

As filed with the Securities and Exchange Commission on October 6, 1999

Registration No. 333-87753

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SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

AMENDMENT NO. 1
TO
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)

THOMAS G. WERTHAN
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
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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
box. []

If any of the securities being registered on this Form are to be
offered on a delayed or continuous basis pursuant to Rule 415 under the
Securities Act of 1933, check the following box. [x]

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. []

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.

PROSPECTUS

2,521,361 SHARES

EMCORE CORPORATION

COMMON STOCK

OFFERING BY THE SELLING SHAREHOLDERS

- - - - - The selling shareholders are offering for resale up to 2,521,361 shares of our common stock. These shares are either presently outstanding, but carry a restrictive legend, may be acquired upon conversion of Series I Redeemable Convertible Preferred Stock which we previously issued, may be acquired upon the conversion of an outstanding subordinated promissory note, or may be acquired upon exercise of outstanding warrants by the selling shareholders.

- - - - - We expect that the selling security holders using this prospectus may sell the shares in ordinary brokers' transactions, transactions directly with market makers, privately negotiated sales or otherwise.

- - - - - We will not receive any of the proceeds from the offering of the shares with this prospectus, but if the warrant holders choose to exercise their warrants we will receive \$4.08 per share. The registration of the shares pursuant to this prospectus does not necessarily mean that any shares will be offered or sold.

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Investing in our common stock involves risks. You should carefully consider the risk factors beginning on page 3 before purchasing our common stock.
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OFFERING PRICE

- - - - - The sale price of the shares offered with this prospectus will be determined by the selling security holders at the time of sale and may be based upon the market price of the shares, negotiated prices or by formula.

OUR COMMON STOCK

- - - - - The shares offered with this prospectus will be listed for trading under the trading symbol "EMKR" on the Nasdaq National Market.

- - - - - On October 4, 1999, the closing price of our common shares on the Nasdaq National Market was \$14.25 per share.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is October 6, 1999

[Begin Inside Cover]

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we have filed with the SEC using a "shelf" registration process. Under this shelf registration process, the selling shareholders may, from time to time, sell their shares of our common stock, no par value, in one or more offerings. Please carefully read both this prospectus and any applicable prospectus supplement together with additional information described under the heading "Where You Can Find More Information and Incorporation by Reference."

You should rely only on the information contained or incorporated by reference in this prospectus. We have not authorized anyone to provide you with information that is different from what is contained in this prospectus. This prospectus does not constitute any offer to sell or a solicitation of an offer to buy any securities in any jurisdiction where it is unlawful to do so. You should not assume that the information contained in this prospectus is accurate as of any date other than its date, and neither the delivery of this prospectus nor the sale of securities hereunder shall create any implication to the contrary.

In this prospectus, the "Company," "EMCORE," "we," "us" and "our" refer to EMCORE Corporation, and its subsidiaries.

[End Inside Cover]

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	CURRENT AND POTENTIAL APPLICATIONS
Solar cells	Solar panels in communications satellite power systems
Compound semiconductor devices that emit light, called high-brightness light-emitting diodes (HB LEDs)*	Traffic lights Miniature lamps Automotive lighting Flat panel displays
Compound semiconductor lasers that emit light in a cylindrical beam, called vertical cavity surface emitting lasers (VCSELS)	High performance data and telecommunications lines including fiber optic cables and other network applications

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

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

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

Cellular phone handsets
Fiber optics
Satellite transmitters and receivers

TurboDisc production systems

Platform technology for all of the above

* 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:

- a joint venture with General Electric Lighting 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 principal executive offices are located at 394 Elizabeth Avenue, Somerset, New Jersey 08873, and our telephone number is (732) 271-9090. You can reach our web site at <http://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.

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 June 30, 1999 had an accumulated deficit of \$76.6 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 \$16.1 million in the first nine 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.

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, 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.

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 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.

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 four joint ventures (with Optek Technology, Inc., Union Miniere, Inc., Uniroyal Technology Corporation and General Electric Lighting). 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.

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 54.1% of our revenues in the first nine 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 2.9% of our revenues for the first nine 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 9.9% of our revenues for the first nine 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.

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.

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.

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 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.

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.

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 are in the process of contacting certain third-party vendors, licensors and providers of software, hardware and services regarding their Year 2000 readiness. 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 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.

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 34.1% of our common stock immediately prior to this offering and will continue to 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 1,030,000 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, 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.

