are capitalized. Maintenance and repairs which do not extend the useful lives of the respective assets are expensed. Depreciation is recorded using the straight-line method over the estimated useful lives of the applicable assets, which range from three to five years. Leasehold improvements are amortized using the straight-line method over the term of the related leases or the estimated useful lives of

#### NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

the improvements, whichever is less. Depreciation expense includes the amortization of capital lease assets. When assets are retired or otherwise disposed of, the assets and related accumulated depreciation accounts are adjusted accordingly, and any resulting gain or loss is recorded in current operations.

Long-Lived Assets. The carrying amount of assets is reviewed on a regular basis for the existence of facts or circumstances, both internally and externally, that suggest impairment. To date no such impairment has been indicated. The Company determines if the carrying amount of a long-lived asset is impaired based on anticipated undiscounted cash flows before interest. In the event of an impairment, a loss is recognized based on the amount by which the carrying amount exceeds fair value of the asset. Fair value is determined primarily using the anticipated cash flows before interest, discounted at a rate commensurate with the risk involved.

Deferred Costs. Included in other assets are deferred costs related to obtaining product patents and debt issuance costs and an investment in an unconsolidated affiliate. Total amortization expense amounted to approximately \$128,000, \$40,000 and \$79,000 for the years ended September 30, 1996, 1997 and 1998, respectively. During the year ended September 30, 1998, the Company issued 284,684 common stock purchase warrants in exchange for the guaranteeing of a credit facility by the Company's Chairman and Chief Executive Officer. The warrants were assigned a value of \$1,310,000 which is being amortized over the eighteen month term of the facility. The warrants were valued by the Company based upon its application of the Black Scholes Option Pricing Model ("Black Scholes"). Amortization expense related to such warrant issuance amounted to approximately \$219,000 for fiscal 1998.

Goodwill. Goodwill is amortized using the straight-line method over three years. The Company, as applicable, evaluates whether there has been a permanent impairment in the value of goodwill. Any impairment would be recognized when the sum of expected undiscounted cash flows derived from the acquired business is less than its carrying value.

Income Taxes. The Company recognizes deferred taxes by the asset and liability method of accounting for income taxes. Under the asset and liability method, deferred income taxes are recognized for differences between the financial statement and tax bases of assets and liabilities at enacted statutory tax rates in effect for the years in which the differences are expected to reverse. The effect on deferred taxes of a change in tax rates is recognized in income in the period that includes the enactment date. In addition, valuation allowances are established when necessary to reduce deferred tax assets to the amounts expected to be realized. The primary sources of temporary differences are depreciation and amortization of intangible assets.

Revenue and Cost Recognition -- Systems, Components and Service Revenues. Revenue from systems sales is recognized upon shipment, when title passes to the customer. Subsequent to product shipment, the Company incurs certain installation costs at the customer's facility and warranty costs which are estimated and accrued at the time the sale is recognized. Component sales and service revenues are recognized when goods are shipped or services are rendered to the customer. Service revenue

#### NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

under contracts with specified service terms is recognized as earned over the service period in accordance with the terms of the applicable contract. Costs in connection with the procurement of the contracts are charged to expense as incurred.

Revenue and Cost Recognition -- Contract Revenue. The Company's research contracts require the development or evaluation of new materials applications and have a duration of six to thirty-six months. For research contracts with the U.S. Government and commercial enterprises with durations greater than six months, the Company recognizes revenue to the extent of costs incurred plus the estimated gross profit as stipulated in such contracts, based upon contract performance. Contracts with a duration of six months or less are accounted for on the completed contract method. A contract is considered complete when all costs, except insignificant items, have been incurred, and the research reporting requirements to the customer have been met. Contract costs include all direct material and labor costs and those indirect costs related to contract performance, such as indirect labor, supplies, tools, repairs and depreciation costs, as well as coverage of certain general and administrative costs. Provisions for estimated losses on uncompleted contracts are made in the period in which such losses are determined. Revenues from contracts amounted to approximately \$3,295,000, \$614,000 and \$438,000 for the years ended September 30, 1996, 1997 and 1998, respectively.

Research and Development. Research and development costs related to the development of both present and future products and Company-sponsored materials application research are charged to expense as incurred. In connection with the acquisition of MicroOptical Devices, Inc. ("MODE"), the Company recorded a charge of \$19,516,000 for acquired in-process research and development.

Fair Value of Financial Instruments. The Company estimates the fair value of its financial instruments based upon discounted cash flow analyses using the Company's incremental borrowing rate on similar instruments as the discount rate. As of September 30, 1998, the fair value of the Company's subordinated notes exceeded the carrying value of such instruments by approximately \$830,000. As of September 30, 1998, the carrying values of the Company's cash and cash equivalents, receivables, accounts payable and variable rate based debt as reflected on the Company's accompanying balance sheet approximates fair value.

Use of Estimates. 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. Estimates also affect the reported amounts of revenues and expenses during the reporting period. Actual results may differ from those estimates. The Company's most significant estimates relate to acquired in-process research and development, accounts receivable and inventory valuation reserves, warranty and installation accruals, estimates of cost and related gross profits on certain research contracts and the valuation of long-lived assets.

## NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

Net Loss Per Share. The Company accounts for earnings per share under the provisions of Statement of Financial Accounting Standards No. 128 "Earnings per Share" ("SFAS No. 128"). Basic and diluted earnings per share calculated pursuant to SFAS No. 128 have been restated for all periods presented to give effect to the Securities and Exchange Commission's Staff Accounting Bulletin No. 98 which eliminated certain computational requirements of Staff Accounting Bulletin No. 64.

Basic earnings per common share was calculated by dividing net loss by the weighted average number of common stock shares outstanding during the period. Diluted earnings per share was calculated by dividing net loss by the sum of the weighted average number of common shares outstanding plus all additional common shares that would have been outstanding if potentially dilutive common shares had been issued. The following table reconciles the number of shares utilized in the Company's earnings per share calculations.

	YEARS	ENDED SEPTEMBE	SIX MONTH MARCH		
	1996	1997	1998	1998 (UNAUD	
Net loss Preferred stock dividends Periodic accretion of preferred stock to	\$(3,176,314)	\$(5,619,367) 	\$(36,418,796) 	\$(20,660,937) 	\$(10,856,138) (144,663)
redemption value					(23,810)
Net loss available to common shareholders	\$(3,176,314)	\$(5,619,367)	\$(36,418,796)	\$(20,660,937)	\$(11,024,611)
Loss per common share basic	======= \$ (1.06) ========	\$ (1.20)	\$ (4.15)	\$ (2.52)	\$ (1.17)
Loss per common share diluted	\$ (1.06) ======	\$ (1.20) ======	\$ (4.15)	\$ (2.52)	\$ (1.17)
Common shares basic Effect of dilutive securities: Stock options and	2,994,466	4,668,822	8,775,270	8,189,112	9,408,570
warrants Preferred Stock					
Common shares diluted	2,994,466	4,668,822	8,775,270	8,189,112	9,408,570

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The effect of outstanding common stock purchase options and warrants and the number of shares to be issued upon the conversion of the Company's Series I Preferred Stock have been excluded from the Company's earnings per share calculation since the effect of such securities is anti-dilutive.

Reclassifications. Prior period balances have been reclassified to conform with the current period financial statement presentation.

#### NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

## Recent Accounting Pronouncements

In June 1997, the Financial Accounting Standards Board ("FASB") issued Statement of Financial Accounting Standards ("SFAS") No. 131 "Disclosures about Segments of an Enterprise and Related Information" ("SFAS No. 131"), which establishes standards for reporting information about operating segments in annual financial statements. It also establishes standards for related disclosures about products and services, geographic areas and major customers. The Company is required to adopt this standard in its fiscal year ended September 30, 1999. The adoption of SFAS No. 131 will not have an impact on the Company's results of operations, financial position or cash flows.

In March 1998, the American Institute of Certified Public Accountants ("AICPA") issued Statement of Position ("SOP") 98-1, "Accounting for the Cost of Computer Software Developed or Obtained for Internal Use" ("SOP 98-1"). SOP 98-1 is effective for financial statements for years beginning after December 15, 1998. SOP 98-1 provides guidance over accounting for computer software developed or obtained for internal use, including the requirement to capitalize specified costs and amortization of such costs. The Company does not expect the adoption of this standard to have a material effect on its results of operations, financial position or cash flows.

In April 1998, AICPA issued SOP 98-5, "Reporting on the Costs of Start-Up Activities" ("SOP 98-5"). SOP 98-5, which is effective for fiscal years beginning after December 15, 1998, provides guidance on the financial reporting of start-up costs and organization costs. It requires costs of start up activities and organization costs to be expenses as incurred. The adoption of this standard is not expected to have a significant impact on its results of operations, financial position or cash flows.

In June of 1998, the FASB issued SFAS No. 133, "Accounting for Derivative Instruments and Hedging Activities." This statement establishes accounting and reporting standards for derivative instruments and requires recognition of all derivatives as assets or liabilities in the statement of financial position and measurement of these instruments at fair value. The statement is effective for fiscal years beginning after June 15, 1999. Management believes that adopting this statement will not have a material impact on the financial position, results of operations, or cash flows of the Company.

#### NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

# NOTE 3. ACQUISITION

On December 5, 1997, the Company acquired all of the outstanding capital stock of MODE in exchange for 1,461,866 shares of EMCORE common stock, 200,966 common stock purchase options (exercise prices ranging from \$0.43 to \$0.59), and 47,118 common stock purchase warrants (exercise prices ranging from \$4.32 to \$5.92). The purchase price was approximately \$32,829,000 including direct acquisition costs of approximately \$500,000. The acquisition of MODE was recorded using the purchase method of accounting. Accordingly, the results of operations of the acquired business and the fair values of the acquired tangible and intangible assets and assumed liabilities have been included in the Company's financial statements as of December 5, 1997. The allocation of the fair value of the net assets acquired is as follows:

Net tangible assets Goodwill	. ,
Acquired in process research and development	
Total purchase price	\$32,829,000
	===========

The common stock issued in connection with the MODE acquisition was valued based upon the average closing price of the Company's common stock for the five days before and after the announcement date of the acquisition. The assumed MODE options and warrants were valued using Black-Scholes and such values amounted to approximately \$3,761,000 and \$793,000, respectively.

The MODE options have a term of 10 years from the date of grant, with such options expiring at various dates through July 2007. The options vest, with continued service, over a four-year period; 25% in year one and 75% equally over the remaining 36 months. The warrants have a term of 10 years from the date of grant, were exercisable upon grant, and expire at various dates through May 2007.

MODE was a development stage company (incorporated in August 1995) and had 18 employees at the date of acquisition. MODE's activities were substantially dedicated towards the research and development of optical laser devices at the date of acquisition.

Management is responsible for estimating the fair value of the acquired in-process research and development. As of the date of acquisition, MODE had six primary micro-optical laser research and development projects in-process, which had not reached technological feasibility. MODE's in-process research and development related to new technologies, the fair value assumptions relating to pricing, product margins and expense levels were based upon management's experience with its own operations and the compound semiconductor industry as a whole.

The Company allocated \$475,000 of the purchase price to the acquired workforce of MODE which is included in the approximately \$13.2 million of goodwill discussed above. The amount allocated to goodwill is being amortized over a period of three years.

#### NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

The following unaudited pro forma basis financial information reflects the combined results of operations of the Company and MODE, as if MODE had been acquired as of October 1, 1996 and October 1, 1997, respectively, but does not reflect the non-recurring write-off of the acquired in-process research and development. The summary includes the impact of certain adjustments, such as goodwill amortization and the number of shares outstanding.

	YEAR ENDED SEPTEMBER 30,		
	1997 (UNAUD	2000	
Revenue Net loss before extraordinary item Net loss Net loss per basic and diluted share	(12,219,000) (12,505,000)	(18,344,000) (18,344,000)	

The unaudited pro forma results of operations are not necessarily indicative of what actually would have occurred if the acquisition had occurred on October 1, 1996. In addition, the unaudited pro forma results of operations are not intended to be a projection of future results that might be achieved from the combined entity. The foregoing pro forma results of operations does not reflect the non-recurring write-off of acquired in-process research and development.

## NOTE 4. CONCENTRATION OF CREDIT RISK

The Company sells its compound semiconductor products domestically and internationally. The Company's international sales are generally made under letter of credit arrangements.

For the years ended September 30, 1996, 1997 and 1998, the Company sold 42.5%, 42.0% and 39.1% of its products to foreign customers, respectively.

The Company's world-wide sales to major customers were as follows:

	AS OF SEPTEMBER 30,				
	1996	1997	1998		
Customer A Customer B Customer C Customer D Customer E	\$ 6,558,930 1,773,864  1,530,000 2,075,722	\$ 4,872,540 7,158,619 2,500,000 3,085,000	\$ 7,563,137 5,602,120 2,501,500 178,856		
Total	\$11,938,516 =======	\$17,616,159	\$15,845,613 ========		

The Company performs material application research under contract with the U.S. Government or as a subcontractor of U.S. Government funded projects.

The Company performs ongoing credit evaluations of its customers' financial condition and collateral is not requested. The Company maintains reserves for potential credit losses based upon the credit risk of specified customers, historical trends and other information. To reduce credit risk and to fund manufacturing costs, the

# NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

Company requires periodic prepayments or irrevocable letters of credit on most production system orders. During the quarter ended June 30, 1998, the Company wrote off outstanding receivables of approximately \$1.0 million which was due from an Asian customer. Prior to this event, the Company's credit losses generally had not exceeded its expectations.

The Company has maintained cash balances with certain financial institutions in excess of the \$100,000 insured limit of the Federal Deposit Insurance Corporation.

## NOTE 5. INVENTORIES

The components of inventories consisted of the following:

	AS OF SEP	AS OF MARCH 31,	
	1997	1998	1999 (UNAUDITED)
Raw materials Work-in-process Finished goods		\$11,346,487 1,091,971 6,868	\$ 9,926,968 2,743,897 13,181
Total	\$7,185,626	\$12,445,326 =======	\$12,684,046

# NOTE 6. PROPERTY, PLANT AND EQUIPMENT

Major classes of property and equipment are summarized below:

	AS OF SEPT	AS OF MARCH 31,	
	1997	1998	1999 (UNAUDITED)
Land Building Equipment Furniture and fixtures Leasehold improvements Fixed assets under capital leases	\$ 19,190,770 2,300,146 6,085,256 98,623	<pre>\$ 1,028,902 7,493,385 28,367,324 3,255,680 9,948,121 2,042,728</pre>	<pre>\$ 1,028,902 8,915,945 34,379,727 3,999,342 10,283,521 3,956,157</pre>
Less: accumulated depreciation and amortization	27,674,795 (10,876,962) \$ 16,797,833	52,136,140 (15,926,309) \$ 36,209,831	62,563,594 (19,303,666)  \$ 43,259,928
	===========	============	================

## NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

At September 30, 1998, minimum future lease payments due under the capital leases are as follows:

PERIOD ENDING SEPTEMBER 30,

1999	\$ 796,648
2000	741,345
2001	62,478
2002	25,336
2003 and thereafter	
Total minimum lease payments Less: amount representing interest (average rate of 9.8%)	
Net minimum lease payments	1,427,553
Less: current portion	(673,036)
Long-term portion	\$ 754,517

The provisions for depreciation and amortization expense on owned property and equipment amounted to approximately \$1,743,000, \$3,148,000 and \$4,683,000 for the years ended September 30, 1996, 1997 and 1998, respectively. Accumulated amortization on assets accounted for as capital lease amounted to approximately \$366,000 as of September 30, 1998.

Included in equipment above are ten systems and twenty systems with a combined net book value of approximately \$5.1 million and \$9.8 million at September 30, 1997 and 1998, respectively. Such systems are utilized for the production of compound semiconductor wafers and package-ready devices for sale to third parties, systems demonstration purposes, system sales support, in-house materials applications, internal research and contract research funded by third parties.

# NOTE 7. ACCRUED EXPENSES

Accrued expenses consisted of the following:

	AS OF SEP	AS OF	
	1997	1998	MARCH 31, 1999 (UNAUDITED)
Accrued payroll, vacation and other employee			
expenses	\$1,659,428	\$2,113,765	\$2,197,670
Installation and warranty costs	1,411,120	704,114	1,255,646
Interest	272,445	346,250	402,140
Other	524,596	1,033,276	1,601,806
Total	\$3,867,589	\$4,197,405	\$5,457,262
	========	=======	=======

#### NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

## NOTE 8. DEBT FACILITIES

#### 1998 Agreement:

On June 22, 1998, the Company entered into an \$8.0 million loan agreement with First Union National Bank (the "1998 Agreement"), which expires December 31, 1999. The 1998 Agreement bears interest at a rate equal to one-month LIBOR plus three-quarters of one percent per annum (or 6.4%) at September 30, 1998. As of September 30, 1998, \$8.0 million was outstanding under the 1998 Agreement and is due and payable on December 31, 1999. The 1998 Agreement is guaranteed by both the Company's Chairman and Chief Executive Officer. In exchange for guaranteeing the facility, the Chairman and the Chief Executive Officer were granted an aggregate of 284,684 common stock purchase warrants exercisable at \$11.375 per share until May 1, 2001. These warrants are callable at the Company's option at \$0.85 per warrant at such time as the Company's Common Stock has traded at or above 150% of the exercise price for a period of thirty days.

The Company assigned a value of \$1,310,000 to the warrants issued to the guarantors. This valuation was based upon the Company's application of Black Scholes. This value is accounted for as debt issuance cost and will be amortized over the eighteen month life of the 1998 Agreement.

## 1997 Agreement:

On March 31, 1997, the Company entered into a \$10.0 million loan agreement (the "1997 Agreement"). The Agreement bears interest at the rate of Prime plus 50 basis points (8.75% and 9.0% at September 30, 1998 and 1997, respectively). As of September 30, 1998 the Company had \$9,950,000 outstanding under this facility. As of September 30, 1997, there were no amounts outstanding under this facility.

As a result of the net loss for the quarters ended June 30, 1998 and September 30, 1998, the Company was not in compliance with the 1997 Agreement fixed charged coverage ratio covenant. The Company received a waiver from the bank regarding this non-compliance. The Company's 1997 Agreement was subsequently further extended through October 1, 1999. The 1997 Agreement's financial covenants were modified under the second amendment, and management believes that the Company will be able to comply with such requirements throughout fiscal 1999. In addition, the Company's Chairman has guaranteed such debt in the event the Company does not meet certain financial covenants.

## Subordinated Notes:

On May 1, 1996, the Company issued subordinated notes (the "Subordinated Notes") in the amount of \$9,500,000 to its existing shareholders, \$1,000,000 of which were exchanged for notes receivable from officers and certain employees with identical payment and interest provisions. The Subordinated Notes are scheduled to mature on May 1, 2001, and have a stated interest rate of 6.0% which is payable semi-annually on May 1 and November 1. In addition, the noteholders were issued 2,328,432 common stock purchase warrants with an exercise price of \$4.08 per share which

# NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

expire on May 1, 2001. The warrants are exercisable after November 1, 1996, and are callable at the Company's option, after May 1, 1997, at \$0.85 per warrant. The Company has the legal right of offset with respect to the notes receivable from officers and certain key employees, and it is their full intention to offset the corresponding notes receivable and payable upon maturity. As such, the Company reflected \$848,000 of the officers' and employees' notes receivable as a contra liability, reducing the Company's Subordinated Notes balance. The remaining \$152,000 note receivable has been reflected as a contra equity note receivable balance, representing the portion of the employee note receivable associated with common stock purchase warrants issued to such employees. The Company received cash proceeds of \$8,500,000 in connection with this Subordinated Notes issuance.

On September 1, 1996, the Company issued a subordinated note in the amount of \$2,500,000 to the Company's then majority shareholder with terms identical to the Subordinated Notes issued on May 1, 1996. In addition, under the terms of this issuance, 245,098 common stock purchase warrants were issued to purchase common stock at \$10.20 per share and which expire September 1, 2001. These warrants are exercisable after March 1, 1997, and are callable at the Company's option after September 1, 1997, at \$0.85 per warrant.

The Company assigned a value of \$1,440,000 to the May 1, 1996 detachable warrants and \$900,000 to the September 1, 1996 detachable warrants. These valuations were based upon the Company's application of Black Scholes and the Company's assessment of the underlying valuation factors, as well as an assessment of the terms of the Subordinated Notes. The carrying value of the Subordinated Notes will be subject to periodic accretions, using the interest method, in order for the carrying amount to equal the Company's obligation upon maturity. As a result, the May 1, 1996 and September 1, 1996 Subordinated Notes have an effective interest rate of approximately 9.3% and 15.0%, respectively. For the years ended September 30, 1998, 1997 and 1996, imputed warrant interest related to the Subordinated Notes amounted to \$370,000, \$388,000 and \$126,000, respectively.

#### Demand Note Facilities:

On September 17, 1998, the Company borrowed \$7.0 million from its Chairman. The loan bears interest at the rate of Prime plus 200 basis points (10.25% as of September 30, 1998), per annum. In addition, on October 23, 1998 the Company borrowed an additional \$1.5 million from its Chairman on identical terms. The entire sum of \$8.5 million borrowed plus interest was repaid from the proceeds of the Private Placement (see Note 17).

On October 25, 1996, the Company entered into a \$10.0 million demand note facility (the "Facility"). The Facility bore interest at the rate of LIBOR plus 75 basis points, had a term of one year and was due and payable on demand. The Facility was guaranteed by the Chairman of the Company's Board of Directors who provided collateral for the Facility. In December 1996, in return for guaranteeing the facility, the Company granted the Chairman 980,392 common stock purchase warrants at \$10.20 per share which expire September 1, 2001. These warrants are exercisable after

# NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

July 1, 1997, and are callable at the Company's option after December 1, 1997 at \$0.85 per warrant. The Facility was terminated in conjunction with the Company's initial public offering.

The Company assigned a value of \$3,600,000 to the warrants issued to the guarantor. This valuation was based upon the Company's application of Black Scholes. This value was accounted for as debt issuance cost and was amortized over the expected period that the facility was to be in place (four months).

The Company utilized a portion of the proceeds from its initial public offering to pay down or discharge certain of its debts. The Company repaid the entire \$8.0 million outstanding under its October 1996 Facility and \$2.0 million was used to repay a portion of the Company's outstanding subordinated notes, due May 1, 2001. In connection with the discharge of the Company's subordinated notes, an extraordinary loss of \$286,000 was recognized.

## NOTE 9. COMMITMENTS AND CONTINGENCIES

On November 16, 1992, the Company entered into a three-year lease agreement with a bank for 34,000 square feet of space in the building the Company presently occupies. On March 31, 1995, the agreement was renewed for 5 years for 49,000 square feet. In November 1996, the Company signed an agreement to occupy the remaining 26,000 square feet that it previously had not occupied.

The Company leases certain equipment under non-cancelable operating leases.

Facility and equipment rent expense under such leases amounted to approximately \$350,000, \$548,000 and \$637,000 for the years ended September 30, 1996, 1997 and 1998, respectively.

Future minimum rental payments under the Company's non-cancelable operating leases with an initial or remaining term of one year or more as of September 30, 1998 are as follows:

## PERIOD ENDING SEPTEMBER 30,

1999	\$	712,000
2000		359,000
2001		
2002		13,000
2003		
Total minimum lease payments	\$1,	166,000
	===	=======

The Company is from time to time involved in litigation incidental to the conduct of its business. Management and its counsel believe that such pending litigation will not have a material adverse effect on the Company's results of operations, cash flows or financial condition.

# NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

NOTE 10. INCOME TAXES

Income tax expense consists of the following:

	YEARS ENDED SEPTEMBER 30,		
	1996	1997	1998
Current: Federal	<b>•</b>	¢110,000	¢
State	\$ 	\$113,000 24,000	\$ 
		137,000	
Deferred: Federal			
State			
Total	\$	\$137,000	\$

The principal differences between the U.S. statutory and effective income tax rates were as follows:

	YEARS ENDED SEPTEMBER 30,		
	1996	1997	1998
US statutory income tax (benefit) expense rate State rate, net of federal benefit	(34.0)% (5.9)	(34.0)% (5.9)	(34.0)% (5.9)
Acquired in-process research and development Change in valuation allowance		(3.3)  37.7	18.2 19.8
Non-deductible amortization			3.4
Other	1.6	4.7	(1.5)
Effective tax rate	0.0%	2.5% ======	0.0%

## NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

The components of the Company's net deferred taxes were as follows:

	YEARS ENDED	SEPTEMBER 30,
	1997	1998
Deferred tax assets:		
Federal net operating loss carryforwards	\$3,502,348	\$7,943,877
Research credit carryforwards (state and federal)	718,644	1,479,221
Inventory reserves	207,732	247,521
Accounts receivable reserves	243,996	239,701
Interest	1,461,389	1,657,337
Accrued installation reserve	362,379	163,778
Accrued warranty reserve	158,202	75,621
State net operating loss carryforwards	461,821	1,494,064
Other	144,586	238,318
Valuation reserve federal	(5,583,217)	(9,438,122)
Valuation reserve state	(1,334,975)	(3,751,314)
Total deferred tax assets Deferred tax liabilities:	342,905	350,002
Fixed assets and intangibles	(342,905)	(350,002)
Total deferred tax liabilities	(342,905)	(350,002)
Net deferred taxes	\$	\$
	Ψ ========	φ === ========

The Company has established a valuation reserve as it has not determined that it is more likely than not that the net deferred tax asset is realizable, based upon the Company's past earnings history.

