FORM S-1 · REGISTRATION STATEMENT

Ciena Corp

IPO priced 1997-02-11 · $23.00 a share · CIEN



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AS FILED WITH THE SECURITIES AND EXCHANGE COMMISSION ON DECEMBER 12, 1996

REGISTRATION NO. 333-

SECURITIES AND EXCHANGE COMMISSION WASHINGTON, D.C. 20549

FORM S-1 REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

CIENA CORPORATION (EXACT NAME OF REGISTRANT AS SPECIFIED IN ITS CHARTER)

DELAWARE	3661	23-2725311
(STATE OR OTHER JURISDICTION OF INCORPORATION OR ORGANIZATION)	(PRIMARY STANDARD INDUSTRIAL CLASSIFICATION CODE NUMBER)	(I.R.S. EMPLOYER IDENTIFICATION NO.)

8530 CORRIDOR ROAD SAVAGE, MD 20763 (301) 317-5800 (ADDRESS, INCLUDING ZIP CODE AND TELEPHONE NUMBER, INCLUDING AREA CODE, OF REGISTRANT'S PRINCIPAL EXECUTIVE OFFICES) G. ERIC GEORGATOS VICE PRESIDENT, GENERAL COUNSEL AND SECRETARY CIENA CORPORATION 8530 CORRIDOR ROAD SAVAGE, MD 20763 (301) 317-5800 (NAME, ADDRESS, INCLUDING ZIP CODE AND TELEPHONE NUMBER, INCLUDING AREA CODE, OF AGENT FOR SERVICE) COPIES TO:

MICHAEL J. SILVER	MARK G. BORDEN
HOGAN & HARTSON L.L.P.	DAVID SYLVESTER
111 SOUTH CALVERT STREET	HALE AND DORR
BALTIMORE, MARYLAND 21202	1455 PENNSYLVANIA AVE., N.W.
(410) 659-2700	WASHINGTON, D.C. 20004
	(202) 942-8400

APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC: AS SOON AS PRACTICABLE ON OR AFTER THE EFFECTIVE DATE OF THIS REGISTRATION STATEMENT.

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. [ ] IF THIS FORM IS FILED TO REGISTER ADDITIONAL SECURITIES FOR AN OFFERING PURSUANT TO RULE 462(B) UNDER THE SECURITIES ACT, PLEASE CHECK THE FOLLOWING BOX AND LIST THE SECURITIES ACT REGISTRATION STATEMENT NUMBER OF THE EARLIER EFFECTIVE REGISTRATION STATEMENT FOR THE SAME OFFERING. [ ] IF THIS FORM IS A POST-EFFECTIVE AMENDMENT FILED PURSUANT TO RULE 462(C) UNDER THE SECURITIES ACT, CHECK THE FOLLOWING BOX AND LIST THE SECURITIES ACT REGISTRATION STATEMENT NUMBER OF THE EARLIER EFFECTIVE REGISTRATION STATEMENT FOR THE SAME OFFERING. [ ] IF DELIVERY OF THE PROSPECTUS IS EXPECTED TO BE MADE PURSUANT TO RULE 434, PLEASE CHECK THE FOLLOWING BOX. [ ]

CALCULATION OF REGISTRATION FEE

TITLE OF EACH CLASS OF SECURITIES TO BE REGISTERED	PROPOSED MAXIMUM AGGREGATE OFFERING PRICE(2)	AMOUNT OF REGISTRATION FEE
COMMON STOCK, $.01 PAR VALUE(1).....	$109,250,000	$33,107

(1) THE SHARES OF COMMON STOCK ARE NOT BEING REGISTERED FOR THE PURPOSE OF SALES OUTSIDE THE UNITED STATES. (2) ESTIMATED SOLELY FOR THE PURPOSE OF COMPUTING THE REGISTRATION FEE PURSUANT TO RULE 457(O) UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT").

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 THIS REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE SECURITIES AND EXCHANGE COMMISSION, ACTING PURSUANT TO SAID SECTION 8(A), MAY DETERMINE.

INFORMATION CONTAINED HEREIN IS SUBJECT TO COMPLETION OR AMENDMENT. A REGISTRATION STATEMENT RELATING TO THESE SECURITIES HAS BEEN FILED WITH THE SECURITIES AND EXCHANGE COMMISSION. THESE SECURITIES MAY NOT BE SOLD NOR MAY OFFERS TO BUY BE ACCEPTED PRIOR TO THE TIME THE REGISTRATION STATEMENT BECOMES EFFECTIVE. THIS PROSPECTUS SHALL NOT

CONSTITUTE AN OFFER TO SELL OR THE SOLICITATION OF AN OFFER TO BUY NOR SHALL THERE BE ANY SALE OF THESE SECURITIES IN ANY STATE IN WHICH SUCH OFFER, SOLICITATION OR SALE WOULD BE UNLAWFUL PRIOR TO REGISTRATION OR QUALIFICATION UNDER THE SECURITIES LAWS OF ANY SUCH STATE.

SUBJECT TO COMPLETION, DATED DECEMBER 12, 1996 5,000,000 SHARES

[LOGO]

COMMON STOCK (PAR VALUE $.01 PER SHARE)

OF THE 5,000,000 SHARES OF COMMON STOCK OFFERED, 4,000,000 SHARES ARE BEING OFFERED HEREBY IN THE UNITED STATES AND 1,000,000 SHARES ARE BEING OFFERED IN A CONCURRENT INTERNATIONAL OFFERING OUTSIDE THE UNITED STATES. THE INITIAL PUBLIC OFFERING PRICE AND THE AGGREGATE UNDERWRITING DISCOUNT PER SHARE WILL BE IDENTICAL FOR BOTH OFFERINGS. SEE "UNDERWRITING".

PRIOR TO THIS OFFERING, THERE HAS BEEN NO PUBLIC MARKET FOR THE COMMON STOCK OF CIENA CORPORATION. IT IS CURRENTLY ESTIMATED THAT THE INITIAL PUBLIC OFFERING PRICE PER SHARE WILL BE BETWEEN $17.00 AND $19.00. FOR FACTORS TO BE CONSIDERED IN DETERMINING THE INITIAL PUBLIC OFFERING PRICE, SEE "UNDERWRITING".

SEE "RISK FACTORS" BEGINNING ON PAGE 5 FOR CERTAIN CONSIDERATIONS RELEVANT TO AN INVESTMENT IN THE COMMON STOCK.

APPLICATION WILL BE MADE FOR QUOTATION OF THE COMMON STOCK ON THE NASDAQ NATIONAL MARKET UNDER THE SYMBOL "CIEN".

THESE SECURITIES HAVE NOT BEEN APPROVED OR DISAPPROVED BY THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION NOR HAS THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION PASSED UPON THE ACCURACY OR ADEQUACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

	INITIAL PUBLIC OFFERING PRICE	UNDERWRITING DISCOUNT(1)	PROCEEDS TO COMPANY(2)
Per Share	$	$	$
Total (3)	$	$	$

(1) THE COMPANY HAS AGREED TO INDEMNIFY THE UNDERWRITERS AGAINST CERTAIN LIABILITIES, INCLUDING LIABILITIES UNDER THE SECURITIES ACT OF 1933. SEE "UNDERWRITING". (2) BEFORE DEDUCTING ESTIMATED EXPENSES OF $1,100,000 PAYABLE BY THE COMPANY. (3) THE COMPANY HAS GRANTED THE U.S. UNDERWRITERS AN OPTION FOR 30 DAYS TO PURCHASE UP TO AN ADDITIONAL 600,000 SHARES AT THE INITIAL PUBLIC OFFERING PRICE PER SHARE, LESS THE UNDERWRITING DISCOUNT, SOLELY TO COVER OVER-ALLOTMENTS. ADDITIONALLY, THE COMPANY HAS GRANTED THE INTERNATIONAL UNDERWRITERS A SIMILAR OPTION WITH RESPECT TO AN ADDITIONAL 150,000 SHARES AS PART OF THE CONCURRENT INTERNATIONAL OFFERING. IF SUCH OPTIONS ARE EXERCISED IN FULL, THE TOTAL INITIAL PUBLIC OFFERING PRICE, UNDERWRITING DISCOUNT AND PROCEEDS TO THE COMPANY WILL BE $, $ AND $, RESPECTIVELY. SEE "UNDERWRITING".

THE SHARES OFFERED HEREBY ARE OFFERED SEVERALLY BY THE U.S. UNDERWRITERS, AS SPECIFIED HEREIN, SUBJECT TO RECEIPT AND ACCEPTANCE BY THEM AND SUBJECT TO THEIR RIGHT TO REJECT ANY ORDER IN WHOLE OR IN PART. IT IS EXPECTED THAT CERTIFICATES FOR THE SHARES WILL BE READY FOR DELIVERY IN NEW YORK, NEW YORK, ON OR ABOUT , 1997, AGAINST PAYMENT THEREFOR IN IMMEDIATELY AVAILABLE FUNDS.

GOLDMAN, SACHS & CO.

ALEX. BROWN & SONS INCORPORATED

WESSELS, ARNOLD & HENDERSON

WILLIAM K. WOODRUFF & COMPANY

THE DATE OF THIS PROSPECTUS IS , 1997.

THIS DIAGRAM SHOWS THE CIENA MULTIWAVE 1600 SYSTEM.

THE COMPANY INTENDS TO FURNISH TO ITS STOCKHOLDERS ANNUAL REPORTS CONTAINING AUDITED FINANCIAL STATEMENTS AND QUARTERLY REPORTS CONTAINING UNAUDITED INTERIM FINANCIAL INFORMATION FOR THE FIRST THREE FISCAL QUARTERS OF EACH FISCAL YEAR OF THE COMPANY.

CIENA(TM), THE CIENA LOGO(TM), MULTIWAVE(TM) AND WAVEWATCHER(TM) ARE TRADEMARKS OF THE COMPANY. ALL OTHER BRAND NAMES OR TRADEMARKS APPEARING IN THIS PROSPECTUS ARE THE PROPERTY OF THEIR RESPECTIVE OWNERS.

IN CONNECTION WITH THE OFFERINGS, THE UNDERWRITERS MAY OVER-ALLOT OR EFFECT TRANSACTIONS WHICH STABILIZE OR MAINTAIN THE MARKET PRICE OF THE COMMON STOCK OFFERED HEREBY AT A LEVEL ABOVE THAT WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH TRANSACTIONS MAY BE EFFECTED ON THE NASDAQ NATIONAL MARKET, IN THE OVER-THE-COUNTER MARKET OR OTHERWISE. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME.

Prospectus Summary

The following summary is qualified in its entirety by, and should be read in conjunction with, the more detailed information and financial statements and notes thereto appearing elsewhere in this Prospectus. Unless otherwise indicated, all information in this Prospectus assumes no exercise of the over-allotment options granted to the Underwriters and has been adjusted to reflect a five-for-one split of the Company's Common Stock effective on December 9, 1996 and the conversion of the Company's mandatorily redeemable convertible preferred stock (the "Convertible Preferred Stock") into 73,315,740 shares of Common Stock and the exercise of certain warrants to purchase 300,000 shares of Convertible Preferred Stock which are convertible into 1,500,000 shares of Common Stock upon the closing of the Offerings.

The Company

CIENA Corporation ("CIENA" or the "Company") designs, manufactures and sells dense wavelength division multiplexing ("DWDM") systems for long distance fiberoptic telecommunications networks. CIENA's DWDM solution, the MultiWave 1600 system, alleviates capacity, or bandwidth, constraints in high traffic fiberoptic routes without requiring the installation of new fiber. In addition, the MultiWave 1600 system enables flexible provisioning of additional bandwidth without requiring an upgrade of existing network transmission equipment. The MultiWave 1600 system can increase the carrying capacity of a single optical fiber 16 fold by allowing simultaneous transmission of up to 16 optical channels per fiber. This permits fiber currently carrying signals at transmission speeds of up to 2.5 gigabits per second ("Gb/s") to carry up to 40 Gb/s. CIENA's MultiWave 1600 system includes optical transmission terminals, optical amplifiers and network management software. CIENA's system is designed with an open architecture that allows the MultiWave 1600 system to interoperate with carriers' existing fiberoptic transmission systems having a broad range of transmission speeds and signal formats.

The Company believes it is a worldwide market leader in field deployment of open architecture DWDM systems. CIENA's MultiWave 1600 system was introduced into field trials in the long distance network of Sprint Corporation ("Sprint") in May 1996 and LDDS WorldCom ("WorldCom") in August 1996. The MultiWave 1600 system began carrying live traffic in the Sprint network in October 1996.

The Company has a three-year non-exclusive supply agreement with Sprint which expires in December 1998, a supply agreement with WorldCom which, subject to certain conditions, is exclusive through December 1997 and an agreement to supply Teleway Japan Corporation ("Teleway") with the Company's MultiWave 1600 system. Through October 31, 1996, the Company recorded $54.8 million in revenue, all of which was derived from sales of the MultiWave 1600 system to Sprint. The Company is actively seeking additional customers among other long distance carriers in the worldwide telecommunications market.

The Company was incorporated in Delaware in November 1992. The Company's principal executive offices are located at 8530 Corridor Road, Savage, Maryland 20763, and its telephone number is (301) 317-5800.

The Offerings

The offering of 4,000,000 shares of Common Stock initially being offered in the United States (the "U.S. Offering") and the concurrent offering of 1,000,000 shares of Common Stock initially being offered outside the United States (the "International Offering") are collectively referred to herein as the "Offerings". The closing of the International Offering is conditioned upon the closing of the U.S. Offering and vice versa. See "Underwriting".

Common Stock offered by the Company	
U.S. Offering	4,000,000 shares
International Offering	1,000,000 shares
Common Stock to be outstanding after the Offerings(1)	93,007,325 shares
Proposed Nasdaq National Market Symbol	"CIEN"
Use of Proceeds	General corporate purposes. See "Use of Proceeds".

(1) Excludes 11,707,960 shares of Common Stock issuable upon exercise of options and certain warrants outstanding on October 31, 1996, at a weighted average exercise price of $.95 per share. See "Capitalization" and "Management -- Stock Plans".

SUMMARY FINANCIAL INFORMATION(1) (in thousands, except per share data)

	FOR THE PERIOD FROM INCEPTION (NOVEMBER 2, 1992) THROUGH OCTOBER 31, 1993	YEAR ENDED OCTOBER 31, 1994	1995	1996
STATEMENT OF OPERATIONS DATA:				
Revenue	$ --	$ --	$ --	$ 54,838
Gross profit	--	--	--	32,994
Operating expenses				
Research and development	--	1,287	6,361	8,922
Selling and marketing	--	295	481	3,780
General and administrative	123	787	896	3,905
Income (loss) from operations	(123)	(2,369)	(7,738)	16,387
Net income (loss)	$ (123)	$(2,407)	$(7,629)	$ 14,718
Pro forma net income per common and common equivalent share(2)				$ .15

	OCTOBER 31, 1996	PRO FORMA	ACTUAL AS ADJUSTED(3) (UNAUDITED)
BALANCE SHEET DATA:			
Cash and cash equivalents	$22,557		$105,757
Working capital	35,856		119,056
Total assets	67,301		150,501
Long-term debt, excluding current portion	2,673		2,673
Mandatorily redeemable preferred stock	40,404		--
Stockholders' equity	4,970		128,574

(1) During the period from November 2, 1992 to October 31, 1995, CIENA was a development stage company. Planned principal operations commenced during fiscal year 1996.

(2) The pro forma weighted average common and common equivalent shares outstanding for the year ended October 31, 1996 was 99,107,000. Pro forma net income per common and common equivalent share is computed using the weighted average number of common and common equivalent shares outstanding. Weighted average common and common equivalent shares include Common Stock, stock options and warrants using the modified treasury stock method and the assumed conversion of all outstanding shares of Convertible Preferred Stock into Common Stock. See Note 1 of Notes to Financial Statements.

(3) As adjusted to reflect the exercise of certain outstanding warrants to purchase 300,000 shares of Convertible Preferred Stock which are convertible into 1,500,000 shares of Common Stock of the Company, the conversion upon the closing of the Offerings of all outstanding shares of Convertible Preferred Stock into 73,315,740 shares of Common Stock and the sale of Common Stock offered by the Company hereby (assuming an initial public offering price of $18.00) and the application of the estimated net proceeds therefrom.

Risk Factors

In addition to the other information in this Prospectus, prospective investors should consider carefully the following risk factors in evaluating the Company and its business before purchasing Common Stock in the Offerings.

Concentration of Potential Customers; Dependence on Major Customers

The Company has only three current customers and few potential customers, consisting almost exclusively of long distance telecommunications carriers. There are only a small number of long distance telecommunications carriers, and the substantial capital requirements involved in the establishment of long distance fiberoptic networks significantly limit additional entrants into this market. The Company's business will for the foreseeable future be dependent on this small number of existing and potential customers, and that number may decrease if and as customers merge with or acquire one another. All of the Company's revenue for the fiscal year ended October 31, 1996 was derived from Sprint, and substantially all of the Company's revenue for fiscal 1997 is expected to be

derived from Sprint and WorldCom. WorldCom may terminate all or any part of an outstanding purchase order upon the payment of a termination fee, and the Company's agreements with WorldCom and Sprint do not require minimum purchase commitments. There can be no assurance the Company will be able to develop additional customers in the long distance telecommunications market. Accordingly, the loss of any one of the Company's customers, or the reduction, delay or cancellation of orders or a delay in shipment of the Company's products to such customers, could materially and adversely affect the Company's business, financial condition and results of operations. See "Management's Discussion and Analysis of Financial Condition and Results of Operations".

The Company's dependence on sizable orders from very few customers makes the relationship between the Company and each customer critically important to the Company's business. While each customer relationship is typically structured around a detailed, heavily negotiated contract, as the relationship evolves over time, adjustments to such items as product specifications, laboratory and field testing plans, customer forecasts and delivery timetables, and installation and field support requirements may be required in response to customer demands and expectations. The inability of the Company to manage its customer relationships successfully would have a material adverse effect on the Company's business, financial condition and results of operations.

Recent Product Introduction

The Company first began commercial shipments of its MultiWave 1600 system in May 1996. The Company's first operational systems only began carrying live traffic in October 1996 and therefore do not have a history of live traffic operation over an extended period of time. If reliability, quality or network monitoring problems should develop a number of material and adverse effects could result, including manufacturing rework costs, high service and warranty expense, high levels of product returns, delays in collecting accounts receivable, reduced orders from existing customers and declining level of interest from potential customers. The Company is aware of instances in which installation and activation of certain MultiWave 1600 systems have been delayed due to faulty components found in certain portions of these systems. Although the Company maintains accruals for product warranties, there can be no assurance that actual costs will not exceed these amounts. There is limited operating history of open architecture wavelength division multiplexing technology in fiberoptic networks, and in particular of MultiWave 1600 systems, and the equipment must be handled with care by trained installers. Accordingly, the Company expects there will be interruptions or delays from time to time in the activation of the systems, particularly because the Company does not control all aspects of the customer's installation and activation activities. If significant interruptions or delays occur, or if their cause is not promptly identified, diagnosed and resolved, confidence in the MultiWave 1600 system could be undermined. An undermining of confidence in the MultiWave 1600 system would materially and adversely affect the Company's customer relationships, business, financial condition and results of operations.