After this registration statement becomes effective, the shares registered hereunder will be eligible for resale in the market without restriction. Sales of any substantial number of shares of our common stock in the public market may have an adverse effect on the market price of our common stock. The average daily trading volume of our common stock has been very low. Any sustained sales of shares by our existing or future shareholders or any increase in the average volume of shares traded in the public market may adversely affect the market price of our common stock. 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. 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 selling shareholders will receive all of the proceeds from the sale of the common stock offered with this prospectus. We will not receive any of the proceeds from the sale of common stock with this prospectus, but if the warrant holders choose to exercise their warrants we will receive \$4.08 for each share issued upon exercise of the warrants.

SELLING SHAREHOLDERS

The following table sets forth the names of the selling shareholders, the number of shares of EMCORE common stock owned by each of them as of the date of this prospectus and the number of shares of EMCORE common stock which may be offered pursuant to this prospectus. The shares of EMCORE common stock that may be offered pursuant to this prospectus will be offered by the selling shareholders, which includes their transferees, pledgees, distributees or donees or their successors. The selling shareholders may offer all, some or none of their shares of EMCORE common stock. In the footnotes to this table, we have described any position, office or other material relationship that a selling shareholder has had with us in the past three years. The following table assumes that the selling shareholders sell all of their shares. We are unable to determine the exact number of shares that actually will be sold.

NAME OF BENEFICIAL OWNER	SHARES BENEFICIALLY OWNED PRIOR TO THE OFFERING(1)		SHARES ISSUABLE UPON EXERCISE OF OPTIONS	SHARES ISSUABLE UPON EXERCISE OF WARRANTS	SHARES WHICH MAY BE SOLD PURSUANT TO THIS PROSPECTUS	SHARES BENEFICIALLY OWNED AFTER THE OFFERING	
	NUMBER	PERCENT				NUMBER	PERCENT
AMP, Inc.	184,951	1.4%	--	--	184,951	--	*
Ms. Monika Assante(2)	1,398	*	--	250	250	1,398	*
Mr. Calvin Beckham(3)	1,325	*	735	187	187	1,325	*
Mr. Clinton W. Bybee	26,586	0.2%	--	--	26,586	--	*
Mr. Alfred Copeland, Jr	38,850	0.3%	--	--	38,850	--	*
Arch Venture Fund II, L.P.(4)	303,005	2.3%	--	--	303,005	--	*
Mr. Howard F. Curd	261,818	2.0%	--	--	138,742	123,076	0.9%
Mr. Howard R. Curd	286,818	2.1%	--	--	138,742	148,076	1.1%
Mr. Paul Fabiano(5)	30,250	0.2%	23,642	14,806	14,806	30,250	0.2%
Mr. Charles Fall	1,960	*	--	6,745	6,745	1,960	*
General Electric(6)	340,984	2.6%	--	282,010	340,984	--	*
Hakuto Ltd.(7)	706,653	5.3%	--	--	264,286	442,367	3.3%
Mr. Gary Hering(8)	1,088	*	735	1,165	1,165	1,088	*
Mr. David Hess(9)	3,588	*	12,024	1,165	1,165	3,588	*
Mr. & Mrs. Lee Kreindler	50,000	0.4%	--	13,081	63,081	--	*
Mr. Phillip Lint	11,900	*	--	--	5,075	6,825	*
Maxwell Family c/o Charles Maxwell	--	*	--	32,000	10,000	--	*
Mr. Mark McKee(10)	3,088	*	3,529	1,165	1,165	3,088	*
Mr. Keng Moy (11)	3,088	*	5,422	1,165	1,165	3,088	*
Mr. William B. Patton, Jr.(12)	91,567	0.7%	--	--	91,567	--	*
Falcon Technology Partners	23,118	0.2%	--	--	23,118	--	*
Mr. Leo Reubelt	971	*	--	194	1,165	--	*
Dr. Norman E. Schumaker(13)	15,116	0.1%	--	90,000	90,000	15,116	0.1%
Mr. James Sherman(14)	--	*	--	1,165	1,165	--	*
Mr. Dennis Stucky(15)	2,471	*	2,206	932	932	2,471	*
Union Miniere, Inc.(16)	392,857	2.9%	--	--	392,857	--	*
Uniroyal Technology Corp.(17)	372,857	2.8%	--	--	372,857	--	*
Mr. John Woodlief	126	*	--	--	126	--	*
Mr. Peter Zawadzki(18)	6,624	*	11,493	--	6,624	--	*
TOTAL:	3,163,057	23.7%	59,806	446,030	2,521,361	783,716	5.9%
	=====	=====	=====	=====	=====	=====	=====

* Less than 0.1% of the Company's outstanding Common Stock.