As of September 30, 1998, the Company has net operating loss carryforwards for regular tax purposes of approximately \$22.0 million which expire in the years 2003 through 2013. The Company believes that the consummation of certain equity transactions and a significant change in the ownership during fiscal years 1995 and 1998 have constituted a change in control under Section 382 of the Internal Revenue Code ("IRC"). Due to the change in control, the Company's ability to use its federal net operating loss carryovers and federal research credit carryovers to offset future income and income taxes, respectively, are subject to annual limitations under IRC Section 382 and 383.

The Company believes that the acquisition of MODE and the consummation of certain other equity transactions has constituted a change in control in fiscal 1998 under Section 382 of the IRC. As such, Federal net operating loss carryovers and research credit carryovers incurred subsequent to the Company's fiscal 1995 change in control (as described above) will also be subject to annual limitations under IRC Section 382 and 383.

## NOTE 11. STOCKHOLDERS' EQUITY

Reverse Stock Split. On February 3, 1997, the Board of Directors approved a 3.4:1 reverse stock split of its common stock and approved a decrease in the number of

#### NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

shares of common stock authorized. All references in the accompanying financial statements to the number of common stock and per-share amounts have been restated to reflect the reverse split.

Common Stock Offering. In March 1997, the Company completed an initial public offering of 2,500,000 shares of common stock at a price of \$9.00 per share (the "Offering"), and upon the exercise of the Underwriter's overallotment option, 375,000 additional shares of common stock were also sold at \$9.00 per share. The proceeds, net of commissions and certain expenses, to the Company from the offering were approximately \$22.8 million. Prior to the Offering, there was no public market for the Company's common stock.

Warrant Exercise. On December 3, 1997, the holders of 1.8 million common stock purchase warrants (with an exercise price of \$4.08) exercised such warrants with the Company taking full recourse notes amounting to approximately \$7.5 million in exchange for the issued common stock. The notes receivable mature and are payable in full on May 1, 2001 and bear interest at a rate of 6%, compounding semi-annually. In addition, the holders are required to provide collateral at a 2:1 coverage ratio. This collateral is presently held by the Company.

Preferred Stock. The Company's certificate of incorporation authorizes the Board of Directors to issue up to 5,882,353 shares of preferred stock of the Company upon such terms and conditions having such rights, privileges and preferences as the Board of Directors may determine.

#### NOTE 12. STOCK OPTIONS AND WARRANTS

Stock Option Plan. In November 1994, the Company's Incentive Stock Option Plan, initiated in 1987, was eliminated. On June 5, 1995, the Company adopted the 1995 Incentive and Non-Statutory Stock Option Plan (the "Option Plan"). Under the terms of the Option Plan, options to acquire 323,529 shares of common stock may be granted to eligible employees, as defined, at no less than 100 percent of the fair market value on the date of grant. In March 1996, options to acquire an additional 323,530 shares of common stock were approved. In February 1997, options to acquire an additional 725,000 shares of common stock were approved. As of September 30, 1998, 1,372,059 stock options were available for issuance under the Company's Option Plan.

Certain options under the Option Plan are intended to qualify as incentive stock options pursuant to Section 422A of the Internal Revenue Code.

During fiscal 1998, options with respect to 816,284 shares were granted pursuant to the Company's option plan or issued in connection with the MODE acquisition at exercise prices ranging from \$0.44 to \$20.00 per share.

Stock options granted generally vest over three to five years and are exercisable over a ten year period. As of September 30, 1996, 1997 and 1998, options with respect to 162,764, 199,368 and 481,863 shares were exercisable, respectively.

# NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

The following table summarizes the activity under the plan:

	SHARES	WEIGHTED AVERAGE EXERCISE PRICE
Outstanding as of September 30, 1995Granted	281,470 57,942	\$ 3.03 6.04
Exercised Canceled		
Outstanding as of September 30, 1996 Granted Exercised Canceled	339,412 182,700 (42,165) (4,475)	\$ 3.54 11.06 3.17 3.08
Outstanding as of September 30, 1997 Granted Exercised Canceled	475,472 615,318 (19,919) (35,457)	\$ 6.47 13.34 3.78 12.34
Outstanding as of September 30, 1998 Granted Exercised Canceled	1,035,414 9,000 (11,466) (23,489)	\$10.40 25.06 3.29 12.00
Outstanding as of March 31, 1999 (unaudited)	1,009,459 ======	10.44 ======

As of September 30, 1998, stock options outstanding, excluding those assumed in connection with the acquisition of MODE, were as follows:

		WEIGHTED AVERAGE REMAINING		
EXERCISE PRICES	OPTIONS OUTSTANDING	CONTRACTUAL LIFE (YEARS)	EXERCISABLE OPTIONS	
\$0.00 more than x less than \$5.00		. 242,219	7.96	295,423
\$5.00 more than x less than \$10.00		. 22,500	9.88	
\$10.00 more than x less than \$15.00		. 661,975	9.17	178,873
\$15.00 more than x less than \$20.00		. 74,720	9.19	767
\$20.00 more than x less than \$25.00		. 34,000	8.94	6,800

In connection with the Company's acquisition of MODE, it assumed 200,966 common stock purchase options with exercise prices ranging from \$0.43 to \$0.59. The MODE options have a term of 10 years from the date of grant, with such options expiring at various dates through July 31, 2007. The options vest, with continued service, over a four-year period; 25% in year one and 75% equally over the remaining 36 months. As of September 30, 1998, there are 177,312 options outstanding at a weighted average exercise price of \$0.49.

## NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

The following table summarizes the activity of options assumed in the MODE acquisition.

	SHARES	WEIGHTED AVERAGE EXERCISE PRICE
Outstanding as of September 30, 1997 Options assumed at the date of acquisition Exercised Cancelled	200,966 (15,890) (7,764)	\$0.50 0.51 0.56
Outstanding as of September 30, 1998 Granted Exercised Cancelled	177,312 (9,634) (5,170)	0.50  0.54 0.58
Outstanding as of March 31, 1999 (unaudited)	162,508 ======	\$0.49 =====

In October 1995, the Financial Accounting Standards Board issued SFAS No. 123, "Accounting for Stock Based Compensation" ("SFAS 123"). SFAS 123 establishes financial and reporting standards for stock based compensation plans. The Company has adopted the disclosure only provisions of this standard and has elected to continue to apply the provision of Accounting Principles Board Opinion No. 25, "Accounting for Stock Issued to Employees". Had the Company elected to recognize compensation expense for stock options based on the fair value at the grant dates of awards, net loss and net loss per share would have been as follows:

	YEARS ENDED SEPTEMBER 30,		
	1997	1998	
Net loss before extraordinary item As reported Pro forma Net loss per basic and diluted share before	\$5,333,772 5,441,274	\$36,418,796 37,037,847	
extraordinary item As reported Pro forma Net loss	\$ (1.14) (1.17)	\$ (4.15) (4.22)	
As reported Pro forma Net loss per basic and diluted share	\$5,619,367 5,726,869	\$36,418,796 37,037,847	
As reported Pro forma	\$ (1.20) (1.23)	\$ (4.15) (4.22)	

The weighted average fair value of the Company's stock options was calculated using Black Scholes with the following weighted-average assumptions used for grants in fiscal 1997: no dividend yield; expected volatility of 0% prior to the Company's initial public offering and 60% thereafter; a risk-free interest rate of 6.04% and 5.57% for fiscal years 1997 and 1998, respectively; and expected lives of 5 years. The weighted average fair value of options granted during the years ended September 30, 1997 and 1998 is \$3.82 and \$7.50 per share, respectively. Stock options granted by the

# NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

Company prior to its initial public offering were valued using the minimum value method under FASB No. 123.

Warrants. Set forth below is a summary of the Company's outstanding warrants at September 30, 1998:

SECURITY	EXERCISE PRICE	WARRANTS	EXPIRATION DATE
Common Stock(1) Common Stock(2)	4.33	385,428 36,990	May 1, 2001 August 21, 2006
Common Stock(2)	5.92	10,128	May 16, 2007
Common Stock(3)	10.20	1,225,490	September 1, 2001
Common Stock(4)	11.38	284,684	May 1, 2001

. .....

(1) Issued in connection with the Company's May 1996 subordinated note issuance.

(2) Issued in connection with the MODE acquisition.

(3) Issued in connection with the Company's September 1996 subordinated debt issuance and October 1996 debt guarantee.

(4) Issued in connection with the 1998 Agreement guarantee.

#### NOTE 13. RELATED PARTIES

In May 1995, 52% of the Company's outstanding shares of Common Stock were purchased by Jesup & Lamont Merchant Partners, L.L.C. ("JLMP"). Prior to May 12, 1997, a majority of the Company's then six directors were members of JLMP. On May 12, 1997, JLMP distributed all of its shares of the Company to the individual members of JLMP. In May 1995, the Company entered into a consulting agreement (the "Agreement") with Jesup & Lamont Capital Markets, Inc. ("Jesup & Lamont") pursuant to which Jesup & Lamont agreed to provide financial advisory and employee services for the Company for one year. Total fees paid to Jesup & Lamont amounted to approximately \$241,697 for the fiscal year ended September 30, 1996. No fees were paid to Jesup & Lamont during the fiscal years ended September 30, 1998 and 1997.

In December 1996, the Company's chairman and chief executive officer retired. The Company entered into a consulting agreement with him for a term of two years and will provide compensation of \$250,000 per annum. In addition, the Company has also forgiven \$115,300 of his indebtedness to the Company and had agreed to extend the period for the exercise of his vested stock options through March 1997 and accordingly he exercised all 26,471 vested shares.

In fiscal 1997, the Company entered into a non-exclusive and non-refundable technology licensing and royalty agreement with Uniroyal Technology Corporation ("UTC") for the process technology to develop and manufacture high brightness light emitting diodes ("LEDs"). During fiscal 1998 and 1997, revenue associated with the UTC licensing agreement amounted to \$2.5 million and \$2.5 million, respectively. At the time the transaction was originally entered into, UTC's Chairman was on the Board of Directors of UTC. All related party accounts receivable for fiscal 1997 have

#### NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

been paid in full. As of September 30, 1998, the Company had an outstanding related party receivable of \$500,000.

In July 1998, the Company and a wholly-owned subsidiary of UTC formed Uniroyal Optoelectronics, a venture (the "UTC Venture") to produce and market compound semiconductor products. The Company has a 49% non-controlling minority interest. The Company's rights under the venture agreement are protective and as such, the Company accounts for its interest in the venture under the equity method of accounting. In July 1998, the Company invested \$490,000 in the UTC Venture which was classified as a component of other long-term assets. For the year ended September 30, 1998, the Company recognized a loss of \$198,000 related to the UTC Venture, which has been recorded as a component of other income and expense.

In November 1998, the Company invested an additional \$5.0 million into the UTC Venture. During the six months ended March 31, 1999, the Company sold three compound semiconductor production systems to the UTC Venture totaling \$5.3 million in revenues. The Company eliminated gross profit of approximately \$1.3 million on such sales to the extent of its minority interest. Such deferred gross profit will be recognized ratably over the assigned life of the UTC Venture's production systems. For the six months and the year ended March 31, 1999 and September 30, 1998, respectively, the Company recognized a loss of \$1.0 million and \$198,000 related to this venture, which has been recorded as a component of other income and expense. As of March 31, 1999, the Company's investment in this venture amounted to \$4.3 million.

The President of Hakuto Co. Ltd. ("Hakuto"), the Company's Asian distributor, is a member of the Company's Board of Directors and Hakuto is a minority shareholder of the Company. During the year ended September 30, 1998, sales made through Hakuto approximated \$9.2 million. During the six months ended March 31, 1999, sales made through Hakuto amounted to approximately \$5.1 million.

On June 22, 1998, the Company entered into the 1998 Agreement. The 1998 Agreement was guaranteed by the Chairman and the Chief Executive Officer of the Company (see Note 8). In return for guaranteeing the facility, the Company granted the Chairman and the Chief Executive Officer an aggregate of 284,684 common stock purchase warrants at \$11.375 per share which expire May 1, 2001. These warrants are callable at the Company's option at \$0.85 per warrant at such time as the Company's common stock has traded at or above 150% of the exercise price for a period of 30 days.

On September 17, 1998, the Company borrowed \$7.0 million from its Chairman, Thomas J. Russell. The loan bears interest at 9.75% per annum. In addition, on October 23, 1998 the Company borrowed an additional \$1.5 million from its Chairman on identical terms. The entire \$8.5 million, borrowed from Mr. Russell was repaid from the proceeds of a private placement (See Note 8).

## NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

NOTE 14. EXPORT SALES

The information below summarizes the Company's export sales by geographic area. The Company's export sales to the Far East and Europe are as follows:

		ASIA	EUROPE	TOTAL
Year ended September 30, Year ended September 30, Year ended September 30,	1997	14,583,981	\$3,588,066 5,478,186 1,584,851	\$11,797,375 20,062,167 17,112,020

NOTE 15. QUARTERLY FINANCIAL DATA (UNAUDITED)

	REVENUES	OPERATING INCOME (LOSS) (IN THOUSANDS,	NET INCOME (LOSS) EXCEPT PER SHARE	
Fiscal Year Ended September 30, 1997:				
December 31, 1996 March 31, 1997 June 30, 1997 September 30, 1997 Fiscal Year Ended September 30, 1998:	\$ 8,591 12,929 14,106 12,126	\$ (2,585) 147 907 841	\$ (3,798) (3,150) 830 498	\$(0.86) (0.82) 0.10 0.06
December 31, 1997 (as previously reported) December 31, 1997 (as restated) March 31, 1998 (as previously	\$12,357 12,357	\$(29,223)* (19,717)	\$(29,389)* (19,883)	\$(4.15)* (2.81)
reported) March 31, 1998 (as restated) June 30, 1998 (as previously	13,808 13,808	200 (615)	37 (778)	0.00 (0.08)
reported) June 30, 1998 (as restated) September 30, 1998 (as previously	9,074 9,074	(7,141) (7,956)	(7,446) (8,260)	(0.80) (0.88)
reported) September 30, 1998 (as	8,521	(5,544)	(6,683)	(0.71)
restated)	8,521	(6,359)	(7,498)	(0.80)

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See Note 20, "Restatement".

\* includes a \$19.5 million one-time charge to acquired in-process research and development, non-cash.

## NOTE 16. EMPLOYEE SAVINGS PLAN

The Company has a savings plan (the "Savings Plan") that qualifies as a deferred salary arrangement under Section 401(k) of the Internal Revenue Code. Under the Savings Plan, participating employees may defer a portion of their pretax earnings, up to the Internal Revenue Service annual contribution limit. Effective August 1, 1997, the Company began contributing to the Savings Plan. All employer contributions are made in the Company's common stock. For the year ended September 30, 1998, the Company contributed approximately \$252,000 to the Savings Plan.

# NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

#### NOTE 17. SUBSEQUENT EVENT -- REDEEMABLE PREFERRED STOCK PRIVATE PLACEMENT

On November 30, 1998, the Company sold an aggregate of 1,550,000 shares of Series I Redeemable Convertible Preferred Stock (the "Series I Preferred Stock") to related parties (Hakuto Company, Ltd., Uniroyal Technology Corporation, and Union Miniere, Inc.) for aggregate consideration of \$21.7 million before deducting costs and expenses which amounted to approximately \$500,000. The Series I Preferred Stock was recorded net of issuance costs. The excess of the preference amount over the carrying value of the Series I Preferred Stock is being accreted by periodic charges to accumulated deficit in the absence of additional paid in capital. The shares of Series I Preferred Stock are convertible, at any time, at the option of the holders thereof, unless previously redeemed, into shares of common stock at an initial conversion price of \$14.00 per share of common stock, subject to adjustment in certain cases. The market price of the Company's common stock was \$12.875 on the date the Series I Preferred Stock was issued. The Series I Preferred Stock is redeemable, in whole or in part, at the option of the Company at any time the Company's stock has traded at or above \$28.00 per share for 30 consecutive trading days, at a price of \$14.00 per share, plus accrued and unpaid dividends, if any, to the redemption date. The Series I Preferred stock carries a dividend of 2% per annum. Dividends are being charged to accumulated deficit in the absence of additional paid in capital. In addition, the Series I Preferred Stock is subject to mandatory redemption by the Company at \$14.00 per share plus accrued and unpaid dividends, if any, on November 17, 2003.

## NOTE 18. SUBSEQUENT EVENTS -- JOINT VENTURES

In November 1998, the Company entered into a joint venture with Union Miniere Inc. to undertake research and development aimed at new material application of germanium substrates. The Company has a 50% non-controlling interest in the venture. The Company will account for its interest in the venture under the equity method of accounting. In November 1998, the Company invested \$600,000 in the venture. The Company is obligated to fund the venture's capital requirements in proportion to its equity interest.

In November 1998, the Company also formed a venture with Optek Technology, Inc. to produce, market and distribute packaged electronic semiconductor components. The Company has a 50% non-controlling interest in the venture. The Company will account for its interest in the venture under the equity method of accounting. The Company is obligated to fund the venture's capital requirements in proportion to its equity interest.

On January 21, 1999, GE Lighting and the Company agreed, subject to certain conditions, to form a new joint venture to develop and market "white light" light-emitting diodes. The new company, GELcore, LLC (the "GELcore Venture"), will develop and market LEDs as replacements for miniature automotive, compact fluorescent, halogen and traditional incandescent lighting. Under terms of the joint venture agreement, the Company will have a 49% non-controlling interest in the GELcore Venture.

### EMCORE CORPORATION

### NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

In connection with the GELcore venture, General Electric will fund the Company's initial capital contribution of \$7.8 million into GELcore. The funding will be in the form of a subordinated debenture (the "Debenture") with an interest rate of 4.75% that will mature seven years from the date of issuance and is convertible into common stock of the Company at a conversion price of \$22.875 or 340,984 shares. The Debenture is convertible at any time at the option of GE Lighting and may be called by the Company after three years, if the price of the Company's common stock has traded at or above \$34 for at least thirty days. The Debenture's interest rate will be subject to adjustment in the event the Company does not complete a public offering by June 30, 1999.

In addition, General Electric will also receive 282,010 warrants to purchase common stock at \$22.875 per share. The warrants are exercisable at any time and will expire in 2006. For the three months ended March 31, 1999, the Company recognized a loss of \$497,000 related to this venture which has been recorded as a component of other income and expense. On a fully diluted basis, General Electric will own approximately 5% of the common stock of the Company.

On April 27, 1999, the Company contributed an additional \$500,000 as a capital investment in their joint venture with Uniroyal Technologies Corporation.

NOTE 19. SUBSEQUENT EVENTS -- OTHER

Short Term Borrowings. On February 1, 1999, the Company entered into a \$5 million short-term note (the "Note") with First Union. The Note is due and payable in May 1999. The Note bears interest at a rate equal to one-month LIBOR plus three-quarters of one percent per annum.

On April 29, 1999, the Company entered into a \$19.0 million short-term note (the "Amended Note") with First Union. The Amended Note consolidated the \$8.0 million loan agreement dated June 22, 1998 and the \$5 million Note plus an additional \$6.0 million. The Amended Note is due and payable October 1, 1999 and bears interest at a rate equal to one-month LIBOR plus three-quarters of one percent per annum. The Amended Note is guaranteed by the Company's Chairman and Chief Executive Officer.

1997 Agreement. In January 1999, the Company borrowed the remaining balance of \$2,050,000 available under the 1997 Agreement.

Related Party Transactions. On January 27, 1999, the Company borrowed \$3.0 million from its Chairman. The loan bears interest at 8% per annum. This loan was repaid from borrowings under the Note.

On January 29, 1999, the Company's Chairman committed to provide \$30 million of long-term financing of the Company through July 1, 2000. The Chairman's financing commitment terminates if the Company completes a secondary offering of approximately \$40.0 million.

### EMCORE CORPORATION

## NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

On April 29, 1999, the Company borrowed \$2.5 million from its Chairman at an interest rate of Prime plus two percent. On May 7, 1999, this loan was repaid from borrowing under the Amended Note with First Union.

## 20. RESTATEMENT

Subsequent to the issuance of the Company's Annual Report on Form 10-K for the year ended September 30, 1998, the Company's management revised the amount of the purchase price which was allocated to in-process research and development in accounting for the acquisition of MicroOptical Devices, Inc. ("MODE") in December 1997. The revised allocation is based upon methods prescribed in a letter from the Securities and Exchange Commission ("SEC") sent to the American Institute of Certified Public Accountants. The letter sets forth the SEC's views regarding the valuation methodology to be used in allocating a portion of the purchase price to acquired in-process research and development ("IPR&D") at the date of acquisition.

The revised valuation is based on management's estimates of the net cash flows associated with expected operations of MODE and gives explicit consideration to the SEC's views on acquired IPR&D as set forth in its letter to the American Institute of Certified Public Accountants.

As a result of the revised allocation, the Company's financial statements for the year ended September 30, 1998, have been restated from amounts previously reported to reduce the amount of the acquired in-process research and development expensed by \$9.8 million and to increase goodwill by \$9.8 million. The amount allocated to goodwill includes approximately \$0.5 million related to the value of MODE's workforce. The change had no impact on net cash flows used by operations.

A summary of the significant effects of the restatement is as follows:

	AS OF SEPTEMBER 30, 1998		
	AS PREVIOUSLY REPORTED	AS RESTATED	
BALANCE SHEET DATA: Goodwill, net Accumulated deficit			

	FOR THE YEAR ENDED SEPTEMBER 30, 1998		FOR THE SIX MONTHS ENDED MARCH 31, 1998	
	AS PREVIOUSLY REPORTED	AS RESTATED	AS PREVIOUSLY REPORTED	AS RESTATED
STATEMENT OF OPERATIONS DATA: Goodwill amortization Research and development one time acquired	\$ 921,941	\$ 3,637,941	\$ 355,000	\$ 1,442,000
in-process, non-cash Net loss Net loss per basic and diluted share	(43,480,796)	19,516,000 (36,418,796) \$(4.15)	 (29,351,937) \$(3.58)	20,660,937) \$(2.52)

#### ARTHUR ANDERSEN LLP

## REPORT OF INDEPENDENT PUBLIC ACCOUNTANTS

To the Stockholders and Board of Directors of MicroOptical Devices, Inc.:

We have audited the accompanying balance sheets of MICROOPTICAL DEVICES, INC. (a Delaware corporation in the development stage) (the "Company") as of December 31, 1996 and 1995, and the related statements of operations, stockholders' equity and cash flows for the year ended December 31, 1996 and for the period from inception (August 3, 1995) through December 31, 1995 and 1996. 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 generally accepted auditing standards. Those standards 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. 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 financial statements referred to above present fairly, in all material respects, the financial position of MicroOptical Devices, Inc. as of December 31, 1996 and 1995, and the results of its operations and its cash flows for the year ended December 31, 1996 and for the period from inception (August 3, 1995) through December 31, 1995 and 1996, in conformity with generally accepted accounting principles.

ARTHUR ANDERSEN LLP

Albuquerque, New Mexico March 21, 1997

# BALANCE SHEETS AS OF SEPTEMBER 30, 1997 (UNAUDITED), DECEMBER 31, 1996 AND 1995

		DECEMBER	R 31,
	SEPTEMBER 30, 1997 (UNAUDITED)	1996	1995
ASSETS			
Current assets: Cash and cash equivalents Trade accounts receivable Inventory Other current assets	\$ 643,542 173,710 131,931 22,314	\$ 991,066 3,850 83,926 26,544	\$125,837 150  9,029
Total current assets Property and equipment, net Organization costs, net	971,497 2,405,541 2,247	1,105,386 2,388,953 2,814	
Total assets	\$3,379,285 =======	\$3,497,153	\$143,807
LIABILITIES AND STOCKHOL		========	=======
Current liabilities:	•		
Accounts payable Accrued liabilities Current portion of obligations under capital	70,589 755,568	\$   29,580 74,600	\$ 18,148 746
leases	91,664	38,676	
Deferred revenue		125,000	
Total current liabilities	917,821	267,856	
Long-term liabilities: Obligations under capital leases, net of current portion		107,648	
Commitments and contingencies (Notes 8 and 9) Stockholders' equity: Series A Convertible Preferred Stock, \$.001 par value; 1,200,000 shares authorized; 666,666			
shares issued and outstanding Series B Convertible Preferred Stock, \$.001 par value; 5,333,334 shares authorized,	666	666	222
4,076,088 shares issued and outstanding Common Stock, \$.001 par value; 6,000,000 shares authorized:	4,076	4,076	
3,000,000 shares issued and outstanding Additional paid-in capital Deficit accumulated during development stage	3,015 3,275,592 (2,575,879)	3,000 3,251,532 (137,625)	
Total stockholders' equity	707,470		124,913 ======
Total liabilities and stockholders'			
equity	\$3,379,285 ======	\$3,497,153 =======	\$143,807 ======

The accompanying notes to financial statements are an integral part of these balance sheets.