Management of Expansion

The Company is experiencing rapid expansion in all areas of its operations, particularly in manufacturing, and the Company anticipates that this expansion will continue in the near future. Total personnel has grown from 49 on October 31, 1995 to 225 on October 31, 1996, with 125 of the 176 new employees devoted to manufacturing. This expansion has placed strains on the managerial, financial and personnel resources of the Company and will continue to do so. The rapid pace and volume of new hiring could adversely affect the efficiency of the Company's manufacturing process. Any delays or difficulties in the Company's manufacturing process caused by these factors or others could make it difficult for the Company to meet its customers' requirements. The Company is in the process of substantially increasing its flow of materials, manufacturing capacity, optical assembly, final assembly and final component module and system test functions to respond to customer demand. The pace of the Company's expansion, in combination with the complexity of the technology involved in the manufacture of the Company's systems, demands an unusually high level of managerial effectiveness in anticipating, planning, coordinating and meeting the operational needs of the Company and the needs of the Company's customers for quality, reliability, timely delivery and post-installation field support. Given the small number of potential customers for the Company's systems, the adverse effect on the Company resulting from a lack of effective management in any of these areas will be magnified. The Company's key management employees have not had previous experience in managing companies undergoing such rapid expansion. Inability to manage the expansion of the Company's business could have a material adverse effect on its business, financial condition and results of operations. In addition, the Company's manufacturing expansion and related capital expenditures are being made in anticipation of a level of customer orders that has not been historically experienced by the Company and that may not be achieved. See "Management's Discussion and Analysis of Financial Condition and Results of Operations".

Dependence on a Single Product -- the Multiwave 1600 System

The MultiWave 1600 system is the Company's only product and is focused exclusively on providing additional bandwidth to long distance telecommunications carriers. Accordingly, a softening or slowdown in demand for the Company's product or for additional bandwidth by long distance telecommunications carriers would materially and adversely affect the Company's business, financial condition and results of operations. There can be no assurance that the Company will be successful in developing any other products or taking other steps to reduce the risk associated with any softening or slowdown in the demand for additional bandwidth, nor is there any assurance the Company will be able to leverage successfully its DWDM technology into other network applications. Conversely, if the demand for additional bandwidth accelerates, there is no assurance that the Company's MultiWave 1600 system will deliver sufficient capacity as rapidly as needed, or that competing DWDM products from other vendors offering higher capacity would not displace or render obsolete the MultiWave 1600 system.

Fluctuation in Quarterly and Annual Results

The Company's revenue and operating results may vary significantly from quarter to quarter and from year to year as a result of a number of factors, including the size and timing of orders, product mix and shipments of systems. The timing of order placement, size of orders, satisfaction of contractual customer acceptance criteria, as well as order delays or deferrals and shipment delays and deferrals, may cause material fluctuations in revenue. Delivery of new equipment for installation is also likely to be deferred during the high telecommunications traffic periods in November and December so as not to risk network reliability problems. The Company's expense levels in the future will be partially based on its expectations of long term future revenue and as a result net income in any quarterly period in which material orders are shipped or delayed could vary significantly. Due to this likelihood of significant quarterly fluctuation in operating results, the Company believes quarter- to-quarter comparisons of its results of operations, particularly during the next two to three years of operations, may not necessarily be meaningful indicators of year-to-year performance. See "Management's Discussion and Analysis of Financial Condition and Results of Operations".

Long and Unpredictable Sales Cycles

The Company expects that the period of time between initial customer contact and an actual purchase order may span a year or more. In addition, even when committed to proceed with deployment of equipment, long distance telecommunications carriers typically undertake extensive and lengthy product evaluation and factory acceptance and field testing of new equipment before purchasing and installing any of it in their networks. Additionally, the purchase of network equipment such as DWDM equipment is typically carried out by network operators pursuant to multiyear purchasing programs which may increase or decrease annually as the operators adjust their capital equipment budgets and purchasing priorities. The Company's customers do not typically share information on the duration or magnitude of planned purchasing programs, nor do they consistently provide to the Company advance notice of contemplated changes in their capital equipment budgets and purchasing priorities. These uncertainties substantially complicate the Company's manufacturing planning. Curtailment or termination of customer purchasing programs, decreases in customer capital budgets or reduction in the purchasing priority assigned to equipment such as DWDM equipment, particularly if significant and unanticipated by the Company, could have a material adverse effect on the Company's business, financial condition and results of operations. Long distance carriers may also encounter delays in their build out of new routes or in their installation of new equipment in existing routes, with the result that orders for the MultiWave 1600 system may be delayed or deferred. Any delay or deferral of orders for the MultiWave 1600 system would have a material adverse effect on the Company's business, financial condition and results of operations.

Competition

The competition to achieve higher and more cost-effective bandwidth in the global telecommunications industry is intense and is dominated by a small number of very large companies with greater financial, technical and marketing resources, greater manufacturing capacity and more established customer relationships with network operators than the Company. Each of Lucent Technologies Inc., formerly part of AT&T Corporation ("Lucent"), Alcatel Alsthom Group ("Alcatel"), Northern Telecom Inc. ("Nortel"), NEC Corporation ("NEC"), Pirelli SpA ("Pirelli"), Siemens AG ("Siemens") and ECI Telecom Ltd. ("ECI") offer various forms of alternative transmission enhancing equipment and in some cases are offering or have announced an intention to offer DWDM equipment. Such competitors use their advantages in resources and alternative equipment in different ways. For example, Lucent, Alcatel, Nortel, NEC and Siemens are already providers of a full complement of switches, fiberoptic transmission terminals and fiberoptic signal regenerators and thereby can position themselves as vertically integrated, "one-stop shopping" solution providers to potential customers. Further, in certain cases, competitors have offered the Company's target customers, on an immediate delivery basis, off-the-shelf time division multiplexing ("TDM") transmission equipment at comparatively lower prices, with a promise to upgrade to DWDM or other improved equipment in the future. The substantial system integration resources and manufacturing capability of the TDM suppliers, in combination with any difference in timeliness of delivery, can be important to long distance network operators. Finally, as and when these competitors are able to offer DWDM systems in combination with their own fiberoptic transmission terminals, they can be expected to press further on the attractiveness of a "one-stop shopping" solution. The Company expects competition in general to intensify substantially, especially over the next few quarters, and further expects competition to be broadly based on varying combinations of price, manufacturing capacity, timely delivery, system reliability, service commitment and installed customer base, as well as on the comprehensiveness of the system solution in meeting immediate network needs and foreseeable scaleability requirements. There can be no assurance that the Company will be able to compete successfully with its existing or new competitors or that competitive pressures faced by the Company will not result in lower prices for the Company's products and otherwise materially and adversely affect its business, financial condition and results of operations.

Technological Change and New Products

The Company expects that new technologies will emerge as competition in the telecommunications industry increases and the need for higher and more cost efficient bandwidth expands. The Company's ability to anticipate changes in technology, industry standards, customer requirements and product offerings and to develop and introduce new and enhanced products will be significant factors in the Company's ability to remain a leader in the deployment of open architecture DWDM systems. The market for telecommunications equipment is characterized by substantial capital investment and diverse and competing technologies such as fiberoptic, cable, wireless and satellite technologies. The accelerating pace of deregulation in the telecommunications industry will likely intensify the

competition for improved technology. Many of the Company's competitors have substantially greater financial, technical and marketing resources and manufacturing capacity with which to compete for new technologies and for market acceptance of their products. The introduction of new products embodying new technologies or the emergence of new industry standards could render the Company's existing product uncompetitive from a pricing standpoint, obsolete or unmarketable. Any of these outcomes would have a material and adverse effect on the Company's business, financial condition and results of operations.

Proprietary Rights

The Company relies on patents, contractual rights, trade secrets, trademarks and copyrights to establish and protect its proprietary rights in its product. While the Company does not expect that its proprietary rights in its technology will prevent competitors from developing technologies and products functionally similar to the Company's, the Company believes many aspects of its DWDM technologies and know-how are proprietary, and intends to monitor closely the DWDM products introduced by competitors for any infringement of the Company's proprietary rights. Additionally, the Company expects that DWDM technologies and know-how in general will become increasingly valuable intellectual properties as the competition to achieve higher and more cost effective bandwidth intensifies. The Company believes this increasing value in an industry marked by a few very large competing suppliers represents a competitive environment where intellectual property disputes are likely. Such disputes may be initiated by competitors against the Company for tactical purposes to gain competitive advantage or overcome competitive disadvantage, even if the merits of a specific dispute are doubtful. As a result, in the future, litigation may be necessary to enforce any patents issued or assigned to the Company, to protect trademarks, trade secrets and other intellectual property rights owned by the Company, to defend the Company against claimed infringement of the rights of others and to determine the scope and validity of the proprietary rights of others. Any litigation could be costly and a diversion of management's attention, which could have a material adverse effect on the Company's business, financial condition and results of operations. Adverse determinations in litigation could result in the loss of the Company's proprietary rights, subject the Company to significant liabilities, require the Company to seek licenses from third parties or prevent the Company from manufacturing or selling its products, any of which could have a material adverse effect on the Company's business, financial condition and results of operations.

The Company has received, and may receive in the future, notices from holders of patents in the optical technology field that raise issues as to possible infringement by the Company's products. Pirelli sent a notice in December 1995 identifying eleven patents it possesses in the field of optical communications. The Company believes the MultiWave 1600 system does not infringe the patents cited in the notices received. However, questions of infringement in the field of DWDM technologies involve highly technical and subjective analyses. There can be no assurance that any such patent holders or others will not in the future initiate legal proceedings against the Company or that, if any such proceedings were initiated, the Company would be successful in defending against these actions.

Even if the Company is successful in defending against any such actions, these actions could have an adverse effect on existing and potential customer relationships and therefore could have a material adverse effect on the Company's business, financial condition and results of operations. The Company has agreed to indemnify Sprint, WorldCom and Teleway for liability that may be incurred in connection with the infringement of a third party's intellectual property rights and expects that it will be requested to agree to indemnify other potential customers in the future. There can be no assurance that such indemnification against alleged liability will not be required from the Company in the future.

Patent applications in the United States are not publicly disclosed until the patent issues. The Company anticipates that several competitors may have patent applications in progress that, if issued, could relate to the Company's products. If such patents were to issue, there can be no assurance that the patent holders or licensees will not assert infringement claims against the Company or that such claims will not be successful. The Company could incur substantial costs in defending itself and its customers against any such claims, regardless of the merits of such claims. Parties making such claims may be able to obtain injunctive or other equitable relief which could effectively block the Company's ability to sell its products, and each claim could result in an award of substantial damages. In the event of a successful claim of infringement, the Company and its customers may be required to obtain one or more licenses from third parties. There can be no assurance that the Company or its customers could obtain necessary licenses from third parties at a reasonable or acceptable cost or at all.

Substantial inventories of intellectual property are held by a few industry participants, such as Bell Laboratories (now owned by Lucent) and major universities and research laboratories. This concentration of intellectual property in the hands of a few major entities also poses certain risks to the Company in seeking to hire qualified personnel. The Company has on a few occasions recruited such personnel from competitors. The Company has in the past received letters from counsel to Lucent asserting that the hiring of their personnel compromises Lucent's intellectual property. There can be no assurance that other companies will not claim the misappropriation or infringement of their intellectual property, particularly when and if employees of these companies leave to work for the Company. To date, the Company has not experienced litigation concerning the assertions by Lucent, and believes there is no basis for claims against the Company. Nevertheless, there can be no assurance that the Company will be able to avoid litigation in the future, particularly if new employees join the Company after having worked for a competing company. Such litigation could be very expensive to defend, regardless of the merits of the claims.

Dependence on Suppliers

Suppliers in the specialized, high technology sector of the optical communications industry are generally not as plentiful or, in some cases, as reliable, as suppliers in more mature industries. The Company is dependent on a limited number of suppliers for components of the MultiWave 1600 system as well as equipment used to manufacture the MultiWave 1600 system. The MultiWave 1600 system has over 600 components, and certain key optical and electronic components are currently available only from a sole source, where the Company has identified no other supplier for the

component. While alternative suppliers have been identified for certain other key optical and electronic components, those alternative sources have not been qualified by the Company. The Company has to date conducted its business with suppliers through the issuance of conventional purchase orders against the Company's forecasted requirements. The Company is seeking to negotiate long term supply agreements with key suppliers, but currently has no such agreements. The Company has from time to time experienced minor delays in the receipt of key components, and any future difficulty in obtaining sufficient and timely delivery of them could result in delays or reductions in product shipments which, in turn, could have a material adverse effect on the Company's business, financial condition and results of operations. In addition, the Company's strategy to have portions of its final product assembled and, in certain cases, tested, by third parties involves certain risks, including the potential absence of adequate capacity, the unavailability of or interruptions in access to certain process technologies, and reduced control over delivery sched- ules, manufacturing yields, quality and costs. In the event that any significant supplier or subcontractor were to become unable or unwilling to continue to manufacture and/or test the Company's systems in required volumes, the Company would have to identify and qualify acceptable replacements. This process could also be lengthy and no assurance can be given that any additional sources would become available to the Company on a timely basis. A key item of equipment used to manufacture the MultiWave 1600 system is available only from a sole source. A delay or reduction in component or equipment shipments, an increase in component or equipment costs or a delay or increase in costs in the assembly and testing of products by third party subcontractors could materially and adversely affect the Company's business, financial condition and results of operations.

Competitors as Suppliers

Certain of the Company's component suppliers are both primary sources for such components and major competitors in the market for system equipment. For example, the Company buys certain key components from Lucent, Alcatel, Nortel, NEC and Siemens, each of which offers optical communications systems and equipment which are competitive with the Company's MultiWave 1600 system. Lucent is the sole source of two integrated circuits and is one of two suppliers of Erbium-doped fiber. Alcatel and Nortel are suppliers of lasers used in the MultiWave 1600 system. NEC is a supplier of certain testing equipment. The Company's business, financial condition and results of operations could be materially and adversely affected if these supply relationships were to decline in reliability or otherwise change in any manner adverse to the Company.

Limited Operating History; History of Losses

The Company was founded in November 1992 and introduced its MultiWave 1600 system in field trials in May 1996. Accordingly, the Company has only a limited operating history upon which an evaluation of the Company, its product and prospects can be based. The Company's prospects must be considered in light of the risks, expenses and difficulties frequently encountered by companies in their early stage of development, particularly companies in new and rapidly evolving markets and

companies experiencing rapid expansion in their operations. To address these risks, the Company must, among other things, respond to competitive developments, continue to attract, retain and motivate qualified management and other employees, continue to upgrade its technologies and commercialize products and services which incorporate such technologies and achieve market acceptance for its MultiWave 1600 system. There can be no assurance that the Company will be successful in addressing such risks. The Company incurred net losses in each quarter from inception through the second quarter of fiscal 1996. While the Company reported net income for fiscal 1996, there can be no assurance that the Company will sustain profitability. See "Management's Discussion and Analysis of Financial Condition and Results of Operations".

Dependence on Key Personnel

The Company's success depends to a significant extent upon a number of key technical and management employees. The loss of the services of any of the Company's key employees, none of whom is bound to a term of employment by an employment agreement, would have a material adverse effect on the Company. The Company generally does not maintain insurance policies on the lives of such employees. The Company's success will also depend in large part upon its ability to attract and retain highly-skilled technical, managerial, sales and marketing personnel, particularly those skilled and experienced with optical communications equipment. Competition for such personnel is intense and there can be no assurance that the Company will be successful in retaining its existing key personnel and in attracting and retaining the personnel it requires. Failure to attract and retain key personnel will have a material adverse effect on the Company's business, financial condition and results of operations.

Discretionary Use of Proceeds

The net proceeds to the Company from the Offerings, estimated at approximately $82.6 million, will be used for general corporate purposes and have not been designated for any particular purpose. Accordingly, the Company will have broad discretion as to the application of such proceeds. See "Use of Proceeds".

Shares Eligible for Future Sale

Sales of substantial amounts of Common Stock in the public market after the Offerings could adversely affect prevailing market prices for the Common Stock. The 5,000,000 shares of Common Stock offered hereby will be freely tradeable without restriction in the public market as of the date of this Prospectus. Beginning 90 days after the date of this Prospectus, approximately shares will become eligible for sale in the public market, subject in some cases to the volume and other restrictions of Rule 144 under the Securities Act of 1933, as amended (the "Securities Act"). Of these shares, holders of shares and options and warrants to purchase shares are subject to lock-up agreements. Shares covered by these lock-up

agreements are subject to restrictions on resale in the public market for a period of 180 days following the date of this Prospectus, subject to release, directly or indirectly at the discretion of the Representatives of the Underwriters. Upon the expiration of the lock-up period, approximately shares will become eligible for sale in the public market subject in some cases to the volume and other restrictions of Rule 144 under the Securities Act. The holders of approximately 74,815,680 shares of Common Stock are entitled to certain registration rights with respect to such shares under the Securities Act. In addition, the Company intends to file a registration statement under the Securities Act promptly following the effective date of this Registration Statement to register all of the shares of Common Stock issued or reserved for issuance upon the exercise of options issued or that may be issued under the Company's Amended and Restated 1994 Stock Option Plan and 1996 Outside Directors Stock Option Plan. As of October 31, 1996, there were outstanding options for the purchase of 11,032,960 shares, of which options for approximately 2,684,355 shares were vested. See "Management -- Stock Plans," "Underwriting" and "Shares Eligible for Future Sale".

No Prior Market; Possible Volatility of Stock Price

Prior to the Offerings, there has been no public market for the Common Stock of the Company. The initial public offering price will be determined by negotiations among the Company and the Representatives of the Underwriters. See "Underwriting" for a discussion of the factors to be considered in determining the initial public offering price. There can be no assurance that an active public market will develop or be sustained after the Offerings or that the market price of the Common Stock will not decline below the public offering price. Future announcements concerning the Company or its competitors, quarterly variations in operating results, announcements of technological innovations, the introduction of new products or changes in product pricing policies by the Company or its competitors, proprietary rights or product liability litigation or changes in earnings estimates by analysts could cause the market price of the Common Stock to fluctuate substantially. In addition, stock prices for many technology companies fluctuate widely for reasons which may be unrelated to operating results. These fluctuations, as well as general economic, political and market conditions such as recessions, international instabilities or military conflicts, may materially and adversely affect the market price of the Common Stock.

Control by Existing Stockholders

The Company's officers, directors and their affiliates will, in the aggregate, beneficially own approximately 54.7% of the Company's outstanding shares after the Offerings. As a result, these stockholders, if acting together, would be able effectively to control substantially all matters requiring approval by the stockholders of the Company, including the election of directors. This ability may have the effect of delaying or preventing a change in control of the Company, or causing a change in control of the Company which may not be favored by the Company's other stockholders.

Effect of Certain Charter, Bylaw and Other Provisions

Certain provisions of the Company's Third Amended and Restated Certificate of Incorporation, as amended (the "Certificate of Incorporation"), and bylaws and certain other contractual provisions could have the effect of making it more difficult for a third party to acquire, or of discouraging a third party from attempting to acquire, control of the Company. Such provisions could limit the price that certain investors might be willing to pay in the future for shares of the Company's Common Stock. Certain of these provisions allow the Company to issue preferred stock with rights senior to those of the Common Stock without any further vote or action by the stockholders, provide for a classified board of directors, eliminate the right of the stockholders to call a special meeting of stockholders, eliminate the right of stockholders to act by written consent, and impose various procedural and other requirements which could make it difficult for stockholders to effect certain corporate actions.

Litigation

The Company and certain directors are defendants in a lawsuit recently brought by entities controlled by a stockholder of the Company concerning alleged entitlement to additional shares of Convertible Preferred Stock. See "Business -- Legal Proceedings". No assurance can be given that this lawsuit will not result in an adverse effect on the Company's business, financial condition or results of operations.

Immediate and Substantial Dilution

Purchasers of the Common Stock offered hereby will suffer immediate and substantial dilution of $16.62 per share in the net tangible book value of the Common Stock from the initial public offering price (at an assumed initial public offering price of $18.00 per share). To the extent outstanding options to purchase the Company's Common Stock are exercised, there will be further dilution. See "Dilution".

Use of Proceeds

The principal purpose of the Offerings is to increase the Company's working capital and equity base, create a public market for the Company's Common Stock, facilitate future access to public capital markets and provide increased visibility and credibility for the Company in its marketplace. The net proceeds to the Company from the sale of the 5,000,000 shares of Common Stock offered by the Company hereby are estimated to be approximately $82.6 million ($95.2 million if the over-allotment options are exercised in full) at an assumed initial public offering price of $18.00 per share, after deducting the underwriting discount and estimated offering expenses. The Company also expects to receive additional proceeds of approximately $0.6 million from the exercise of certain outstanding warrants to purchase 300,000 shares of Convertible Preferred Stock which are convertible into 1,500,000 shares of Common Stock.