(1) The number and percentage of shares beneficially owned was determined in accordance with Rule 13d-3 of the Exchange Act, and the information is not necessarily indicative of beneficial ownership for any

other purpose. Under Rule 13d-3, beneficial ownership includes any shares as to which the individual has sole or shared voting power or investment power and also any shares which the individual has the right to acquire within 60 days of the date of this Prospectus through the exercise of any stock option or other right. Unless otherwise indicated in the footnotes, each person has sole voting and investment power (or shares such powers with his or her spouse) with respect to the shares shown as beneficially owned.

- (2) Ms. Assante is an employee of the Company.
- (3) Mr. Beckham is an employee of the Company.
- (4) ARCH Venture Fund II, L.P. may distribute shares of EMCORE common stock to its limited partners and such distributees shall be deemed "selling shareholders" for purposes of this prospectus. See the Plan of Distribution set forth below.
- (5) Mr. Fabiano is an employee of the Company.
- (6) Represents the shares issuable upon conversion of the subordinated promissory note in the principal amount of \$7,800,000.
- (7) Includes 264,286 shares of convertible preferred stock. Hakuto's President and CEO, Shigeo Takayama, is a director of the Company and is also a shareholder of Hakuto.
- (8) Mr. Herring is an employee of the Company.
- (9) Mr. Hess is an employee of the Company.
- (10) Mr. McKee is an employee of the Company.
- (11) Mr. Moy is an employee of the Company.
- (12) Includes 2,227 shares of restricted stock held by Becky J. Patton.
- (13) Includes 5,236 shares of registered stock held by Regine M. Schumaker, 2,618 shares of registered stock held by The Phillip Schumaker Trust and 2,618 shares of registered stock held by The Matthew Schumaker Trust.
- (14) Mr. Sherman is an employee of the Company.
- (15) Mr. Stucky is an employee of the Company.
- (16) Includes 392,857 shares of convertible preferred stock.
- (17) Includes 372,857 shares of convertible preferred stock.
- (18) Mr. Zawadzki is an employee of the Company.

PLAN OF DISTRIBUTION

EMCORE is registering the shares offered by the selling shareholders hereunder pursuant to covenants and contractual registration rights contained in the Registration Rights Agreement, dated as of May 1, 1996, between the Company and the investors named therein relating to a private placement, the Registration Rights Agreement, dated as of December 5, 1997, by and among the Company and the holders named therein relating to the acquisition of MicroOptical Devices, Inc., the Registration Rights Agreement, dated November 30, 1998 by and between the Company, Hakuto, UMI and UTC relating to the purchase of Series I Redeemable Convertible Preferred Stock, and the Registration Rights Agreement, dated as of May 26, 1999, by and between the Company and GE Capital Equity Investments, Inc., relating to the joint venture with General Electric Lighting (collectively, the "Registration Rights Agreements"). The selling shareholders may sell all, some or none of the shares of EMCORE common stock offered by this prospectus from time to time directly to purchasers in one or more transactions. The selling shareholders will act independently of us in making decisions with respect to the timing, manner and size of each sale. Sales may be made on the Nasdaq National Market or in private transactions or in a combination of such methods of sale. Such transactions may be at a fixed price, which may be changed, or at varying prices determined at the time of sale or at negotiated prices. Such prices will be determined by the holders of such securities or by agreement between such holders and underwriters or dealers who may receive fees of commissions in connection therewith.

Any of the selling shareholders may from time to time offer shares of EMCORE common stock beneficially owned by them through underwriters, dealers or agents, who may receive compensation in the form of underwriting discounts, commissions or concessions from the selling shareholders and the purchasers of the shares for whom they may act as agent. Each selling shareholder will be responsible for payment of commissions, concessions and discounts of underwriters, dealers or agents. The aggregate proceeds to the selling shareholders from the sale of the shares of EMCORE common stock offered by them will be the purchase price of such shares

less discounts and commissions, if any. Each of the selling shareholders reserves the right to accept and, together with their agents from time to time to reject, in whole or in part, any proposed purchase of shares to be made directly or through agents. EMCORE will not receive any of the proceeds from this offering. Alternatively, the selling shareholders may sell all or a portion of the shares of EMCORE common stock beneficially owned by them and offered hereby from time to time on any exchange on which the securities are listed on terms to be determined at the times of such sales. The selling shareholders may also make private sales directly or through a broker or brokers. Transactions through broker-dealers may include block trades in which brokers or dealers will attempt to sell the shares of EMCORE common stock as agent but may position and resell the block as principal to facilitate the transaction, or one or more underwritten offerings on a firm commitment or best effort basis.