## STATEMENTS OF OPERATIONS FOR THE PERIOD FROM INCEPTION (AUGUST 3, 1995) THROUGH DECEMBER 31, 1996, THE YEAR ENDED DECEMBER 31, 1996, THE PERIOD FROM INCEPTION THROUGH DECEMBER 31, 1995 AND FOR THE NINE MONTH PERIOD ENDED SEPTEMBER 30, 1997 (UNAUDITED)

	NINE MONTH PERIOD ENDED SEPTEMBER 30, 1997 (UNAUDITED)	INCEPTION (AUGUST, 1995) THROUGH DECEMBER 31, 1996	YEAR ENDED DECEMBER 31, 1996	PERIOD FROM INCEPTION TO DECEMBER 31, 1995
Revenues Cost of goods sold	\$ 342,610 365,084	\$ 661,350 222,967	\$ 661,350 222,967	\$
Gross margin	(22,474)	438,383	438,383	
Expenses: Research and				
development General and	1,683,176	339,696	292,592	47,104
administrative Sales and	659,654	192,105	178,540	13,565
marketing	112,198	85,169	85,169	
Total expenses	2,455,028	616,970	556,301	60,669
Operating (loss) Interest income	(2,477,502) 39,248	(178,587) 40,962	(117,918) 38,198	(60,669) 2,764
Net Loss	\$(2,438,254) =========	\$ (137,625) =========	\$ (79,720) =========	\$ (57,905) =========
Net loss per share	\$ (0.81) ========	\$ (.05) =======	\$ (.03) =======	\$ (.02)
Weighted Average Number of Post- Split Common Shares				
Outstanding	3,000,000	3,000,000	3,000,000	3,000,000

The accompanying notes to financial statements are an integral part of these statements.

## STATEMENTS OF STOCKHOLDERS' EQUITY FOR THE PERIOD FROM INCEPTION (AUGUST 3, 1995) THROUGH SEPTEMBER 30, 1997 (UNAUDITED)

	SERIE CONVER PREFERREE	TIBLE	SERIE CONVERT PREFERRED	IBLE	COMMON	STOCK	ADDITIONAL PAID-IN	DEFICIT ACCUMULATED DURING DEVELOPMENT	
	SHARES	AMOUNT	SHARES	AMOUNT	SHARES	AMOUNT	CAPITAL	STAGE	TOTAL
Balance, at inception Issuance of Common Stock Issuance of Series A Convertible Preferred Stock: Net of \$18,182 in issuance		\$ 		\$	 1,000,000	\$ 1,000	\$	\$	\$ 1,000
costsNet loss	222,222	222					181,596	(57,905)	181,818 (57,905)
Balance, December 31, 1995 Issuance of Series B Convertible Preferred Stock: Net of \$48,545 in issuance	222,222	222			1,000,000	1,000	181,596	(57,905)	124,913
costs Conversion of Note Payable Three for one stock split Net loss	  444, 444	  444 	1,293,479 65,217 2,717,392	1,294 65 2,717	  2,000,000	2,000	2,925,162 149,935 (5,161)	  (79,720)	2,926,456 150,000  (79,720)
Balance, December 31, 1996	666,666	\$666 \$666	4,076,088	\$4,076	3,000,000	\$3,000	\$3,251,532	\$ (137,625)	\$3,121,649
Issuance of Common Stock upon exercise of options TVC finders fee forgiven Net loss					15,000	15	1,560 22,500	(2,438,254)	1,575 22,500 (2,438,254)
Balance, September 30, 1997 (unaudited)	666,666 ======	\$666 ====	4,076,088	\$4,076 ======	3,015,000 ======	\$3,015 ======	\$3,275,592 =======	\$(2,575,879)	\$    707,470

The accompanying notes to financial statements are an integral part of these statements.

## STATEMENTS OF CASH FLOWS FOR THE PERIOD FROM INCEPTION (AUGUST 3, 1995) THROUGH DECEMBER 31, 1996 AND FOR THE YEAR ENDED DECEMBER 31, 1996 AND FOR THE PERIOD FROM INCEPTION THROUGH DECEMBER 31, 1995 AND FOR THE NINE MONTH PERIOD ENDED SEPTEMBER 30, 1997 (UNAUDITED)

	NINE MONTH PERIOD ENDED SEPTEMBER 30, 1997	INCEPTION (AUGUST, 1995) THROUGH DECEMBER 31, 1996	YEAR ENDED DECEMBER 31, 1996	PERIOD FROM INCEPTION (AUGUST, 1995) THROUGH DECEMBER 31, 1995
CASH FLOWS FROM OPERATING ACTIVITIES: Net loss Adjustments to reconcile net loss to net cash provided by operating activities	\$(2,438,254)	\$ (137,625)	\$ (79,720)	\$(57,905)
Depreciation and amortization	302,540	32,430	31,894	536
	(2,135,714)	(105,195)	(47,826)	(57,369)
Changes in certain operating accounts Trade accounts receivable Inventory Other current assets Accounts payable Accrued liabilities Deferred revenue	(169,860) (48,005) 4,229 41,009 703,467 (125,000)	(3,850) (83,926) (26,544) 29,580 74,600 125,000	(3,700) (83,926) (17,515) 11,432 73,854 125,000	(150)  (9,029) 18,148 746 
	405,840	114,860	105,145	9,715
Net cash provided by (used in) operating activities	(1,729,874)	9,665	57,319	(47,654)
CASH FLOWS USED BY INVESTING ACTIVITIES: Additions to equipment Proceeds from sale and leaseback of equipment Additions to organization costs	(318,559)  	(2,420,513) 150,234 (3,784)	(2,414,970) 150,234 	(5,543)  (3,784)
Net cash used in investing activities	(318,559)	(2,274,063)	(2,264,736)	(9,327)
CASH FLOWS PROVIDED BY FINANCING ACTIVITIES: Proceeds from issuance of notes payable Repayments of obligations under capital leases Net proceeds from issuance of preferred stock Net proceeds from issuance of common stock	1,699,334   1,575	150,000 (3,810) 3,108,274 1,000	150,000 (3,810) 2,926,456	  181,818 1,000
Net cash provided by financing activities	1,700,909	3, 255, 464	3,072,646	182,818
Net increase in cash and cash equivalents Cash and cash equivalents, beginning of period	(347,524) 991,066	991,066 	865,229 125,837	125,837
Cash and cash equivalents, end of period	643,542	\$ 991,066	\$ 991,066	\$125,837
SUPPLEMENTAL CASH FLOW INFORMATION: Cash paid for interest		======= \$ 1,776 ========	======= \$ 1,776 ========	====== \$ =======
NON CASH STOCK ACTIVITY: Conversion of note payable to preferred stock		\$ 150,000	\$ 150,000	\$ =======
NON-CASH FINANCING ACTIVITY: Equipment capital leases		======================================	======== \$ 146,000 ========	======= \$ =======

The accompanying notes to financial statements are an integral part of these statements.

### NOTES TO FINANCIAL STATEMENTS FOR THE PERIOD FROM INCEPTION (AUGUST 3, 1995) THROUGH DECEMBER 31, 1996 AND FOR THE YEAR ENDED DECEMBER 31, 1996 AND FOR THE PERIOD FROM INCEPTION THROUGH DECEMBER 31, 1995

### NOTE 1. ORGANIZATION AND SUMMARY OF SIGNIFICANT RISK FACTORS

MicroOptical Devices, Inc. (the "Company" or "MODE"), was incorporated under the laws of the State of Delaware on August 3, 1995 for the purpose of developing technology and manufacturing of advanced optoelectronic components and systems for specific use in commercial identification and communications markets.

The Company funded its marketing, development and operational activities to date from the proceeds of two equity offerings. Since inception, the Company has devoted substantially all of its efforts and resources to marketing and development of its technology and remains in the development stage. Ultimately, the Company's ability to achieve profitable operations is dependent, in large part, upon making the transition to a manufacturing company.

On July 16, 1996, an amendment to the Certificate of Incorporation of MODE (the "Amendment") was filed, which (a) increased the total number of its common shares, which the Company is authorized to issue from two million to four million, and (b) increased the total number of authorized shares of its Convertible Preferred Stock, from four thousand to two million (222,222 shares of Series A Convertible Preferred Stock and 1,777,778 shares of Series B Convertible Preferred Stock).

### NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Accounting Basis. The financial books and records of the Company are maintained on the accrual basis of accounting. As a development stage company, cumulative results of operations from inception are presented.

Use of Estimates. 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. Actual results could differ from those estimates.

Cash Equivalents. For the purposes of presenting cash flows, cash and cash equivalents represent cash balances and highly liquid investments with original maturities of less than 90 days.

Inventory. Inventories are stated at the lower of standard cost (which approximates actual cost using the first-in, first-out method) or market and consist of raw materials.

Property and Equipment. Equipment is stated at cost, net of accumulated depreciation. Depreciation is computed on the straight-line method based on estimated useful lives ranging from three to five years. Leasehold improvements are amortized

## NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

using the straight-line method over the shorter of the estimated useful life of the asset or the remaining term of the lease.

Organization Costs. Costs to organize the Company are capitalized and amortized on a straight-line basis over five years.

Research and Development. The costs of research and development activities are charged to expense as incurred.

Fair Value of Financial Instruments. The carrying value of all financial instruments approximates fair market value at December 31, 1996 and 1995.

Stock-Based Compensation. The Company accounts for stock-based compensation using the intrinsic value method prescribed in Accounting Principles Board Opinion No. 25 ("APB Opinion No. 25"), "Accounting for Stock Issued to Employees," and related Interpretations. Accordingly, compensation cost for stock options is measured as the excess, if any, of the quoted market price of the Company's stock at the date of the grant over the amount an employee must pay to acquire the stock. Financial Accounting Standards Board Statement No. 123, "Accounting for Stock-Based Compensation" ("SFAS 123"), was issued in 1995 and the Company has adopted the disclosure requirements of SFAS 123 (see Note 6).

Income Taxes. MODE accounts for income taxes using the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. Under Financial Accounting Standards Board Statement No. 109, "Accounting for Income Taxes" ("SFAS No. 109"), the effect on deferred tax assets and liabilities of a change in tax rates is recognized in operations in the period that includes the enactment date.

Net Loss Per Share. Net loss per share for each period was calculated based upon the weighted average number of Common Stock outstanding during each period, using post split shares resulting from the three- for-one stock split effective August 1996. Common Stock equivalents were excluded in the calculation of weighted average shares outstanding since their inclusion would have had an anti-dilutive effect.

Accounting Pronouncement Not Yet Adopted. The Financial Accounting Standards Board issued SFAS No. 128, "Earnings Per Share," which is effective for calendar years beginning after December 15, 1997 at which time it will require restatement of prior years earnings per share calculations. Management has not yet determined the effect, if any, of SFAS No. 128 on the financial statements.

## NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

## NOTE 3. PROPERTY AND EQUIPMENT

Property and equipment at December 31 by major classification are as follows:

	1996	1995
Manufacturing equipment Leasehold improvements Furniture and fixtures	\$1,781,487 570,397 68,529	\$  5,543
	2,420,413	5,543
Less accumulated depreciation and amortization	31,460  \$2,388,953	323  \$5,220
	==========	======

## NOTE 4. CAPITAL LEASES

In 1996, the Company financed certain manufacturing equipment, leasehold improvements, and furniture and fixtures under a Master Equipment Lease Agreement ("the Lease") expiring June 30, 1997, which provides for financing of up to \$2,000,000. The Company had only nominal borrowings under the Lease at December 31, 1996. The capital leases have terms of 42 months and are collateralized by manufacturing equipment. The transactions under the Lease are accounted for as a financing, whereby the property remains on the books and continues to be depreciated and amortized. Obligations under capital leases representing the proceeds was recorded, and is reduced based on payments under capital lease price, therefore no gain or loss was recorded on such transactions during 1996.

At December 31, 1996, approximately \$146,000 of manufacturing equipment was under capital lease. The future minimum lease payments for assets under capital lease and the present value of the net minimum lease payments at December 31, 1996, are as follows:

FISCAL YEAR	MINIMUM PAYMENT
1997. 1998. 1999. 2000.	\$ 49,964 49,964 49,964 20,575
Total minimum lease payments Less amount representing interest	,
Present value of net minimum lease payments Less current portion	146,324 38,676
	\$107,648 =======

In connection with the Lease, the Company issued a warrant to purchase 208,695 shares of MODE's Series B convertible preferred stock, on a post stock split basis (see Note 5), exercisable at any time for a period of up to ten years ending on August 21,

## NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

2006 at a price of \$.77 per share. The warrant may terminate sooner in connection with certain significant corporate events.

## NOTE 5. STOCKHOLDERS' EQUITY

Effective August, 1996, the Company declared a stock split on all existing preferred and common shares at a ratio of three to one. The accompanying financial statements for the year ended December 31, 1996, have been adjusted to reflect the stock split.

On July 17, 1996, the Company issued 4,076,088 shares, on a post stock split basis, of its Series B Convertible Preferred Stock ("Series B"). Each share of Series B, which has a liquidation preference of \$.77, is convertible to one share of the Company's Common Stock and earns dividends at the rate declared for each share of Common Stock. No such dividends have been declared as of December 31, 1996. Terms of the agreements with Preferred Shareholders require the Company to comply with terms similar to those specified in the Series A issuance.

As specified in the Series A Convertible Preferred Stock ("Series A") issuance, the Series A Preferred Stockholder purchased \$150,000 of Convertible Promissory Notes (the "Notes"), during 1996. The Notes, which bore interest at the prime rate compounded monthly, were convertible at a price equal to the per share purchase price of the Series B stock issuance. On July 17, 1996, the Notes and the related interest of \$1,169 were converted to Series B convertible preferred stock in conjunction with the Series B stock issuance.

On August 29, 1995, the Company issued 666,666 shares, on a post stock split basis, of its Series A. Each share of Series A, which has a liquidation preference of \$.3, is convertible to one share of the Company's Common Stock and earns dividends at the rate declared for each share of Common Stock. No such dividends have been declared as of December 31, 1996. An agreement with the Series A Preferred Stockholder requires the Company to, among other items, maintain keyman life insurance on certain key employees, and obtain the Preferred Stockholders' approval to make key changes in the operations of the Company.

On August 3, 1995, the Company issued 3,000,000 shares, on a post stock split basis, of its Common Stock at a par value of .001 per share.

## NOTE 6. DEFERRED COMPENSATION PLAN

In July 1996, the Company adopted the 1996 Stock Option Plan (the "Plan"), where options granted to an employee are qualified "incentive stock options" under the Internal Revenue Code and options granted to a non-employee are "non-statutory stock options", for which 1,800,000 shares were reserved, on a post stock split basis. The Company accounts for options granted to employee's under this Plan in accordance with APB Opinion No. 25, under which no compensation cost has been recognized. The compensation costs for the Plan determined consistent with SFAS 123

## NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

is immaterial. Options granted to non-employee's under this Plan are accounted for in accordance with the provisions of SFAS 123.

The Company has granted options on 645,500 shares through December 31, 1996. Under the Plan, the option exercise price equals the common stocks market price on date of grant. All options are immediately exercisable and expire ten years from date of grant. The options granted to MODE's founders are subject to repurchase by the Company, at the original exercise price, upon the cessation of service prior to vesting in such shares. Such shares vest in a series of 72 successive equal monthly installments over a six year period, however, such vesting shall accelerate to 48 successive equal monthly installments upon the Company meeting performance milestones as provided for by the Board. At December 31, 1996, the Company has achieved two out of five of its performance measures. All other shares vest at the rate of 25 percent of the shares upon the optionee's continued service to the Company through the initial vesting date, with the remaining shares vesting in a series of 36 successive equal monthly installments. The vesting period accelerates in connection with certain significant corporate events.

A summary of the status of the Company's option Plan at December 31, 1996, and changes during the year then ended is presented in the table and narrative below:

	SHARES	WEIGHTED AVERAGE EXERCISE PRICE
Outstanding at beginning of year		\$
Granted	645,500	.077
Exercised		
Forfeited		
Expired		
	======	=====
Outstanding at end of year	645,500	\$.077
	======	=====
Exerciseable at end of year Weighted average fair value of options granted during the	645,500	\$.077
year	\$.02	

The options outstanding at December 31, 1996, have a weighted average remaining contractual life of 9.5 years.

The fair value of each option grant is estimated on the date of grant using Black-Scholes option pricing model with the following average assumptions used: risk-free interest rate of 6.65%; expected lives of ten years; a divided yield of 0%; and expected volatility of .01%.

## NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

## NOTE 7. INCOME TAXES

MODE had no income tax expense and there were no income taxes currently payable for the year ended December 31, 1996 and period ended December 31, 1995. Deferred income taxes at December 31, 1996 and 1995, are offset by a valuation allowance as follows:

	1996	1995
Deferred tax asset: Net operating loss Deferred revenue	\$16,197 48,750	\$14,000 
Valuation allowance	(40,926)	14,000 (14,000)
Deferred tax liability:	24,021	
Depreciation and amortization Other	(22,535) (1,486)	
	(24,021)	
Net deferred taxes	\$	\$

The Company has established a valuation allowance for the entire deferred tax asset due to the uncertainty of future earnings (see Note 1). A net operating loss carry forward of \$46,214 is available to offset future taxable income for the next fifteen years.

## NOTE 8. COMMITMENTS AND CONTINGENCIES

Technology Assistance and Royalty Agreement. On February 22, 1996, the Company entered into a technical assistance and royalty agreement (as subsequently amended) in which the Company agreed to further develop laser technology in return for eight years of co-exclusive rights to five existing patents covering this technology. The Company is required to pay \$7,500 in 1997, plus royalty payments beginning in 1998 of 1.5% to 2.5%, subject to minimum annual payments ranging from up to \$50,000 over the life of the patents provided that the technology is developed and the related products are manufactured in Albuquerque, New Mexico. In the event that the Company fails to develop or abandons development of this technology, all rights to the technology become nonexclusive. The Company paid \$7,500 under this Agreement in 1996.

In October, 1996, the Company signed an agreement for research and development, which expires March 31, 1998. Under the Agreement, the Buyer paid the Company \$95,000 for non-recurring engineering expense, plus all applicable fees and taxes, which payment is non-refundable. Buyer will pay MODE the balance of the payment upon demonstration of feasibility.

### NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

Keyman Life Insurance. The Company is beneficiary to \$500,000 of term life insurance for each of its two founders.

Licensing Agreement. On March 21, 1996, the Company signed a license agreement (the "Agreement") with a major manufacturer in the identification market (the "Manufacturer"). Under the Agreement, the Manufacturer paid the Company a \$500,000 license fee (the "Payment") plus all applicable gross receipts tax that the Company is required to pay thereon.

The Manufacturer retains exclusive rights to use and sell any products or components which the Company develops for the Manufacturer's portion of the identification market (the "Product") for a limited period of time. After the exclusive rights period expires, the Company is required to first offer these Products, if achieved to the Manufacturer under similar sales terms as the Products are offered to any other party for a limited period of time.

Within approximately one year of the receipt of the Payment, the Company and the Manufacturer will negotiate in good faith to enter into a supply agreement for the Product, if achieved. If no agreement is reached, then the Company can elect to sell the Product, if achieved to the Manufacturer for an additional license fee and, for each Product sold, the cost of the Product plus a specified factor for overhead and profit.

Should the Company fail to pursue development or sell the Product to the Manufacturer, the Manufacturer will be granted certain nonexclusive sub-licensing rights.

At December 31, 1996,  $\$325,000\ has been earned under the terms of this agreement.$ 

Leased Property. The Company leases its facility under an operating lease with a term of three years. Rental expense under operating leases was \$18,214 for the year end December 31, 1996. There was no rental expense incurred for the period from inception through December 31, 1995. The minimum future lease commitments for all operating leases are \$34,332 for each of the years ending December 31, 1997 and 1998 and \$17,166 for year end December 31, 1999.

## NOTE 9. SUBSEQUENT EVENT

Purchase and Supply Agreement. On February 14, 1997, the Company signed a purchase and supply contract (the "Contract"). Under the Contract, MODE established the terms and conditions controlling potential sales of vertical-cavity surface-emitting laser ("VCSEL") chips, devices and arrays in the event they occur. The initial term of the Contract is five years, and can be canceled by either party upon written notice 360 days prior to the end of the initial term or any subsequent term. The Contract also may terminate prior to the five year period under certain circumstances. Products sold under the agreement are subject to a warranty period not to exceed the earlier of 18 months from the date the product is delivered to customer,

# NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

or one year from the date of delivery by customer to its end-users, or one year from the date the products are placed in service.

Sale/Leaseback of Assets. Subsequent to year end, the Company financed an additional \$1,850,000 of its property via a sale-leaseback transaction with a leasing company under the terms of the Master Equipment Lease Agreement (see Note 4).

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, 1999

(EMCORE LOGO) EMCORE CORPORATION

3,897,441 SHARES OF COMMON STOCK

PROSPECTUS

DONALDSON, LUFKIN & JENRETTE

PRUDENTIAL SECURITIES

NEEDHAM & COMPANY, INC.

SOUNDVIEW TECHNOLOGY GROUP

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DLJDIRECT INC.

We have not authorized any dealer, salesperson or other person to give you written information other than this prospectus or to make representations as to matters not stated in this prospectus. You must not rely on unauthorized information. This prospectus is not an offer to sell these securities or our solicitation of your offer to buy the securities in any jurisdiction where that would not be permitted or legal. Neither the delivery of this prospectus nor any sales made hereunder after the date of this prospectus shall create an implication that the information contained herein or the affairs of the company have not changed since the date hereof.

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### PART II

## INFORMATION NOT REQUIRED IN PROSPECTUS

## ITEM 14. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION

The following table sets forth the various expenses in connection with the sale and distribution of the securities being registered, other than underwriting discounts and commissions. All amounts shown are estimates except the Securities and Exchange Commission registration fee and the NASD filing fee.

т0	BE	PAID
E	BY 1	ГНЕ
REC	GIST	FRANT

Securities and Exchange Commission registration fee NASD filing fee Accounting fees and expenses Printing expenses Transfer agent and registrar fees Legal fees and expenses Other expenses.	8,000.00 150,000.00 300,000.00 15,000.00 300,000.00
Total	

### \* to be provided

## ITEM 15. INDEMNIFICATION OF DIRECTORS AND OFFICERS

EMCORE'S Restated Certificate of Incorporation provides that the Company shall indemnify its directors and officers to the full extent permitted by New Jersey law, including in circumstances in which indemnification is otherwise discretionary under New Jersey law.

Section 14A:2-7 of the New Jersey Business Corporation Act provides that a New Jersey corporation's:

"certificate of incorporation may provide that a director or officer shall not be personally liable, or shall be liable only to the extent therein provided, to the corporation or its shareholders for damages for breach of any duty owed to the corporation or its shareholders, except that such provision shall not relieve a director or officer from liability for any breach of duty based upon an act or omission (a) in breach of such person's duty of loyalty to the corporation or its shareholders, (b) not in good faith or involving a knowing violation of law or (c) resulting in receipt by such person of an improper personal benefit. As used in this subsection, an act or omission in breach of a person's duty of loyalty means an act or omission which that person knows or believes to be contrary to the best interests of the corporation or its shareholders in connection with a matter in which he has a material conflict of interest."

In addition, Section 14A:3-5 (1995) of the New Jersey Business Corporation Act (1995) provides as follows:

INDEMNIFICATION OF DIRECTORS, OFFICERS AND EMPLOYEES

(1) As used in this section,

(a) "Corporate agent" means any person who is or was a director, officer, employee or agent of the indemnifying corporation or of any constituent corporation absorbed by the indemnifying corporation in a consolidation or merger and any person who is or was a director, officer, trustee, employee or agent of any other enterprise, serving as such at the request of the indemnifying corporation, or of any such constituent corporation, or the legal representative of any such director, officer, trustee, employee or agent;

(b) "Other enterprise" means any domestic or foreign corporation, other than the indemnifying corporation, and any partnership, joint venture, sole proprietorship, trust or other enterprise, whether or not for profit, served by a corporate agent;

(c) "Expenses" means reasonable costs, disbursements and counsel fees;

(d) "Liabilities" means amounts paid or incurred in satisfaction of settlements, judgments, fines and penalties;

(e) "Proceeding" means any pending, threatened or completed civil, criminal, administrative or arbitrative action, suit or proceeding, and any appeal therein and any inquiry or investigation which could lead to such action, suit or proceeding; and

(f) References to "other enterprises" include employee benefit plans; references to "fines" include any excise taxes assessed on a person with respect to an employee benefit plan; and references to "serving at the request of the indemnifying corporation" include any service as a corporate agent which imposes duties on, or involves services by, the corporate agent with respect to an employee benefit plan, its participants, or beneficiaries; and a person who acted in good faith and in a manner the person reasonably believed to be in the interest of the participants and beneficiaries of an employee benefit plan shall be deemed to have acted in a manner "not opposed to the best interests of the corporation" as referred to in this section.