The Company has no current plans for the net proceeds of the Offerings. The Company intends to add the net proceeds from the Offerings and from the exercise of warrants to working capital, where such proceeds will be available to support general corporate purposes which are expected to include capital equipment expenditures to support selling and marketing, manufacturing and product development activities. A portion of the proceeds may also be used to acquire or invest in complementary businesses or products or to obtain the right to use complementary technologies. From time to time, in the ordinary course of business, the Company evaluates potential acquisitions of such businesses, products or technologies. However, the Company has no present understandings, commitments or agreements with respect to any material acquisition of other businesses, products or technologies. Pending use of the net proceeds for any purposes, the Company intends to invest such funds in short-term, interest-bearing, investment grade obligations.

Dividend Policy

The Company has never paid or declared any cash dividends on its capital stock. It is the present policy of the Company to retain earnings to finance the growth and development of the business and, therefore, the Company does not anticipate declaring or paying cash dividends on its Common Stock in the foreseeable future. In addition, the Company's credit agreement with Mercantile-Safe Deposit & Trust Company prohibits the Company from paying cash dividends on its capital stock.

Capitalization

The following table sets forth the capitalization of the Company as of October 31, 1996 (i) on an actual basis and (ii) as adjusted to reflect the exercise of certain outstanding warrants to purchase 300,000 shares of Convertible Preferred Stock which are convertible into 1,500,000 shares of Common Stock of the Company, the conversion of all outstanding shares of Convertible Preferred Stock into 73,315,740 shares of Common Stock upon the closing of the Offerings and the sale of 5,000,000 shares of Common Stock offered by the Company hereby (at an assumed initial public offering price of $18.00 per share) and the application of the estimated net proceeds therefrom. This table should be read in conjunction with the Company's financial statements and notes thereto appearing elsewhere in this Prospectus.

OCTOBER 31, 1996 ACTUAL AS ADJUSTED (IN THOUSANDS) Long-Term Debt..... $ 2,673 $ 2,673 Series A Convertible Preferred Stock, $.01 par value (the "Series A Preferred Stock"); 4,500,000 shares authorized, 3,590,157 shares issued and outstanding (actual); no shares authorized, issued and outstanding (as adjusted)(1)..... 3,492 -- Series B Convertible Preferred Stock, $.01 par value (the "Series B Preferred Stock"); 8,000,000 shares authorized, 7,354,092 shares issued and outstanding (actual); no shares authorized, issued and outstanding (as adjusted)(1)..... 10,962 -- Series C Convertible Preferred Stock, $.01 par value (the "Series C Preferred Stock"); 3,750,000 shares authorized, 3,718,899 shares issued and outstanding (actual); no shares authorized, issued and outstanding (as adjusted)

(1)..... 25,950 -- Stockholders' equity: Preferred Stock, $.01 par value; no shares authorized, issued and outstanding (actual); 20,000,000 shares authorized, no shares issued and outstanding (as adjusted)(2)..... -- -- Common Stock, $.01 par value, 180,000,000 shares authorized; 13,191,585 shares issued and outstanding (actual); 93,007,325 shares issued and outstanding (as adjusted)(2)(3)..... 132 930 Additional paid-in capital..... 339 123,145 Notes receivable from stockholders..... (60) (60) Retained earnings..... 4,559 4,559 Total stockholders' equity..... 4,970 128,574 Total capitalization..... $48,047 $ 131,247 (1) See Note 8 of Notes to Financial Statements.

(2) See Note 14 of Notes to Financial Statements.

(3) Excludes 19,426,505 shares of Common Stock reserved for issuance under the Company's Amended and Restated 1994 Stock Option Plan, under which options to purchase 10,957,960 shares at a weighted average exercise price of $.96 were outstanding as of October 31, 1996, and 750,000 shares reserved for issuance under the Company's 1996 Outside Directors Stock Option Plan, under which options to purchase 75,000 shares at a weighted average exercise price of $2.30 were outstanding as of October 31, 1996. Also excludes 675,000 shares of Common Stock reserved for issuance pursuant to the exercise of warrants outstanding as of October 31, 1996. See "Management -- Stock Plans" and Note 9 of Notes to Financial Statements.

Dilution

The pro forma net tangible book value of the Company as of October 31, 1996 was $46.0 million or approximately $.52 per share of Common Stock. Pro forma net tangible book value per share represents the amount of the Company's pro forma stockholders' equity, less intangible assets, divided by 88,007,325 pro forma shares of Common Stock outstanding as of October 31, 1996. The preceding pro forma information gives effect to (i) the conversion of the Company's Convertible Preferred Stock into 73,315,740 shares of Common Stock and (ii) the exercise of certain warrants to purchase 300,000 shares of Convertible Preferred Stock which are convertible into 1,500,000 shares of Common Stock. Assuming the sale by the Company of 5,000,000 shares of Common Stock offered hereby at an assumed initial public offering price of $18.00 per share and receipt of the estimated net proceeds therefrom, the pro forma adjusted net tangible book value of the Company as of October 31, 1996 would have been approximately $128.6 million or $1.38 per share. This represents an immediate increase in such net tangible book value of $.86 per share to existing stockholders and an immediate dilution of $16.62 per share to new investors. The following table illustrates this per share dilution:

Assumed initial public offering price per share.....		$ 18.00
Pro forma net tangible book value per share as of October 31, 1996.....	$.52	
Increase per share of Common Stock attributable to the Offerings.....	.86	
Pro forma net tangible book value per share after the Offerings.....		1.38
Net tangible book value dilution per share to new investors.....		$ 16.62

The following table summarizes, on a pro forma basis as of October 31, 1996, the total number of shares of Common Stock purchased from the Company, the total consideration paid to the Company and the average price per share paid, by existing stockholders and by new investors (at an assumed initial public offering price of $18.00 per share and without giving effect to the underwriting discount and estimated offering expenses):

	SHARES PURCHASED		TOTAL CONSIDERATION		AVERAGE PRICE PER SHARE
	NUMBER	PERCENT	AMOUNT	PERCENT	
Existing stockholders(1)	88,007,325	94.6%	$ 41,416,000	31.5%	$ .47
New investors	5,000,000	5.4	90,000,000	68.5	$ 18.00
Total	93,007,325	100.0%	$131,416,000	100.0%	

(1) Excludes 19,426,505 shares of Common Stock reserved for issuance under the Company's Amended and Restated 1994 Stock Option Plan, under which options to purchase 10,957,960 shares at a weighted average exercise price of $.96 were outstanding as of October 31, 1996, and 750,000 shares reserved for issuance under the Company's 1996 Outside Directors Stock Option Plan, under which options to purchase 75,000 shares at a weighted average exercise price of $2.30 were outstanding as of October 31, 1996. Also excludes 675,000 shares of Common Stock reserved for issuance pursuant to the exercise of warrants outstanding as of October 31, 1996. See "Management -- Stock Plans" and Note 9 of Notes to Financial Statements.

Selected Financial Data

The following selected financial data as of October 31, 1995 and 1996 and for the years ended October 31, 1994, 1995 and 1996 have been derived from the audited financial statements of the Company included elsewhere in this Prospectus. The selected financial data as of October 31, 1993 and 1994 and for the period from inception (November 2, 1992) through October 31, 1993 have been derived from the Company's accounting records.

The data set forth below are qualified by reference to, and should be read in conjunction with, the financial statements and notes thereto and "Management's Discussion and Analysis of Financial Condition and Results of Operations" thereof included elsewhere in this Prospectus.

	FOR THE PERIOD FROM INCEPTION (NOVEMBER 2, 1992) THROUGH OCTOBER 31, 1993(1)	YEAR ENDED OCTOBER 31,(1)		
		1994	1995	1996
	(IN THOUSANDS EXCEPT PER SHARE DATA)			
STATEMENT OF OPERATIONS DATA:				
Revenue	$ --	$ --	$ --	$ 54,838
Cost of goods sold	--	--	--	21,844
Gross profit	--	--	--	32,994
Operating expenses:				
Research and development	--	1,287	6,361	8,922
Selling and marketing	--	295	481	3,780
General and administrative	123	787	896	3,905
Total operating expenses	123	2,369	7,738	16,607
Income (loss) from operations	(123)	(2,369)	(7,738)	16,387

Other income (expense), net	--	(38)	109	581
Income (loss) before income taxes	(123)	(2,407)	(7,629)	16,968
Provision for income taxes	--	--	--	2,250
Net income (loss)	$(123)	$(2,407)	$(7,629)	$ 14,718
Pro forma net income per common and common equivalent share(2)				$ .15

OCTOBER 31,(1) 1993 1994 1995 1996 (IN THOUSANDS)

BALANCE SHEET DATA:				
Cash and cash equivalents	$ 10	$ 1,908	$ 5,032	$22,557
Working capital	(35)	932	3,069	35,856
Total assets	13	2,497	7,383	67,301
Long-term debt, excluding current portion	--	392	856	2,673
Mandatorily redeemable preferred stock	--	3,492	14,454	40,404
Stockholders' equity (deficit)	(35)	(2,388)	(9,930)	4,970

(1) The Company has a 52 or 53 week fiscal year which ends on the Saturday nearest to the last day of October in each year. For purposes of financial statement presentation, each fiscal year is described as having ended on October 31. Fiscal 1994 and 1995 comprised 52 weeks and fiscal 1996 comprised 53 weeks.

(2) The pro forma weighted average common and common equivalent shares outstanding for the year ended October 31, 1996 was 99,107,000. Pro forma net income per common and common equivalent share is computed using the weighted average number of common and common equivalent shares outstanding. Weighted average common and common equivalent shares include Common Stock, stock options and warrants using the modified treasury stock method and the assumed conversion of all outstanding shares of Convertible Preferred Stock into Common Stock. See Note 1 of Notes to Financial Statements.

Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis should be read in conjunction with "Selected Financial Data" and the Company's financial statements and notes thereto included elsewhere in this Prospectus. The information in this Prospectus contains certain forward-looking statements that involve risks and uncertainties. The Company's actual results may differ materially from the results discussed in the forward-looking statements. Factors that might cause such a difference include, but are not limited to, those discussed in "Risk Factors", "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Business" as well as those discussed elsewhere in this Prospectus.

Overview

CIENA was incorporated in November 1992. From incorporation through April 1994, the Company's principal objective was to secure sufficient equity financing to enable the Company to commence product development efforts based on its optical communications technology. The Company secured its initial round of equity financing in April 1994.

The engineering design and development efforts begun in April 1994 took on greater product focus in early 1995 as the Company began working with Sprint to refine the Company's design of its DWDM system to meet Sprint's requirements. Satisfactory preliminary laboratory testing at Sprint in October 1995 led to the execution of a three-year non-exclusive supply agreement in December 1995. The agreement called for factory acceptance testing, followed by field testing, prior to any obligation of Sprint to pay for any systems. The Company passed the factory acceptance testing in April 1996, and shipped commercially deployable systems for field testing in May 1996. Field testing was satisfactorily passed in July 1996, and live traffic began being carried over the Company's MultiWave 1600 system in October 1996. The Company made initial contact with WorldCom in February 1995 and WorldCom agreed in July 1996 to commence field testing of the MultiWave 1600 system in August 1996. A supply agreement with WorldCom, which, subject to certain conditions, is exclusive through December 1997, was signed in September 1996. The Company also has shipped a MultiWave 1600 system for Teleway's network in Japan.

The Company recognizes product revenue in accordance with the shipping terms specified. For transactions where the Company has yet to obtain customer acceptance or has agreements pertaining to installation services, revenue is deferred until no significant obligations remain. Revenue for installation services is recognized as the services are performed. Amounts received in excess of revenue recognized are recorded as deferred revenue. For distributor sales where risks of ownership have not transferred, the Company recognizes revenue when the product is shipped through to the end user. The Company's initial recognition of revenue from Sprint occurred in the quarter ended July 31, 1996, after notification by Sprint of satisfactory completion of field testing. All of the Company's revenue of $54.8 million through October 31, 1996 was derived from MultiWave 1600 system sales to Sprint.

The Company is currently engaged in continued efforts to expand its manufacturing capabilities. Approximately one-third of the Company's current 50,500 square foot facility in Savage, Maryland is used for manufacturing operations; the Company intends to convert the entire facility to manufacturing operations by April 30, 1997, while transferring other operating functions to an approximately 96,000 square foot facility, approximately 10 miles from Savage, near the Baltimore/Washington International Airport.

Results of Operations

Fiscal Years Ended 1994, 1995 and 1996

For the fiscal years ended October 31, 1994 and 1995, the Company was in the development stage, generated no revenue and had losses from operations of $2.4 million and $7.7 million, respectively. By the end of fiscal year 1995, the Company had begun to devote substantial resources to the development of manufacturing capabilities and the expansion of its selling and marketing efforts and general and administrative support infrastructure. The level of expenditures increased toward the end of fiscal 1996, as increased demand for the Company's MultiWave 1600 system required rapid

expansion of manufacturing capabilities and of technical and field support staff. For the fiscal year ended October 31, 1996, the Company generated revenue of $54.8 million, had gross profit of $33.0 million and incurred operating expenses of $16.6 million.

Quarterly Results of Operations

The tables below set forth the operating results and percentage of revenue represented by certain items in the Company's statements of operations for each of the four quarters in the fiscal year ended October 31, 1996. This information is unaudited, but in the opinion of the Company reflects all adjustments (consisting only of normal recurring adjustments) that the Company considers necessary for a fair presentation of such information in accordance with generally accepted accounting principles. The results for any quarter are not necessarily indicative of results for any future period. Operating results as a percentage of revenue for the quarters ended January 31 and April 30, 1996 are excluded due to the absence of revenue for those periods:

	FISCAL QUARTER ENDED			
	JAN. 31, 1996	APR. 30, 1996	JUL. 31, 1996	OCT. 31, 1996
	(IN THOUSANDS, EXCEPT PER SHARE DATA)			
Revenue	$ --	$ --	$ 16,923	$ 37,915
Cost of goods sold	--	--	7,346	14,498
Gross profit	--	--	9,577	23,417
Operating expenses:				
Research and development	2,473	1,746	1,964	2,739
Selling and marketing	491	700	1,130	1,459
General and administrative	499	526	1,064	1,816
Total operating expenses	3,463	2,972	4,158	6,014
Income (loss) from operations	(3,463)	(2,972)	5,419	17,403
Other income (expense), net	129	237	75	140
Income (loss) before income taxes	(3,334)	(2,735)	5,494	17,543
Provision (benefit) for income taxes	--	--	(4,600)	6,850
Net income (loss)	$ (3,334)	$ (2,735)	$ 10,094	$ 10,693
Pro forma net income (loss) per common and common equivalent share	$ (.03)	$ (.03)	$ .10	$ .11
Pro forma weighted average common and common equivalent shares outstanding	99,107	99,107	99,107	99,107

	FISCAL QUARTER ENDED		
	JAN. 31,	APR. 30,	JUL. 31,

	OCT. 31, 1996	1996	1996	1996
		(AS A PERCENTAGE OF REVENUE)		
Revenue	--	--	100.0%	100.0%
Cost of goods sold	--	--	43.4	38.2
Gross profit	--	--	56.6	61.8
Operating expenses:				
Research and development	--	--	11.6	7.2
Selling and marketing	--	--	6.7	3.8
General and administrative	--	--	6.3	4.8
Total operating expenses	--	--	24.6	15.8
Income (loss) from operations	--	--	32.0	46.0
Other income (expense), net	--	--	0.4	0.3
Income (loss) before income taxes	--	--	32.4	46.3
Provision (benefit) for income taxes	--	--	(27.2)	18.1
Net income (loss)	--	--	59.6%	28.2%

Three Months Ended January 31, 1996, April 30, 1996, July 31, 1996 and October 31, 1996

REVENUE. The Company began shipping the MultiWave 1600 system for field testing in May 1996 with customer acceptance by Sprint occurring in July 1996. Revenue totalled $16.9 million for the quarter ended July 31, 1996. Revenue for the quarter ended October 31, 1996 increased 124% over the previous quarter to $37.9 million. The increase in revenue from quarter to quarter was due to the increased sales to Sprint influenced by increases in the Company's manufacturing capacity and customer confidence. While the Company achieved quarter to quarter revenue growth of 124% from the third to fourth quarters of fiscal 1996, the Company does not expect to sustain this rate of sequential quarterly revenue growth in future periods. See "Risk Factors".

GROSS PROFIT. Cost of goods sold consists of component costs, direct compensation costs, warranty and other contractual obligations, royalties, license fees and overhead related to the Company's manufacturing operations. Gross margins were 56.6% and 61.8% for the quarters ended July 31, 1996 and October 31, 1996, respectively. The increase in gross margin was affected by fixed overhead costs being allocated over a larger revenue base and an improvement in manufacturing efficiencies. The Company's gross margins in the future may be affected by a number of factors, including competitive market pricing, manufacturing volumes and efficiencies and fluctuations in component costs. The Company's future gross margins may also be affected by the mix of product features and configurations sold in a period as well as the extent of services provided.

RESEARCH AND DEVELOPMENT EXPENSES. Research and development expenses consist of compensation costs for research and development staff, depreciation of test equipment, certain software development costs and prototype materials. Research and development expenses fluctuated from $2.5 million for the quarter ended January 31, 1996 to $1.7 million, $2.0 million and $2.7 million for the quarters ended April 30, July 31 and October 31, 1996, respectively. First quarter activity was attributable in part to selecting materials and equipment while building prototype systems which in turn supported the development activities for the second and third quarters. The fourth quarter development expenditures of $2.7 million, which were significantly greater in absolute dollars than the previous two quarters, were related to increased staffing levels, outside consulting services and the purchase of prototype materials for the development of the optical add/drop multiplexer. During the third and fourth quarters, research and development expenses were 11.6% and 7.2% of revenue, respectively. The decrease in research and development expenses as a percentage of revenue from quarter to quarter was a function of the rapid revenue growth. The Company expects that its research and development expenditures will generally continue to increase in absolute dollars during fiscal 1997 to support the continued development of new MultiWave features and products and develop possible product cost reductions. The Company has expensed research and development costs as incurred.

SELLING AND MARKETING EXPENSES. Selling and marketing expenses consist of compensation costs for selling and marketing staff, certain pre-sales and post-sales support, travel expenses, trade shows and other marketing programs. Selling and marketing expenses increased from quarter to quarter during fiscal year 1996. The costs incurred were $0.5 million, $0.7 million, $1.1 million and $1.5 million for the quarters ended January 31, April 30, July 31, and October 31, 1996, respectively. The quarterly increases were primarily the result of increased payroll costs reflecting the hiring of new employees for sales, technical assistance and field support for the Company's customers. Other factors contributing to the increases in the third and fourth quarters included commissions earned and trade show participation. During the third and fourth quarters, selling and marketing expenses were 6.7% and 3.8% of revenue, respectively. The decrease in selling and marketing expenses as a percentage of revenue was a function of the rapid revenue growth. The Company anticipates that its selling and marketing expenses will increase in absolute dollars during fiscal 1997 as additional personnel are hired and offices are opened to allow the Company to pursue new market opportunities and service new customers.

GENERAL AND ADMINISTRATIVE EXPENSES. General and administrative expenses consist principally of expenses for finance, administration and general management activities. The expenses totalled $0.5 million, $0.5 million, $1.1 million and $1.8 million for the quarters ended January 31, April 30, July 31, and October 31, 1996, respectively. The increases in general and administrative expenses in the third and fourth quarters compared to the first and second quarters were primarily due to increased staffing. The Company also incurred significant legal expenses in the fourth quarter of 1996 in connection with certain litigation. The Company believes that its general and administrative expenses will increase in fiscal 1997 as a result of the expansion of the Company's administrative staff required to support its expanding operations and an increase in expenses associated with operating as a public company.