From time to time, the selling shareholders may transfer, pledge, distribute, donate or assign shares of EMCORE common stock to lenders or others and each of such persons will be deemed to be a "selling shareholder" for purposes of the prospectus. The number of the selling shareholders' shares beneficially owned by a selling shareholder who transfers, pledges, distributes donates or assigns shares of EMCORE common stock will decrease as and when they take such actions. The plan of distribution for selling shareholders' shares sold hereunder will otherwise remain unchanged, except that the transferees, pledgees, distributees, donees or other successors will be selling shareholders hereunder.

A selling shareholder may enter into hedging transactions with broker-dealers, and the broker-dealers may engage in short sales of the shares of EMCORE common stock in the course of hedging the positions they assume with such selling shareholder, including, without limitation, in connection with distribution of the shares of EMCORE common stock by such broker-dealers. In addition, the selling shareholder may, from time to time, sell short the shares of EMCORE common stock, and in such instances, this prospectus may be delivered in connection with such short sales and the shares offered hereby may be used to cover such short sales. The selling shareholders may also enter into option or other transactions with broker-dealers that involve the delivery of the shares of EMCORE common stock to the broker-dealers, who may then resell or otherwise transfer such shares. The selling shareholders may also loan or pledge the shares to a broker-dealer and the broker-dealer may sell the shares as loaned or upon a default may sell or otherwise transfer the pledge shares.

The selling shareholders and any underwriters, dealers or agents that participate in the distribution of the shares of EMCORE common stock offered hereby may be deemed to be underwriters within the meaning of the Securities Act of 1933 (the "Securities Act"), and any discounts, commissions or concessions received by them and any provided pursuant to the sale of shares by them might be deemed to be underwriting discounts and commissions under the Securities Act.

In addition, any securities covered by this prospectus which qualify for sale pursuant to Rule 144 of the Securities Act may be sold under Rule 144 rather than pursuant to this prospectus. There is no assurance that any selling shareholder will sell any or all of the shares of EMCORE common stock described herein, and any selling shareholder may transfer, devise or gift such securities by other means not described herein.

In order to comply with the securities laws of certain states, if applicable, the shares may only be sold in such jurisdictions through registered or licensed brokers or dealers. In addition, in certain states the shares may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

The selling shareholders may be subject to the anti-manipulation rules of Regulation M under the Securities Exchange Act of 1934 which apply to sales of shares in the market and to the activities of the selling security holders and their affiliates. We will make copies of this prospectus, with any supplements or amendments, available to the selling shareholders for delivery to purchasers at or prior to the time of any sale of the shares offered herewith. The selling shareholders may indemnify any broker-dealer that participates in transactions involving the sale of the shares against liabilities resulting therefrom. Among these liabilities for which indemnification may be provided are those arising under the Securities Act of 1933.

Pursuant to Registration Rights Agreements, we have agreed to indemnify the selling shareholders against certain liabilities, including certain liabilities under the Securities Act of 1933. We have also agreed to pay the

expenses of registering all of the shares of common stock offered hereby under the Securities Act of 1933, including all registration, filing and exchange listing fees, blue sky expenses, fees of counsel and accountants, fees of the NASD, transfer taxes, if any, transfer agent fees and underwriters' fees customarily paid by issuers (excluding underwriting discounts and commissions). Such expenses are estimated to be \$35,347. The Registration Rights Agreements require us to maintain the effectiveness of the registration statement, as amended or supplemented from time to time, relating to this prospectus until the earlier of:

- The date on which all of the shares offered by this prospectus are resold by the selling security holders;
- The date on which all of the shares of our convertible preferred stock and the common stock issued upon conversion thereof offered by this prospectus are no longer restricted under Rule 144 are resold by the selling security holders; and
- November 17, 2003.

We intend to de-register the shares covered by this prospectus that are not sold by the selling security holders within the above time frame.

LEGAL MATTERS

The validity of the common stock offered hereby will be passed upon for EMCORE by Howard W. Brodie, Esq., Vice President and General Counsel, who may rely upon Dillon, Bitar & Luther, New Jersey counsel for EMCORE as to matters of New Jersey law. As of September 24, 1999, Mr. Brodie held options to purchase an aggregate of 50,000 shares of Common Stock.