(2) Any corporation organized for any purpose under any general or special law of this State shall have the power to indemnify a corporate agent against his expenses and liabilities in connection with any proceeding involving the corporate agent by reason of his being or having been such a corporate agent, other than a proceeding by or in the right of the corporation, if

(a) such corporate agent acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation; and

(b) with respect to any criminal proceeding, such corporate agent had no reasonable cause to believe his conduct 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 such

corporate agent did not meet the applicable standards of conduct set forth in paragraphs 14A:3-5(2)(a) and 14A:3-5(2)(b).

(3) Any corporation organized for any purpose under any general or special law of this State shall have the power to indemnify a corporate agent against his expenses in connection with any proceeding by or in the right of the corporation to procure a judgment in its favor which involves the corporate agent by reason of his being or having been such corporate agent, if he acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation. However, in such proceeding no indemnification shall be provided in respect of any claim, issue or matter as to which such corporate agent shall have been adjudged to be liable to the corporation, unless and only to the extent that the Superior Court or the court in which such proceeding was brought shall determine upon application that despite the adjudication of liability, but in view of all circumstances of the case, such corporate agent is fairly and reasonably entitled to indemnity for such expenses as the Superior Court or such other court shall deem proper.

(4) Any corporation organized for any purpose under any general or special law of this State shall indemnify a corporate agent against expenses to the extent that such corporate agent has been successful on the merits or otherwise in any proceeding referred to in subsections 14A:3-5(2) and 14A:3-5(3) or in defense of any claim, issue or matter therein.

(5) Any indemnification under subsection 14A:3-5(2) and, unless ordered by a court, under subsection 14A:3-5(3) may be made by the corporation only as authorized in a specific case upon a determination that indemnification is proper in the circumstances because the corporate agent met the applicable standard of conduct set forth in subsection 14A:3-5(2) or subsection 14A:3-5(3). Unless otherwise provided in the certificate of incorporation or bylaws, such determination shall be made

(a) by the board of directors or a committee thereof, acting by a majority vote of a quorum consisting of directors who were not parties to or otherwise involved in the proceeding; or

(b) if such a quorum is not obtainable, or, even if obtainable and such quorum of the board of directors or committee by a majority vote of the disinterested directors so directs, by independent legal counsel, in a written opinion, such counsel to be designated by the board of directors; or

(c) by the shareholders if the certificate of incorporation or bylaws or a resolution of the board of directors or of the shareholders so directs.

(6) Expenses incurred by a corporate agent in connection with a proceeding may be paid by the corporation in advance of the final disposition of the proceeding as authorized by the board of directors upon receipt of an undertaking by or on behalf of the corporate agent to repay such amount if it shall ultimately be determined that he is not entitled to be indemnified as provided in this section.

(7) (a) If a corporation upon application of a corporate agent has failed or refused to provide indemnification as required under subsection 14A:3-5(4) or permitted under subsections 14A:3-5(2), 14A:3-5(3) and 14A:3-5(6), a corporate agent may apply to a court for an award of indemnification by the corporation, and such court

(i) may award indemnification to the extent authorized under subsections 14A:3-5(2) and 14A:3-5(3) and shall award indemnification to the extent required under subsection 14A:3-5(4), notwithstanding any contrary determination which may have been made under subsection 14A:3-5(5); and

(ii) may allow reasonable expenses to the extent authorized by, and subject to the provisions of, subsection 14A:3-5(6), if the court shall find that the corporate agent has by his pleadings or during the course of the proceeding raised genuine issues of fact or law.

(b) Application for such indemnification may be made:

(i) in the civil action in which the expenses were or are to be incurred or other amounts were or are to be paid; or

(ii) to the Superior Court in a separate proceeding. If the application is for indemnification arising out of a civil action, it shall set forth reasonable cause for the failure to make application for such relief in the action or proceeding in which the expenses were or are to be incurred or other amounts were or are to be paid.

The application shall set forth the disposition of any previous application for indemnification and shall be made in such manner and form as may be required by the applicable rules of court or, in the absence thereof, by direction of the court to which it is made. Such application shall be upon notice to the corporation. The court may also direct that notice shall be given at the expense of the corporation to the shareholders and such other persons as it may designate in such manner as it may require.

(8) The indemnification and advancement of expenses provided by or granted pursuant to the other subsections of this section shall not exclude any other rights, including the right to be indemnified against liabilities and expenses incurred in proceedings by or in the right of the corporation, to which a corporate agent may be entitled under a certificate of incorporation, bylaw, agreement, vote of shareholders, or otherwise; provided that no indemnification shall be made to or on behalf of a corporate agent if a judgment or other final adjudication adverse to the corporate agent establishes that his acts or omissions (a) were in breach of his duty of loyalty to the corporation or its shareholders, as defined in subsection (3) of N.J.S.14A:2-7, (b) were not in good faith or involved a knowing violation of law or (c) resulted in receipt by the corporate agent of an improper personal benefit.

(9) Any corporation organized for any purpose under any general or special law of this State shall have the power to purchase and maintain insurance on behalf of any corporate agent against any expenses incurred in any proceeding and any liabilities asserted against him by reason of his being or having been a corporate agent, whether or not the corporation would have the power to indemnify him against such expenses and liabilities under the provisions of this section. The corporation may purchase such insurance from, or such insurance may be reinsured in whole or in part by, an insurer owned by or otherwise affiliated with the corporation, whether or not such insurer does business with other insureds.

(10) The powers granted by this section may be exercised by the corporation, notwithstanding the absence of any provision in its certificate of incorporation or bylaws authorizing the exercise of such powers.

(11) Except as required by subsection 14A:3-5(4), no indemnification shall be made or expenses advanced by a corporation under this section, and none shall be ordered by a court, if such action would be inconsistent with a provision of the certificate of incorporation, a bylaw, a resolution of the board of directors or of the shareholders, an agreement or other proper corporate action, in effect at the time of the accrual of the alleged cause of action asserted in the proceeding, which prohibits, limits or otherwise conditions the exercise of indemnification powers by the corporation or the rights of indemnification to which a corporate agent may be entitled.

(12) This section does not limit a corporation's power to pay or reimburse expenses incurred by a corporate agent in connection with the corporate agent's appearance as a witness in a proceeding at a time when the corporate agent has not been made a party to the proceeding.

The Underwriting Agreement provides for indemnification by the Underwriters of the Registrant and its officers and directors for certain liabilities, including liabilities under the Securities Act.

### ITEM 16. EXHIBITS

The following exhibits are filed with this Registration Statement:

### EXHIBIT NO.

### DESCRIPTION

1.1	Form of Underwriting Agreement.*
3.1	Restated Certificate of Incorporation, amended February 3, 1997 (incorporated by reference to Exhibit 3.1 to Amendment No. 1 to the Registration Statement on Form S-1 (File No. 333-18565) filed with the Commission on February 6, 1997).
3.2	Amended By-Laws, as amended January 11, 1989 (incorporated by reference to Exhibit 3.2 to Amendment No. 1 to the Registration Statement on Form S-1 (File No. 333-18565) filed with the Commission on February 6, 1997).
3.3	<ul> <li>Certificate of Amendment to the Certificate of Incorporation, dated November 19, 1998 (incorporated by reference to Exhibit 3.3 to the registrant's annual report on Form 10-K for the fiscal year ended September 30, 1998 (the "1998 10-K"))</li> </ul>
4.1	Specimen certificate for shares of common stock (incorporated by reference to Exhibit 4.1 to Amendment No. 3 to the Registration Statement on Form S-1 (File No. 333-18565) filed with the Commission on February 24, 1997).
4.2	Form of \$4.08 Warrant (incorporated by reference to Exhibit 10.10 to Amendment No. 1 to the Registration Statement on Form S-1 (File No. 333-18565) filed with the Commission on February 6, 1997).
4.3	Form of \$10.20 Warrant (incorporated by reference to Exhibit 10.12 to Amendment No. 1 to the Registration Statement on Form S-1 (File No. 333-18565) filed with the Commission on February 6, 1997).

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EXHIBIT NO.	DESCRIPTION
4.4	Form of \$11.375 Warrant (incorporated by reference to Exhibit 4.2 to the 1998 10-K).
5.1	Form of White & Case LLP Opinion.*
10.1	<ul> <li>1995 Incentive and Non-Statutory Stock Option Plan (incorporated by reference to Exhibit 10.1 to Amendment No. 1 to the Registration Statement on Form S-1 (File No. 333-18565) filed with the Commission on February 6, 1997).</li> </ul>
10.2	1996 Amendment to Option Plan (incorporated by reference to Exhibit 10.2 to Amendment No. 1 to the Registration Statement on Form S-1 (File No. 333-18565) filed with the Commission on February 6, 1997).
10.3	Specimen Incentive Stock Option Agreement (incorporated by reference to Exhibit 10.3 to Amendment No. 1 to the Registration Statement on Form S-1 (File No. 333-18565) filed with the Commission on February 6, 1997).
10.4	Second Amended and Restated Distributorship Agreement dated as of March 31, 1998 between the Company and Hakuto. Confidential treatment has been requested by the Company for portions of this document. Such portions are indicated by "[*]" (incorporated by reference to Exhibit 10.4 to the 1998 10-K).
10.5	Amendment to Lease for premises at 394 Elizabeth Avenue, Somerset, New Jersey 08873 (incorporated by reference to Exhibit 10.5 to Amendment No. 1 to the Registration Statement on Form S-1 (File No. 333-18565) filed with the Commission on February 6, 1997).
10.6	<ul> <li>Registration Rights Agreement relating to September 1996 warrant issuance (incorporated by reference to Exhibit 10.6 to Amendment No. 1 to the Registration Statement on Form S-1 (File No. 333-18565) filed with the Commission on February 6, 1997).</li> </ul>
10.7	Registration Rights Agreement relating to December 1996 warrant issuance (incorporated by reference to Exhibit 10.7 to Amendment No. 1 to the Registration Statement on Form S-1 (File No. 333-18565) filed with the Commission on February 6, 1997).
10.8	Form of 6% Subordinated Note Due May 1, 2001 (incorporated by reference to Exhibit 10.8 to Amendment No. 1 to the Registration Statement on Form S-1 (File No. 333-18565) filed with the Commission on February 6, 1997).
10.9	<ul> <li>Form of 6% Subordinated Note Due September 1, 2001 (incorporated by reference to Exhibit 10.9 to Amendment No. 1 to the Registration Statement on Form S-1 (File No. 333-18565) filed with the Commission on February 6, 1997).</li> </ul>

EXHIBIT NO. 10.10 -- Purchase Order issued to the Company by General Motors Corporation on November 17, 1996. (incorporated by reference to Exhibit 10.15 to Amendment No. 1 to the Registration Statement on Form S-1 (File No. 333-18565) filed with the Commission on February 6, 1997). Confidential treatment has been requested by the Company with respect to portions of this document. Such portions are indicated by "[\*]" 10.11 Purchase Agreement, dated November 30, 1998, by and between the Company, Hakuto UMI and UTC (incorporated by reference to Exhibit 10.15 to the 1998 10-K). Registration Rights Agreement, dated November 30, 1998 by 10.12 and between the Company, Hakuto, UMI and UTC (incorporated by reference to Exhibit 10.16 to the 1998 10-K). Long Term Purchase Agreement dated November 24, 1998 by and 10.13 between the Company and Space Systems/Loral, Inc. (incorporated by reference to Exhibit 10.17 to the 1998 10-K). Confidential treatment has been requested by the Company with respect to portions of this document. Such portions are indicated by "[\*]." Promissory Note, dated April 29, 1999 by EMCORE in favor of 10.14 First Union National Bank.\* Second Amendment to Revolving Loan and Security Agreement, 10.15 dated as of November 30, 1998 between the Company and First Union National Bank (incorporated by reference to Exhibit 10.19 to the 1998 10-K). Agreement and Plan of Merger, dated as of December 5, 1997, among the Company, the Merger Subsidiary, MODE and the 10.16 Principal Shareholders named therein (incorporated by reference to Exhibit 2 to the Company's report on Form 8-K filed with the Commission on December 22, 1997). Transaction Agreement, dated January 26, 1999, by and 10.17 between EMCORE and General Electric Company (incorporated by reference to Exhibit 10.1 to EMCORE's Quarterly Report on Form 10-Q for the quarter ended December 31, 1999). Confidential treatment has been requested by EMCORE with respect to portions of this document. Such portions are

- indicated by "[\*]." Subsidiaries of the registrant. 21 - -
- Consent of Deloitte & Touche LLP\* 23.1 - -
- Consent of PricewaterhouseCoopers LLP\* 23.2 - -
- 23.3 - -Consent of Arthur Andersen LLP\*
- 23.4 - -
- 23.5 - -
- Consent of White & Case (included in Exhibit 5.1).\* Consent of Lerner David Littenberg Krumholz & Mentlik.\* Form of Power of Attorney and Custody Agreement for selling shareholders.\* 99.1 - -

\* Filed herewith

### DESCRIPTION

#### ITEM 17. UNDERTAKINGS

The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a)or 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement 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.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has 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 Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant 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 Registrant will, unless in the opinion of its 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 Registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of a registration statement in reliance upon Rule 430A and contained in the form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus 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.

## SIGNATURES

Pursuant to the requirements of the Securities Act, the Registrant has duly caused this Amendment No. 1 Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the Township of Somerset, State of New Jersey, on May 21, 1999.

## EMCORE CORPORATION

# By \* Reuben F. Richards, Jr. President and Chief Executive Officer

Pursuant to the requirements of the Securities Act, this Amendment No. 1 on Form S-3 has been signed by the following persons in the capacities indicated, on May 21, 1999.

SIGNATURE	TITLE
*	Chairman of the Board and Director
Thomas J. Russell	
*	President, Chief Executive Officer and Director (Principal Executive Officer)
Reuben F. Richards, Jr.	
/s/ THOMAS G. WERTHAN	Vice President, Chief Financial
Thomas G. Werthan	(Principal Accounting and Financial Officer)
*	Director
Richard A. Stall	
*	Director
Charles Scott	
*	Director
Robert Louis-Dreyfus	
*	Director
Hugh H. Fenwick	
*	Director
Shigeo Takayama	
/s/ JOHN J. HOGAN, JR.	Director
John J. Hogan, Jr.	
*By: /s/ THOMAS G. WERTHAN	
Thomas G. Werthan Attorney-in-Fact	

## Shares

## EMCORE CORPORATION

### Common Stock

## UNDERWRITING AGREEMENT

March \_\_, 1999

DONALDSON, LUFKIN & JENRETTE SECURITIES CORPORATION PRUDENTIAL SECURITIES NEEDHAM & COMPANY, INC VOLPE BROWN WHELAN & COMPANY As representatives of the several Underwriters named in Schedule I hereto c/o Donaldson, Lufkin & Jenrette Securities Corporation 277 Park Avenue New York, New York 10172

Dear Sirs:

EMCORE Corporation, a New Jersey corporation (the "COMPANY"), proposes to issue and sell to the several underwriters named in Schedule I hereto (the "UNDERWRITERS"), and certain stockholders of the Company named in Schedule II hereto (the "SELLING STOCKHOLDERS") severally propose to sell to the several Underwriters, an aggregate of \_\_\_\_\_\_\_\_ shares of the common stock, no par value per share, of the Company (the "FIRM Shares"), of which \_\_\_\_\_\_\_ shares are to be issued and sold by the Company and \_\_\_\_\_\_\_ shares are to be sold by the Selling Stockholders, each Selling Stockholder selling the amount set forth opposite such Selling Stockholder's name in Schedule II hereto. The Company also proposes to issue and sell to the several Underwriters not more than an additional \_\_\_\_\_\_\_ shares of its common stock, no par value per share (the "ADDITIONAL SHARES"), if requested by the Underwriters as provided in Section 2 hereof. The Firm Shares and the Additional Shares are hereinafter referred to collectively as the "SHARES". The shares of common stock of the Company to be outstanding after giving effect to the sales contemplated hereby are hereinafter referred to as the "COMMON STOCK". The Company and the Selling Stockholders are hereinafter sometimes referred to collectively as the "SELLERS."

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SECTION 1. REGISTRATION STATEMENT AND PROSPECTUS. The Company has prepared and filed with the Securities and Exchange Commission (the "COMMISSION") in accordance with the provisions of the Securities Act of 1933, as amended, and the rules and regulations of the Commission thereunder (collectively, the "ACT"), a registration statement on Form S-3, including a prospectus, relating to the Shares. The registration statement, as amended at the time it became effective, including the information (if any) deemed to be part of the registration statement at the time of effectiveness pursuant to Rule 430A under the Act and including all documents incorporated by reference in such registration statement, is hereinafter referred to as the "REGISTRATION STATEMENT"; and the prospectus in the form first used to confirm sales of Shares, including all documents incorporated by reference therein, is hereinafter referred to as the "PROSPECTUS". If the Company has filed or is required pursuant to the terms hereof to file a registration statement pursuant to Rule 462(b) under the Act registering additional shares of Common Stock (a "RULE 462(B) REGISTRATION STATEMENT"), then, unless otherwise specified, any reference herein to the term "Registration Statement" shall be deemed to include such Rule 462(b) Registration Statement. The terms "SUPPLEMENT" and "AMENDMENT" or "AMEND" as used in this Agreement with respect to the Registration Statement or the Prospectus shall include all documents subsequently filed by the Company with the Commission pursuant to the Securities Exchange Act of 1934, as amended, and the rules and regulations of the Commission thereunder (collectively, the "EXCHANGE ACT") that are deemed to be incorporated by reference in the Prospectus.

SECTION 2. AGREEMENTS TO SELL AND PURCHASE AND LOCK-UP AGREEMENTS . On the basis of the representations and warranties contained in this Agreement, and subject to its terms and conditions, (i) the Company agrees to issue and sell \_\_\_\_\_\_ Firm Shares, (ii) each Selling Stockholder agrees, severally and not jointly, to sell the number of Firm Shares set forth opposite such Selling Stockholder's name in Schedule II hereto and (iii) each Underwriter agrees, severally and not jointly, to purchase from each Seller at a price per Share of \$\_\_\_\_\_ (the "PURCHASE PRICE") the number of Firm Shares (subject to such adjustments to eliminate fractional shares as you may determine) that bears the same proportion to the total number of Firm Shares to be sold by such Seller as the number of Firm Shares set forth opposite the name of such Underwriter in Schedule I hereto bears to the total number of Firm Shares.

On the basis of the representations and warranties contained in this Agreement, and subject to its terms and conditions, the Company agrees to issue and sell the Additional Shares and the Underwriters shall have the right to purchase, severally and not jointly, up to \_\_\_\_\_\_ Additional Shares from the Company at the Purchase Price. Additional Shares may be purchased solely for the purpose of covering over-allotments made in connection with the offering of the Firm Shares. The Underwriters may exercise their right to purchase Additional Shares in whole or in part from time to time by giving written notice thereof to the Company within 30 days after the date of this Agreement.

You shall give any such notice on behalf of the Underwriters and such notice shall specify the aggregate number of Additional Shares to be purchased pursuant to such exercise and the date for payment and delivery thereof, which date shall be a business day (i) no earlier than two business days after such notice has been given (and, in any event, no earlier than the Closing Date (as hereinafter defined)) and (ii) no later than ten business days after such notice has been given. If any Additional Shares are to be purchased, each Underwriter, severally and not jointly, agrees to purchase from the Company the number of Additional Shares (subject to such adjustments to eliminate fractional shares as you may determine) which bears the same proportion to the total number of Firm Shares set forth opposite the name of such Underwriter in Schedule I bears to the total number of Firm Shares.

Each Seller hereby agrees not to (i) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, directly or indirectly, any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock (including, without limitation, shares of Common Stock or securities convertible into or exercisable or exchangeable for Common Stock which may be deemed to be beneficially owned by the undersigned in accordance with the rules and regulations of the Securities and Exchange Commission) or (ii) enter into any swap or other arrangement that transfers all or a portion of the economic consequences associated with the ownership of any Common Stock (regardless of whether any of the transactions described in clause (i) or (ii) is to be settled by the delivery of Common Stock, or such other securities, in cash or otherwise), except to the Underwriters pursuant to this Agreement, for a period of 90 days after the date of the Prospectus without the prior written consent of Donaldson, Lufkin & Jenrette Securities Corporation. Notwithstanding the foregoing, during such period (i) the Company may grant stock options pursuant to the Company's existing stock option plan and (ii) the Company may issue shares of Common Stock upon the exercise of an option or warrant or the conversion of a security outstanding on the date hereof. The Company also agrees not to file any registration statement with respect to any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock for a period of 90 days after the date of the Prospectus without the prior written consent of Donaldson, Lufkin & Jenrette Securities Corporation. In addition, each Selling Stockholder agrees that, for a period of 90 days after the date of the Prospectus without the prior written consent of Donaldson, Lufkin & Jenrette Securities Corporation, it will not make any demand for, or exercise any right with respect to, the registration of any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock. The Company shall, prior to or concurrently with the execution of this Agreement, deliver an agreement executed by (i) each

Selling Stockholder, (ii) each of the directors and officers of the Company who is not a Selling Stockholder and (iii) each stockholder listed on Annex I hereto to the effect that such person will not, during the period commencing on the date such person signs such agreement and ending 90 days after the date of the Prospectus, without the prior written consent of Donaldson, Lufkin & Jenrette Corporation, (A) engage in any of the transactions described in the first sentence of this paragraph or (B) make any demand for, or exercise any right with respect to, the registration of any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock.

SECTION 3. TERMS OF PUBLIC OFFERING. The Sellers are advised by you that the Underwriters propose (i) to make a public offering of their respective portions of the Shares as soon after the execution and delivery of this Agreement as in your judgment is advisable and (ii) initially to offer the Shares upon the terms set forth in the Prospectus.

SECTION 4. DELIVERY AND PAYMENT. The Shares shall be represented by definitive certificates and shall be issued in such authorized denominations and registered in such names as Donaldson, Lufkin & Jenrette Securities Corporation shall request no later than two business days prior to the Closing Date or the applicable Option Closing Date (as defined below), as the case may be. The Shares shall be delivered by or on behalf of the Sellers, with any transfer taxes thereon duly paid by the respective Sellers, to Donaldson, Lufkin & Jenrette Securities Corporation through the facilities of The Depository Trust Company ("DTC"), for the respective accounts of the several Underwriters, against payment to the Sellers of the Purchase Price therefore by wire transfer of Federal or other funds immediately available in New York City. The certificates representing the Shares shall be made available for inspection not later than 9:30 A.M., New York City time, on the business day prior to the Closing Date or the applicable Option Closing Date, as the case may be, at the office of DTC or its designated custodian (the "DESIGNATED OFFICE"). The time and date of delivery and payment for the Firm Shares shall be 9:00 A.M., New \_, 199\_ or such other time on the same or such other York City time, on date as Donaldson, Lufkin & Jenrette Securities Corporation and the Company shall agree in writing. The time and date of delivery and payment for the Firm Shares are hereinafter referred to as the "CLOSING DATE". The time and date of delivery and payment for any Additional Shares to be purchased by the Underwriters shall be 9:00 A.M., New York City time, on the date specified in the applicable exercise notice given by you pursuant to Section 2 or such other time on the same or such other date as Donaldson, Lufkin & Jenrette Securities Corporation and the Company shall agree in writing. The time and date of delivery and payment for any Additional Shares are hereinafter referred to as the "OPTION CLOSING DATE".

The documents to be delivered on the Closing Date or any Option Closing Date on behalf of the parties hereto pursuant to Section 9 of this Agreement shall be delivered at the offices of Brobeck, Phleger & Harrison LLP, 1633 Broadway, 47th Floor, New York, New York, 10019, and the Shares shall be delivered at the Designated Office, all on the Closing Date or such Option Closing Date, as the case may be.

(a) To advise you promptly and, if requested by you, to confirm such advice in writing, (i) of any request by the Commission for amendments to the Registration Statement or amendments or supplements to the Prospectus or for additional information, (ii) of the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or of the suspension of qualification of the Shares for offering or sale in any jurisdiction, or the initiation of any proceeding for such purposes, (iii) when any amendment to the Registration Statement becomes effective, (iv) if the Company is required to file a Rule 462(b) Registration Statement after the effectiveness of this Agreement, when the Rule 462(b) Registration Statement has become effective and (v) of the happening of any event during the period referred to in Section 5(d) below which makes any statement of a material fact made in the Registration Statement or the Prospectus untrue or which requires 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, the Company will use its best efforts to obtain the withdrawal or lifting of such order at the earliest possible time.

(b) To furnish you five (5) signed copies of the Registration Statement as first filed with the Commission and of each amendment to it, including all exhibits and documents incorporated therein by reference, and to furnish to you and each Underwriter designated by you such number of conformed copies of the Registration Statement as so filed and of each amendment to it, without exhibits but including documents incorporated therein by reference, as you may reasonably request.