OTHER INCOME (EXPENSE), NET. Other income (expense), net, consists of interest income earned on the Company's cash and cash equivalents, net of interest expense associated with the Company's debt obligations. The Company believes that other income (expense), net, will fluctuate from quarter to quarter primarily depending upon the level of the Company's cash balances, funding required for daily operations and the retirement of its debt obligations. The Company believes that other income will increase in absolute dollars in fiscal 1997 as a result of the investment of the net proceeds of the Offerings.

PROVISION (BENEFIT) FOR INCOME TAXES. During fiscal years 1993 through 1995 and the first two quarters of fiscal 1996, a valuation allowance had been recorded to offset the Company's net deferred tax assets, including the possible future benefit from realization of tax operating loss carryforwards. The recording of such valuation allowance was based upon management's determination that realization of the net deferred tax assets was not "more likely than not" (as defined in Statement of Financial Accounting Standards No. 109, "Accounting for Income Taxes"). During the third quarter of 1996, the Company received product acceptance from its initial customer and started profitable operations, at which time the Company fully reversed its previously established deferred tax valuation allowance. The tax benefit of $4.6 million recorded in the third quarter reflects the impact of such reversal. See Note 10 of Notes to Financial Statements.

Liquidity and Capital Resources

Since inception, the Company has financed its operations and capital expenditures principally through the sale of Convertible Preferred Stock for proceeds totalling $40.6 million and capital lease financing totalling $4.1 million. At the end of fiscal 1996, the Company's principal source of liquidity was its cash of $22.6 million. In November 1996, the Company established an unsecured $15.0 million bank revolving line of credit. Borrowings under this line bear interest at the bank's prime rate. As of November 30, 1996, there were no borrowings outstanding under the line of credit. The line of credit expires in November 1997 and requires that the Company maintain certain financial ratios and minimum profitability and tangible net worth. See Note 6 of Notes to Financial Statements.

Capital equipment expenditures from inception through October 31, 1996 totalled $11.7 million. These expenditures were primarily for test, manufacturing and computer equipment. The Company expects additional capital equipment expenditures to be made during fiscal 1997 to support selling and marketing, manufacturing and product development activities. In addition, since its inception the Company has used $2.4 million for the construction of leasehold improvements and expects to use an additional $5.0 million of capital in the construction of leasehold improvements for its new facility and the conversion to full manufacturing of its current facility during fiscal 1997.

The Company believes that the proceeds from the Offerings, combined with its existing cash balance, its line of credit and the cash flows expected from future operations, will be sufficient to meet the Company's capital requirements for at least the next 18 to 24 months.

Business

Overview

CIENA designs, manufactures and sells DWDM systems for long distance fiberoptic telecommunications networks. CIENA's DWDM solution, the MultiWave 1600 system, alleviates capacity, or bandwidth, constraints in high traffic fiberoptic routes without requiring the installation of new fiber. In addition, the MultiWave 1600 system enables flexible provisioning of additional bandwidth without requiring an upgrade of existing network transmission equipment. The MultiWave 1600 system can increase the carrying capacity of a single optical fiber 16 fold by allowing simultaneous transmission of up to 16 optical channels per fiber. This permits fiber currently carrying signals at transmission speeds of up to 2.5 Gb/s to carry up to 40 Gb/s. CIENA's MultiWave 1600 system includes optical transmission terminals, optical amplifiers and network management software. CIENA's system is designed with an open architecture that allows the MultiWave 1600 system to interoperate with carriers' existing fiberoptic transmission systems having a broad range of transmission speeds and signal formats.

The Company believes it is a worldwide market leader in field deployment of open architecture DWDM systems. CIENA's MultiWave 1600 system was introduced into field trials in the long distance network of Sprint in May 1996 and WorldCom in August 1996. The MultiWave 1600 system began carrying live traffic in the Sprint network in October 1996. The Company has a three-year non-exclusive supply agreement with Sprint which expires in December 1998, a supply agreement with WorldCom which, subject to certain conditions, is exclusive through December 1997 and an agreement to supply Teleway with the Company's MultiWave 1600 system. Through October 31, 1996, the Company recorded $54.8 million in revenue, all of which was derived from sales of the MultiWave 1600 system to Sprint. The Company is actively seeking additional customers among other long distance carriers in the worldwide telecommunications market.

Industry Background

The four largest long distance carriers in the United States, AT&T Corporation ("AT&T"), MCI Communications Inc. ("MCI"), Sprint and WorldCom, have widely deployed fiberoptic cable forming the backbone of their long distance networks. Growth in utilization of long distance networks has increased both the type of traffic -- from voice alone to voice, data and video -- and the volume of traffic carried over these fiberoptic networks. This growth in utilization has been caused by factors such as:

- increased use of office automation, distributed computing, electronic mail, facsimile transmission, electronic transaction processing, video conferencing, remote access telecommuting, local and wide area networking and the growing use of the Internet;

- widespread deregulation of the telecommunications industry and the consequent increase in competition among, and lowering of prices by, service providers in the long distance market; and - development of high bandwidth, network access technologies, such as cable modems, hybrid fiber coaxial architectures and digital subscriber lines, that permit users to transmit and receive high volumes of information.

Increased utilization creates transmission bottlenecks on heavily used routes that were originally designed for significantly less traffic. Although exact statistics are not available, the Company believes that this increase in type and volume of utilization has caused some long distance telecommunications carriers to handle traffic over certain long distance routes at or near the maximum capacity of the existing installed fiber and electronic-based transmission systems currently in use.

The growth in demand for, and the resulting strains on, capacity of the fiberoptic telecommunications networks have been coupled with an increasing need for network reliability to support mission critical data communications. As end-users become more dependent on around-the-clock network availability, they become less tolerant of service interruptions which can be caused by factors such as equipment failure, fiber cuts or high traffic volume.

This demand for greater reliability has led long distance carriers to adopt "ring architecture" in which long distance routes are linked in a ring configuration so that in the event of a fiberoptic cable cut or other equipment failure between two points of the ring, the signal can be immediately redirected through the reverse "protection path" of the ring. The service break associated with a fiber cut or other equipment failure in a network using ring architecture can be restored in approximately 50 milliseconds, which is essentially unnoticeable by the consumer. However, many ring architectures now being deployed demand twice as much fiber capacity (due to the need to maintain a redundant alternative path to serve as a protection path for each fiber in use) as non-ring based architectures. AT&T, Sprint and WorldCom have all announced an intention to implement ring architecture for their networks, which will place greater bandwidth demand on their existing fiberoptic networks.

The shortage of bandwidth available in existing fiberoptic networks can be addressed in several ways. One solution is to install additional fiberoptic cable along existing routes or in new fiberoptic routes. However, the installation of additional fiber, and particularly the creation of new fiberoptic routes, is a costly and time-consuming process, involving extensive negotiation and acquisition of necessary rights of way, as well as the actual construction effort. The Company believes that the average cost of creating new underground fiberoptic routes is approximately $43,400 per kilometer ($70,000 per mile). Another solution is to increase the transmission speed of the installed systems. However, this approach is also costly. Existing long distance telecommunications routes generally use TDM fiberoptic transmission terminals at either end of the route to send and receive signals. Opto-electronic signal regenerators ("regenerators") are then placed between terminals along the fiberoptic cables, spaced at regular intervals of 35-50 kilometers (approximately 22 to 31 miles). These regenerators process, amplify and re-time the signal through a process that involves conversion of the optical signal to electronic form and back to optical form. However, terminals and regenerators are "bit-rate specific," meaning upgrade of a route segment to handle higher transmission speeds requires replacement of all

terminals and regenerators. A large number of regenerators are needed on a route of significant length, and any upgrade of a route segment using TDM technology would require a significant investment in new equipment as well as significant installation costs.

Certain types of existing fiber have been shown to display incompatibility problems with very high speed TDM equipment. "Non-dispersion shifted" fiber constitutes the majority of fiber installed in North America and Europe, while "dispersion shifted" fiber has been popular in Japan. "Reduced dispersion" fiber is a recent development that is beginning to see applications in some new fiber installations. At lower transmission rates, such as 2.5 Gb/s, TDM-based equipment is technically viable for use with these fiber types and widely available commercially. As an upgrade to existing telecommunications links with transmission rates below 2.5 Gb/s, TDM at 2.5 Gb/s can represent an alternative incremental approach to the enhancement of transmission capacity. However, at the 10 Gb/s transmission rate, transmission over non-dispersion shifted fiber can result in significant impairments to and distortion of the signal.

CIENA and others have observed that the potential for an alternative technological solution to laying new fiber or upgrading capacity to higher electronic transmission rates exists because the bandwidth intrinsic to existing fiber is vastly underutilized. For example, transmission systems which use TDM and transmit at 2.5 Gb/s use substantially less than one percent of the inherent bandwidth of the fiber currently deployed in United States fiberoptic networks. An optical multiplexing technology called wavelength division multiplexing ("WDM") has long been recognized for its potential to better utilize fiber bandwidth by enabling the simultaneous transmission of multiple optical signals on discrete channels on a single fiber. Until recently, however, technological barriers have limited exploitation of the potential of WDM as a commercially viable solution. DWDM is an extension of WDM technology and refers to the simultaneous transmission of more than four channels on a single fiber.

The Ciena Solution

CIENA has deployed a DWDM system that enhances the transmission capacity of a single optical fiber 16 fold, without requiring significant modification or upgrade to transmission equipment. The MultiWave 1600 system includes terminals, optical amplifiers and network management software that enable simultaneous transmission of up to 16 optical channels on a single fiber at rates of up to 2.5 Gb/s per channel. The MultiWave 1600 system permits the transmission of optical signals over routes of up to 600 kilometers (372 miles) without opto-electronic regeneration. CIENA's implementation of DWDM technology incorporates the following features:

- OPEN ARCHITECTURE SYSTEM. CIENA's system is designed with an open architecture that allows the MultiWave 1600 system to interoperate with carriers' existing fiberoptic transmission systems having a broad range of transmission speeds and signal formats. This approach is distinguished from a closed architecture system design pursued by companies that manufacture other telecommunications equipment and may seek to preserve the market for their network equipment.

- MODULAR DESIGN. The MultiWave 1600 system design is modular and allows capacity-specific configurations and the ability to add additional capacity through a modular upgrade. This enables a customer to select the number of channels to use in a particular fiber and preserves the customer's ability to respond quickly to increased demand for capacity without significant additional equipment purchases.

- TACTICAL IMPLEMENTATION. CIENA's MultiWave 1600 system can be tactically implemented on a route-by-route basis, providing relief on capacity constrained routes without mandating a network-wide architectural or transmission equipment change. In the context of new network construction, the Company believes that its ability to permit 40 Gb/s capacity per fiber, together with the elimination of multiple regenerators, make the MultiWave 1600 system cost-efficient.

- SCALEABLE AMPLIFIERS. The Company's optical amplifiers, when installed to accommodate 16 channels, do not need to be changed as channels are added or as transmission speeds are increased to up to 2.5 Gb/s. Unlike a TDM upgrade solution which involves replacement of all transmission equipment along a fiber route, a channel upgrade of a CIENA MultiWave 1600 system involves no replacement of existing transmission equipment until all 16 channels are in service. Similarly, increases in transmission rates up to a maximum of 2.5 Gb/s do not require replacement of or modification to the optical amplifiers.

- MANAGEMENT SOFTWARE. CIENA's MultiWave 1600 system includes network management software enabling customers to receive early warnings of network problems and to manage and monitor network performance. The Company's commitment to providing standards compliant network management interfaces at all levels, from individual network elements to the element management system, affords rapid integration into existing telecommunication management operations. The Company provides standards compliant network management systems based upon Simple Network Management Protocol (SNMP), Transmission Control Protocol/Internet Protocol (TCP/IP) and the International Telecommunications Union (ITU) Telecommunications Management Network (TMN) standards.

- FIBER COMPATIBILITY. The CIENA MultiWave 1600 system is compatible with dispersion shifted, reduced dispersion and non-dispersion shifted fiber. Non-dispersion shifted fiber constitutes the majority of fiber installed in North America and Europe.

CIENA's MultiWave 1600 system is based upon the use of three core enabling technologies that assist in overcoming many of the constraints that limited commercial introduction of WDM technology: Erbium-doped fiber amplifiers enabling the direct amplification of optical signals without the use of electronic regenerators; in-fiber Bragg gratings enabling precise filtering of multiple optical signals in a single fiber; and network management software developed by the Company permitting a customer to manage effectively the status and functions of the CIENA MultiWave 1600 system in conjunction with the network operator's management of other parts of its network.

Ciena's Strategy

The Company's strategy is to maintain and build upon its market leadership in the deployment of DWDM systems. Important elements of the Company's strategy include:

- MAINTAIN LEADERSHIP IN DEPLOYMENT OF DWDM IN LONG DISTANCE NETWORKS. The Company believes that the technological, operational and cost benefits of the Company's DWDM systems create competitive advantages for long distance telecommunications carriers worldwide. The Company also believes that achieving early widespread operational deployment of its systems in a particular carrier's network will provide CIENA significant competitive advantages with respect to additional DWDM deployments and channel upgrades within that network and will enhance its marketing to other carriers as a field proven supplier. The Company therefore intends to continue aggressively pursuing DWDM deployment opportunities among long distance carriers in the domestic and foreign long distance markets. The Company will focus its MultiWave product development efforts on expanding the current 16 channel capacity of the MultiWave 1600 system to 40 channels while adding operational features designed to make MultiWave products as attractive and flexible as possible to long distance telecommunications carriers.

- CONTINUE TO EMPHASIZE TECHNICAL SUPPORT AND CUSTOMER SERVICE. The Company markets a technically advanced system to sophisticated customers. The nature of the Company's system and market require a high level of technical support and customer service. The Company expects to have full-time customer support offices in Kansas City, Kansas (to support Sprint), Tulsa, Oklahoma (to support WorldCom) and other selected locations where it develops significant customer relationships, to provide on-going support to its customers.

- CONTINUE TO DEVELOP WORLD CLASS MANUFACTURING CAPABILITY. The Company's system serves a mission critical role in its customers' networks. Quality assurance and manufacturing excellence are necessary for the Company to achieve success. CIENA believes it has developed and will continue to enhance a world class manufacturing capability. The Company invested $5.9 million in capital improvements in fiscal 1996 and hired 125 employees in that year to increase manufacturing capacity and efficiency and improve manufacturing quality. The Company is working actively to achieve ISO 9001 certification.

- EXPAND SALES AND MARKETING EFFORTS. The nature of the target customer base for MultiWave 1600 systems requires a focused sales effort on a customer-by-customer basis. The Company will continue to increase its sales and marketing efforts by focusing on the worldwide market of long distance carriers. In fiscal 1996, the Company increased its sales and marketing force by 12 persons. The Company will continue to strengthen its marketing programs and increase its international presence through both direct sales and international distributors.

- LEVERAGE CORE COMPETENCIES IN FIBEROPTIC COMMUNICATIONS. The Company expects to leverage the core competencies it has developed in the design, development, manufacturing and commercial introduction of the MultiWave 1600 system by exploring other areas in the

telecommunications market where these competencies can be used to solve related problems. This may take the form of new product development or may involve strategic alliances or acquisitions.

Network Architecture

A CIENA MultiWave 1600 system is a combination of equipment and software that is installed on a particular long distance route segment. A MultiWave 1600 system consists of one MultiWave terminal on each end of the route segment, one or more MultiWave optical amplifiers along the route (depending on route length) and CIENA's WaveWatcher network management software. The diagram below depicts an operating configuration of a deployed MultiWave 1600 system in a four-fiber ring architecture network configuration:

[This diagram shows an outline of the United States with a four-fiber ring architecture network configuration. Depicted within the four-fiber ring architecture is a MultiWave 1600 system.]

The MultiWave terminal at one end of the route multiplexes the customer's optical signals into as many as 16 discrete optical channels and transmits those channels simultaneously on the outbound fiber of the fiber pair. A MultiWave terminal at the other end of the route demultiplexes the inbound multichannel signal into 16 individual signals that are directed to the customer's receivers. Optical amplifiers placed along the route provide optical amplification of the composite multichannel signal over long route lengths. The Company's WaveWatcher software provides continuous network management capability by monitoring system functions.

The diagram below compares (i) traditional transmission equipment configuration for a high traffic (16 signal) long distance route of 600 kilometers (372 miles), using TDM transmission terminals and regenerators with (ii) the same high traffic (16 signal) long distance route configured with a MultiWave 1600 system.

[This diagram consists of two figures. The first figure shows a traditional TDM route configuration with fiberoptic transmission terminals at both ends of a 16-fiber pair route with 272 regenerators. The second figures shows the same route with the MultiWave 1600 system.]

In the TDM configuration above, 16 fiber pairs, and a total of 272 regenerators, are needed to transport 16 channels over the route. Each regenerator converts the channels from optical to electrical and back to optical format at 35-50 kilometer (22 to 31 mile) intervals. In order to upgrade the transmission capacity of the typical TDM network route, as shown forth above, using traditional TDM technology, all the fiberoptic transmission terminals and all 272 regenerators would need to be replaced. This process entails significant equipment costs, requires rerouting of transmissions and can be time-consuming and, potentially, an operational bottleneck. While the TDM configuration above is typical, the actual number of regenerators may be less than depicted above.

By contrast, as shown above, the same high traffic (16 signal) long-distance route can be configured with a MultiWave 1600 system. The 272 regenerators are replaced with four MultiWave optical amplifiers and only one fiber pair is required for transmission of 16 signals. As a result, 15 of the 16

fiber pairs that were previously used are freed for future use. The maintenance costs associated with the 272 regenerators are eliminated and replaced by the lower maintenance costs of four optical amplifiers. Because each regenerator must be housed in a weather-protected, environmentally controlled shelter, elimination of regenerator sites may also significantly lower operational costs. Increasing the availability of a number of fiber pairs is especially significant to carriers that have implemented or are planning to implement ring architectures and those providing leased transmission capacity to other operators.

The Multiwave 1600 System

A MultiWave 1600 system is installed in a discrete route segment defined at each end by the presence of the customer's fiberoptic transmission terminals. The MultiWave 1600 system features an open architecture which interoperates with a broad range of models of fiberoptic transmission terminals. The MultiWave 1600 system can be flexibly configured based on the customer's capacity needs with up to 16 channels, and the initial channel configuration, if less than 16 channels, can be supplemented whenever additional capacity is needed. The modular design of the MultiWave 1600 system allows the network operator to add capacity without interrupting existing MultiWave traffic.

MULTIWAVE TERMINAL. The CIENA MultiWave terminal is a modular DWDM terminal which can multiplex and amplify signals from transmitters into 16 discrete optical channels for transmission over a pair of fibers to the other MultiWave terminal and demultiplex the received multichannel signal into 16 individual signals. The MultiWave terminal functions in the same manner over a broad range of transmission speeds, up to approximately 2.5 Gb/s per channel, and operates without material modifications to existing fiberoptic transmission systems. Each MultiWave terminal consists of up to two channel shelves (up to eight channels per shelf) and a common equipment shelf. The MultiWave terminal can transport over total route lengths of up to 600 kilometers (372 miles) at up to 2.5 Gb/s per channel without regeneration or impairment of the signal.

MULTIWAVE OPTICAL AMPLIFIER. The CIENA MultiWave optical amplifier is a modular Erbium-doped fiber amplifier that provides direct composite optical amplification of the 16 optical channels carried by the MultiWave 1600 system. A single MultiWave optical amplifier shelf is capable of amplifying the system's entire 40 Gb/s capacity (16 channels times approximately 2.5 Gb/s per channel). CIENA's MultiWave optical amplifiers take the place of the customer's existing regenerators on routes of up to 600 kilometers (372 miles), and can be spaced as much as 120 kilometers (74 miles) apart.