EXPERTS

The consolidated financial statements of EMCORE as of September 30, 1998 and for the year then ended have been incorporated by reference in this prospectus from our Annual Report on Form 10-K/A for the year ended September 30, 1998 and have been audited by Deloitte & Touche LLP, independent auditors, as stated in their report dated May 14, 1999 (which report expresses an unqualified opinion and includes an explanatory paragraph regarding a restatement relating to in-process research and development expense), which is also incorporated by reference herein, and have been so incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

The financial statements incorporated in this prospectus by reference to the Annual Report on Form 10-K for the two years ended September 30, 1997 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, independent accountants, given on the authority of said firm as experts in auditing and accounting.

The statements of operations, stockholders' equity and cash flows and the related footnote information of MicroOptical Devices, Inc. for the year ended December 31, 1996 incorporated by reference in this prospectus, have been audited by Arthur Andersen LLP, independent public accountants, and are incorporated by reference 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 LLP in successful defense of a legal action or proceeding that arises as a result of Arthur Andersen LLP's consent to the inclusion of its audit report on MODE's past financial statements in this registration statement. A successful defense in this context would be one in which Arthur Andersen LLP is neither decreed to have been culpable nor pays any part of MODE's or EMCORE's damages as a result of judgement 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." and "-- We may require licenses to continue to manufacture and sell certain of our compound semiconductor wafers and devices." 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.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy any document in our public files at the SEC's offices at:

- Judiciary Plaza
450 Fifth Street, N.W.
Room 1024
Washington, D.C. 20549
- 500 West Madison Street
Suite 1400
Chicago, Illinois 60606
- and
- 7 World Trade Center
Suite 1300
New York, New York 10048.

Please call the SEC at 1-800-SEC-0330 for further information on the public reference rooms. Our SEC filings are also available to the public from the SEC's web site at <http://www.sec.gov> through the SEC's electronic data gathering analysis and retrieval system, EDGAR. Our common stock is traded on the Nasdaq National Market under the symbol "EMKR." Information about us is also available from the NASD, 1735 K Street, N.W., Washington, D.C. 20006.

The SEC allows us to "incorporate by reference" the information we file with it, which means that we can disclose important information to you by referring to those documents. The information incorporated by reference is considered to be part of this prospectus. Later information that we file with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings made with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 by us:

1. EMCORE's Annual Report on Form 10-K/A for the fiscal year ended September 30, 1998;
2. EMCORE's Quarterly Reports on Form 10-Q/A for the period ended December 31, 1998 and on Form 10-Q for the periods ended March 31, 1999 and June 30, 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.

We will provide to you, without charge, a copy of any and all of the documents or information referred to above that we have incorporated by reference in this prospectus (other than exhibits to the documents unless those exhibits are specifically incorporated by reference into this prospectus). Requests for such copies should be directed to the following address:

EMCORE Corporation
394 Elizabeth Avenue
Somerset, New Jersey
Attn: Chief Financial Officer
Telephone (732) 271-9090.

This prospectus is part of a registration statement that we filed with the SEC. You should rely only on the

information incorporated by reference or provided in this prospectus or any supplement. We have not authorized anyone else to provide you with different information. You should not assume that the information in this prospectus or any supplement is accurate as of any date other than the date on the front of that document.

- - - - - We have not authorized anyone to give you any information that differs from the information in this prospectus. If you receive any different information, you should not rely on it.
- - - - - The delivery of this prospectus shall not, under any circumstances, create an implication that EMCORE Corporation is operating under the same conditions that it was operating under when this prospectus was written. Do not assume that the information contained in this prospectus is correct at any time past the date indicated.
- - - - - This prospectus does not constitute an offer to sell, or the solicitation of an offer to buy, any securities other than the securities to which it relates.
- - - - - This prospectus does not constitute an offer to sell, or the solicitation of an offer to buy, the securities to which it relates in any circumstances in which such offer or solicitation is unlawful.

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2,521,361 SHARES OF COMMON STOCK

EMCORE

CORPORATION

PROSPECTUS

DATED October 6, 1999

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.

	TO BE PAID BY THE REGISTRANT
Securities and Exchange Commission registration fee	\$11,347
Accounting fees and expenses	5,000
Printing expenses	10,000
Legal fees and expenses	6,000
Other expenses	3,000

Total	\$35,347
	=====

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 arbitral 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.

ITEM 16. EXHIBITS

The following exhibits are filed with this Registration Statement:

EXHIBIT NO.		DESCRIPTION
4.1	--	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"))
4.2	--	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).
4.3	--	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).
4.4	--	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).