(c) To prepare the Prospectus, the form and substance of which shall be satisfactory to you, and to file the Prospectus in such form with the Commission within the applicable period specified in Rule 424(b) under the Act; during the period specified in Section 5(d) below, not to file any further amendment to the Registration Statement and not to make any amendment or supplement to the Prospectus of which you shall not previously have been advised or to which you shall reasonably object after being so advised; and, during such period, to prepare and file with the Commission, promptly upon your reasonable request, any amendment to the Registration Statement or amendment or supplement to the Prospectus which may be necessary or advisable in connection with the distribution of the Shares by you, and to use its best efforts to cause any such amendment to the Registration Statement to become promptly effective.

(d) Prior to 10:00 A.M., New York City time, on the first business day after the date of this Agreement and from time to time thereafter for such period as in the opinion of counsel for the Underwriters a prospectus is required by law to be delivered in connection with sales by an Underwriter or a dealer, to furnish in New York City to each Underwriter and any dealer as many copies of the Prospectus (and of any amendment or supplement to the Prospectus) and any documents incorporated therein by reference as such Underwriter or dealer may reasonably request.

(e) If during the period specified in Section 5(d), any event shall occur or condition shall exist as a result of which, in the opinion of counsel for the Underwriters, it becomes necessary to amend or supplement the Prospectus in order to make the statements therein, in the light of the circumstances when the Prospectus is delivered to a purchaser, not misleading, or if, in the opinion of counsel for the Underwriters, it is necessary to amend or supplement the Prospectus to comply with applicable law, forthwith to prepare and file with the Commission an appropriate amendment or supplement to the Prospectus so that the statements in the Prospectus, as so amended or supplemented, will not in the light of the circumstances when it is so delivered, be misleading, or so that the Prospectus will comply with applicable law, and to furnish to each Underwriter and to any dealer as many copies thereof as such Underwriter or dealer may reasonably request.

(f) Prior to any public offering of the Shares, to cooperate with you and counsel for the Underwriters in connection with the registration or qualification of the Shares for offer and sale by the several Underwriters and by dealers under the state securities or Blue Sky laws of such jurisdictions as you may request, to continue such registration or qualification in effect so long as required for distribution of the Shares and to file such consents to service of process or other documents as may be necessary in order to effect such registration or qualification; PROVIDED, HOWEVER, that the Company shall not be required in connection therewith 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 or taxation other than as to matters and transactions relating to the Prospectus, the Registration Statement, any preliminary prospectus or the offering or sale of the Shares, in any jurisdiction in which it is not now so subject.

(g) To mail and make generally available to its stockholders as soon as practicable an earnings statement covering the twelve-month period ending March 31, 2000 that shall satisfy the provisions of Section 11(a) of the Act, and to advise you in writing when such statement has been so made available.

(h) During the period of three years after the date of this Agreement, to furnish to you as soon as available copies of all reports or other communications furnished to the record holders of Common Stock or furnished to or filed with the Commission or any national securities exchange on which any class of securities of the Company is listed and such other publicly available information concerning the Company and its subsidiaries as you may reasonably request.

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(i) Whether or not the transactions contemplated in this Agreement are consummated or this Agreement is terminated, to pay or cause to be paid all expenses incident to the performance of the Sellers' obligations under this Agreement, including: (i) the fees, disbursements and expenses of the Company's counsel, the Company's accountants and any Selling Stockholder's counsel (in addition to the Company's counsel) in connection with the registration and delivery of the Shares under the Act and all other fees and expenses in connection with the preparation, printing, filing and distribution of the Registration Statement (including financial statements and exhibits), any preliminary prospectus, the Prospectus and all amendments and supplements to any of the foregoing, including the mailing and delivering of copies thereof to the Underwriters and dealers in the quantities specified herein, (ii) all costs and expenses related to the transfer and delivery of the Shares to the Underwriters, including any transfer or other taxes payable thereon, (iii) all costs of printing or producing this Agreement and any other agreements or documents in connection with the offering, purchase, sale or delivery of the Shares, (iv) all expenses in connection with the registration or qualification of the Shares for offer and sale under the securities or Blue Sky laws of the several states and all costs of printing or producing any Preliminary and Supplemental Blue Sky Memoranda in connection therewith (including the filing fees and fees and disbursements of counsel for the Underwriters in connection with such registration or qualification and memoranda relating thereto), (v)the filing fees and disbursements of counsel for the Underwriters in connection with the review and clearance of the offering of the Shares by the National Association of Securities Dealers, Inc., (vi) all fees and expenses in connection with the preparation and filing of the registration statement on Form 8-A relating to the Common Stock and all costs and expenses incident to the listing of the Shares on the Nasdaq National Market, (vii) the cost of printing certificates representing the Shares, (viii) the costs and charges of any transfer agent, registrar and/or depositary, and (ix) all other costs and expenses incident to the performance of the obligations of the Company and the Selling Stockholders hereunder for which provision is not otherwise made in this Section. The provisions of this Section shall not supersede or otherwise affect any agreement that the Company and the Selling Stockholders may otherwise have for allocation of such expenses among themselves.

(j) To use its best efforts to list for quotation the Shares on the Nasdaq National Market and to maintain the listing of the Shares on the Nasdaq National Market for a period of three years after the date of this Agreement.

(k) To use its best efforts to do and perform all things required or necessary to be done and performed under this Agreement by the Company prior to the Closing Date or any Option Closing Date, as the case may be, and to satisfy all conditions precedent to the delivery of the Shares.

(1) If the Registration Statement at the time of the effectiveness of this Agreement does not cover all of the Shares, to file a Rule 462(b) Registration Statement with the Commission registering the Shares not so covered in compliance with Rule 462(b) by 10:00 P.M., New York City time, on the date of this Agreement and to pay to the Commission the filing fee for such Rule 462(b) Registration Statement at the time of the filing thereof or to give irrevocable instructions for the payment of such fee pursuant to Rule 111(b) under the Act.

SECTION 6. REPRESENTATIONS AND WARRANTIES OF THE COMPANY. The Company represents and warrants to each Underwriter that:

(a) The Registration Statement has become effective (other than any Rule 462(b) Registration Statement to be filed by the Company after the effectiveness of this Agreement); any Rule 462(b) Registration Statement filed after the effectiveness of this Agreement will become effective no later than 10:00 P.M., New York City time, on the date of this Agreement; and no stop order suspending the effectiveness of the Registration Statement is in effect, and no proceedings for such purpose are pending before or threatened by the Commission.

(b) (i) Each document, if any, filed or to be filed pursuant to the Exchange Act and incorporated by reference in the Prospectus complied or will comply when so filed in all material respects with the Exchange Act, (ii) the Registration Statement (other than any Rule 462(b) Registration Statement to be filed by the Company after the effectiveness of this Agreement), when it became effective, did not contain and, as amended, if applicable, will not contain any 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, (iii) the Registration Statement (other than any Rule 462(b) Registration Statement to be filed by the Company after the effectiveness of this Agreement) and the Prospectus comply and, as amended or supplemented, if applicable, will comply in all material respects with the Act, (iv) if the Company is required to file a Rule 462(b) Registration Statement after the effectiveness of this Agreement, such Rule 462(b) Registration Statement and any amendments thereto, when they become effective (A) will not contain any

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 and (B) will comply in all material respects with the Act and (v) the Prospectus does not contain and, as amended or supplemented, if applicable, will not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading, except that the representations and warranties set forth in this paragraph do not apply to statements or omissions in the Registration Statement or the Prospectus based upon information relating to any Underwriter furnished to the Company in writing by such Underwriter through you expressly for use therein.

(c) Each preliminary prospectus filed as part of the registration statement as originally filed or as part of any amendment thereto, or filed pursuant to Rule 424 under the Act, complied when so filed in all material respects with the Act, and did not contain 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, in the light of the circumstances under which they were made, not misleading, except that the representations and warranties set forth in this paragraph do not apply to statements or omissions in any preliminary prospectus based upon information relating to any Underwriter furnished to the Company in writing by such Underwriter through you expressly for use therein.

(d) Each of the Company and its subsidiaries has been duly incorporated, is validly existing as a corporation in good standing under the laws of its jurisdiction of incorporation and has the corporate power and authority to carry on its business as described in the Prospectus and to own, lease and operate its properties, and each is duly qualified and is in good standing as a foreign corporation authorized to do business in each jurisdiction in which the nature of its business or its ownership or leasing of property requires such qualification, except where the failure to be so qualified would not have a material adverse effect on the business, prospects, financial condition or results of operations of the Company and its subsidiaries, taken as a whole.

(e) There are no outstanding subscriptions, rights, warrants, options, calls, convertible securities, commitments of sale or liens granted or issued by the Company or any of its subsidiaries relating to or entitling any person to purchase or otherwise to acquire any shares of the capital stock of the Company or any of its subsidiaries, except as otherwise disclosed in the Registration Statement.

(f) All the outstanding shares of capital stock of the Company (including the Shares to be sold by the Selling Stockholders) have been duly authorized and validly issued and are fully paid, non-assessable and not subject to any preemptive or similar rights; and the Shares to be issued and sold by the Company have been duly authorized and, when issued and delivered to the Underwriters against payment therefor as provided by this Agreement, will be validly issued, fully paid and non-assessable, and the issuance of such Shares will not be subject to any preemptive or similar rights.

(g) All of the outstanding shares of capital stock of each of the Company's subsidiaries have been duly authorized and validly issued and are fully paid and non-assessable, and are owned by the Company, directly or indirectly through one or more subsidiaries, free and clear of any security interest, claim, lien, encumbrance or adverse interest of any nature.

(h) The authorized capital stock of the Company conforms as to legal matters to the description thereof contained in the Prospectus.

(i) Neither the Company nor any of its subsidiaries is in violation of its respective charter or by-laws or in default in the performance of any obligation, agreement, covenant or condition contained in any indenture, loan agreement, mortgage, lease or other agreement or instrument that is material to the Company and its subsidiaries, taken as a whole, to which the Company or any of its subsidiaries is a party or by which the Company or any of its subsidiaries or their respective property is bound.

(j) The execution, delivery and performance of this Agreement by the Company, the compliance by the Company with all the provisions hereof and the consummation of the transactions contemplated hereby will not (i) require any consent, approval, authorization or other order of, or qualification with, any court or governmental body or agency (except such as may be required under the securities or Blue Sky laws of the various states), (ii) conflict with or constitute a breach of any of the terms or provisions of, or a default under, the charter or by-laws of the Company or any of its subsidiaries or any indenture, loan agreement, mortgage, lease or other agreement or instrument that is material to the Company and its subsidiaries, taken as a whole, to which the Company or any of its subsidiaries is a party or by which the Company or any of its subsidiaries or their respective property is bound, (iii) violate or conflict with any applicable law or any rule, regulation, judgment, order or decree of any court or any governmental body or agency having jurisdiction over the Company, any of its subsidiaries or their respective property or (iv) result in the suspension, termination or revocation of any Authorization (as defined below) of the Company or any of its subsidiaries or any other impairment of the rights of the holder of any such Authorization.

(k) There are no legal or governmental proceedings pending or threatened to which the Company or any of its subsidiaries is or could be a party or to which any of their respective property is or could be subject that are required to be described in the Registration Statement or the Prospectus and are not so described; nor are there any statutes, regulations, contracts or other documents that are required to be described in the Registration Statement or the Prospectus or to be filed as exhibits to the Registration Statement that are not so described or filed as required.

(1) Neither the Company nor any of its subsidiaries has violated any foreign, federal, state or local law or regulation relating to the protection of human health and safety, the environment or hazardous or toxic substances or wastes, pollutants or contaminants ("ENVIRONMENTAL LAWS"), any federal or state law relating to discrimination in the hiring, promotion or pay of employees, any applicable federal or state wages and hours laws, any provisions of the Employee Retirement Income Security Act of 1974, as amended, or any provisions of the Foreign Corrupt Practices Act or the rules and regulations promulgated thereunder, except for such violations which, singly or in the aggregate, would not have a material adverse effect on the business, prospects, financial condition or results of operation of the Company and its subsidiaries, taken as a whole.

(m) Each of the Company and its subsidiaries has such permits, licenses, consents, exemptions, franchises, authorizations and other approvals (each, an "AUTHORIZATION") of, and has made all filings with and notices to, all governmental or regulatory authorities and self-regulatory organizations and all courts and other tribunals, including, without limitation, under any applicable Environmental Laws, as are necessary to own, lease, license and operate its respective properties and to conduct its business, except where the failure to have any such Authorization or to make any such filing or notice would not, singly or in the aggregate, have a material adverse effect on the business, prospects, financial condition or results of operations of the Company and its subsidiaries, taken as a whole. Each such Authorization is valid and in full force and effect and each of the Company and its subsidiaries is in compliance with all the terms and conditions thereof and with the rules and regulations of the authorities and governing bodies having jurisdiction with respect thereto; and no event has occurred (including, without limitation, the receipt of any notice from any authority or governing body) which allows or, after notice or lapse of time or both, would allow, revocation, suspension or termination of any such Authorization or results or, after notice or lapse of time or both, would result in any other impairment of the rights of the holder of any such Authorization; and such Authorizations contain no restrictions that are burdensome to the Company or any of its subsidiaries; except where such failure to be valid and in full force and effect or to be in compliance, the occurrence of any such event or the presence of any such restriction would not, singly or in the aggregate, have a material adverse effect on the business, prospects, financial condition or results of operations of the Company and its subsidiaries, taken as a whole.

(n) In the ordinary course of its business, the Company conducts a periodic review of the effect of Environmental Laws on the business, operations and properties of the Company, in the course of which it identifies and evaluates associated costs and liabilities (including, without limitation, any capital or operating expenditures required for clean-up, closure of properties or compliance with Environmental Laws or any permit, license or approval, any

related constraints on operating activities and any potential liabilities to third parties). On the basis of such review, the Company has reasonably concluded that such associated costs and liabilities would not, singly or in the aggregate, have a material adverse effect on the business, prospects, financial condition or results of operations of the Company and its subsidiaries, taken as a whole.

(o) This Agreement has been duly authorized, executed and delivered by the Company.

(p) PricewaterhouseCoopers LLP and Arthur Andersen LLP are each independent public accountants with respect to the Company and its subsidiaries as required by the Act.

(q) The consolidated financial statements included in the Registration Statement and the Prospectus (and any amendment or supplement thereto), together with related schedules and notes, present fairly the consolidated financial position, results of operations and changes in financial position of the Company and its subsidiaries on the basis stated therein at the respective dates or for the respective periods to which they apply; such statements and related schedules and notes have been prepared in accordance with generally accepted accounting principles consistently applied throughout the periods involved, except as disclosed therein; the supporting schedules, if any, included in the Registration Statement present fairly in accordance with generally accepted accounting principles the information required to be stated therein; and the other financial and statistical information and data set forth in the Registration Statement and the Prospectus (and any amendment or supplement thereto) are, in all material respects, accurately presented and prepared on a basis consistent with such financial statements and the books and records of the Company.

(r) The Company is not and, after giving effect to the offering and sale of the Shares and the application of the proceeds thereof as described in the Prospectus, will not be, an "investment company" or a company "controlled" by an "investment company", as such terms are defined in the Investment Company Act of 1940, as amended.

(s) Except as otherwise disclosed in the Registration Statement, there are no contracts, agreements or understandings between the Company and any person granting such person the right to require the Company to file a registration statement under the Act with respect to any securities of the Company or to require the Company to include such securities with the Shares registered pursuant to the Registration Statement.

(t) Since the respective dates as of which information is given in the Prospectus other than as set forth in the Prospectus (exclusive of any amendments or supplements thereto subsequent to the date of this Agreement),(i) there has not occurred any material adverse change or any development involving a prospective material adverse change in the condition, financial or

otherwise, or the earnings, business, management or operations of the Company and its subsidiaries, taken as a whole, (ii) there has not been any material adverse change or any development involving a prospective material adverse change in the capital stock or in the long-term debt of the Company or any of its subsidiaries and (iii) neither the Company nor any of its subsidiaries has incurred any material liability or obligation, direct or contingent.

(u) Each certificate signed by any officer of the Company and delivered to the Underwriters or counsel for the Underwriters shall be deemed to be a representation and warranty by the Company to the Underwriters as to the matters covered thereby.

(w) The Company and its subsidiaries have good and marketable title in fee simple to all real property and good and marketable title to all personal property owned by them which is material to the business of the Company and its subsidiaries, taken as a whole, in each case free and clear of all liens, encumbrances and defects except such as are described in the Prospectus or such as do not materially affect the value of such property and do not interfere with the use made and proposed to be made of such property by the Company and its subsidiaries; and any real property and buildings held under lease by the Company and its subsidiaries are held by them under valid, subsisting and enforceable leases with such exceptions as are not material and do not interfere with the use made and proposed to be made of such property and buildings by the Company and its subsidiaries, taken as a whole, in each case except as described in the Prospectus.

(x) The Company and its subsidiaries own, or possess valid and enforceable licenses to all patents, patent rights, inventions, copyrights, know-how (including trade secrets and other unpatented and/or unpatentable proprietary or confidential information, systems or procedures), trademarks, service marks and trade names ("INTELLECTUAL PROPERTY") currently employed by the Company and its subsidiaries in connection with the business now operated by them , except where the failure to own or possess such Intellectual Property would not, singly or in the aggregate, have a material adverse effect on the business, prospects, financial condition or results of operation of the Company and its subsidiaries, taken as a whole. Neither the Company, nor its subsidiaries, has received any notice, nor are they aware of facts which would form a reasonable basis for any such claim, that: (i) challenges the Company's or its subsidiaries' rights in or to any Intellectual Property; (ii) challenges the validity or scope of any Intellectual Property; (iii) any third party has or will be able to establish any rights in the Intellectual Property, except for the ownership rights of the owners of the Intellectual Property which is licensed to the Company or the rights of parties to whom the Company has granted licenses of such Intellectual Property; (iv) the Intellectual Property

infringes or otherwise violates any patent, copyright, trade secret, trademark or other proprietary right of any third party; or (v) there is infringement of the Intellectual Property by any third party, which, in the case of any such claim specified in clauses (i), (ii), (iii), (iv) or (v) above, singly or in the aggregate, if the subject of an unfavorable decision, ruling or finding, would have a material adverse effect on the business, prospects, financial condition or results of operations of the Company and its subsidiaries, taken as a whole.

(y) The Company and each of its subsidiaries are insured by insurers of recognized financial responsibility against such losses and risks and in such amounts as are prudent and customary in the businesses in which they are engaged; and neither the Company nor any of its subsidiaries (i) has received notice from any insurer or agent of such insurer that substantial capital improvements or other material expenditures will have to be made in order to continue such insurance or (ii) has any reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers at a cost that would not have a material adverse effect on the business, prospects, financial conditions or results of operations of the Company and its subsidiaries, taken as a whole.

(z) No relationship, direct or indirect, exists between or among the Company or any of its subsidiaries on the one hand, and the directors, officers, shareholders, customers or suppliers of the Company or any of its subsidiaries on the other hand, which is required by the Act to be described in the Registration Statement or the Prospectus which is not so described.

(aa) There is no (i) significant unfair labor practice complaint, grievance or arbitration proceeding pending or, to the Company's best knowledge, threatened against the Company or any of its subsidiaries before the National Labor Relations Board or any state or local labor relations board, (ii) strike, labor dispute, slowdown or stoppage pending or, to the Company's best knowledge, threatened against the Company or any of its subsidiaries or (iii) union representation question existing with respect to the employees of the Company and its subsidiaries, except for such actions specified in clause (i), (ii) or (iii) above, which, singly or in the aggregate, would not have a material adverse effect on the business, prospects, financial condition or results of operations of the Company and its subsidiaries, taken as a whole. To the best of the Company's knowledge, no collective bargaining organizing activities are taking place with respect to the Company or any of its subsidiaries.

(bb) The Company and each of its subsidiaries maintains a system of internal accounting controls sufficient to provide reasonable assurance that (i) transactions are executed in accordance with management's general or specific authorizations; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting principles and to maintain asset accountability; (iii) access to assets is permitted only in accordance with management's general or specific authorization; and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences.

(cc) All material tax returns required to be filed by the Company and each of its subsidiaries in any jurisdiction have been filed, other than those filings being contested in good faith, and all material taxes, including withholding taxes, penalties and interest, assessments, fees and other charges due pursuant to such returns or pursuant to any assessment received by the Company or any of its subsidiaries have been paid, other than those being contested in good faith and for which adequate reserves have been provided.

(dd) Any documents which at the date hereof are incorporated by reference in the Registration Statement, the Prospectus or any amendment or supplement thereto, or any preliminary prospectus (the "Incorporated Documents") were filed in a timely manner and, when they were filed (or, if any amendment with respect to any such document was filed, when such amendment was filed), conformed with the requirements of the Securities Exchange Act of 1934 (the "Exchange Act") and did not contain 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.

(ee) The Company has not taken and will not take, directly or indirectly, any action designed to or that might reasonably be expected to cause or result in stabilization or manipulation of the price of the Common Stock to facilitate the sale or resale of the Shares.

(ff) The Common Stock is registered pursuant to Section 12(g) of the Exchange Act and is listed on The Nasdaq National Market, and the Company has taken no action designed to, or likely to have the effect of, terminating the registration of the Common Stock under the Exchange Act or delisting the Common Stock from The Nasdaq National Market, nor has the Company received any notification that the Commission or the National Association of Securities Dealers, Inc. ("NASD") is contemplating terminating such registration or listing.

SECTION 7. REPRESENTATIONS AND WARRANTIES OF THE SELLING STOCKHOLDERS. . Each Selling Stockholder represents and warrants to each Underwriter that:

(a) Such Selling Stockholder is the lawful owner of the Shares to be sold by such Selling Stockholder pursuant to this Agreement and has, and on the Closing Date will have, good and clear title to such Shares, free of all restrictions on transfer, liens, encumbrances, security interests, equities and claims whatsoever.

(b) The Shares to be sold by such Selling Stockholder have been duly authorized and are validly issued, fully paid and non-assessable.

(c) Such Selling Stockholder has, and on the Closing Date will have, full legal right, power and authority, and all authorization and approval required by law, to enter into this Agreement, the Custody Agreement signed by such Selling Stockholder and [American Stock Transfer & Trust Company], as Custodian, relating to the deposit of the Shares to be sold by such Selling Stockholder (the "CUSTODY AGREEMENT") and the Power of Attorney of such Selling Stockholder appointing certain individuals as such Selling Stockholder's attorneys-in-fact (the "ATTORNEYS") to the extent set forth therein, relating to the transactions contemplated hereby and by the Registration Statement and the Custody Agreement (the "POWER OF ATTORNEY") and to sell, assign, transfer and deliver the Shares to be sold by such Selling Stockholder in the manner provided herein and therein.

(d) This Agreement has been duly authorized, executed and delivered by or on behalf of such Selling Stockholder.

(e) The Custody Agreement of such Selling Stockholder has been duly authorized, executed and delivered by such Selling Stockholder and is a valid and binding agreement of such Selling Stockholder, enforceable in accordance with its terms.

(f) The Power of Attorney of such Selling Stockholder has been duly authorized, executed and delivered by such Selling Stockholder and is a valid and binding instrument of such Selling Stockholder, enforceable in accordance with its terms, and, pursuant to such Power of Attorney, such Selling Stockholder has, among other things, authorized the Attorneys, or any one of them, to execute and deliver on such Selling Stockholder's behalf this Agreement and any other document that they, or any one of them, may deem necessary or desirable in connection with the transactions contemplated hereby and thereby and to deliver the Shares to be sold by such Selling Stockholder pursuant to this Agreement.

(g) Upon delivery of and payment for the Shares to be sold by such Selling Stockholder pursuant to this Agreement, good and clear title to such Shares will pass to the Underwriters, free of all restrictions on transfer, liens, encumbrances, security interests, equities and claims whatsoever.

(h) The execution, delivery and performance of this Agreement and the Custody Agreement and Power of Attorney of such Selling Stockholder by or on behalf of such Selling Stockholder, the compliance by such Selling Stockholder with all the provisions hereof and thereof and the consummation of the transactions contemplated hereby and thereby will not (i) require any consent, approval, authorization or other order of, or qualification with, any court or

governmental body or agency (except such as may be required under the securities or Blue Sky laws of the various states), (ii) conflict with or constitute a breach of any of the terms or provisions of, or a default under, the organizational documents of such Selling Stockholder, if such Selling Stockholder is not an individual, or any indenture, loan agreement, mortgage, lease or other agreement or instrument to which such Selling Stockholder is a party or by which such Selling Stockholder or any property of such Selling Stockholder is bound or (iii) violate or conflict with any applicable law or any rule, regulation, judgment, order or decree of any court or any governmental body or agency having jurisdiction over such Selling Stockholder or any property of such Selling Stockholder.

(i) The information in the Registration Statement under the caption "Principal and Selling Stockholders" which specifically relates to such Selling Stockholder does not, and will not on the Closing Date, contain any 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, in the light of the circumstances under which they were made, not misleading.