WAVEWATCHER NETWORK MANAGEMENT SYSTEM. WaveWatcher is the MultiWave 1600 system's integrated network management software package. The network element manager uses a separate out-of-band optical service channel to communicate network management information and provides a single view of multiple CIENA systems through graphical user interfaces and supported operating system interfaces. WaveWatcher has been designed to adhere to evolving open system standards for network management software and operates on a UNIX platform. WaveWatcher provides fault, performance, security and configuration management of optical networking systems.

The Company is also introducing an optical add/drop multiplexer to enable carriers to reroute traffic to different geographic areas without requiring extensive termination equipment. A network operator may optically remove up to four channels from the composite signal at a point along a fiber route where the optical add/drop multiplexer is installed. The installation of an additional optical add/drop multiplexer at a different point along that route would enable the network operator to reuse those channels. The optical add/drop multiplexer also will provide optical amplification for up to 16 channels.

A typical MultiWave 1600 system ranges in price from $500,000 to $1,500,000, depending on such factors as customer needs for number of channels, route length (which affects the number of optical amplifiers required), network management software configuration and other negotiated terms and conditions. As required, systems initially configured for less than 16 channels can be upgraded to carry up to 16 channels at additional cost.

Product Development

The Company expects the primary focus of its product development efforts will be in the further enhancement and refinement of the MultiWave 1600 system. The Company will focus its product development efforts on expanding the current 16 channel capacity of the MultiWave 1600 system to 40 channels while adding operational features designed to make the Company's products attractive to a wide range of network operators.

The Company has developed core competencies in DWDM technology through the design, development, manufacturing and commercial introduction of the MultiWave 1600 system. In the future, the Company intends to migrate its core competencies in this area to other segments of the telecommunications network. This migration may take the form of new product development or may involve strategic alliances or acquisitions.

As of October 31, 1996, there were 38 persons working in the Company's research and development area. The Company's research and development expenditures were $1.3 million, $6.4 million and $8.9 million for fiscal 1994, 1995 and 1996, respectively.

Customers

Sprint Relationship

In December 1995, the Company entered into a three-year supply agreement with Sprint, with the option for Sprint to extend the term of the agreement for an additional year. Prices for all equipment purchased by Sprint under the terms of the supply agreement are fixed for the initial three-year term but the prices charged to Sprint for any deliverable under the supply agreement will not at any time be higher than the Company's final net price to any "similarly situated customer". The supply agreement

does not obligate Sprint to make any minimum purchases from the Company. The agreement requires that the Company set up and maintain, at the Company's expense, certain test facilities for a period of 10 years.

The Company is obligated to provide software and equipment support until December 2005 and must maintain two years of backwards compatibility for any enhancements or upgrades to the software. The Company also warrants each deliverable provided by the Company for 60 months from the date of delivery, with Sprint having the right until December 2005 to purchase an unlimited number of one-year extensions of any or all warranties. Upgrades are provided at no cost to Sprint during the warranty or extended warranty periods. The supply agreement contains penalties for failure to respond to various types of system failures in a timely manner. The supply agreement with Sprint also provides Sprint with a license to use, modify and enhance the Company's source code under certain conditions.

Worldcom Relationship

In September 1996, the Company entered into a supply agreement with WorldCom. Pursuant to the terms of the supply agreement, upon the successful completion of the field test, the Company will be the exclusive supplier of DWDM systems for WorldCom through December 1997. The agreement does not require a minimum purchase commitment; if WorldCom, however, does not purchase a certain minimum amount of equipment, all prices for equipment purchased under the agreement increase. WorldCom may terminate all or any part of an outstanding purchase order upon the payment of a termination fee.

The Company has granted to WorldCom, pursuant to the supply agreement, a license to use certain software. The Company has also granted WorldCom the option to purchase the source code for certain software at any time during the term of the agreement for a one-time payment. If WorldCom exercises this option, the Company has no further obligation to provide support or maintenance services or to provide upgrades or enhancements with respect to this software.

Under product and pricing attachments currently in effect, the Company provides WorldCom with software upgrades at no charge for a period of 10 years from installation and provides a five-year warranty for products.

Teleway Relationship

The Company has entered into a two-year agreement with NISSHO Electronics Corporation ("NISSHO") to act as a distributor of the Company's MultiWave 1600 system in Japan. Through NISSHO, the Company has shipped a MultiWave 1600 system to Teleway.

Other Potential Customer Relationships

The Company is actively working to develop customer relationships with long distance carriers worldwide. The Company has contacted other long distance carriers and is responding to requests for proposals as well as engaging in direct sales efforts.

Under the Telecommunications Act of 1996, regional Bell operating companies ("RBOCs") are newly eligible to enter the long distance market once they have met certain requirements for opening their local markets to competition. The Company anticipates that one or more of the RBOCs will move into the long distance market, although the timing of that move is uncertain, and the question of how such a move will be implemented is unclear -- e.g., through the establishment of owned network facilities, through the purchase of long distance capacity from other long distance carriers, or through some combination of the two. In the deregulated market, utility companies are also known to be exploring the use of their existing rights of way to develop fiberoptic-based telecommunications networks, although it is not possible to predict the pace or scope of their efforts.

Internationally, the market for DWDM systems is still developing. The deregulation and competition which have characterized the United States long distance market are much less pronounced in most international markets, and the data communications applications which fuel the demand for high bandwidth transmission systems in the United States are not as widely used in international markets. The Company intends to concentrate its international sales and marketing efforts in countries or regions where there is competition among two or more long distance carriers, where there are significant bandwidth constraints and where there is significant potential for near term growth in telecommunications services.

Sales and Marketing

The Company has organized its resources for the separate but coordinated approach to United States customers and international customers. In the United States market, a sales team, comprised of an account manager, systems engineers and technical support and training personnel, is assigned responsibility for each customer account, and for the coordination and pursuit of sales contacts. In the international market, the Company currently pursues prospective customers through direct sales efforts, as well as through distributors, independent marketing representatives and independent sales consultants. The Company has distributor or marketing representative arrangements covering Austria, Germany, Italy and Switzerland in Europe, and the Republic of Korea and Japan in Asia. The Company has additional representative support in the U.K., Belgium and Brazil. The Company intends to establish a direct sales presence in Europe and in Asia over the next 12 to 18 months.

The Company's MultiWave 1600 systems require a relatively large investment, and the Company's target customers in the long distance telecommunications market -- where network capacity and reliability are critical -- are highly demanding and technically sophisticated. There are only a small number of such customers in any country or geographic market. Also, every network operator has unique configuration requirements which impact the integration of DWDM systems with existing

transmission equipment. The convergence of these factors leads to a very long sales cycle for the MultiWave 1600 system, often more than a year between initial introduction to the Company and commitment to purchase, and has further led CIENA to pursue sales efforts on a focused, customer-by-customer basis.

In support of its worldwide selling efforts, the Company conducts marketing programs intended to position and promote its products within the telecommunications industry. Marketing personnel coordinate the Company's participation in trade shows and conduct media relations activities with trade and general business publications.

Competition

The market for increased bandwidth is highly competitive, and the Company expects the level of competition to increase in the future. In addition, competition in the telecommunications equipment industry generally is intense, particularly in that portion of the industry devoted to delivering higher and more cost effective bandwidth throughout the telecommunications network. However, the Company believes that its position as a leading supplier of open architecture DWDM systems and the field-tested design and technology of its product give it a current competitive advantage.

The competition faced by the Company is dominated by a small number of very large, usually multinational, vertically integrated companies, each of which has substantially greater financial, technical and marketing resources, and greater manufacturing capacity as well as more established customer relationships with long distance carriers than the Company. Included among the Company's competitors are Lucent, Nortel, Alcatel, NEC and Pirelli. Each of the Company's major competitors are believed to be in various stages of development, introduction or deployment of DWDM products directly competitive with the Company's MultiWave system. Pirelli, in particular, is known to have deployed open architecture WDM equipment and has announced the introduction of a 32-channel DWDM system. Lucent has an especially prominent role in the market because of its historical affiliation with AT&T. Lucent has announced it is supplying closed architecture DWDM system equipment to AT&T, and has announced an intention to introduce in the near future an open architecture DWDM system. Although Lucent's prior affiliation with AT&T may have inhibited its relationships as a supplier to other carriers, the spin-off of Lucent into a separate company may make it more attractive to potential customers as a supplier.

In addition to DWDM suppliers, traditional TDM-based transmission equipment suppliers compete with the Company in the market for transmission capacity. Lucent, Alcatel, Nortel, Fujitsu and NEC are already providers of a full complement of such equipment. These and other competitors have introduced or are expected to introduce equipment which will offer 10 Gb/s transmission capability, and MCI has recently announced limited deployment of such equipment. The viability of widescale deployment of 10 Gb/s TDM based equipment has yet to be demonstrated. Because of the transmission rate employed, the 10 Gb/s TDM equipment requires digital multiplexing circuits operating at microwave frequencies, which can lead to instability. This can complicate reproducibility, which may in turn result in delays in introduction and higher manufacturing costs. More significantly,

at the 10 Gb/s transmission rate, dispersion distortion effects in the fiber can result in significant impairments and limitations, particularly in transmission over non-dispersion shifted fiber, which comprises most of the installed fiber in current long distance networks in the United States. However, at lower rates, such as 2.5 Gb/s, TDM-based equipment is technically viable and widely available commercially, and, as an upgrade to existing lower transmission rate telecommunications links, can represent an alternative incremental approach to the enhancement of transmission capacity.

Additionally, while the Company believes the open architecture of its MultiWave 1600 system is attractive to some customers, certain of the Company's competitors are able to offer more extensive TDM-based product lines under closed architectures which may provide perceived network-wide cost and operating efficiencies not available from the Company. For example, Lucent, Alcatel, Nortel and NEC are already providers of a full complement of TDM terminals, switches and regenerators, and thereby seek to position themselves as vertically integrated, "one-stop shopping" solution providers to potential customers. The Company expects competition in general to intensify substantially over the next few quarters. The Company believes that competition is based on varying combinations of price, manufacturing capacity, timely delivery, system reliability and service commitment, installed customer base, as well as on the comprehensiveness of the system solution in meeting immediate network needs and foreseeable scaleability requirements. Further, in certain cases, competitors have offered the Company's target customers on an immediate delivery basis, off the shelf TDM transmission equipment at comparatively lower prices, with a promise to upgrade to DWDM or other improved equipment in the future. While the Company is ramping up its manufacturing capability as rapidly as it believes prudent, the Company is not currently able to offer MultiWave 1600 system delivery times of less than three to four months. The substantial system integration resources and manufacturing capability of the TDM competitors, in combination with any difference in timeliness of delivery, can be important to long distance network operators for whom a less significant increase in transmission capacity (as opposed to the 16-fold increase available through MultiWave) is acceptable. In addition, as and when these competitors are able to offer DWDM systems in combination with their own terminals, they can be expected to further emphasize the attractiveness of a one-stop shopping solution.

Manufacturing

The Company manufactures the in-fiber Bragg gratings and Erbium-doped fiber amplifiers used in the MultiWave 1600 system, and conducts all optical assembly, final assembly and final component, module and system test functions, at its manufacturing facility in Savage, Maryland. The Company has invested significantly in automated production capabilities and manufacturing process improvements and expects to further enhance its manufacturing process with additional production process control systems. However, certain critical functions, including aspects of fiber splicing, require a highly skilled manual work force, and the Company puts significant efforts into training and maintaining the quality of its manufacturing work force. The Company is also currently working towards obtaining an ISO 9001 certification, which it believes will be a further competitive strength.

Electronic board assemblies are currently subcontracted to third parties to enable the Company to concentrate on its core manufacturing competencies in gratings production and optical assembly capabilities. The Company has not experienced any significant delays or material unanticipated costs resulting from the use of subcontractors; however, such a strategy involves certain risks, including the potential absence of adequate capacity, the unavailability of or interruptions in access to certain process technologies, and reduced control over delivery schedules, manufacturing yields, quality and costs. In the event that any significant subcontractor were to become unable or unwilling to continue to manufacture and/or test the Company's assemblies in required volumes, the Company would have to identify and qualify acceptable replacements. This qualification process could also be lengthy and no assurance can be given that any additional sources would become available to the Company on a timely basis. A delay or reduction in component shipments, or a delay or increase in costs in the assembly and testing of products by third party subcontractors, could materially and adversely affect the Company's business, financial condition and results of operations.

The Company's MultiWave 1600 system utilizes in excess of 600 parts, many of which are customized for the Company. Component suppliers in the specialized, high technology end of the optical communications industry are generally not as plentiful or, in some cases, as reliable, as component suppliers in more mature industries. Certain key optical and electronic components used in the Company's MultiWave 1600 system are currently available only from sole sources. The Company has from time to time experienced minor delays in the receipt of these components, and any future difficulty in obtaining sufficient and timely delivery of them could result in delays or reductions in product shipments which, in turn, could have a material adverse effect on the Company's business, financial condition and results of operations. While alternative suppliers have been identified for certain other key optical and electronic components, those alternative sources have not been qualified. The time and expense involved in qualifying each additional source are significant. Accordingly, the Company will for the near term continue to be dependent on sole and single source suppliers of certain key components. See "Risk Factors -- Dependence on Suppliers" and "-- Competitors as Suppliers".

Patents and Other Intellectual Property Rights

The Company has licensed certain key enabling technologies with respect to the production of in-fiber Bragg gratings, utilized publicly available technology associated with Erbium-doped fiber amplifiers, and applied its design, engineering and manufacturing skills to develop its MultiWave 1600 system. The Company also licenses from third parties certain software components for its network management software. The Company has applied for trademark registration for Ciena, MultiWave and WaveWatcher. Opposition has been filed with the United States Patent and Trademark Office with respect to the Company's registration of WaveWatcher. The Company also relies on contractual rights, trade secrets and copyrights to establish and protect its proprietary rights in its products.

The Company intends to enforce vigorously its intellectual property rights if infringement or misappropriation occurs. However, the Company does not expect its proprietary rights in its technology will prevent competitors from developing technologies and equipment functionally similar

to the Company's.

The Company's practice is to require its employees and consultants to execute non-disclosure and proprietary rights agreements upon commencement of employment or consulting arrangements with the Company. These agreements acknowledge the Company's exclusive ownership of all intellectual property developed by the individual during the course of his work with the Company and require that all proprietary information disclosed to the individual will remain confidential.

As of December 4, 1996, the Company had received seven United States patents, had received notice of allowance of two more, and had 16 pending patent applications. The issued patents relate to (i) an optical monitoring channel for WDM systems capable of surviving failure of an optical amplifier, (ii) an in-fiber Bragg grating system for optical cable television systems that allows the network operator to remove and insert different optical frequencies and switch video signals on demand, (iii) a WDM optical communication system with remodulators to carry multiple optical signals of different wavelengths simultaneously, (iv) a WDM system that can be expanded with additional optical signals, (v) an optical system which uses optical amplifiers with flattened gain curves, (vi) a method for removing and inserting optical carriers in a WDM system and (vii) an optical system with tunable in-fiber gratings. Allowed patent applications relate to other aspects of in-fiber Bragg gratings technology and other aspects of WDM system design. In addition, the Company holds a non-exclusive license from General Instrument Corporation of Delaware for a portfolio of 32 United States and foreign patents relating to optical communications, primarily for video-on-demand applications. See "Risk Factors -- Proprietary Rights".

Employees

As of October 31, 1996, the Company employed 225 persons, of whom 38 were primarily engaged in research and development activities, 135 in manufacturing, 20 in sales, marketing, customer support and related activities and 32 in administration. None of the Company's employees are currently represented by a labor union. The Company considers its relations with its employees to be good.

Facilities

The Company's principal executive offices, manufacturing and research and development facilities are all located in Savage, Maryland and consist of approximately 50,500 square feet under a lease that will expire in December 2001, absent exercise of a renewal option for an additional five years. The base rent averages approximately $35,775 per month for the first six years. The Company signed a lease in October 1996 for a facility approximately 10 miles from Savage, near the Baltimore/Washington International Airport ("BWI"). This facility consists of approximately 96,000 square feet, and is expected to be suitable for occupancy by March 1997. Base rent is approximately $102,000 per month, with annual rate increases each of the ten years of the initial lease term, with a final year rate of approximately $126,000 per month. The Company intends to convert substantially all of its current

Savage, Maryland, facility into a manufacturing facility (manufacturing currently occupies approximately 19,000 of the 50,500 square feet at the Savage facility), and relocate the corporate, sales and marketing and product development functions to the BWI facility.

Legal Proceedings

Kevin Kimberlin and parties controlled by him (the "Kimberlin Parties") are owners of Common Stock, Series A, Series B and Series C Preferred Stock and certain warrants to purchase Series B Preferred Stock. On November 20, 1996, the Kimberlin Parties filed suit in U.S. District Court for the Southern District of New York against the Company, and certain directors of the Company, alleging that the Kimberlin Parties were entitled to purchase additional shares of Series C Preferred Stock at the time of the closing of the Series C Preferred Stock financing, but were denied that opportunity by the defendants. The lawsuit alleges that certain rights of first refusal existing under the Series B Preferred Stock Purchase Agreement entitled the Kimberlin Parties to purchase more shares of Series C Preferred Stock than were in fact purchased by them at the time of the closing of the Series C financing in December 1995. The lawsuit claims breach of contract, breach of fiduciary duty and violation of Securities and Exchange Commission Rule 10b-5 by the defendants. The Kimberlin Parties seek to recover unspecified actual and punitive damages.

The number of shares to be purchased by each party to the Series C Preferred Stock financing was communicated in writing to the Kimberlin Parties in December 1995 prior to the Series C closing. Further, as permitted under the Series B Preferred Stock Purchase Agreement, the Series C Preferred Stock Purchase Agreement expressly stated that all rights of first refusal referred to in the lawsuit were waived. The required number of Series B investors, including the Kimberlin Parties, signed the Series C Preferred Stock Purchase Agreement containing that waiver. In July 1996, the Kimberlin Parties reaffirmed to the Company in writing that their beneficial ownership of shares did not include any shares which they have subsequently claimed in the lawsuit they were entitled to purchase. The Company believes that the Kimberlin Parties' claims, brought as the Offerings were being prepared, are without merit and intends to defend itself vigorously.

The Company is not currently a party to any other legal proceedings.

Management

Directors and Executive Officers

The table below sets forth certain information concerning each of the directors and executive officers of the Company:

Name Age Position

Patrick H. Nettles, Ph.D.	53	President, Chief Executive Officer and Director
David R. Huber, Ph.D.	46	Senior Vice President, Chief Scientist and Director
Steve W. Chaddick.....	45	Senior Vice President, Products and Technologies
Lawrence P. Huang.....	45	Senior Vice President, Sales and Marketing
Stephen B. Alexander.....	37	Vice President, Transport Products
Joseph R. Chinnici.....	42	Vice President, Finance and Chief Financial Officer
Mark Cummings.....	45	Vice President, Operations
W. Michael Fagen.....	41	Vice President, Business Development
G. Eric Georgatos.....	41	Vice President, General Counsel and Secretary
Jesus Leon.....	52	Vice President, Access Products
Rebecca K. Seidman.....	50	Vice President, Human Resources Development
Jon W. Bayless, Ph.D.(1)(2).....	56	Chairman of the Board of Directors
Harvey B. Cash.....	58	Director
Clifford W. Higgerson(2).....	57	Director
Billy B. Oliver(1).....	71	Director
Michael J. Zak(1)(2).....	43	Director

(1) Member of the Compensation Committee (2) Member of the Audit Committee PATRICK H. NETTLES, PH.D., has served as Chief Executive Officer of the Company since February 1994, as President and Chief Executive Officer since April 1994 and as Director since February 1994. From 1992 until 1994, Dr. Nettles served as Executive Vice President and Chief Operating Officer of Blyth Holdings Inc., a publicly-held supplier of client/server software. From late 1990 through 1992, Dr. Nettles was President and Chief Executive Officer of Protocol Engines Inc., a development stage enterprise, formed as an outgrowth of Silicon Graphics Inc., and targeted toward very large scale integration based solutions for high-performance computer networking. From 1989 to 1992, Dr. Nettles was Chief Financial Officer of Optilink, a venture start-up which was acquired by DSC Communications. Dr. Nettles received his B.S. degree from the Georgia Institute of Technology and his Ph.D. from the California Institute of Technology.