- 4.5 -- Form of \$11.375 Warrant (incorporated by reference to Exhibit 4.2 to the 1998 10-K).
- 4.6 -- 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).
- 4.7 -- 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).
- 4.8 -- 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).
- 4.9 -- Registration Rights Agreement, dated November 30, 1998 by and between the Company, Hakuto, UMI and UTC (incorporated by reference to Exhibit 10.16 to the 1998 10-K).
- 4.10 -- Agreement and Plan of Merger, dated as of December 5, 1997, among the Company, the Merger Subsidiary, MODE and the 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).
- 4.11 -- Note Purchase Agreement, dated as of May 26, 1999, by and between EMCORE Corporation and GE Capital Equity Investments, Inc (incorporated by reference to Exhibit 10.18 to Amendment No. 2 to the Registration Statement on Form S-3 (File No. 333-71791) filed with the Commission on June 9, 1999).
- 4.12 -- Registration Rights Agreement, dated as of May 26, 1999, by and between EMCORE Corporation and GE Capital Equity Investments, Inc. (incorporated by reference to Exhibit 10.19 to Amendment No. 2 to the Registration Statement on Form S-3 (File No. 333-71791) filed with the Commission on June 9, 1999).
- 4.13 -- \$22.875 Warrant issued to General Electric Company (incorporated by reference to Exhibit 10.20 to Amendment No. 2 to the Registration Statement on Form S-3 (File No. 333-71791) filed with the Commission on June 9, 1999).
- 23.1 -- Consent of Deloitte & Touche LLP.*
- 23.2 -- Consent of PricewaterhouseCoopers LLP.*
- 23.3 -- Consent of Arthur Andersen LLP.*

* Filed herewith

ITEM 17. UNDERTAKINGS

The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(a) To include any prospectus required by Section 10(a)(3) of the Securities Act;

(b) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the Calculation of Registration Fee table in the registration statement;

(c) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement; Provided however, that paragraphs (1)(a) and (1)(b) do not apply if the registration statement is on Form S-3, Form S-8 or Form F-3, and the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 (the "Exchange Act") that are incorporated by reference in the registration statement.

(2) For the purpose of determining any liability under the Securities Act, 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.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) 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.

(5) That, for purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a 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.

(6) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to provisions described in Item 15 or otherwise,

the registrant has been advised that in the opinion of the 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.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Amendment No. 1 to the Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the Township of Somerset, State of New Jersey, on October 6, 1999.

EMCORE CORPORATION

By

*

 Reuben F. Richards, Jr.
 President and Chief Executive
 Officer

Pursuant to the requirements of the Securities Act of 1933, this Amendment No. 1 to the Registration Statement on Form S-3 has been signed by the following persons in the capacities indicated, on October 6, 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
 Officer, Secretary and Director
 (Principal Accounting and Financial
 Officer)

 Thomas G. Werthan

*

Director

 Richard A. Stall

*

Director

Charles Scott

*

Director

Robert Louis-Dreyfus

*

Director

Hugh H. Fenwick

*

Director

Shigeo Takayama

*

Director

John J. Hogan, Jr.

*By: /s/ THOMAS G. WERTHAN

Thomas G. Werthan
Attorney-in-Fact

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23.2	--	Consent of PricewaterhouseCoopers LLP.*
23.3	--	Consent of Arthur Andersen LLP.*

- - - - -
 * Filed herewith

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 related 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 reference to us under the heading "Experts" in the Prospectus, which is part of this Registration Statement.

/s/ DELOITTE & TOUCHE LLP
Parsippany, New Jersey
October 5, 1999

CONSENT OF INDEPENDENT ACCOUNTANTS

We consent to the incorporation by reference, 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, relating to the financial statements and financial statement schedule, which appears in EMCORE Corporation's Annual Report on Form 10-K for the two years ended September 30, 1997. We also consent to the references to our firm under the caption "Experts".

/s/ PricewaterhouseCoopers LLP

Florham Park, New Jersey
October 4, 1999

CONSENT OF ARTHUR ANDERSEN LLP

As independent public accountants, we hereby consent to the use of our report (and to all references to our Firm) dated March 21, 1997 on the statements of operations, stockholders' equity and cash flows and the related footnote information of MicroOptical Devices, Inc. for the year ended December 31, 1996, incorporated by reference in this registration statement under Form S-3 for EMCORE Corporation.

/s/ ARTHUR ANDERSEN LLP
Albuquerque, New Mexico
October 5, 1999