(j) At any time during the period described in Section 5(d), if there is any change in the information referred to in Section 7(i), such Selling Stockholder will immediately notify you of such change.

(k) Each certificate signed by or on behalf of such Selling Stockholder and delivered to the Underwriters or counsel for the Underwriters shall be deemed to be a representation and warranty by such Selling Stockholder to the Underwriters as to the matters covered thereby.

SECTION 8. INDEMNIFICATION. (a) The Sellers, severally and not jointly, agree to indemnify and hold harmless each Underwriter, its directors, its officers and each person, if any, who controls any Underwriter within the meaning of Section 15 of the Act or Section 20 of the Securities Exchange Act of 1934, as amended (the "EXCHANGE ACT"), from and against any and all losses, claims, damages, liabilities and judgments (including, without limitation, any legal or other expenses incurred in connection with investigating or defending any matter, including any action, that could give rise to any such losses, claims, damages, liabilities or judgments) caused by any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement (or any amendment thereto), the Prospectus (or any amendment or supplement thereto) or any preliminary prospectus, or caused by any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, except insofar as such losses, claims, damages, liabilities or judgments are caused by any such untrue statement or omission or alleged untrue statement or omission based upon information relating to any Underwriter furnished in writing to the Company by such Underwriter through you expressly for use therein PROVIDED, HOWEVER, that

the foregoing indemnity agreement with respect to any preliminary prospectus shall not inure to the benefit of any Underwriter who failed to deliver a Prospectus, as then amended or supplemented, (so long as the Prospectus and any amendment or supplement thereto was provided by the Company to the several Underwriters in the requisite quantity and on a timely basis to permit proper delivery on or prior to the Closing Date) to the person asserting any losses, claims, damages, liabilities or judgments caused by any untrue statement or alleged untrue statement of a material fact contained in such preliminary prospectus, or caused by any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, if such material misstatement or omission or alleged material misstatement or omission was cured in the Prospectus, as so amended or supplemented, and such Prospectus was required by law to be delivered at or prior to the written confirmation of sale to such person. Notwithstanding the foregoing, the aggregate liability of any Selling Stockholder pursuant to this Section 8(a) shall be limited to an amount equal to the total proceeds (before deducting underwriting discounts and commissions and expenses) received by such Selling Stockholder from the Underwriters for the sale of the Shares sold by such Selling Stockholder hereunder.

(b) Each Underwriter agrees, severally and not jointly, to indemnify and hold harmless the Company, its directors, its officers who sign the Registration Statement, each person, if any, who controls the Company within the meaning of Section 15 of the Act or Section 20 of the Exchange Act, each Selling Stockholder and each person, if any, who controls such Selling Stockholder within the meaning of Section 15 of the Act or Section 20 of the Exchange Act to the same extent as the foregoing indemnity from the Sellers to such Underwriter but only with reference to information relating to such Underwriter furnished in writing to the Company by such Underwriter through you expressly for use in the Registration Statement (or any amendment thereto), the Prospectus (or any amendment or supplement thereto) or any preliminary prospectus.

(c) In case any action shall be commenced involving any person in respect of which indemnity may be sought pursuant to Section 8(a) or 8(b) (the "INDEMNIFIED PARTY"), the indemnified party shall promptly notify the person against whom such indemnity may be sought (the "INDEMNIFYING PARTY") in writing and the indemnifying party shall assume the defense of such action, including the employment of counsel reasonably satisfactory to the indemnified party and the payment of all fees and expenses of such counsel, as incurred (except that in the case of any action in respect of which indemnity may be sought pursuant to both Sections 8(a) and 8(b), the Underwriter shall not be required to assume the defense of such action pursuant to this Section 8(c), but may employ separate counsel, except as provided below, shall be at the expense of such Underwriter). Any indemnified party shall have the right to employ separate counsel in any such action and participate in the defense thereof, but the fees and expenses of such counsel is and expense of the indemnified party unless (i) the employment of such counsel shall have been

specifically authorized in writing by the indemnifying party, (ii) the indemnifying party shall have failed to assume the defense of such action or employ counsel reasonably satisfactory to the indemnified party or (iii) the named parties to any such action (including any impleaded parties) include both the indemnified party and the indemnifying party, and the 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 (in which case the indemnifying party shall not have the right to assume the defense of such action on behalf of the indemnified party). In any such case, the indemnifying party shall not, in connection with any one 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 (i) the fees and expenses of more than one separate firm of attorneys (in addition to any local counsel) for all Underwriters, their officers and directors and all persons, if any, who control any Underwriter within the meaning of either Section 15 of the Act or Section 20 of the Exchange Act, (ii) the fees and expenses of more than one separate firm of attorneys (in addition to any local counsel) for the Company, its directors, its officers who sign the Registration Statement and all persons, if any, who control the Company within the meaning of either such Section and (iii) the fees and expenses of more than one separate firm of attorneys (in addition to any local counsel) for all Selling Stockholders and all persons, if any, who control any Selling Stockholder within the meaning of either such Section, and all such fees and expenses shall be reimbursed as they are incurred. In the case of any such separate firm for the Underwriters, their officers and directors and such control persons of any Underwriters, such firm shall be designated in writing by Donaldson, Lufkin & Jenrette Securities Corporation. In the case of any such separate firm for the Company and such directors, officers and control persons of the Company, such firm shall be designated in writing by the Company. In the case of any such separate firm for the Selling Stockholders and such control persons of any Selling Stockholders, such firm shall be designated in writing by the Attorneys. The indemnifying party shall indemnify and hold harmless the indemnified party from and against any and all losses, claims, damages, liabilities and judgments by reason of any settlement of any action (i) effected with its written consent or (ii) effected without its written consent if the settlement is entered into more than twenty business days after the indemnifying party shall have received a request from the indemnified party for reimbursement for the fees and expenses of counsel (in any case where such fees and expenses are at the expense of the indemnifying party) and, prior to the date of such settlement, the indemnifying party shall have failed to comply with such reimbursement request. No indemnifying party shall, without the prior written consent of the indemnified party, effect any settlement or compromise of, or consent to the entry of judgment with respect to, any pending or threatened action in respect of which the indemnified party is or could have been a party and indemnity or contribution may be or could have been sought hereunder by the indemnified party, unless such settlement, compromise or judgment (i) includes an unconditional release of the indemnified party from all liability on claims that are or could have been the subject matter of such action and (ii) does not include a statement as to or an admission of fault, culpability or a failure to act, by or on behalf of the indemnified party.

(d) To the extent the indemnification provided for in this Section 8 is unavailable to an indemnified party or insufficient in respect of any losses, claims, damages, liabilities or judgments referred to therein, then each indemnifying party, in lieu of indemnifying such indemnified party, shall contribute to the amount paid or payable by such indemnified party as a result of such losses, claims, damages, liabilities and judgments (i) in such proportion as is appropriate to reflect the relative benefits received by the Sellers on the one hand and the Underwriters on the other hand from the offering of the Shares or (ii) if the allocation provided by clause 8(d)(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 8(d)(i) above but also the relative fault of the Sellers on the one hand and the Underwriters on the other hand in connection with the statements or omissions which resulted in such losses, claims, damages, liabilities or judgments, as well as any other relevant equitable considerations. The relative benefits received by the Sellers on the one hand and the Underwriters on the other hand shall be deemed to be in the same proportion as the total net proceeds from the offering (after deducting underwriting discounts and commissions, but before deducting expenses) received by the Sellers, and the total underwriting discounts and commissions received by the Underwriters, bear to the total price to the public of the Shares, in each case as set forth in the table on the cover page of the Prospectus. The relative fault of the Sellers on the one hand and the Underwriters on the other hand shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company or the Selling Stockholders on the one hand or the Underwriters on the other hand and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission.

The Sellers and the Underwriters agree that it would not be just and equitable if contribution pursuant to this Section 8(d) were determined by pro rata allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation which does not take account of the equitable considerations referred to in the immediately preceding paragraph. The amount paid or payable by an indemnified party as a result of the losses, claims, damages, liabilities or judgments referred to in the immediately preceding paragraph shall be deemed to include, subject to the limitations set forth above, any legal or other expenses incurred by such indemnified party in connection with investigating or defending any matter, including any action, that could have given rise to such losses, claims, damages, liabilities or judgments. Notwithstanding the provisions of this Section 8, no Underwriter shall be required to contribute any amount in excess of the amount by which the total price at which the Shares underwritten by it

and distributed to the public were offered to the public exceeds the amount of any damages which such Underwriter has otherwise been required to pay by reason of such 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 Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Underwriters' obligations to contribute pursuant to this Section 8(d) are several in proportion to the respective number of Shares purchased by each of the Underwriters hereunder and not joint.

(e) The remedies provided for in this Section 8 are not exclusive and shall not limit any rights or remedies which may otherwise be available to any indemnified party at law or in equity.

(f) Each Selling Stockholder hereby designates EMCORE Corporation, 394 Elizabeth Avenue, Somerset, New Jersey, 08873, as its authorized agent, upon which process may be served in any action which may be instituted in any state or federal court in the State of New York by any Underwriter, any director or officer of any Underwriter or any person controlling any Underwriter asserting a claim for indemnification or contribution under or pursuant to this Section 8, and each Selling Stockholder will accept the jurisdiction of such court in such action, and waives, to the fullest extent permitted by applicable law, any defense based upon lack of personal jurisdiction or venue. A copy of any such process shall be sent or given to such Selling Stockholder, at the address for notices specified in Section 12 hereof.

SECTION 9. CONDITIONS OF UNDERWRITERS' OBLIGATIONS. The several obligations of the Underwriters to purchase the Firm Shares under this Agreement are subject to the satisfaction of each of the following conditions:

(a) All the representations and warranties of the Company contained in this Agreement shall be true and correct on the Closing Date with the same force and effect as if made on and as of the Closing Date.

(b) If the Company is required to file a Rule 462(b) Registration Statement after the effectiveness of this Agreement, such Rule 462(b) Registration Statement shall have become effective by 10:00 P.M., New York City time, on the date of this Agreement; and no stop order suspending the effectiveness of the Registration Statement shall have been issued and no proceedings for that purpose shall have been commenced or shall be pending before or contemplated by the Commission.

(c) You shall have received on the Closing Date a certificate dated the Closing Date, signed by Reuben F. Richards and Thomas G. Werthan, in their capacities as the President and Chief Executive Officer and Vice President - Finance, Chief Financial Officer and Secretary of the Company, confirming the matters set forth in Sections 6(t), 9(a) and 9(b) and that the Company has complied with all of the agreements and satisfied all of the conditions herein contained and required to be complied with or satisfied by the Company on or prior to the Closing Date.

(d) Since the respective dates as of which information is given in the Prospectus other than as set forth in the Prospectus (exclusive of any amendments or supplements thereto subsequent to the date of this Agreement), (i) there shall not have occurred any change or any development involving a prospective change in the condition, financial or otherwise, or the earnings, business, management or operations of the Company and its subsidiaries, taken as a whole, (ii) there shall not have been any change or any development involving a prospective change in the capital stock or in the long-term debt of the Company or any of its subsidiaries and (iii) neither the Company nor any of its subsidiaries shall have incurred any liability or obligation, direct or contingent, the effect of which, in any such case described in clause 9(d)(i), 9(d)(ii) or 9(d)(iii), in your judgment, is material and adverse and, in your judgment, makes it impracticable to market the Shares on the terms and in the manner contemplated in the Prospectus.

(e) All the representations and warranties of each Selling Stockholder contained in this Agreement shall be true and correct on the Closing Date with the same force and effect as if made on and as of the Closing Date and you shall have received on the Closing Date a certificate dated the Closing Date from each Selling Stockholder to such effect and to the effect that such Selling Stockholder has complied with all of the agreements and satisfied all of the conditions herein contained and required to be complied with or satisfied by such Selling Stockholder on or prior to the Closing Date.

(f) You shall have received on the Closing Date an opinion (satisfactory to you and counsel for the Underwriters), dated the Closing Date, of White & Case LLP, counsel for the Company and the Selling Stockholders, to the effect that:

> (i) each of the Company and its subsidiaries has been duly incorporated, is validly existing as a corporation in good standing under the laws of its jurisdiction of incorporation and has the corporate power and authority to carry on its business as described in the Prospectus and to own, lease and operate its properties;

(ii) each of the Company and its subsidiaries is duly qualified and is in good standing as a foreign corporation authorized to do business in each jurisdiction in which the nature of its business or its ownership or leasing of property requires such qualification, except where the failure to be so qualified would not have a material adverse effect on the business, prospects, financial condition or results of operations of the Company and its subsidiaries, taken as a whole;

(iii) all the outstanding shares of capital stock of the Company (including the Shares to be sold by the Selling Stockholders) have been duly authorized and validly issued and are fully paid, non-assessable and not subject to any preemptive or similar rights;

(iv) the Shares to be issued and sold by the Company hereunder have been duly authorized and, when issued and delivered to the Underwriters against payment therefor as provided by this Agreement, will be validly issued, fully paid and non-assessable, and the issuance of such Shares will not be subject to any preemptive or similar rights;

(v) all of the outstanding shares of capital stock of each of the Company's subsidiaries have been duly authorized and validly issued and are fully paid and non-assessable, and are owned by the Company, directly or indirectly through one or more subsidiaries, free and clear of any security interest, claim, lien, encumbrance or adverse interest of any nature;

(vi) this Agreement has been duly authorized, executed and delivered by the Company and by or on behalf of each Selling Stockholder;

(vii) the authorized capital stock of the Company conforms as to legal matters to the description thereof contained in the Prospectus;

(viii) the Registration Statement has become effective under the Act, no stop order suspending its effectiveness has been issued and no proceedings for that purpose are, to the best of such counsel's knowledge after due inquiry, pending before or contemplated by the Commission;

(ix) the statements under the captions "Risk Factors - Risks Related to New Joint Ventures", "--Risks Related to Environmental Regulation", "--Possible Adverse Effects of Issuances of Preferred Stock", "--Effect of Certain Anti-Takeover Provisions", and "--Shares Eligible for Future Sale", "Certain Relationships and Related Transactions" and "Underwriting" in the Prospectus and Item 15 of Part II of the Registration Statement, insofar as such statements constitute a summary of the legal matters, documents or proceedings referred to therein, fairly present the information called for with respect to such legal matters, documents and proceedings;

(x) neither the Company nor any of its subsidiaries is in violation of its respective charter or by-laws and, to the best of such counsel's knowledge after due inquiry, neither the Company nor any of its subsidiaries is in default in the performance of any obligation, agreement, covenant or condition contained in any indenture, loan agreement, mortgage, lease or other agreement or instrument that is material to the Company and its subsidiaries, taken as a whole, to which the Company or any of its subsidiaries is a party or by which the Company or any of its subsidiaries or their respective property is bound;

(xi) the execution, delivery and performance of this Agreement by the Company, the compliance by the Company with all the provisions hereof and the consummation of the transactions contemplated hereby will not (A) require any consent, approval, authorization or other order of, or qualification with, any court or governmental body or agency (except such as may be required under the securities or Blue Sky laws of the various states), (B) conflict with or constitute a breach of any of the terms or provisions of, or a default under, the charter or by-laws of the Company or any of its subsidiaries or any indenture, loan agreement, mortgage, lease or other agreement or instrument that is material to the Company and its subsidiaries is a party or by which the Company or any of its subsidiaries is a party or by which the Company or any of its subsidiaries or their respective property is bound, (C) violate or conflict with any applicable law or any rule, regulation, judgment, order or decree of any court or any governmental body or agency having jurisdiction over the Company, any of its subsidiaries or their respective property or (D) result in the suspension, termination or revocation of any Authorization of the Company or any of its subsidiaries or any other impairment of the rights of the holder of any such Authorization;

(xii) after due inquiry, such counsel does not know of any legal or governmental proceedings pending or threatened to which the Company or any of its subsidiaries is or could be a party or to which any of their respective property is or could be subject that are required to be described in the Registration Statement or the Prospectus and are not so described, or of any statutes, regulations, contracts or other documents that are required to be described in the Registration Statement or the Prospectus or to be filed as exhibits to the Registration Statement that are not so described or filed as required;

(xiii) neither the Company nor any of its subsidiaries has violated any Environmental Law, any provisions of the Employee Retirement Income Security Act of 1974, as amended, or any provisions of the Foreign Corrupt Practices Act or the rules and regulations promulgated thereunder, except for such violations which, singly or in the aggregate, would not have a material adverse effect on the business, prospects, financial condition or results of operation of the Company and its subsidiaries, taken as a whole;

(xiv) each of the Company and its subsidiaries has such Authorizations of, and has made all filings with and notices to, all governmental or regulatory authorities and self-regulatory organizations and all courts and other tribunals, including, without limitation, under any applicable Environmental Laws, as are necessary to own, lease, license and operate its respective properties and to conduct its business, except where the failure to have any such Authorization or to make any such filing or notice would not, singly or in the aggregate, have a material adverse effect on the business, prospects, financial condition or results of operations of the Company and its subsidiaries, taken as a whole; each such Authorization is valid and in full force and effect and each of the Company and its subsidiaries is in compliance with all the terms and conditions thereof and with the rules and regulations of the authorities and governing bodies having jurisdiction with respect thereto; and no event has occurred (including, without limitation, the receipt of any notice from any authority or governing body) which allows or, after notice or lapse of time or both, would allow, revocation, suspension or termination of any such Authorization or results or, after notice or lapse of time or both, would result in any other impairment of the rights of the holder of any such Authorization; and such Authorizations contain no restrictions that are burdensome to the Company or any of its subsidiaries; except where such failure to be valid and in full force and effect or to be in compliance, the occurrence of any such event or the presence of any such restriction would not, singly or in the aggregate, have a material adverse effect on the business, prospects, financial condition or results of operations of the Company and its subsidiaries, taken as a whole;

(xv) the Company is not and, after giving effect to the offering and sale of the Shares and the application of the proceeds thereof as described in the Prospectus, will not be, an "investment company" or a company "controlled" by an "investment company" as such terms are defined in the Investment Company Act of 1940, as amended;

(xvi) to the best of such counsel's knowledge after due inquiry, except as otherwise set forth in the Prospectus there are no contracts, agreements or understandings between the Company and any person granting such person the right to require the Company to file a registration statement under the Act with respect to any securities of the Company or to require the Company to include such securities with the Shares registered pursuant to the Registration Statement;

(xvii) (A) each document, if any, filed pursuant to the Exchange Act and incorporated by reference in the Prospectus (except for financial statements and other financial data included therein as to which no opinion need be expressed) complied when so filed as to form with the Exchange Act, (B) such counsel has no reason to believe that at the time the Registration Statement became effective or on the date of this Agreement, the Registration Statement and the prospectus included therein (except for the financial statements and other financial data as to which such counsel need not express any belief) contained any 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 and (C) such counsel has no reason to believe that the Prospectus, as amended or supplemented, if applicable (except for the financial statements and other financial data, as aforesaid) contains any untrue statement of a material fact or omits to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading;

(xviii) each Selling Stockholder is the lawful owner of the Shares to be sold by such Selling Stockholder pursuant to this Agreement and has good and clear title to such Shares, free of all restrictions on transfer, liens, encumbrances, security interests, equities and claims whatsoever;

(xix) each Selling Stockholder has full legal right, power and authority, and all authorization and approval required by law, to enter into this Agreement and the Custody Agreement and the Power of Attorney of such Selling Stockholder and to sell, assign, transfer and deliver the Shares to be sold by such Selling Stockholder in the manner provided herein and therein;

(xx) the Custody Agreement of each Selling Stockholder has been duly authorized, executed and delivered by such Selling Stockholder and is a valid and binding agreement of such Selling Stockholder, enforceable in accordance with its terms;

(xxi) the Power of Attorney of each Selling Stockholder has been duly authorized, executed and delivered by such Selling Stockholder and is a valid and binding instrument of such Selling Stockholder, enforceable in accordance with its terms, and, pursuant to such Power of Attorney, such Selling Stockholder has, among other

things, authorized the Attorneys, or any one of them, to execute and deliver on such Selling Stockholder's behalf this Agreement and any other document they, or any one of them, may deem necessary or desirable in connection with the transactions contemplated hereby and thereby and to deliver the Shares to be sold by such Selling Stockholder pursuant to this Agreement;

(xxii) upon delivery of and payment for the Shares to be sold by each Selling Stockholder pursuant to this Agreement, good and clear title to such Shares will pass to the Underwriters, free of all restrictions on transfer, liens, encumbrances, security interests, equities and claims whatsoever; and

(xxiii) the execution, delivery and performance of this Agreement and the Custody Agreement and Power of Attorney of each Selling Stockholder by such Selling Stockholder, the compliance by such Selling Stockholder with all the provisions hereof and thereof and the consummation of the transactions contemplated hereby and thereby will not (A) require any consent, approval, authorization or other order of, or qualification with, any court or governmental body or agency (except such as may be required under the securities or Blue Sky laws of the various states), (B) conflict with or constitute a breach of any of the terms or provisions of, or a default under, the organizational documents of such Selling Stockholder, if such Selling Stockholder is not an individual, or any indenture, loan agreement mortgage, lease or other agreement or instrument to which such Selling Stockholder is a party or by which any property of such Selling Stockholder is bound or (C) violate or conflict with any applicable law or any rule, regulation, judgment, order or decree of any court or any governmental body or agency having jurisdiction over such Selling Stockholder or any property of such Selling Stockholder.

The opinion of White & Case LLP described in Section 9(f) above shall be rendered to you at the request of the Company and the Selling Stockholders and shall so state therein.

(g) You shall have received on the Closing Date an opinion, dated the Closing Date, of Brobeck, Phleger & Harrison LLP, counsel for the Underwriters, as to the matters referred to in Sections 9(f)(iv), and 9(f)(vi) (but only with respect to the Company), 9(f)(ix) (but only with respect to the statements under the caption "Underwriting") and clauses 9(f)(xvii)(B), 9(f)(xvii)(C) and 9(f)(xvii)(D).

In giving such opinions with respect to the matters covered by Section 9(f)(xvii), [counsel for the Company] may state that their opinion and belief are based upon their participation in the preparation of the Registration Statement and Prospectus and any amendment or supplements thereto and documents incorporated therein by reference and review and discussion of the contents thereof, but is without independent check or verification except as specified.

In giving such opinions with respect to the matters covered by clauses 9(f)(xvii)(B), 9(f)(xvii)(C) and 9(f)(xvii)(D) above, Brobeck, Phleger & Harrison LLP may state that their opinion and belief are based upon their participation in the preparation of the Registration Statement and Prospectus and any amendments or supplements thereto (other than the documents incorporated therein by reference) and review and discussion of the contents thereof (including the documents incorporated therein by reference), but are without independent check or verification except as specified.

(h) You shall have received on the Closing Date an opinion (satisfactory to you and counsel for the Underwriters), dated the Closing Date, of Lerner, David, Littenberg, Krumholz & Mentlik, patent counsel for the Company, to the effect that:

(i) The statements in the Registration Statement and Prospectus (x) under the caption "Risk Factors-No Assurance of Intellectual Property Protections", "--Licensed Technology Risks" and "--Rockwell Patent Litigation" and (y) under the caption "Business--Intellectual Property and Licensing", insofar as such statements constitute summaries of matters of law are accurate statements or summaries of the matters set forth therein.

(ii) The Company has clear record title to its United States patents and patent applications identified in SCHEDULE A to the opinion.

(iii) Such counsel is not aware of any facts which, in its opinion, would render any of the United States patents owned by the Company unenforceable or invalid.

(iv) Except as is set forth in SCHEDULE B, such counsel is not aware of any patents, trademarks, service marks, trade names, mask work rights, copyrights, trade secrets or other rights of others which are being infringed by specific, current or proposed products or processes referred to in the Prospectus; such counsel has no knowledge of any pending or threatened action, suit, proceeding or claim by others that the Company is infringing any patent, trademark, service mark, trade name, mask work right, copyright, trade secret or other right of any third party.

 $(\nu)$  To such counsel's knowledge there are no legal or governmental proceedings pending relating to the United States patent rights, other than review by the United States Patent and Trademark Office of pending applications for patents, including appeal proceedings, and, to such counsel's knowledge, no such proceedings are threatened by United States governmental authorities or others.

(vi) Except as set forth in SCHEDULE C, such counsel is not aware of any infringement by third parties of the Company's Intellectual Property nor any pending or threatened actions, proceedings or claims by the Company that any third party is infringing the Company's Intellectual Property.

(vii) Such counsel does not know of any contracts or other documents relating to the Intellectual Property of the Company or United States patents or patent applications other than those described in the Registration Statement and the Prospectus or identified on SCHEDULE A.

In addition, such counsel shall state that no facts have come to the attention of such counsel which would form a basis for the belief that (a) the Registration Statement or any amendment thereto, or (b) the Prospectus, as amended or supplemented, contain any untrue statement of a material fact with respect to the patent position of the Company, or omit to state any material fact relating to the patent position of the Company, which is necessary to make the statements contained therein not misleading.