DAVID R. HUBER, PH.D., founded the Company in November 1992, served as President from November 1992 until April 1994 and has served as Director since November 1992. From April 1994 until September 1996 he served as Vice President and Chief Technical Officer. Dr. Huber has served as Senior Vice President and Chief Scientist since September 1996. From 1989 through 1992, Dr. Huber managed the Lightwave Research and Development Program for the Jerrold Communications Division of General Instruments. Dr. Huber holds a B.S. degree in physics from Eastern Oregon State College and a Ph.D. degree in electrical engineering from Brigham Young University.

STEVE W. CHADDICK has served as Senior Vice President, Products and Technologies since September 1996, and was previously Vice President of Product Development for the Company since joining it in 1994. Prior to joining the Company, Mr. Chaddick was Vice President of Engineering at AT&T Tridom, a company he co-founded in 1983 and which was acquired by AT&T in 1988. AT&T Tridom focused on the development of very small aperture satellite terminal systems. Mr. Chaddick was responsible for all product development at AT&T Tridom, including hardware, embedded systems software and network management software. Mr. Chaddick received both his B.S. and M.S. degrees in electrical engineering from the Georgia Institute of Technology.

LAWRENCE P. HUANG has served as Senior Vice President, Sales and Marketing of the Company since November 1996 and served as Vice President, Sales and Marketing of the Company since joining it in April 1994. Prior to joining CIENA, Mr. Huang was Vice President/General Manager and Vice President of Sales and Marketing of AT&T Tridom, which he co-founded with Mr. Chaddick in 1983. Mr. Huang holds a B.S. in industrial management from the Georgia Institute of Technology and an M.B.A. from Georgia State University.

STEPHEN B. ALEXANDER has served as Vice President, Transport Products since September 1996, and was previously Director of Lightwave Systems at the Company since joining it in 1994. From 1982 until joining the Company, he was employed at MIT Lincoln Laboratory, where he last held the position of Assistant Leader of the Optical Communications Technology Group. Mr. Alexander is an Associate Editor for the Journal of Lightwave Technology and a General Chair of the conference on Optical Fiber Communication (OFC) for 1997. He is author of the tutorial text Optical Communication Receiver Design. Mr. Alexander received both his B.S. and M.S. degrees in electrical engineering from the Georgia Institute of Technology.

JOSEPH R. CHINNICI joined the Company in February 1994 as Controller, and became Vice President, Finance and Chief Financial Officer in May 1995. From 1993 through 1994, Mr. Chinnici served as a financial consultant for Halston Borghese Inc. From 1977 to 1993, Mr. Chinnici held a variety of accounting and finance assignments for Playtex Apparel Inc. (now a division of Sara Lee Corporation), ending this period as Director of Operations Accounting and Financial Analysis. Mr. Chinnici holds a B.S. in accounting from Villanova University and an M.B.A. from Southern Illinois University.

MARK CUMMINGS joined the Company in May 1996 as Vice President, Manufacturing and was promoted to Vice President, Operations in September 1996. From 1985 to 1996, Mr. Cummings was Vice President, Operations for Cray Communications, Inc., an international manufacturer of communications equipment. From 1975 to 1985, Mr. Cummings was Manager of Manufacturing Engineering at Taylor Instruments, and from 1973 to 1975, an Industrial Engineer at Siemens Stromberg Carlson Inc. Mr. Cummings holds a B.S. in electronic technology from the State University of New York at Buffalo, and is currently in the Masters program in advanced manufacturing systems at the University of Maryland.

W. MICHAEL FAGEN has served as Vice President, Business Development of the Company since joining it in October 1995. From 1991 through 1995, Mr. Fagen pursued advanced degree studies in international relations at George Washington University, Washington, D.C. and Universidad Para la Paz, San Jose, Costa Rica. Prior to 1991, Mr. Fagen served as Director of Sales for Telebit Corporation; Director of Marketing and Strategic Account Development for Vitalink Communications Corporation; National Account Manager for AT&T/Southern Bell; and Marketing Representative for Major Accounts at IBM Corp. Mr. Fagen holds a B.A. from The University of the South, an M.A. in international relations from La Universidad Para la Paz and a Ph.D. in political science (pending) from the George Washington University.

G. ERIC GEORGATOS has served as the Company's Vice President, General Counsel and Secretary since February 1996. From 1980 to 1995, Mr. Georgatos was an attorney and member of Gray Cary Ware & Friedenrich, a Professional Corporation, a law firm based in California, where he served as outside general corporate counsel for a variety of emerging companies. Mr. Georgatos holds a B.S. degree in business administration from the University of Southern California and a J.D. from the University of California Los Angeles.

JESUS LEON joined the Company in November 1996 as Vice President, Access Products. From December 1995 to October 1996, Mr. Leon served as Vice President, Engineering, for the Access Systems Division of Alcatel Standard Electrica, S.A. ("Alcatel Electrica"), a division of Alcatel Alsthom Group. Alcatel Electrica is a leading global supplier of telecommunications equipment. Mr. Leon led Alcatel Electrica's product development for all access products with responsibility for over 1,200 engineers in Europe, Australia and South Africa. Mr. Leon served in various positions with Alcatel Electrica from 1990-1991. Mr. Leon holds a B.S.E.E. and M.E. from the University of Florida, an A.B.D. (all but doctoral dissertation) from the Georgia Institute of Technology and an M.B.A. from Georgia State University.

REBECCA K. SEIDMAN joined the Company in April 1996 as Director of Human Resources Development, and was promoted to Vice President, Human Resources Development in June 1996. From 1984 until joining the Company, Ms. Seidman served consecutively as Director of Marketing, Vice President, Administration, and Principal of Walpert, Smullian & Blumenthal, P.A., a regional accounting and consulting firm. Ms. Seidman is a Phi Beta Kappa graduate of Goucher College and co-author of Total Quality Distribution, a book discussing practical applications of Total Quality in the wholesale distribution industry.

JON W. BAYLESS, PH.D. has been a Director of the Company since April 1994 and has served as Chairman of the Board of Directors since November 1996. Dr. Bayless is a general partner of various venture capital funds associated with Sevin Rosen Funds where, since 1981, he has focused on developing business opportunities in the fields of telecommunications and computers. Mr. Bayless is also the controlling stockholder and sole director of Jon W. Bayless, Inc., the general partner of Atlantic Partners L.P., which is the general partner of Citi Growth Fund L.P., a venture capital investment firm. Dr. Bayless currently serves as a director of 3DX Technologies Inc. and of several private companies. Dr. Bayless is also Chairman of the Board of Directors of Shared Resource Exchange, Inc. Shared Resource Exchange, Inc. filed for reorganization under Chapter 11 of the Federal Bankruptcy Code in August 1996. A plan under Chapter 11 has been approved. Dr. Bayless has held faculty positions at Southern Methodist University, Virginia Polytechnic Institute, and the Catholic University of America. He holds patents in the field of digital telecommunications, and is a senior member of the Institute of Electronic Engineers. Dr. Bayless earned his B.S. degree in electrical engineering at the University of Oklahoma. He earned his M.S. degree in electrical engineering at the University of Alabama, and his Ph.D. in electrical engineering at Arizona State University.

HARVEY B. CASH has been a Director of the Company since April 1994. Mr. Cash is a general partner of InterWest Partners, a venture capital firm in Menlo Park, California which he joined in 1985. Mr. Cash is Chairman of the Board of Cyrix Corporation and serves on the board of directors of ProNet, Inc., Benchmarq, Microelectronics, Heritage Media Corporation, AMX Corporation, i(2) Technologies Inc. and Aurora Electronics, Inc. He is also an advisor to Austin Ventures. Mr. Cash received a B.S. in electrical engineering from Texas A&M University and an M.B.A. from Western Michigan University.

CLIFFORD W. HIGGERSON has been a Director of the Company since April 1994. Mr. Higgerson has since 1991 been a general partner of Vanguard Venture Partners, a venture capital firm specializing in high technology start-ups, located in Palo Alto, California. Prior to joining Vanguard in July 1991, Mr. Higgerson was the managing partner of Communications Ventures, Inc. and prior to that was a Managing Partner of Hambrecht & Quist. Mr. Higgerson is also a director of Advanced Fibre Communications and Digital Microwave Corp. Mr. Higgerson earned his B.S. in electrical engineering from the University of Illinois and an M.B.A. in finance from the University of California at Berkeley.

BILLY B. OLIVER has been a Director of the Company since June 1996. Since his retirement in 1985 after nearly 40 years of services at AT&T, Mr. Oliver has worked as a self-employed communications consultant. During his last 15 years with AT&T, he held the position of Vice President, Engineering Planning and Design, where he was directly involved in and had significant responsibility for the evolution of AT&T's long distance network during that period. He was a co-recipient of the Alexander Graham Bell Medal for the conception and implementation of Nonhierarchical Routing in AT&T's network. Mr. Oliver is also a director of Digital Microwave Corp., Communications Network Enhancement Inc. and Enterprise Network Services Inc. Mr. Oliver earned his B.S.E.E. degree from North Carolina State University.

MICHAEL J. ZAK has been a Director of the Company since December 1994. He has been employed by Charles River Ventures of Boston, Massachusetts since 1991 and has been a general partner of Charles River Partnership VII and its related entities since 1993. From 1986 through 1991, he was a founder and corporate officer of Concord Communications, Inc., a manufacturer of data communications systems. He is a director of ON Technology Corporation as well as five other private companies. Mr. Zak has a B.S. degree in engineering from Cornell University and an M.B.A. from Harvard Business School.

Board of Directors

Upon the effective date of the Registration Statement of which this Prospectus is a part, the Board of Directors will be divided into three classes. Each class of Directors will consist of two or more Directors. At each annual meeting of stockholders following the Offerings, one class of Directors will be elected to a three-year term to succeed the Directors of the same class whose terms are then expiring. The Class I Directors, whose terms will expire at the 1997 annual meeting of stockholders, will be Dr. Nettles and Mr. Bayless, the Class II Directors, whose terms will expire at the 1998 annual meeting of stockholders, will be Messrs. Zak and Cash, and the Class III Directors, whose terms will

expire at the 1999 annual meeting of stockholders, will be Messrs. Oliver, Higgerson and Huber. See "Description of Capital Stock -- Delaware Law and Certain Provisions of the Third Amended and Restated Certificate of Incorporation".

Officers are elected by and serve at the discretion of the Board of Directors. There are no family relationships among the Directors or officers of the Company.

Committees of the Board of Directors

The Company has established an Audit Committee of non-employee Directors to make recommendations concerning the engagement of independent public accountants, review the plans and results of the audit engagement with the independent public accountants, review the independence of the independent public accountants, consider the range of audit and non-audit fees and review the adequacy of the Company's internal accounting controls. Dr. Bayless and Messrs. Zak and Higgerson are the members of the Audit Committee. The Company has established a Compensation Committee of non-employee Directors to determine compensation for the Company's executive officers and to administer the Company's Amended and Restated 1994 Stock Option Plan and the Management Incentive Compensation Plan. Dr. Bayless and Messrs. Oliver and Zak are the members of the Compensation Committee.

Compensation of Board of Directors

Members of the Board of Directors receive $2,500 for participation in each meeting of the full Board of Directors and $1,250 for each committee meeting and are reimbursed for out-of-pocket expenses incurred in connection with attendance at meetings. The Company has adopted the 1996 Outside Directors Stock Option Plan and, under such plan, non-employee Directors are eligible to receive stock options in consideration for their services. See "-- Stock Plans" and "-- 1996 Outside Directors Stock Option Plan".

Executive Compensation

The following summary compensation table sets forth the compensation paid by the Company during the fiscal year ended October 31, 1996 to the Company's chief executive officer and each of the Company's four other executive officers whose total compensation for services in all capacities to the Company exceeded $100,000 during such year (the "Named Executive Officers").

Summary Compensation Table

			LONG-TERM COMPENSATION
	ANNUAL COMPENSATION		SECURITIES

		ANNUAL COMPENSATION		UNDERLYING OPTIONS
	YEAR	SALARY	BONUS	
Patrick H. Nettles, Ph.D. ..... President and Chief Executive Officer	1996	$174,000	$154,000	875,000
David R. Huber, Ph.D. ..... Senior Vice President and Chief Scientist	1996	153,000	98,000	--
Steve W. Chaddick..... Senior Vice President, Products and Technologies	1996	132,000	87,000	312,500
Lawrence P. Huang..... Senior Vice President, Sales and Marketing	1996	132,000	87,000	312,500
Joseph R. Chinnici..... Vice President, Finance and Chief Financial Officer	1996	115,000	79,000	72,500

Option Grants

The following table provides information concerning grants of options to purchase the Company's Common Stock made during the fiscal year ended October 31, 1996 to each of the Named Executive Officers:

	OPTION GRANTS IN LAST FISCAL YEAR					
	NUMBER OF SECURITIES UNDERLYING OPTIONS GRANTED(1)	PERCENT OF TOTAL OPTIONS GRANTED TO EMPLOYEES IN FISCAL 1996	EXERCISE PRICE PER SHARE(2)	EXPIRATION DATE	POTENTIAL REALIZABLE VALUE AT ASSUMED ANNUAL RATES OF STOCK PRICE APPRECIATION FOR OPTION TERM(3)	
					5%	10%
Patrick H. Nettles, Ph.D.	875,000	15.1%	$2.30	6/21/06	$1,266,000	$3,207,000
David R. Huber, Ph.D.....	--	--	--	--	--	--
Steve W. Chaddick.....	312,500	5.4	2.30	6/21/06	452,000	1,146,000
Lawrence P. Huang.....	312,500	5.4	2.30	6/21/06	452,000	1,146,000
Joseph R. Chinnici.....	72,500	1.3	2.30	6/21/06	105,000	266,000

(1) All options are immediately exercisable at the date of grant, but shares purchased upon exercise of options are subject to repurchase by the Company based upon a scheduled vesting period.

(2) All options were granted at an exercise price equal to the fair market value of the Company's Common Stock as determined by the Board of Directors of the Company on the date of grant. The Company's Common Stock was not publicly traded at the time of the option grants.

(3) Potential realizable values are net of exercise price, but before taxes associated with exercise. Amounts represent hypothetical gains that could be achieved for the respective options if exercised at the end of the option term. The assumed 5% and 10% rates of stock price appreciation are provided in accordance with rules of the United States Securities and Exchange Commission and do not represent

the Company's estimate or projection of the future Common Stock price. Actual gains, if any, on stock option exercises are dependent on the future performance of the Common Stock, overall market conditions and the option holders' continued employment through the vesting period. This table does not take into account any appreciation in the price of the Common Stock from the date of grant to date. Assuming the fair market value of the Common Stock at the date of grant was the assumed initial public offering price of $18.00, the potential realizable value of these options (a) at a 5% assumed annual rate of stock price appreciation would be $23,643,000 for Dr. Nettles, $8,444,000 for Mr. Chaddick, $8,444,000 for Mr. Huang and $1,959,000 for Mr. Chinnici and (b) at a 10% assumed annual rate of stock price appreciation would be $38,839,000 for Dr. Nettles, $13,871,000 for Mr. Chaddick, $13,871,000 for Mr. Huang and $3,218,000 for Mr. Chinnici.

Aggregated Option Exercises in Last Fiscal and Fiscal Year-end Option Values

The following table provides the specified information concerning unexercised options held as of October 31, 1996 by the Named Executive Officers:

	NUMBER OF SECURITIES UNDERLYING UNEXERCISED OPTIONS AT OCTOBER 31, 1996(1)		VALUE OF UNEXERCISED IN-THE-MONEY OPTIONS AT OCTOBER 31, 1996(2)	
	EXERCISABLE	UNEXERCISABLE	EXERCISABLE	UNEXERCISABLE
Patrick H. Nettles, Ph.D.	875,000	--	$11,935,000	--
David R. Huber, Ph.D.	--	--	--	--
Steve W. Chaddick.....	1,312,500	--	20,180,000	--
Lawrence P. Huang.....	1,312,500	--	20,180,000	--
Joseph R. Chinnici.....	322,500	--	4,968,000	--

(1) All options are immediately exercisable at the date of grant, but shares purchased upon exercise of options are subject to repurchase by the Company based upon a scheduled vesting period. None of the shares underlying options held by Dr. Nettles are vested and 562,500, 578,125 and 113,540 of the shares underlying options held by Messrs. Chaddick, Huang and Chinnici, respectively, are vested.

(2) Calculated on the basis of the fair market value of the underlying securities as of October 31, 1996 of $15.94 per share, as determined by the Company's Board of Directors, less the aggregate exercise price. The value of vested in-the-money options held by Dr. Nettles is zero and the value of vested in-the-money options for Messrs. Chaddick, Huang and Chinnici is $8,954,000, $9,203,000 and $1,807,000, respectively.

No options to purchase the Company's Common Stock were exercised during the fiscal year ended October 31, 1996 by the Named Executive Officers.

No compensation intended to serve as incentive for performance to occur over a period longer than one fiscal year was paid pursuant to a long-term incentive plan during the last fiscal year to any of the Named Executive Officers.

Employment Agreements

In April 1994, the Company entered into employment agreements with each of Dr. Huber and Dr. Nettles. The employment agreements specify that Dr. Huber and Dr. Nettles are employees at will. In the event that either of them is terminated for cause, as defined in the employment agreements, he will receive a severance payment equal to his monthly base salary until the earlier of the expiration of six months or the commencement of employment with a person or entity other than the Company.

Management Incentive Compensation Plan

The Company has established a management incentive compensation plan (the "Incentive Plan") pursuant to which management and non-management employees are eligible to earn up to certain percentages of their base salary as additional compensation, based upon the achievement of quarterly and annual objectives. Under the Incentive Plan, the Chief Executive Officer of the Company may earn up to 50% of his base salary, and Vice Presidents generally may earn up to 35% of their base salaries, as additional compensation upon the achievement of certain Company-wide objectives. Department directors and key managers are eligible to earn up to 15% of their base salaries in additional compensation based on the achievement of objectives which are specific to their functional department. Managers and all other salaried employees are eligible to earn up to 7.5% of their base salaries in additional compensation based on the achievement of objectives which are specific to their functional department. The quarterly objectives are determined on a quarter by quarter basis by the Board of Directors in consultation with management, and address a wide variety of activities with all functional areas of the Company based on the evolving needs of the Company. Bonuses are payable quarterly and at year-end under the Incentive Plan. In addition to amounts paid under the Incentive Plan during fiscal year 1996, the Company paid additional bonuses to all employees in that year.

Stock Plans

Amended and Restated 1994 Stock Option Plan

A total of 20,050,000 shares of Common Stock are reserved for issuance under the Company's Amended and Restated 1994 Stock Option Plan (the "Option Plan"). At October 31, 1996, 259,345 shares of Common Stock subject to repurchase by the Company had been issued upon exercise of options, 364,150 shares of Common Stock not subject to repurchase had been issued upon exercise of options and 10,957,960 shares were subject to outstanding options at a weighted average exercise price of $.96. Options may be granted to employees (including officers), consultants, advisors and directors, although only employees and directors and officers who are also employees may receive "incentive stock options" intended to qualify for certain tax treatment. The exercise price of nonqualified stock options must equal at least 85% of the fair market value of the Common Stock as determined by the Board of Directors, and in the case of incentive stock options must be no less than the fair market value

of the Common Stock as determined by the Board of Directors. These options are immediately exercisable at the date of grant, but shares purchased upon exercise of options are subject to repurchase by the Company based upon a scheduled vesting period. Generally, shares underlying options vest over four years and options must be exercised within ten years. The Option Plan provides for accelerated vesting in the event of a change of control of the Company, provided the subject options have been outstanding for at least 335 days. Furthermore, in the event of a change in control, the surviving or acquiring company shall either assume the Company's rights and obligations under outstanding stock option agreements or substitute options for the acquiring corporation's stock for the outstanding options.

1996 Outside Directors Stock Option Plan

A total of 750,000 shares of Common Stock have been reserved for issuance under the 1996 Outside Directors Stock Option Plan (the "Directors Plan"). As of October 31, 1996, options to purchase 75,000 shares have been granted under the Directors Plan. The Directors Plan provides for the automatic granting of nonqualified stock options to Directors of the Company who are not employees of the Company (the "Outside Directors"). Under the Directors Plan, each current Outside Director will automatically be granted an option to purchase 25,000 shares of Common Stock on the date of each annual meeting of stockholders after the close of the Offerings, provided that the Outside Director continues to serve in such capacity. Additionally, each new Outside Director will automatically be granted an option to purchase 75,000 shares of Common Stock upon assuming the office of Director. The exercise price of the options in all cases will be equal to the fair market value of the Common Stock on the date of grant. Initial grants vest over a period of three years and annual grants vest in full on the first anniversary of the date of grant. Options generally must be exercised within ten years.

Compensation Committee Interlocks and Insider Participation

Dr. Bayless, Mr. Cash and Mr. Zak served during the fiscal year ended October 31, 1996 as members of the Compensation Committee of the Board of Directors. Dr. Bayless is an affiliate of Sevin Rosen Bayless Management Co., Sevin Rosen Fund IV L.P. and Sevin Rosen Fund V L.P. (collectively, the "Sevin Rosen Entities"), Mr. Cash is a general partner of InterWest Management Partners V, the general partner of InterWest Partners V, L.P., and of InterWest Investors V, L.P. (collectively, "InterWest"), and Mr. Zak is a general partner of the general partner of Charles River Partnership VII ("Charles River"). Although each of Sevin Rosen, InterWest and Charles River is a stockholder of the Company none of Mr. Cash, Mr. Zak or Dr. Bayless were at any time during the fiscal year ended October 31, 1996, or at any other time, an officer or employee of the Company. No member of the Compensation Committee of the Company serves as a member of the board of directors or compensation committee of any entity that has one or more executive officers serving as a member of the Company's Board of Directors or Compensation Committee. Mr. Cash is not a current member of the Compensation Committee. See "Certain Transactions".

Limitation of Liability and Indemnification

The Company's Certificate of Incorporation provides that a Director of the Company shall not be personally liable for monetary damages to the Company or its stockholders for a breach of fiduciary duty as a Director, except for liability as a result of (i) a breach of the Director's duty of loyalty to the Company or its stockholders, (ii) acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) an act related to the unlawful stock repurchase or payment of a dividend under Section 174 of Delaware General Corporation Law and (iv) transactions from which the Director derived an improper personal benefit. Such limitation of liability does not affect the availability of equitable remedies such as injunctive relief or rescission.

The Company's Certificate of Incorporation also authorizes the Company to indemnify its officers, Directors and other agents, to the full extent permitted under the Delaware General Corporation Law. The Company has entered into separate indemnification agreements with its directors and certain officers which may, in some cases, provide broader indemnification protection than the specific indemnification provisions contained in the Delaware General Corporation Law. The indemnification agreements require the Company, among other things, to indemnify such officers and Directors against certain liabilities that may arise by reason of their status or service as officers or Directors (other than liabilities arising from willful misconduct of a culpable nature), and to advance their expenses incurred as a result of any proceeding against them as to which they could be indemnified. In addition, these agreements extend similar indemnification arrangements to stockholders whose representatives serve as directors of the Company.

At present, except for the Kimberlin litigation referred to above under "Business -- Legal Proceedings," there is no pending litigation or proceeding involving a Director, officer, employee or agent of the Company where indemnification will be required or permitted. The Company is not aware of any threatened litigation or proceeding which may result in a claim for such indemnification. The Company expects to provide indemnification to its Directors named in the Kimberlin litigation.

Certain Transactions

Stock Sales

In April 1994, the Company issued and sold shares of Series A Preferred Stock at a purchase price of $1.00 per share, in December 1994, the Company issued and sold shares of Series B Preferred Stock at a purchase price of $1.50 per share and in December 1995, the Company issued and sold shares of Series C Preferred Stock at a purchase price of $7.00 per share. The shares of Series A, B and C Preferred Stock were initially convertible into one share of Common Stock, subject to adjustment. The Company effected a five-for-one stock split on December 9, 1996, and each share of Series A, B and C Preferred Stock will convert automatically into five shares of Common Stock upon the closing of the

Offerings. In connection with these transactions, the Company also issued warrants to purchase Common Stock at an exercise price of $.02 per share. These warrants have been exercised and the shares of Common Stock issued upon exercise of the warrants are reflected in the table below.

The purchasers of Series A Preferred Stock, Series B Preferred Stock, Series C Preferred Stock and Common Stock included, among others, the following directors, executive officers and holders of more than 5% of the Common Stock:

	NUMBER OF SHARES OF COMMON STOCK (ADJUSTED FOR FIVE-FOR-ONE SPLIT)	NUMBER OF SHARES OF SERIES A PREFERRED STOCK	NUMBER OF SHARES OF SERIES B PREFERRED STOCK	NUMBER OF SHARES OF SERIES C PREFERRED STOCK
Bessemer Venture Partners III L.P., Quentin Corporation, BVP III Special Situations, L.P. and affiliated parties (collectively the "Bessemer Entities")(1)	--	--	700,000	447,143
Charles River(2)	--	--	1,500,000	250,000
InterWest(3)	205,415	1,154,848	744,950	250,000
Japan Associated Finance Co., Ltd., JAFCO G-5 Investment Enterprise Partnership, JAFCO R- 1(A) Investment Enterprise Partnership, JAFCO R-1(B) Investment Enterprise Partnership and U.S. Information Technology (collectively the "JAFCO Entities")(4)	--	--	1,000,000	171,429
Sevin Rosen Entities(5)	205,235	1,153,789	744,291	428,571
SVE Star Ventures Enterprises No. II Limited Partnership, SVE Star Ventures Enterprises No. III Limited Partnership, SVE Star Ventures Enterprises No. IIIA Limited Partnership, SVE Star Ventures Managementgesellschaft mbH Nr. 3 & Co. Beteiligungs KG and SVE Star Ventures Managementgesellschaft mbH Nr. 3 (collectively the "Star Venture Entities")(6)	--	--	1,000,000	322,143
Vanguard IV, L.P.(7)	136,220	750,000	493,999	142,850
Kevin Kimberlin(8)	76,560	421,520	426,733	72,533

(1) Includes (i) 580,446 shares of Series B Preferred Stock held by Bessemer Venture Partners III, L.P. ("Bessemer III"); 22,222 shares of Series B Preferred Stock held by BVP III Special Situations L.P. ("BVP") and 97,332 shares of Series B Preferred Stock held by various individuals or entities who are employees of, or otherwise related to, these entities, and (ii) 403,176 shares of Series C Preferred Stock held by Bessemer III, 9,523 shares of Series C Preferred Stock held by BVP and 34,444 shares of Series C Preferred Stock held by various individuals or entities who are employees of, or otherwise related to, these entities.

(2) Michael J. Zak, an affiliate of Charles River, is a Director of the Company.

(3) Includes (i) 204,325 shares of Common Stock held by InterWest Partners V L.P. and 1,090 shares of Common Stock held by InterWest Investors V L.P., (ii) 1,148,848 shares of Series A Preferred Stock held by InterWest Partners V L.P. and 6,000 shares of Series A Preferred Stock held by InterWest Investors V L.P., (iii) 740,998 shares of Series B Preferred Stock held by InterWest Partners V L.P. and 3,952 shares of Series B Preferred Stock held by InterWest Investors V L.P. and (iv) 248,438 shares of

Series C Preferred Stock held by InterWest Partners V L.P. and 1,562 shares of Series C Preferred Stock held by InterWest Investors V L.P. Harvey B. Cash, an affiliate of InterWest Partners V L.P., is a Director of the Company.

(4) Includes (i) 40,000 shares of Series B Preferred Stock held by Japan Associated Finance Co., Ltd. ("JAFCO"); 82,712 shares of Series B Preferred Stock held by JAFCO G-5 Investment Enterprise Partnership ("JAFCO G-5"); 38,644 shares of Series B Preferred Stock held by JAFCO R-1(A) Investment Enterprise Partnership ("JAFCO R-1(A)"); 38,644 shares of Series B Preferred Stock held by JAFCO R-1(B) Investment Enterprise Partnership ("JAFCO R-1(B)") and 800,000 shares of Series B Preferred Stock held by U.S. Information Technology Investment Enterprise Partnership ("USIT"), and (ii) 6,857 shares of Series C Preferred Stock held by JAFCO; 14,179 shares of Series C Preferred Stock held by JAFCO G5; 6,625 shares of Series C Preferred Stock held by JAFCO R-1(A); 6,625 shares of Series C Preferred Stock held by JAFCO R-1(B) and 137,143 shares of Series C Preferred Stock held by USIT.

(5) Includes (i) 204,325 shares of Common Stock held by Sevin Rosen Fund IV L.P. and 910 shares of Common Stock held by Sevin Rosen Bayless Management Co., (ii) 1,148,789 shares of Series A Preferred Stock held by Sevin Rosen Fund IV L.P. and 5,000 shares of Series A Preferred Stock held by Sevin Rosen Bayless Management Co., (iii) 740,998 shares of Series B Preferred Stock held by Sevin Rosen Fund IV L.P. and 3,293 shares of Series B Preferred Stock held by Sevin Rosen Bayless Management Co. and (iv) 285,714 shares of Series C Preferred Stock held by Sevin Rosen Fund IV L.P. and 142,857 shares of Series C Preferred Stock held by Sevin Rosen Fund V L.P. Jon W. Bayless, an affiliate of the Sevin Rosen Entities, is a Director of the Company. Mr. Bayless disclaims beneficial ownership of the shares owned by each of the foregoing entities except to the extent of his proportional interest, if any.

(6) Includes (i) 256,000 shares of Series B Preferred Stock held by SVE Star Ventures Enterprises No. II Limited Partnership ("Star Enterprises II"); 687,100 shares of Series B Preferred Stock held by SVE Star Ventures Enterprises No. III Limited Partnership ("Star Enterprises III") and 56,900 shares of Series B Preferred Stock held by SVE Star Ventures Enterprises No. IIIA Limited Partnership ("Star Enterprises IIIA"); and (ii) 33,548 shares of Series C Preferred Stock held by Star Enterprises II; 90,026 shares of Series C Preferred Stock held by Star Enterprises III; 7,528 shares of Series C Preferred Stock held by Star Enterprises IIIA; 107,143 shares of Series C Preferred Stock held by SVE Star Ventures Managementgesellschaft mbH Nr. 3 & Co. Beteiligungs KG and 83,898 shares of Series C Preferred Stock held by SVE Star Ventures Managementgesellschaft mbH Nr. 3.

(7) Clifford W. Higgerson, an affiliate of Vanguard IV, L.P., is a Director of the Company.

(8) The shares beneficially owned by Kevin Kimberlin include shares of Kevin Kimberlin Partners L.P. and Spencer Trask Holdings.

In April 1994, the Company sold 3,500,000 shares of Common Stock to Dr. Nettles at a purchase price of $.02 per share pursuant to a Stock Purchase and Stock Restriction Agreement dated April 9, 1994. In connection therewith, Dr. Nettles issued a note to the Company in the amount of $63,000. The note was paid in full in March 1995. Under the agreement, one quarter of the shares vested on the first

anniversary date of the agreement and the remaining shares vested monthly at a rate of 1/48th per month. Until the shares are fully vested, they are subject to certain restrictions including forfeiture in the event employment is terminated, restrictions on transferability and right of first refusal. As of October 31, 1996, 2,183,335 of the shares were vested under the agreement.

The Company believes that all transactions with affiliates described above were made on terms no less favorable to the Company than could have been obtained from unaffiliated third parties. All future transactions, including any loans, between the Company and its officers, directors, principal stockholders and their affiliates will be approved by a majority of the Board of Directors, including a majority of the independent and disinterested Outside Directors, and will continue to be on terms no less favorable to the Company than could be obtained from unaffiliated third parties.

Litigation Settlement

William K. Woodruff & Company, Inc. ("Woodruff") is participating in the Offerings as one of the representatives of the U.S. Underwriters and the International Underwriters as a result of the settlement of litigation instituted by Woodruff in July 1996 against the Company and certain stockholders of the Company. Under a 1994 agreement with the Company, Woodruff was granted a right of first refusal for retention as an "investment banker" in any transaction for which the Company intended to retain one or more investment bankers, subject to certain qualifications, at a predetermined level of compensation. The litigation brought by Woodruff sought to recover monetary, declaratory and injunctive relief, including injunctive relief compelling the Company to include Woodruff as a "co-manager" of the Company's initial public offering under Woodruff's interpretation of the 1994 agreement. Under the terms of the settlement, the Company has agreed to retain Woodruff as one of the representatives of the underwriters of the Company's initial public offering, granted Woodruff warrants to purchase 75,000 shares at an exercise price of $4.00 per share, made a cash payment to Woodruff of $87,500, and agreed to arrange for Woodruff to obtain a designated portion of the compensation to be paid to the underwriters of the Company's initial public offering. The Company entered into this settlement in order to avoid costly and potentially protracted litigation over the questions of Woodruff's entitlement to compensation for, and to participate as a "co-manager" in connection with, the Company's initial public offering.

Principal Stockholders

The following table sets forth certain information regarding the beneficial ownership of the Company's Common Stock as of November 30, 1996, and as adjusted to reflect the sale of the shares offered hereby, (i) by each person who is known by the Company to own beneficially more than 5% of the Company's Common Stock, (ii) by each Director and Named Executive Officer, (iii) by all officers and Directors as a group and (iv) by certain other holders.

	PERCENT OF OWNERSHIP
NUMBER OF SHARES	----------

DIRECTORS, OFFICERS AND PRINCIPAL STOCKHOLDERS	BENEFICIALLY OWNED(1)	BEFORE THE OFFERINGS	AFTER THE OFFERINGS
Sevin Rosen Entities(2)	11,838,490	13.5%	12.7%
Two Galleria Tower 13455 Noel Road, Suite 1670 Dallas, Texas 75240 InterWest(3)	10,954,405	12.4	11.8
3000 Sand Hill Road Building 3, Suite 255 Menlo Park, CA 94025 Charles River(4)	8,750,000	10.0	9.4
c/o Charles River Ventures, Inc. 1000 Winter Street, Suite 3300 Waltham, MA 02154 Star Venture Entities Meir Barel	6,610,715	7.5	7.1
Possartstrasse G D-81679 Munich, Germany JAFCO Entities	5,857,145	6.7	6.3
c/o Japan Associated Finance Co., Ltd. Toshiba Bldg., 10F 1-1-1, Shibaura, Minato-Ku Tokyo, Japan 105 Bessemer Entities	5,735,715	6.6	6.2
1025 Old Country Road Suite 205 Westbury, NY 11530 Vanguard IV, L.P.(5)	7,070,465	8.0	7.6
525 University Avenue Suite 600 Palo Alto, CA 94301 Patrick H. Nettles(6)	4,352,135	4.9	4.6
David R. Huber(7)	6,187,950	7.0	6.7
Steve W. Chaddick(8)	1,312,500	1.5	1.4
Lawrence P. Huang(9)	1,312,500	1.5	1.4
Joseph R. Chinnici(10)	322,500	*	*
Jon W. Bayless(11)	11,838,490	13.4	12.7
Harvey B. Cash(12)	10,954,405	12.4	11.8
Clifford W. Higgerson(13)	7,070,465	8.0	7.6
Billy B. Oliver(14)	75,000	*	*
Michael J. Zak(15)	8,750,000	10.0	9.4
All officers and directors as a group (16 persons)(16)	53,633,445	57.7	54.7
Kevin Kimberlin(17)	4,680,490	5.3	5.0
Weiss, Peck & Greer Venture Capital Funds(18)	3,625,000	4.1	3.9

* Represents less than 1%.

(1) The persons named in this table have sole voting and investment power with respect to all shares of Common Stock shown as beneficially owned by them, subject to community property laws where applicable and except as indicated in the other footnotes to this table. Beneficial ownership is determined in accordance with the rules of the United States Securities and Exchange Commission. In computing the number of shares beneficially owned by a person and the percentage ownership of that person, shares of Common Stock subject to options or warrants held by that person that are currently exercisable or exercisable within 60 days after October 31, 1996 are deemed outstanding. Such shares, however, are not deemed outstanding for the purpose of computing the percentage ownership of any other person.

(2) Represents 11,081,830 shares of Common Stock beneficially owned by Sevin Rosen Fund IV L.P., 714,285 shares of Common Stock beneficially owned by Sevin Rosen Fund V L.P., and 42,375 shares beneficially owned by Sevin Rosen Bayless Management Company. Jon W. Bayless, a director of the Company, is a general partner of both SRB Associates IV L.P. the general partner of Sevin Rosen Fund IV L.P., and SRB Associates V L.P., the general partner of Sevin Rosen Fund V L.P., and is a principal of Sevin Rosen Bayless Management Company. Dr. Bayless disclaims beneficial ownership of the shares held by such entities except to the extent of his proportionate partnership interest therein.

(3) Represents 10,895,745 shares of Common Stock beneficially owned by InterWest Partners V L.P., and 58,660 shares of Common Stock beneficially owned by InterWest Investors V L.P. Harvey B. Cash, a director of the Company, is a special limited partner of InterWest Management Partners V L.P., which

is a general partner of InterWest Partners V L.P. Mr. Cash is also the general partner of InterWest Investors V L.P. Mr. Cash disclaims beneficial ownership of the shares held by such entities except to the extent of his proportionate partnership interest therein.

(4) Michael J. Zak, a Director of the Company, is a general partner of the general partner of Charles River Partnership VII. Mr. Zak disclaims beneficial ownership of the shares held by such entity except to the extent of his proportionate partnership interest therein.

(5) Clifford W. Higgerson, a Director of the Company, is a general partner of Vanguard IV, L.P. Mr. Higgerson disclaims beneficial ownership of the shares held by such entity except to the extent of his proportionate partnership interest therein.

(6) Includes 875,000 shares of Common Stock issuable upon exercise of options, all of which are subject to a right of repurchase by the Company. Also includes 2,383,387 shares of Common Stock, which are not subject to a right of repurchase by the Company.

(7) Includes 1,200,000 shares of Common Stock held in trust by Dr. Huber's wife and 151,320 shares of Common Stock held by Mrs. Huber as custodian on behalf of their minor children.

(8) Includes 1,312,500 shares issuable upon exercise of stock options, of which 562,500 shares are not subject to a right of repurchase by the Company.

(9) Includes 1,312,500 shares issuable upon exercise of stock options, of which 578,125 shares are not subject to a right of repurchase by the Company.

(10) Includes 322,500 shares issuable upon exercise of stock options, of which 113,540 shares are not subject to a right of repurchase by the Company.

(11) Represents 11,081,830 shares of Common Stock beneficially owned by Sevin Rosen Fund IV L.P., 714,285 shares of Common Stock beneficially owned by Sevin Rosen Fund V L.P., and 42,375 shares of Common Stock beneficially owned by Sevin Rosen Bayless Management Co., which Dr. Bayless may be deemed to beneficially own by virtue of his status as a general partner of both SRB Associates IV L.P., the general partner of Sevin Rosen Fund IV L.P., and SRB Associates V L.P., the general partner of Sevin Rosen Fund V L.P., and as a principal of Sevin Rosen Bayless Management Co. Dr. Bayless disclaims beneficial ownership of the shares held by such entities except to the extent of his proportionate partnership interest therein.