(i) You shall have received, on each of the date hereof and the Closing Date, a letter dated the date hereof or the Closing Date, as the case may be, in form and substance satisfactory to you, from PricewaterhouseCoopers LLP, independent public accountants, containing the information and statements of the type ordinarily included in accountants' "comfort letters" to Underwriters with respect to the financial statements and certain financial information contained in or incorporated by reference into the Registration Statement and the Prospectus.

(j) The Company shall have delivered to you the agreements specified in Section 2 hereof which agreements shall be in full force and effect on the Closing Date.

 $({\bf k})$  The Shares shall have been duly listed for quotation on the Nasdaq National Market.

(1) The Company and the Selling Stockholders shall not have failed on or prior to the Closing Date to perform or comply with any of the agreements herein contained and required to be performed or complied with by the Company or the Selling Stockholders, as the case may be, on or prior to the Closing Date.

(m) You shall have received on the Closing Date, a certificate of each Selling Stockholder who is not a U.S. Person (as defined under applicable U.S. federal tax legislation) to the effect that such Selling Stockholder is not a U.S. Person, which certificate may be in the form of a properly completed and executed United States Treasury Department Form W-8 (or other applicable form or statement specified by Treasury Department regulations in lieu thereof). The several obligations of the Underwriters to purchase any Additional Shares hereunder are subject to the delivery to you on the applicable Option Closing Date of such documents as you may reasonably request with respect to the good standing of the Company, the due authorization and issuance of such Additional Shares and other matters related to the issuance of such Additional Shares.

SECTION 10. EFFECTIVENESS OF AGREEMENT AND TERMINATION. This Agreement shall become effective upon the execution and delivery of this Agreement by the parties hereto.

This Agreement may be terminated at any time on or prior to the Closing Date by you by written notice to the Sellers if any of the following has occurred: (i) any outbreak or escalation of hostilities or other national or international calamity or crisis or change in economic conditions or in the financial markets of the United States or elsewhere that, in your judgment, is material and adverse and, in your judgment, makes it impracticable to market the Shares on the terms and in the manner contemplated in the Prospectus, (ii) the suspension or material limitation of trading in securities or other instruments on the New York Stock Exchange, the American Stock Exchange, the Chicago Board of Options Exchange, the Chicago Mercantile Exchange, the Chicago Board of Trade or the Nasdaq National Market or limitation on prices for securities or other instruments on any such exchange or the Nasdaq National Market, (iii) the suspension of trading of any securities of the Company on any exchange or in the over-the-counter market, (iv) the enactment, publication, decree or other promulgation of any federal or state statute, regulation, rule or order of any court or other governmental authority which in your opinion materially and adversely affects, or will materially and adversely affect, the business, prospects, financial condition or results of operations of the Company and its subsidiaries, taken as a whole, (v) the declaration of a banking moratorium by either federal or New York State authorities or (vi) the taking of any action by any federal, state or local government or agency in respect of its monetary or fiscal affairs which in your opinion has a material adverse effect on the financial markets in the United States.

If on the Closing Date or on an Option Closing Date, as the case may be, any one or more of the Underwriters shall fail or refuse to purchase the Firm Shares or Additional Shares, as the case may be, which it has or they have agreed to purchase hereunder on such date and the aggregate number of Firm Shares or Additional Shares, as the case may be, which such defaulting Underwriter or Underwriters agreed but failed or refused to purchase is not more than one-tenth of the total number of Firm Shares or Additional Shares, as the case may be, to be purchased on such date by all Underwriters, each non-defaulting Underwriter shall be obligated severally, in the proportion which the number of Firm Shares set forth opposite its name in Schedule I bears to the total number of Firm Shares which all the non-defaulting Underwriters have agreed to purchase, or in such other proportion as you may specify, to purchase the Firm Shares or Additional Shares, as the case may be, which such defaulting Underwriter or Underwriters agreed but failed or refused to purchase on such date; PROVIDED that in no event shall the number of Firm Shares or

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Additional Shares, as the case may be, which any Underwriter has agreed to purchase pursuant to Section 2 hereof be increased pursuant to this Section 10 by an amount in excess of one-ninth of such number of Firm Shares or Additional Shares, as the case may be, without the written consent of such Underwriter. If on the Closing Date any Underwriter or Underwriters shall fail or refuse to purchase Firm Shares and the aggregate number of Firm Shares with respect to which such default occurs is more than one-tenth of the aggregate number of Firm Shares to be purchased by all Underwriters and arrangements satisfactory to you, the Company and the Selling Stockholders for purchase of such Firm Shares are not made within 48 hours after such default, this Agreement will terminate without liability on the part of any non-defaulting Underwriter, the Company or the Selling Stockholders. In any such case which does not result in termination of this Agreement, either you or the Sellers shall have the right to postpone the Closing Date, but in no event for longer than seven days, in order that the required changes, if any, in the Registration Statement and the Prospectus or any other documents or arrangements may be effected. If, on an Option Closing Date, any Underwriter or Underwriters shall fail or refuse to purchase Additional Shares and the aggregate number of Additional Shares with respect to which such default occurs is more than one-tenth of the aggregate number of Additional Shares to be purchased on such date, the non-defaulting Underwriters shall have the option to (i) terminate their obligation hereunder to purchase such Additional Shares or (ii) purchase not less than the number of Additional Shares that such non-defaulting Underwriters would have been obligated to purchase on such date in the absence of such default. Any action taken under this paragraph shall not relieve any defaulting Underwriter from liability in respect of any default of any such Underwriter under this Agreement.

SECTION 11. AGREEMENTS OF THE SELLING STOCKHOLDERS. Each Selling Stockholder agrees with you and the Company:

(a) To pay or to cause to be paid all transfer taxes payable in connection with the transfer of the Shares to be sold by such Selling Stockholder to the Underwriters.

(b) To do and perform all things to be done and performed by such Selling Stockholder under this Agreement prior to the Closing Date and to satisfy all conditions precedent to the delivery of the Shares to be sold by such Selling Stockholder pursuant to this Agreement.

SECTION 12. MISCELLANEOUS. Notices given pursuant to any provision of this Agreement shall be addressed as follows: (i) if to the Company, to EMCORE Corporation, 394 Elizabeth Avenue, Somerset, New Jersey, 08873, (ii) if to the Selling Stockholders, to [American Stock Transfer & Trust Co.] c/o [ADDRESS OF ATTORNEY-IN-FACT] and (iii) if to any Underwriter or to you, to you c/o Donaldson, Lufkin & Jenrette Securities Corporation, 277 Park Avenue, New York, New York 10172, Attention: Syndicate Department, or in any case to such other address as the person to be notified may have requested in writing. The respective indemnities, contribution agreements, representations, warranties and other statements of the Company, the Selling Stockholders and the several Underwriters set forth in or made pursuant to this Agreement shall remain operative and in full force and effect, and will survive delivery of and payment for the Shares, regardless of (i) any investigation, or statement as to the results thereof, made by or on behalf of any Underwriter, the officers or directors of any Underwriter, any person controlling any Underwriter, the Company, the officers or directors of the Company, any Selling Stockholder or any person controlling such Selling Stockholder, (ii) acceptance of the Shares and payment for them hereunder and (iii) termination of this Agreement.

If for any reason the Shares are not delivered by or on behalf of any Seller as provided herein (other than as a result of any termination of this Agreement pursuant to Section 10), the Sellers agree, jointly and severally, to reimburse the several Underwriters for all out-of-pocket expenses (including the fees and disbursements of counsel) incurred by them. Notwithstanding any termination of this Agreement, the Company shall be liable for all expenses which it has agreed to pay pursuant to Section 5(i) hereof. The Sellers also agree, jointly and severally, to reimburse the several Underwriters, their directors and officers and any persons controlling any of the Underwriters for any and all fees and expenses (including, without limitation, the fees disbursements of counsel) incurred by them in connection with enforcing their rights hereunder (including, without limitation, pursuant to Section 8 hereof).

Except as otherwise provided, this Agreement has been and is made solely for the benefit of and shall be binding upon the Company, the Selling Stockholders, the Underwriters, the Underwriters' directors and officers, any controlling persons referred to herein, the Company's directors and the Company's officers who sign the Registration Statement and their respective successors and assigns, all as and to the extent provided in this Agreement, and no other person shall acquire or have any right under or by virtue of this Agreement. The term "successors and assigns" shall not include a purchaser of any of the Shares from any of the several Underwriters merely because of such purchase.

This Agreement shall be governed and construed in accordance with the laws of the State of New York.

This Agreement may be signed in various counterparts which together shall constitute one and the same instrument.

Please confirm that the foregoing correctly sets forth the agreement among the Company, the Selling Stockholders and the several Underwriters.

Very truly yours,

EMCORE CORPORATION

By: . Title:

THE SELLING STOCKHOLDERS NAMED IN SCHEDULE II HERETO, ACTING SEVERALLY

By: -----

Attorney-in-fact

DONALDSON, LUFKIN & JENRETTE SECURITIES CORPORATION PRUDENTIAL SECURITIES NEEDHAM & COMPANY, INC. VOLPE BROWN WHELAN & COMPANY

Acting severally on behalf of themselves and the several Underwriters named in Schedule I hereto

By DONALDSON, LUFKIN & JENRETTE SECURITIES CORPORATION

Ву

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Number of Firm Shares to be Purchased

Underwriters

Donaldson, Lufkin & Jenrette Securities Corporation

Prudential Securities Needham & Company, Inc. Volpe Brown Whelan & Company

Total

## SCHEDULE II

## SELLING STOCKHOLDERS

Number of Firm Shares Being Sold

Total

35

Name

# ANNEX I

[Insert names of stockholders of the Company who will be required to sign lock ups]

WHITE & CASE LLP OPINION

May 21, 1999

Emcore Corporation Company 394 Elizabeth Avenue Somerset, New Jersey, 08873

Re: EMCORE Corporation Public offering of shares of Common Stock

Ladies and Gentlemen:

On the date hereof EMCORE Corporation, a New Jersey corporation (the "Company"), filed with the Securities and Exchange Commission under the Securities Act of 1933, as amended (No. 333-71791) a Registration Statement on Form S-3 (the "Registration Statement"). Such Registration Statement relates to the sale by the Company of up to 3,584,616 shares of the Company's Common Stock, no par value per share (the "Common Stock") and 897,441 shares of Common Stock by selling shareholders.

We have acted as counsel to the Company in connection with the preparation of the Registration Statement. We are familiar with the proceedings of the Board of Directors of the Company in connection with the authorization, issuance and sale of the Shares. We have examined such certificates of public officials and certificates of officers of the Company and the selling shareholders, and the originals (or copies thereof, certified to our satisfaction) of such corporate documents and records of the Company, and such other documents, records and papers as we have deemed relevant in order to give the opinions hereinafter set forth. In this connection, we have assumed the genuineness of signatures, the authenticity of all documents submitted to us as

originals and the conformity to authentic original documents of all documents submitted to us as certified, conformed, facsimile or photostatic copies. In addition, we have relied, to the extent that we deem such reliance proper, upon such certificates of public officials and of officers of the Company with respect to the accuracy of material factual matters contained therein which were not independently established.

We do not express or purport to express any opinions with respect to laws other than the Federal laws of the United States. As to all matters governed by the laws of the State of New Jersey involved in our opinions set forth below, we have relied, with your consent, upon an opinion of Dillon Bitar & Luther dated today and addressed to us.

Based upon the foregoing, we are of the opinion that the Shares have been duly authorized and, when issued and delivered by the Company against payment therefor as provided by the Underwriting Agreement will be validly issued, fully paid and non-assessable, and may be issued free of restrictive legends.

We hereby consent to the filing of this opinon as an exhibit to the Registration Statement and to the use of our name under the caption "Legal Matters" in the Prospectus forming a part of the Registration Statement.

Very truly yours,

White & Case LLP

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AMENDED AND RESTATED PROMISSORY NOTE (REVOLVING LINE OF CREDIT)

\$19,000,000.00

April 29, 1999

EMCORE CORPORATION 394 Elizabeth Avenue Somerset, New Jersey 08873 (Hereinafter referred to as the "Borrower")

FIRST UNION NATIONAL BANK 190 River Road Summit, New Jersey 07901 (Hereinafter referred to as the "Bank")

Borrower promises to pay to the order of Bank, in lawful money of the United States of America, at its office indicated above or wherever else Bank may specify, the sum of NINETEEN MILLION AND NO/100 DOLLARS (\$19,000,000.00) or such sum as may be advanced and outstanding from time to time with interest on the unpaid principal balance at the rate and on the terms provided in this Promissory Note (including all renewals, extensions or modifications hereof, this "Note").

AMENDED AND RESTATED NOTE. This Note shall be deemed to replace and supercede the \$8,000,000 Promissory Note (Revolving Line of Credit) dated June 22, 1998 and the \$5,000,000 Promissory Note (Revolving Line of Credit dated January 29, 1999, in each case made by Borrower and payable to the Bank (the "Prior Notes"). Accordingly, as of the date hereof, all of Borrower's obligations evidenced by the Prior Notes shall be deemed to be evidenced by this Note and all of the terms and conditions of the Prior Notes are amended and restated in their entirety by the terms and conditions of this Note. It is hereby acknowledge that the terms and conditions of this Note that pertain to Borrower's obligations under the Prior Notes are a modification of said obligations under the Prior Notes, and not an extinguishment, satisfaction or novation of such obligations.

SECURITY. This Note is secured by, INTER ALIA, the Unconditional Guaranty dated the date hereof, made by Thomas J. Russell, Jr., individually and the TJR Holding Trust (collectively, the "Note Guarantors") and by the Collateral described in the Pledge and Assignment Agreement of even date herewith made by the Note Guarantors in favor of the Bank (collectively, the "TJR Documents").

INTEREST RATE. Interest shall accrue on the unpaid principal balance of each Revolving Loan (defined herein) under this Note from the date such Revolving Loan is made available to the Borrower at the at a rate equal to one month LIBOR plus three-quarters of one percent (3/4%) per annum ("LIBOR-BASED RATE"), as determined by the Bank prior to the commencement of each Interest Period. The LIBOR-Based Rate shall remain in effect, subject to the provisions hereof, for the entire Interest Period for which it is determined. Borrower acknowledges that the LIBOR-Based Rate is not represented or intended to be the lowest or most favorable rate of interest offered by Bank. "LIBOR" is the rate for U.S. dollar deposits of that many months maturity as reported on Telerate page 3750 as of 11:00 a.m., London time, on the second London business day before the relevant Interest Period begins (or if not so reported, then as determined by Bank from another recognized source of interbank quotation). The term "Interest Period" means, initially, the period commencing on the date hereof and ending April 30, 1999, and thereafter, each period commencing on the last day of the immediately preceding Interest Period

and ending one month thereafter, but in no event after the Maturity Date; subject, however, to the following provisions: (i) if any Interest Period would otherwise end on a day which is not a New York business day, that Interest Period shall be extended to the next succeeding New York business day unless the result of such extension would be to carry such Interest Period into another calendar month, in which event such Interest Period shall end on the immediately preceding New York business day; and (ii) any Interest Period that begins on the last New York business day of a calendar month (or on a day for which there is no numerically corresponding day in the calendar month at the end of such Interest Period) shall end on the last New York business day of a calendar month.

DEFAULT RATE. In addition to all other rights contained in this Note, if a Default (defined herein) occurs and as long as a Default continues, (a) Borrower shall no longer have the option to request a LIBOR-Based Rate and (b) all outstanding Obligations shall bear interest at the Lending Rate (as such term is defined in the Credit Agreement) plus 3% ("Default Rate"). The Default Rate shall also apply from acceleration until the Obligations or any judgment thereon is paid in full.

INDEMNIFICATION. The Borrower shall indemnify the Bank against the Bank's loss or expense in employing deposits as a consequence of (i) the Borrower's failure to make any payment when due under this Note, or (ii) any prepayment of the Loan on a date other than the last day of an Interest Period ("INDEMNIFIED LOSS OR EXPENSE").

ADDITIONAL COSTS. If, at any time, a new, or a revision in any existing law or interpretation or administration (including reversals) thereof by any government authority, central bank or comparable agency imposes, increases or modifies any reserve or similar requirement against assets, deposits or credit extended by the Bank, or subjects the Bank to any tax, duty or other charge (except tax on the Bank's net income), and any of the foregoing increase the cost to the Bank of maintaining its commitment or reduce the amount of any sum received or receivable by the Bank under this Note, within 15 days after demand by the Bank, the Borrower agrees to pay the Bank such additional amounts as will compensate the Bank for such increased costs or reductions ("ADDITIONAL COSTS").

MATCH FUNDING. The amount of such (i) Indemnified Loss or Expense, or (ii) Additional Costs outlined above shall be determined, in the Bank's sole discretion, based upon the assumption that the Bank funded 100% of that portion of the Loan to which the LIBOR-Based Rate applies in the applicable London interbank market.

UNAVAILABILITY OF INTEREST RATE. If, at any time, (i) the Bank shall determine that, by reason of circumstances affecting foreign exchange and interbank markets generally, LIBOR deposits in the applicable amounts are not being offered to the Bank; or (ii) a new, or a revision in any existing law or interpretation or administration (including reversals) thereof by any government authority, central bank or comparable agency shall make it unlawful or impossible for the Bank to honor its obligations under this Note, then (A) the Bank's obligation, if any, to make or maintain a Revolving Loan at the LIBOR-Based Rate shall be suspended, and (B) the applicable LIBOR-Based Rate shall, for the remainder of the term of the Loan, immediately be converted to (x) the Lending Rate (as such term is defined in the Credit Agreement) or (y) if the undersigned has hedged the LIBOR-Based Rate by entering into an interest rate swap agreement with the Bank, the rate of interest payable to the undersigned by the Bank as a Floating Rate Payer under the terms of said swap agreement (plus the percentage added to LIBOR above if not included in said rate of interest payable by the Bank).

INTEREST AND FEE(S) COMPUTATION. (ACTUAL/360). Interest and fees, if any, shall be computed on the basis of a 360-day year for the actual number of days in the applicable period ("Actual/360 Computation"). The Actual/360 Computation determines the annual effective yield by taking the stated (nominal) rate for a year's period and then dividing said rate by 360 to determine the daily periodic rate to be applied for each day in the applicable period. Application of the Actual/360 Computation produces an annualized effective rate exceeding that of the nominal rate.

REPAYMENT TERMS. This Note shall be due and payable in consecutive monthly payments of accrued interest only commencing on April 30, 1999, and on the last day of each one month Interest Period occurring thereafter until fully paid. In any event, all principal and accrued interest hereunder shall be due and payable on the earlier to occur of (i) the day the Revolving Loans are accelerated due to the occurrence of a Default, or (ii) October 1, 1999 (the "Maturity Date").

MANDATORY PREPAYMENTS. Upon the receipt of Net Cash Proceeds (as defined below) from any sale or issuance of any shares of Borrower's common stock or any class of its preferred stock, any securities convertible into or exchangeable for shares of any such stock, or any warrants, rights or options to acquire shares of such stock, be applied Borrower will prepay the Obligations in an amount equal to 100% of such Net Cash Proceeds (or that portion of such proceeds required to so prepay said Obligations), and (notwithstanding any provision of this Note or any other Loan Document) such prepayment shall be applied in the following manner:

FIRST: to prepay the principal balance of any outstanding Revolving Loans (defined herein), together with any accrued and unpaid interest thereon, and SECOND: to prepay the principal balance of any outstanding Revolving Loans incurred under the Credit Agreement (defined herein), together with any accrued and unpaid interest thereon.

The maximum amount available to be advanced under this Note shall be permanently reduced by an amount equal to the amount applied to reduce the principal balance of such Revolving Loans pursuant to clause FIRST above. As used herein "Net Cash Proceeds" means the aggregate amount of cash received from time to time (whether as initial consideration or through payment or disposition of deferred compensation) by or on behalf of Borrower in connection with any sale or issuance of equity securities contemplated above, after deduction therefrom only (i) reasonable and customary brokerage commissions, underwriting fees and discounts, legal fees and other similar fees and expenses, and (ii) the amount of taxes payable in connection with, or as a result of, such transaction; but in each case only to the extent that such amounts are deducted upon receipt of such cash proceeds and actually paid to persons or entities, other than Borrower, Note Guarantors or any Affiliate of Borrower or Note Guarantors. For the avoidance of doubt, Borrower acknowledges that (i) the foregoing shall not be deemed or construed as a consent by Bank to any such equity sale or issuance which would otherwise be prohibited by the terms of the Loan Documents and (i) this Section, as it relates to the reduction of Borrower's Obligations under the Credit Agreement, shall survive the payment in full and/or termination of s Obligations hereunder. In connection with any prepayment required Borrower hereunder, Bank shall cooperate with Borrower to mitigate any Indemnified Loss of Expense otherwise payable hereunder, and under similar charges payable under the Credit Agreement.

APPLICATION OF PAYMENTS. Monies received by Bank from any source for application toward payment of the Obligations shall be applied first to fees, penalties, accrued interest and then to principal. If a Default occurs, monies may be applied to the Obligations in any manner or order deemed appropriate by Bank. If any payment received by Bank under this Note or other Loan Documents is rescinded, avoided or for any reason returned by Bank because of any adverse claim or threatened action, the returned payment shall remain payable as an obligation of all persons liable under this Note or other Loan Documents as though such payment had not been made.

LOAN DOCUMENTS AND OBLIGATIONS. The term "Loan Documents" used in this Note and other Loan Documents refers to all documents executed in connection with the loan evidenced by this Note and any prior notes which evidence all or any portion of the loan evidenced by this Note, and may include, without limitation, this Note, the TJR Documents, the Credit Agreement (as such term is defined below), guaranty agreements, security agreements, security instruments, financing statements, mortgage instruments, letters of credit and any renewals or modifications, whenever any of the foregoing are executed, but does not include swap

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agreements (as defined in 11 U.S.C. Section 101).

The term "Obligations" used in this Note refers to any and all indebtedness and other obligations under this Note, all other obligations under any other Loan Document(s), and all obligations under any swap agreements as defined in 11 U.S.C. Section 101 between Borrower and Bank whenever executed.

LATE CHARGE. If any payments are not timely made, Borrower shall also pay to Bank a late charge equal to 3% of each payment past due for 10 or more days. Acceptance by Bank of any late payment without an accompanying late charge shall not be deemed a waiver of Bank's right to collect such late charge or to collect a late charge for any subsequent late payment received.

ATTORNEYS' FEES AND OTHER COLLECTION COSTS. Borrower shall pay all of Bank's reasonable expenses incurred to enforce or collect any of the Obligations, including, without limitation, reasonable arbitration, paralegals', attorneys' and experts' fees and expenses, whether incurred without the commencement of a suit, in any trial, arbitration, or administrative proceeding, or in any appellate or bankruptcy proceeding.

USURY. Regardless of any other provision of this Note or other Loan Documents, if for any reason the effective interest should exceed the maximum lawful interest, the effective interest shall be deemed reduced to, and shall be, such maximum lawful interest, and (i) the amount which would be excessive interest shall be deemed applied to the reduction of the principal balance of this Note and not to the payment of interest, and (ii) if the loan evidenced by this Note has been or is thereby paid in full, the excess shall be returned to the party paying same, such application to the principal balance of this Note or the refunding of excess to be a complete settlement and acquittance thereof.

DEFAULT. If any of the following occurs, a default ("Default") under this Note shall exist: NONPAYMENT; NONPERFORMANCE. The failure of timely payment or performance of the Obligations or Default under this Note or any other Loan Documents or failure of any party to comply with any other term, condition or agreement set forth in this Note or any other Loan Document, beyond any applicable grace period, if any. FALSE WARRANTY. A warranty or representation made or deemed made in the Loan Documents or furnished Bank in connection with the loan evidenced by this Note proves materially false, or if of a continuing in payment or performance of any obligation under any other loans, contracts or agreements of Borrower, any Subsidiary or Affiliate of Borrower, any general partner of or the holder(s) of the majority ownership interests of Borrower with Bank or its affiliates ("Affiliate" shall have the meaning as defined in 11 U.S.C. Section 101, except that the term "debtor" therein shall be substituted by the term "Borrower" herein; "Subsidiary" shall mean any corporation of which more than 50% of the issued and outstanding voting stock is owned directly or indirectly by Borrower). CESSATION; BANKRUPTCY. The dissolution of, termination of existence of, loss of good standing status by, appointment of a receiver for, assignment for the benefit of creditors of, or commencement of any bankruptcy or insolvency proceeding by or against the Borrower, its Subsidiaries or Affiliates, if any, or any general partner of or the holder(s) of the majority ownership interests of Borrower, or any party to the Loan Documents. NOTE GUARANTORS. If (i) any Note Guarantor fails to comply with any payment obligation set forth in the Guaranty or if any Note Guarantor fails to comply with any of the covenants or other agreements set forth in the Guaranty or any other Loan Document to which it is a party beyond any applicable grace period provided for therein, or (ii) any representation or warranty made or deemed made by Note Guarantor in the Guaranty or any other Loan Document to which it is a party or which is contained in any exhibit, schedule or any other document or other statement furnished at any time under or in connection with the Guaranty or any of the other Loan Documents shall prove to have been incorrect in any material respect on or as of the date made or deemed made, or (iii) if Note Guarantor shall terminate, purport to terminate or take any steps which have the effect of decreasing its liability under the Guaranty.

REMEDIES UPON DEFAULT. If a Default occurs under this Note or any Loan Documents, Bank may at any time thereafter, take the following actions: BANK LIEN. Foreclose its security

interest or lien against Borrower's accounts without notice. ACCELERATION UPON DEFAULT. Accelerate the maturity of this Note and all other Obligations, and all of the Obligations shall be immediately due and payable. CUMULATIVE. Exercise any rights and remedies as provided under the Note and other Loan Documents, or as provided by law or equity.

FINANCIAL AND OTHER INFORMATION. Borrower shall deliver to Bank such information as required under the Credit Agreement and other Loan Documents.

AUTOMATIC DEBIT OF CHECKING ACCOUNT FOR LOAN PAYMENT. Borrower authorizes Bank to debit its demand deposit account number 002030000135558 or any other account with Bank for any payments due under this Note. Borrower further certifies that Borrower holds legitimate ownership of this account and preauthorizes this periodic debit as part of its right under said ownership.

REVOLVING LOANS. Borrower may borrow, repay and reborrow, and Bank may advance and readvance under this Note respectively from time to time (each a "Revolving Loan" and together the "Revolving Loans"), so long as the total indebtedness outstanding at any one time does not exceed the principal amount stated on the face of this Note (as such availability may be reduced pursuant to the Section captioned Mandatory Prepayments hereunder). Bank's obligation to make Revolving Loans under this Note shall terminate if there is a Default.

ADDITIONAL COVENANTS, REPRESENTATIONS AND WARRANTIES. All of the agreements, covenants, representations and warranties made by the Borrower in the Revolving Loan and Security Agreement dated March 31, 1997 between the Borrower and the Bank as amended by (i) the Consent and Amendment thereto dated December 5, 1997, (ii) the Second Amendment thereto dated as of November 30, 1998, and (iii) the letter waiver and amendment dated March 8, 1999 (such agreement, as so amended and as the same may be further amended from time to time in the future, the "Credit Agreement") and the other Loan Documents (as such term is defined in the Credit Agreement) are deemed incorporated herein in their entirety as if fully and completely set forth herein. All capitalized terms used herein and not otherwise defined herein shall have the meanings ascribed to such terms in the Credit Agreement. For the avoidance of doubt, Borrower acknowledges (i) all terms and provisions of the Credit Agreement incorporated by reference into this Note shall be so incorporated as such terms exist as of the date hereof and shall remain so incorporated herein irrespective of the termination or expiration of the Credit Agreement and (ii) the Obligations hereunder shall be secured, guaranteed and otherwise supported by the Loan Documents and Collateral referred to therein.

WAIVERS AND AMENDMENTS. No waivers, amendments or modifications of this Note and other Loan Documents shall be valid unless in writing and signed by an officer of Bank. No waiver by Bank of any Default shall operate as a waiver of any other Default or the same Default on a future occasion. Neither the failure nor any delay on the part of Bank in exercising any right, power, or remedy under this Note and other Loan Documents shall operate as a waiver thereof, nor shall a single or partial exercise thereof preclude any other or further exercise thereof or the exercise of any other right, power or remedy.

Each Borrower or any person liable under this Note waives presentment, protest, notice of dishonor, demand for payment, notice of intention to accelerate maturity, notice of acceleration of maturity, notice of sale and all other notices of any kind. Further, each agrees that Bank may extend, modify or renew this Note or make a novation of the loan evidenced by this Note for any period and grant any releases, compromises or indulgences with respect to any collateral securing this Note, or with respect to any other Borrower or any other person liable under this Note or other Loan Documents, all without notice to or consent of each Borrower or each person who may be liable under this Note or other Loan Documents.

MISCELLANEOUS PROVISIONS. ASSIGNMENT. This Note and other Loan Documents shall inure to the benefit of and be binding upon the parties and their respective heirs, legal representatives, successors and assigns. Bank's interests in and rights under this Note and other Loan Documents are freely assignable, in whole or in part, by Bank. In addition, nothing in this Note or any of the Loan Documents shall prohibit Bank from pledging or assigning this Note or any of the Loan Documents or any interest therein to any Federal Reserve Bank. Borrower shall not assign its rights and interest hereunder without the prior written consent of Bank, and any attempt by Borrower to assign without Bank's prior written consent is null and void. Any assignment shall not release Borrower from the Obligations. APPLICABLE LAW; CONFLICT BETWEEN DOCUMENTS. This Note and other Loan Documents shall be governed by and construed under the laws of the state where Bank first shown above is located without regard to that state's conflict of laws principles. If the terms of this Note should conflict with the terms of the loan agreement or any commitment letter that survives closing, the terms of this Note shall control. BORROWER'S ACCOUNTS. Except as prohibited by law, Borrower grants Bank a security interest in all of Borrower's accounts with Bank and any of its affiliates. JURISDICTION. Borrower irrevocably agrees to non-exclusive personal jurisdiction in the state in which the office of Bank first shown above is located. SEVERABILITY. If any provision of this Note or of the other Loan bocuments shall be prohibited or invalid under applicable law, such provision shall be ineffective but only to the extent of such prohibition or invalidity, without invalidating the remainder of such provision or the remaining provisions of this Note or other such document. NOTICES. Any notices to Borrower shall be sufficiently given, if in writing and mailed or delivered to the Borrower's address shown above or such other address as provided hereunder, and to Bank, if in writing and mailed or delivered to Bank's office address shown above or such other address as Bank may specify in writing from time to time. In the event that Borrower changes Borrower's address at any time prior to the date the Obligations are paid in full, Borrower agrees to promptly give written notice of said change of address by registered or certified mail, return receipt requested, all charges prepaid. PLURAL; CAPTIONS. All references in the Loan Documents to Borrower, guarantor, person, document or other nouns of reference mean both the singular and plural form, as the case may be, and the term "person" shall mean any individual, person or entity. The captions contained in the Loan Documents are inserted for convenience only and shall not affect the meaning or interpretation of the Loan Documents. BINDING CONTRACT. Borrower by execution of and Bank by acceptance of this Note agree that each party is bound to all terms and provisions of this Note. REVOLVING LOANS. Bank in its sole discretion may make other Revolving Loans under this Note pursuant hereto. POSTING OF PAYMENTS. All payments received during normal banking hours after 2:00 p.m. local time at the office of Bank first shown above shall be deemed received at the opening of the next banking day. FEES AND TAXES. Borrower shall promptly pay all documentary, intangible recordation and/or similar taxes on this transaction whether assessed at closing or arising from time to time.

ARBITRATION. Upon demand of any party hereto, whether made before or after institution of any judicial proceeding, any dispute, claim or controversy arising out of, connected with or relating to this Note and other Loan Documents ("Disputes") between or among parties to this Note shall be resolved by binding arbitration as provided herein. Institution of a judicial proceeding by a party does not waive the right of that party to demand arbitration hereunder. Disputes may include, without limitation, tort claims, counterclaims, disputes as to whether a matter is subject to arbitration, claims brought as class actions, claims arising from Loan Documents executed in the future, or claims arising out of or connected with the transaction reflected by this Note.

Arbitration shall be conducted under and governed by the Commercial Financial Disputes Arbitration Rules (the "Arbitration Rules") of the American Arbitration Association (the "AAA") and Title 9 of the U.S. Code. All arbitration hearings shall be conducted in the city in which the office of Bank first stated above is located. The expedited procedures set forth in Rule 51 ET SEQ. of the Arbitration Rules shall be applicable to claims of less than \$1,000,000.00. All applicable statutes of limitation shall apply to any Dispute. A judgment upon the award may be entered in any court having jurisdiction. The panel from which all arbitrators are selected shall be comprised of licensed attorneys. The single arbitrator general jurisdiction, state or federal, of the state where the hearing will be conducted or if such person is not available to serve, the single arbitrator may be a licensed attorney. Notwithstanding the foregoing, this arbitration provision does not apply to disputes under or related to swap agreements.

PRESERVATION AND LIMITATION OF REMEDIES. Notwithstanding the preceding binding arbitration provisions, Bank and Borrower agree to preserve, without diminution, certain remedies that any party hereto may employ or exercise freely, independently or in connection with an arbitration proceeding or after an arbitration action is brought. Bank and Borrower shall have the right to proceed in any court of proper jurisdiction or by self-help to exercise or prosecute the following remedies, as applicable: (i) all rights to foreclose against any real or personal property or other security by exercising a power of sale granted under Loan Documents or under applicable law or by judicial foreclosure and sale, including a proceeding to confirm the sale; (ii) all rights of self-help including peaceful occupation of real property and collection of rents, set-off, and peaceful possession of personal property; (iii) obtaining provisional or ancillary remedies including injunctive relief, sequestration, garnishment, attachment, appointment of receiver and filing an involuntary bankruptcy proceeding; and (iv) when applicable, a judgment by confession of judgment. Preservation of these remedies does not limit the power of an arbitrator to grant similar remedies that may be requested by a party in a Dispute.

Borrower and Bank agree that they shall not have a remedy of punitive or exemplary damages against the other in any Dispute and hereby waive any right or claim to punitive or exemplary damages they have now or which may arise in the future in connection with any Dispute whether the Dispute is resolved by arbitration or judicially.

CONDITIONS PRECEDENT. This Note shall not be deemed in full force and effect and no Revolving Loans shall be made hereunder until the Bank has received the following:

- (1) This Note, duly executed and delivered by the Borrower;
- (2) All of the TJR Documents fully executed by the parties thereto; and
- (3) Each of the other documents and materials itemized on the Closing Document Checklist attached hereto as SCHEDULE A, each in form and substance satisfactory to the Bank.

IN WITNESS WHEREOF, Borrower, on the day and year first above written, has caused this Note to be executed under seal.

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EMCORE CORPORATION

CORPORATE SEAL

By:\_\_\_\_\_ Name: Title: STATE OF ) ss.:

COUNTY OF

On the \_\_\_\_\_ day of April, 1999, before me personally came \_\_\_\_\_\_, to me known, who, being by me duly sworn, did depose and say that \_he resides at No. \_\_\_\_\_\_ of EMCORE CORPORATION, the corporation described in and which executed the foregoing instrument; that \_he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by authority of the board of directors of said corporation and that \_he signed h\_\_\_ name thereto by like authority.

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Notary Public

#### INDEPENDENT AUDITORS' CONSENT

We consent to the incorporation by reference in this Registration Statement of EMCORE Corporation on Form S-3 of our report dated May 14, 1999 (which expresses an unqualified opinion and includes an explanatory paragraph relating to a restatement described in Note 20), included in the Annual Report on Form 10-K/A of EMCORE Corporation for the year ended September 30, 1998, and to the use of our report dated May 14, 1999, appearing in the Prospectus, which is part of this Registration Statement. We also consent to the reference to us under the heading "Experts" in such Prospectus.

DELOITTE & TOUCHE LLP Parsippany, New Jersey May 21, 1999

#### CONSENT OF INDEPENDENT ACCOUNTANTS

We consent to the inclusion in this registration statement on Form S-3 of our report dated November 3, 1997, except for Note 15, as to which the date is December 5, 1997, on our audits of the financial statements and financial statement schedule of EMCORE Corporation as of September 30, 1997, and for the two years ended September 30, 1997. We also consent to the references to our firm under the caption "Experts".

### PricewaterhouseCoopers LLP

Florham Park, New Jersey May 20, 1999

#### Consent of Arthur Andersen LLP

As independent public accountants, we hereby consent to the use of our report dated March 21, 1997 on the financial statements of MicroOptical Devices, Inc. for the year ended December 31, 1996 and for the period from inception (August 3, 1995) through December 31, 1995 and 1996, included in or made a part of this registration statement under Amendment No. 1 to Form S-3 for EMCORE Corporation.

ARTHUR ANDERSEN LLP

Albuquerque, New Mexico May 21, 1999

### Consent of Lerner David Littenberg Krumholz & Mentlik

We hereby consent to the reference to our firm under the caption "Experts" in the Registration Statement on Form S-3 of EMCORE Corporation for the offering of shares of common stock by EMCORE Corporation and certain selling shareholders.

Lerner David Littenberg Krumholz & Mentlik

May 21, 1999 Westfield, New Jersey POWER OF ATTORNEY AND CUSTODY AGREEMENT

Reuben F. Richards, Jr. Thomas G. Werthan As Attorneys-in-Fact C/O Emcore Corporation 394 Elizabeth Avenue Somerset, New Jersey 08873 Attention: Thomas G. Werthan

American Stock Transfer & Trust Company 40 Wall Street New York, New York 10005

Ladies and Gentlemen:

The undersigned proposes to sell \_\_\_\_\_\_ issued and outstanding shares (the "Shares") of common stock, no par value (the "Common Stock"), of EMCORE Corporation, a New Jersey corporation (the "Company"), to a group of underwriters (the "Underwriters") represented by Donaldson, Lufkin & Jenrette Securities Corporation and certain other Underwriters (the "Representatives"), who propose to offer such Shares to the public (the "Offering"), all substantially on the terms and subject to the conditions set forth in the Underwriting Agreement (the "Underwriting Agreement") among the Representatives, the Company and the Selling Shareholders (as defined in the Underwriting Agreement). The Shares include the shares of Common Stock to be sold by the undersigned on the Closing Date (as defined in the Underwriting Agreement), and are represented by the certificate(s) deposited by the undersigned with American Stock Transfer & Trust Company (the "Custodian") hereunder. The undersigned understands that, in connection with the Offering, the Company has filed a Registration Statement on Form S-3 (the "Registration Statement") with the Securities and Exchange Commission (the "SEC") to register the offer and sale of the Shares under the Securities Act of 1933.

The undersigned hereby acknowledges receipt of a copy of the Registration Statement and of a copy of a preliminary form of the Underwriting Agreement.

1. APPOINTMENT OF ATTORNEYS-IN-FACT. In connection with the foregoing, the undersigned hereby appoints Reuben F. Richards, Jr. and Thomas G. Werthan, each with full power to act in all respects hereunder in his sole discretion, the true attorneys-in-fact (each an "Attorney-in-Fact"; all references below to Attorney-in-Fact shall be deemed to include either Attorney-in-Fact acting individually as the case may be) of the undersigned, with full power and authority in the name of and for and on behalf of the undersigned with respect to all matters arising in connection with the sale of the Shares to the Underwriters pursuant to the Underwriting Agreement and the Pricing Agreement, including, but not limited to, the power and authority:

(a) to sell, assign and transfer to the Underwriters the Shares at such purchase price per share to be paid by the Underwriters as the Attorney-in-Fact so acting shall determine in his sole and absolute discretion, such purchase price to be the same price per share to be paid by the Underwriters to the Company and the other Selling Shareholders pursuant to the Underwriting Agreement.

(b) for the purpose of effecting such sale, to execute and deliver the Underwriting Agreement substantially in the form previously delivered to the undersigned, with such changes therein as the Attorney-in-Fact so acting, in his sole and absolute discretion, may determine to be necessary or appropriate, and containing such terms as such Attorney-in-Fact shall determine, including the purchase price per share to be paid by the Underwriters and provisions concerning the Offering, the execution and delivery of the Underwriting Agreement by such Attorney-in-Fact to be conclusive evidence with respect to the undersigned's approval thereof, and to carry out and comply with each and all of the provisions of the Underwriting Agreement;

(c) in the sole and absolute discretion of the Attorney-in-Fact so acting, to exercise any power conferred upon and to take any action authorized or required to be taken by the undersigned as a Selling Shareholder pursuant to the Underwriting Agreement and, subject to authority otherwise specifically reserved to the Custodian under this Agreement, to give such instructions to the Custodian as the Attorney-in-Fact so acting may determine with respect to (i) the transfer on the stock record books of the Company of the Shares in order to effect such sale (including the names in which new certificates for the Shares are to be issued and the denominations thereof), (ii) the delivery to or for the account of the Underwriters of the certificates for the Shares against receipt by the Custodian of the purchase price to be paid therefor, and (iii) the remittance to the undersigned of the proceeds from any sale of the Shares;

(d) to retain legal counsel in connection with any and all matters referred to herein;

(e) to make, execute, acknowledge and deliver all such other contracts, orders, receipts, notices, requests, consents, instructions, certificates, letters and other writings, including communications to the SEC and state securities commissions and amendments to the Underwriting Agreement and to take all action that the Attorney-in-Fact so acting may consider necessary or appropriate in connection with or to carry out the aforesaid sale of the Shares to the Underwriters as fully as the undersigned could if then personally present and acting; and

(f) to make payment, on behalf and for the account of the undersigned, of all costs and expenses payable by the undersigned pursuant to the provisions of the Underwriting Agreement or otherwise incurred and deemed appropriate by the Attorney-in-Fact so acting, including any applicable stock transfer taxes chargeable to the undersigned and any fees and expenses of the Custodian, out of and to the extent of funds available from the sale of the Shares (the Attorney-in-Fact shall have no personal liability to make such payments out of other funds), all in the sole and absolute discretion of the Attorney-in-Fact so acting (the undersigned hereby expressly promising to repay such Attorney-in-Fact for any such payments made on behalf and for the account of the undersigned by such Attorney-in-Fact).

Without limiting the foregoing authority, the Attorney-in-Fact is authorized to (i) request on behalf of the undersigned acceleration of the effectiveness of the Registration Statement and (ii) advise the SEC of the reason the undersigned is selling shares of Common Stock.

2. APPOINTMENT OF CUSTODIAN; DEPOSIT OF SHARES: INSTRUCTIONS TO THE COMPANY.

(a) The undersigned hereby appoints American Stock Transfer & Trust Company to act as the Custodian of the certificate(s) representing the Shares on the terms and subject to the conditions set forth in this Agreement.

(b) The undersigned hereby delivers to the Custodian a certificate or certificates representing the Shares, together with stock powers executed in blank. These certificates are to be held by the Custodian for the account of the undersigned and are to be disposed of by the Custodian in accordance with this Agreement. Such certificates are listed in the schedule attached hereto.

(c) The undersigned hereby authorizes and directs the Custodian to hold the certificates deposited herewith in its custody with full power in the name of and for and on behalf of the undersigned and:

 (i) to instruct the Company's transfer agent to issue a certificate or certificates representing the Shares in accordance with the directions of the Representatives, and to permit inspection of such certificates by the Representatives as provided in Section 4 of the Underwriting Agreement;

(ii) to deliver, or cause to be delivered, certificates representing the Shares to the Underwriters on the Closing Date fixed in accordance with the Underwriting Agreement against receipt by the Attorney-in-Fact of the consideration provided for in the Underwriting Agreement;

(iii) to determine, in the sole and absolute discretion of the Custodian, whether and the time and times when, the purpose for, and the manner in which, any power conferred herein to the Custodian shall be exercised, and the conditions, provisions and covenants of any instrument or document which may be executed by the Custodian pursuant hereto; and

(iv) to do all things and perform all acts pursuant to the terms of this Agreement as the Custodian may in its sole and absolute discretion deem appropriate, including, without limitation, the execution and delivery of all certificates, receipts, instruments, letters of transmittal and other documents and papers required, contemplated by, or deemed by the Custodian appropriate in connection with this Agreement to the Representatives, the Company's transfer agent or any other person, and the employment of such counsel or other person or firms as the Custodian in its sole and absolute discretion shall deem necessary.

3. REPRESENTATIONS AND WARRANTIES. The undersigned hereby represents warrants and agrees that:

(a) The undersigned has read the representations and warranties contained in Section 6 of the form of the Underwriting Agreement previously delivered to the undersigned and understands the same, confirms that the same are true and correct, and hereby authorizes the Attorney-in-Fact, acting on behalf of the undersigned, to make such representations and warranties to the Underwriters as provided therein.

(b) The undersigned has read the form of the Underwriting Agreement previously delivered to the undersigned and understands the same, and hereby authorizes the Attorney-in-Fact to enter into such agreement with the Representatives on behalf of the undersigned and to provide all necessary performance in satisfaction of the terms and conditions of such agreement.

(c) The undersigned will not make bids for or purchases of or induce bids for or purchases of, directly or indirectly, any shares of Common Stock of the Company until the distribution of all shares of Common Stock being sold in the Offering has been completed. The undersigned has been advised that the Underwriters will notify the Company when the Offering has been completed.

(d) The undersigned has duly executed and delivered to the Company a questionnaire in connection with the sale of the Shares by the undersigned pursuant to the Underwriting Agreement, and the answers to said questionnaire given by the undersigned are true and correct and do not omit to state a fact required to be stated therein or necessary to make the statements therein not misleading, and any changes to such answers will be supplied by the undersigned as required by said questionnaire.

4. TERMINATION OF AGREEMENT.

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(a) All power and authority granted or conferred hereby is granted and conferred subject to the interests of the Underwriters, the Company and the other Selling Shareholders and, in consideration of those interests and for the purpose of assuring completion of the transactions contemplated by the Underwriting Agreement and this Agreement, is coupled with an interest and is irrevocable and shall not be terminated by any act of the undersigned or by operation of law, whether by death or the occurrence of any other event, and if after the execution hereof the undersigned shall die or any other such event shall occur, before the completion of the transactions contemplated by the Underwriting Agreement and this Agreement, the Attorney-in-Fact and the Custodian are nevertheless authorized and directed to complete all of such transactions as if such death or other event had not occurred and regardless of notice thereof.

(b) Notwithstanding the foregoing, if the Underwriting Agreement shall not be entered into, or if all of the transactions contemplated by the Underwriting Agreement and this Agreement are not completed prior to May 31, 1999, then from and after such date the undersigned shall have the power, by giving written notice to the Attorney-in-Fact, to terminate this Agreement, subject, however, to all lawful action done or performed by the Attorney-in-Fact pursuant hereto prior to the actual receipt of such notice.

5. LIMITATION OF LIABILITY; INDEMNIFICATION. The undersigned agrees that, whenever the Attorney-in-Fact or the Custodian may obtain the advice of any such counsel as either may select in connection with any matter arising under the Underwriting Agreement or this Agreement, the Attorney-in-Fact or the Custodian, as the case may be, shall not be liable for any action taken or omitted in accordance with such advice. The undersigned agrees to indemnify and hold harmless the Attorney-in-Fact and the Custodian against any and all losses, claims, damages or liabilities (including all costs, legal and other expenses) incurred as a result of any action taken or omitted by the Attorney-in-Fact or the Custodian in accordance with the Underwriting Agreement or this Agreement (including, without limitation, the establishment of the price under the Underwriting Agreement), whether or not under the advice of counsel, except with respect to any losses, claims, damages or liabilities which shall be finally adjudicated to be the result of gross negligence or willful misconduct of the Attorney-in-Fact or the Custodian, respectively.

6. APPLICABLE LAW. The validity, enforceability, interpretation, and construction of this Agreement shall be determined in accordance with the laws of the State of New York, and this Agreement shall inure to the benefit of, and shall be binding upon, the undersigned and the undersigned's heirs, executors, administrators, successors and assigns, as the case may be.

7. RETURN OF UNDELIVERED SHARES. If the Shares are not accepted by the Underwriters against payment therefor in accordance with the terms and provisions of the Underwriting Agreement, or if the Underwriting Agreement shall be otherwise terminated pursuant to the provisions thereof, the Custodian shall return to the undersigned the certificate(s) referred to in Section 2(b) of this Agreement and held by it for the account of the undersigned hereunder.

8. MISCELLANEOUS. This Agreement may be executed in any number of counterparts each of which shall be deemed to be an original and all of which together shall be deemed to be one and the same instrument.

Until delivery of the consideration provided for in the Underwriting Agreement has been made to the Attorney-in-Fact by or for the account of the Underwriters, the undersigned shall remain the owner of the Shares and shall have all rights thereto which are not inconsistent with this Agreement. Print Name:

(Signature(s) must correspond with the name(s) in which the deposited certificate(s) representing shares of Common Stock were issued.)

Witnessed:

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The certificate(s) representing Shares of Common Stock of the Company delivered herewith to the Custodian by the above-named Selling Shareholder pursuant to this Power of Attorney and Custody Agreement are identified as follows:

> Number of Securities Transferred in Accordance Herewith

Common Stock Number Certificate of Shares Numbers - - - - - -

Registered in name of

The undersigned, as Custodian, hereby acknowledges receipt of the certificate(s) above identified, to be held and disposed of pursuant to the directions in the foregoing Power of Attorney and Custody Agreement and hereby agrees to act as Custodian in accordance with the terms of the Power of Attorney and Custody Agreement, this day of 1000 Attorney and Custody Agreement, this \_\_\_\_ day of \_\_\_\_\_, 1999.

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AMERICAN STOCK TRANSFER & TRUST COMPANY as Custodian

By: Authorized Signature

The undersigned hereby agree to act as Attorneys-in-Fact for the above-named Selling Shareholder in accordance with the terms of this Power of Attorney and Custody Agreement this \_\_\_\_\_ day of \_\_\_\_\_, 1999.

[Name]

[Name]