(12) Represents 10,895,745 shares of Common Stock beneficially owned by InterWest Partners V L.P., and 58,660 shares of Common Stock beneficially owned by InterWest Investors V L.P. Harvey B. Cash, a director of the Company, is a special limited partner of InterWest Management Partners V L.P., which is a general partner of InterWest Partners V L.P. Mr. Cash is also the general partner of InterWest Investors V L.P. Mr. Cash disclaims beneficial ownership of the shares held by such entities except to the extent of his proportionate partnership interest therein.

(13) Represents 7,070,465 shares of Common Stock beneficially owned by Vanguard IV, L.P., which Mr. Higgerson may be deemed to beneficially own by virtue of his status as a general partner of Vanguard IV, L.P. Mr. Higgerson disclaims beneficial ownership of the shares held by such entities

except to the extent of his proportionate partnership interest therein.

(14) Includes 75,000 shares of Common Stock issuable upon exercise of stock options granted pursuant to the 1996 Outside Directors Plan.

(15) Represents 8,750,000 shares of Common Stock beneficially owned by Charles River Partnership VII, which Mr. Zak may be deemed to beneficially own by virtue of his status as a general partner of Charles River Partnership VII. Mr. Zak disclaims beneficial ownership of the shares held by such entity except to the extent of his proportionate partnership interest therein.

(16) Includes 3,075,000 shares issuable upon exercise of stock options, of which 1,867,715 shares are subject to a right of repurchase by the Company.

(17) Kevin Kimberlin provided initial equity capital during the formation of the Company. The shares beneficially owned by Kevin Kimberlin include shares of Kevin Kimberlin Partners L.P. and Spencer Trask Holdings. The address of Kevin Kimberlin is c/o Spencer Trask, 535 Madison Avenue, New York, New York 10022. See "Business -- Legal Proceedings".

(18) Represents 1,979,250 shares held of record by WPG Enterprise Fund II, L.P. and 1,645,750 shares held of record by Weiss, Peck & Greer Venture Associates III, L.P. The address of the funds is 555 California Street, Suite 3130, San Francisco, California 94104, Attention: Christopher J. Schaepe.

Description of Capital Stock

The authorized capital stock of the Company consists of 180,000,000 shares of Common Stock and 20,000,000 shares of preferred stock, par value $.01 per share. Each outstanding share of Convertible Preferred Stock will be automatically converted into five shares of Common Stock upon the closing of the Offerings being made hereby. Upon such conversion, such Convertible Preferred Stock will be canceled, retired and eliminated from the shares that the Company is authorized to issue. The following summary of the Company's capital stock does not purport to be complete and is subject to, and qualified in its entirety by, the Certificate of Incorporation and bylaws of the Company that are included as exhibits to the Registration Statement of which this Prospectus forms a part and by the provisions of applicable law.

Common Stock

As of October 31, 1996, there were 86,507,325 shares of Common Stock outstanding and held of record by 112 stockholders, as adjusted to reflect the conversion of the outstanding shares of Convertible Preferred Stock into Common Stock upon the closing of the Offerings. The holders of Common Stock are entitled to one vote for each share held of record on all matters submitted to a vote of the holders of Common Stock. Subject to preferences applicable to any outstanding preferred stock, holders of Common Stock are entitled to receive ratably such dividends as may be declared by the Board of Directors out of funds legally available therefor. In the event of a liquidation, dissolution or

winding up of the Company, the holders of Common Stock are entitled to share ratably in all assets remaining after payment of liabilities and the liquidation preference of any preferred stock. Holders of Common Stock have no preemptive or subscription rights, and there are no redemption or conversion rights with respect to such shares. All outstanding shares of Common Stock are fully paid and non-assessable, and the shares of Common Stock to be issued upon completion of the Offerings will be fully paid and non-assessable.

As of October 31, 1996, there were warrants to purchase 675,000 shares of Common Stock outstanding and warrants to purchase 300,000 shares of Convertible Preferred Stock outstanding. The warrants to purchase Convertible Preferred Stock expire unless exercised prior to the closing of the Offerings, and an aggregate of 1,500,000 shares of Common Stock are issuable upon conversion of such Convertible Preferred Stock.

Undesignated Preferred Stock

The Board of Directors has the authority, without action by the stockholders, to designate and issue preferred stock in one or more series and to designate the dividend rate, voting rights and other rights, preferences and restrictions of each series any or all of which may be greater than the rights of the Common Stock. It is not possible to state the actual effect of the issuance of any shares of preferred stock upon the rights of holders of the Common Stock until the Board of Directors determines the specific rights of the holders of such preferred stock. However, the effects might include, among other things, restricting dividends on the Common Stock, diluting the voting power of the Common Stock, impairing the liquidation rights of the Common Stock and delaying or preventing a change in control of the Company without further action by the stockholders. The Company has no present plans to issue any shares of preferred stock.

Registration Rights

Following the sale of the shares of Common Stock offered hereby, the holders of 74,815,740 shares issuable upon conversion of the outstanding shares of Convertible Preferred Stock or issued or issuable to certain holders of the warrants, and certain shares held by certain founders of the Company and their transferees will have certain rights to register those shares under the Securities Act. These rights are provided under the terms of certain agreements among the Company and the holders of such shares. Subject to certain limitations in such agreements, the holders of at least 25% of such shares may require, on two occasions, that the Company use its best efforts to register such shares for public resale, subject to certain limitations. If the Company registers any of its Common Stock either for its own account or for the account of other security holders, the holders of such shares are entitled to include their shares of Common Stock in the registration, subject to the ability of the underwriters to limit the number of shares included in the Offerings. The holders of such shares may also require the Company on no more than one occasion every 12 months to register all or a portion of their registrable securities on Form S-3 when use of such form becomes available to the Company, provided, among other

limitations, that the proposed aggregate selling price is at least $500,000, and that the total number of permitted demand registrations on Form S-3 is limited to six. All fees, costs and expenses of registrations pursuant to Form S-1 (other than underwriting discounts and commissions) will be borne by the Company. All expenses of demand registrations pursuant to Form S-3 shall be borne by the holders.

DELAWARE LAW AND CERTAIN PROVISIONS OF THE THIRD AMENDED AND RESTATED CERTIFICATE OF INCORPORATION The Company is a Delaware corporation and subject to Section 203 of the Delaware General Corporation Law ("DGCL"). In general, Section 203 of the DGCL prevents an "interested stockholder" (defined generally as a person owning 15% or more of a Delaware corporation's outstanding voting stock) from engaging in a "business combination" (as defined) with a Delaware corporation for three years following the date such person became an interested stockholder, subject to certain exceptions such as the approval of the board of directors and of the holders of at least two thirds of the outstanding shares of voting stock not owned by the interested stockholder. The existence of this provision of law can be expected to have the effect of discouraging hostile takeover attempts, including attempts that might result in a premium over the market price for the shares of Common Stock held by stockholders.

The Company's Certificate of Incorporation provides that following the date of this Prospectus, the Board of Directors will be divided into three classes of directors with each class serving a staggered three-year term. The classification system of electing directors may tend to discourage a third party from making a tender offer or otherwise attempting to obtain control of the Company and may maintain the incumbency of the Board of Directors, as it generally makes it more difficult for stockholders to replace a majority of the directors. The Company's Certificate of Incorporation also eliminates, upon the closing of the Offerings, the right of stockholders to act without a meeting and does not provide for cumulative voting in the election of directors. These and other provisions may have the effect of deterring hostile takeovers or delaying changes in control or management of the Company. The amendment of any of these provisions would require approval by holders of 66 2/3% or more of the outstanding Common Stock.

Transfer Agent and Registrar

The Transfer Agent and Registrar for the Common Stock is The First National Bank of Boston.

Shares Eligible for Future Sale

Prior to the Offerings, there has been no public market for the Common Stock. Future sales of substantial amounts of Common Stock in the public market could adversely affect the market price of the Common Stock.

Upon completion of the Offerings, the Company will have outstanding an aggregate of 93,007,325 shares of Common Stock, assuming (i) the issuance of 5,000,000 shares of Common Stock in the Offerings, (ii) no exercise of the Underwriters' over-allotment options and (iii) no exercise of options or warrants to purchase Common Stock after October 31, 1996 except for 1,500,000 shares issuable upon exercise of warrants expiring at the close of the Offerings. Of these shares, the 5,000,000 shares sold in the Offerings will be freely tradable without restriction or further registration under the Securities Act, except for any shares purchased by "affiliates" of the Company as that term is defined in Rule 144 under the Securities Act. Sales by affiliates will be subject to certain limitations and restrictions described below. Beginning 90 days after the date of this Prospectus, approximately shares will become eligible for sale in the public market subject in some cases to the volume and other restrictions of Rule 144 under the Securities Act.

Of these shares, holders of shares and options and warrants to purchase shares are subject to lock-up agreements. Shares covered by these lock-up agreements are subject to restrictions on resale in the public market for a period of 180 days following the date of this Prospectus, subject to release, directly or indirectly, by the Representatives of the Underwriters.

Upon expiration of the lock-up period, shares will become eligible for sale in the public market, subject in most cases to the limitations of Rule 144. The remaining shares held by existing stockholders will become eligible for sale at various times over a period of less than two years and could be sold earlier if the holders exercise registration rights. In addition, holders of stock options could exercise these options and sell certain of the shares issued upon exercise as described below.

As of October 31, 1996, there were a total of 10,957,960 shares of Common Stock subject to outstanding options under the Amended and Restated 1994 Stock Option Plan, 2,684,355 of which were vested. Promptly following these Offerings, the Company intends to file a registration statement on Form S-8 under the Securities Act to register all of the shares of Common Stock issued or reserved for future issuance under the Option Plan and the Directors Plan. On the date 180 days after the effective date of this Prospectus, a total of shares of Common Stock subject to outstanding options will be vested and exercisable. After the effective date of the registration statement on Form S-8, shares purchased upon exercise of options granted pursuant to the Option Plan or Directors Plan generally would be available for resale in the public market.

In general, under Rule 144 as currently in effect, a person (or persons whose shares are aggregated) who has beneficially owned shares for at least two years (including the holding period of any prior owner except an affiliate) is entitled to sell in "broker's transactions" or to market makers, within any three-month period commencing 90 days after the date of this prospectus, a number of shares that does not exceed the greater of (i) one percent of the number of shares of Common Stock then outstanding (approximately 930,000 shares immediately after the Offerings) or (ii) generally, the average weekly trading volume in the Common Stock during the four calendar weeks preceding the required filing of a Form 144 with respect to such sale. Sales under Rule 144 are generally subject to the availability of current public information about the Company. Under Rule 144(k), a person who is not deemed to have been an affiliate of the Company at any time during the 90 days preceding a sale, and who has beneficially owned the shares proposed to be sold for a least three years (including the holding period

of any prior owner except an affiliate), is entitled to sell such shares without having to comply with the manner of sale, public information, volume limitation or notice filing provisions of Rule 144. Under Rule 701 under the Securities Act, persons who purchase shares upon exercise of options granted prior to the effective date of the Offerings are entitled to sell such shares 90 days after the date of this Prospectus in reliance on Rule 144, without having to comply with the holding period and notice filing requirements of Rule 144 and, in the case of non-affiliates, without having to comply with the public information, volume limitation or notice filing provisions of Rule 144. The Commission has proposed to amend the holding period required by Rule 144 to permit sales of "restricted securities" after one year rather than two years and to permit "non-affiliates" to sell without restrictions, pursuant to Rule 144(k), after a holding period of two years (including the holding period of any prior owner except an affiliate). If such proposed amendment is adopted, restricted securities would become freely tradable (subject to any applicable contractual restrictions) at correspondingly earlier dates.

Certain U.s. Tax Considerations Applicable to Non-u.s. Holders of the Common Stock

The following is a general discussion of certain U.S. federal income and estate tax consequences of the ownership and disposition of Common Stock by a person that, for U.S. federal income tax purposes, is a non-resident alien individual, a foreign corporation, a foreign partnership or a foreign estate or trust as defined in the U.S. Internal Revenue Code of 1986, as amended (the "Code") (a "non-U.S. holder"). This discussion does not consider specific facts and circumstances that may be relevant to a particular non-U.S. holder's tax position and does not deal with all aspects of United States federal income and estate taxation that may be relevant to non-U.S. holders, or with U.S. state and local or non-U.S. tax consequences. Furthermore, the following discussion is based on provisions of the Code, existing and proposed regulations promulgated thereunder, and administrative and judicial interpretations thereof as of the date hereof, all of which are subject to change, possibly with retroactive effect. Each prospective non-U.S. holder is urged to consult a tax adviser with respect to the U.S. federal tax consequences of holding and disposing of Common Stock, as well as any tax consequences that may arise under the laws of any U.S. state, municipality or other taxing jurisdiction.

An individual may, among other ways, be deemed to be a resident alien (as opposed to a non-resident alien) with respect to any calendar year by virtue of being present in the United States on at least 31 days in such calendar year and for an aggregate of at least 183 days during the current calendar year and the two preceding calendar years (counting for such purposes all of the days present in the current year, one-third of the days present in the immediately preceding year, and one-sixth of the days present in the second preceding year). Resident aliens are subject to U.S. federal tax as if they were U.S. citizens.

Dividends

As described above, the Company does not expect to pay dividends. In the event the Company does pay dividends, dividends paid to a non-U.S. holder of Common Stock will be subject to withholding of U.S. federal income tax at a rate of 30% of the gross amount of the dividend or such lower rate as may be specified by an applicable income tax treaty, unless the dividends are effectively connected with the conduct of a trade or business by the non-U.S. holder within the United States. Dividends that are effectively connected with such holder's conduct of a trade or business in the United States are subject to U.S. federal income tax on a net income basis at applicable graduated individual or corporate rates, and are not generally subject to withholding, if the holder complies with certain certification and disclosure requirement. Any such effectively connected dividends received by a foreign corporation may also, under certain circumstances, be subject to an additional "branch profits tax" at a 30% rate or such lower rate as may be specified by an applicable income tax treaty.

Dividends paid to an address outside the United States are presumed to be paid to a resident of the country of address (unless the payer has knowledge to the contrary) for purposes of the withholdings discussed above and for purposes of determining the applicability of a tax treaty rate. Under proposed U.S. Treasury regulations that are proposed to be effective for distributions after 1997 (the "Proposed Regulations") however, a non-U.S. holder of Common Stock who wishes to claim the benefit of an applicable treaty rate would be required to satisfy applicable certification requirements. The Proposed Regulations include special rules that apply to dividends paid to foreign partnerships. It is not certain whether, or in what form, the Proposed Regulations will be adopted as final regulations.

A non-U.S. holder of Common Stock that is eligible for a reduced rate of U.S. withholding tax pursuant to an income tax treaty may obtain a refund of any excess amounts withheld by filing an appropriate claim for refund with the U.S. Internal Revenue Service.

Gain on Disposition of Common Stock

A non-U.S. holder generally will not be subject to U.S. federal income tax in respect of gain recognized on a disposition of Common Stock unless (i) the gain is effectively connected with a trade or business of the non-U.S. holder in the United States or, if a tax treaty applies, is attributable to a permanent establishment maintained by the non-U.S. holder in the United States, (ii) in the case of a non-U.S. holder who is an individual and holds the Common Stock as a capital asset, such holder is present in the United States for 183 or more days in the taxable year of the sale and certain other conditions are met, or (iii) the Company is or has been a "U.S. real property holding corporation" for federal income tax purposes at any time during the five-year period ending on the date of the disposition. The Company believes that it has not been and it is not a "U.S. real property holding corporation" for U.S. federal income tax purposes and does not currently anticipate becoming a "U.S. real property holding corporation." If an individual non-U.S. holder falls under clause (i) above, he or she will be taxed on his or her net gain derived from the sale at regular graduated U.S. federal income tax rates. If an individual non-U.S. holder falls under clause (ii) above, he or she will be subject to a flat 30% tax on the net gain

derived from the sale which gain may be offset by U.S. capital losses. If a non-U.S. holder that is a foreign corporation falls under clause (i) above, it will be taxed on its gain at regular graduated U.S. federal income tax rates and, in addition, may be subject to the branch profits tax equal to 30% of its "effectively connected earnings and profits" within the meaning of the Code for the taxable year, as adjusted for certain items, or at such lower rate as may be specified by an applicable income tax treaty.

Federal Estate Taxes

Common Stock owned or treated as owned by a non-U.S. holder at the time of death, or Common Stock of which the non-U.S. holder made certain in lifetime transfers, will be included in such holder's gross estate for U.S. federal estate tax purposes, unless an applicable estate tax treaty provides otherwise.

U.s. Information Reporting Requirements and Backup Withholding Tax

The Company must report annually to the U.S. Internal Revenue Service and to each non-U.S. holder the amount of dividends paid to such holder and the tax withheld with respect to such dividends, regardless of whether withholding was required. Copies of the information returns reporting such dividends and withholding may also be made available to the tax authorities in the country in which the non-U.S. holder resides under the provisions of an applicable income tax treaty.

Under current law, backup withholding (which generally is a withholding tax imposed at the rate of 31% on certain payments to persons that fail to furnish certain information under the U.S. information reporting requirements) will generally not apply to dividends paid to a non-U.S. holder at an address outside the United States unless such non-U.S. holder is engaged in a trade or business in the United States or unless the payer has knowledge that the payee is a U.S. person. Under the Proposed Regulations, however, dividend payments generally will be subject to backup withholding unless applicable certification requirements are satisfied.

In general, backup withholding and information reporting will not apply to a payment of the proceeds of a sale of Common Stock to or through a foreign office of a broker. If, however, such broker is, for U.S. federal income tax purposes, a U.S. person, a controlled foreign corporation, or a foreign person that derives 50% of more of its gross income for certain periods form the conduct of a trade or business in the United States, such payments will not be subject to backup withholding but will be subject to information reporting, unless (1) such broker has documentary evidence in its records that the beneficial owner is a non-U.S. holder and certain other conditions are met, or (2) the beneficial owner otherwise establishes an exemption.

Payment to or through a U.S. office of a broker of the proceeds of a sale of Common Stock is generally subject to both backup withholding and information reporting unless the beneficial owner certifies under penalties of perjury that it is a non-U.S. holder, or otherwise establishes an exemption.

Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against such holder's U.S. federal income tax liability provided the required information is furnished to the U.S. Internal Revenue Service.

Legal Matters

Certain legal matters with respect to the shares of Common Stock offered hereby will be passed upon for the Company by Hogan & Hartson L.L.P., Baltimore, Maryland and for the Underwriters by Hale and Dorr, Washington, D.C.

Experts

The financial statements as of October 31, 1996 and 1995 and for each of the three fiscal years in the period ended October 31, 1996 included in this Prospectus have been so included in reliance on the report of Price Waterhouse LLP, independent accountants, given on the authority of said firm as experts in auditing and accounting.

Additional Information

The Company has filed with the Securities and Exchange Commission a Registration Statement on Form S-1 under the Securities Act with respect to the Common Stock offered hereby. This Prospectus, which constitutes a part of the Registration Statement, does not contain all of the information set forth in the Registration Statement, certain items of which are contained in exhibits to the Registration Statement as permitted by the rules and regulations of the Commission. For further information with respect to the Company and the Common Stock offered hereby, reference is made to the Registration Statement, including the exhibits thereto. Statements made in this Prospectus concerning the contents of any document referred to herein are not necessarily complete. With respect to each such document filed with the Commission as an exhibit to the Registration Statement, reference is made to the copy of such documents filed as exhibits to the Registration Statement for a more complete description of the matter involved, and each such document shall be deemed qualified in its entirety by such reference. The Registration Statement, including the exhibits thereto, as well as other information filed with the Commission, may be inspected without charge at the Commission's principal office at 450 Fifth Street, N.W., Washington, D.C. 20549 and at the Commission's regional offices at 500 West Madison Street, Suite 1400, Chicago, Illinois 60661 and Seven World Trade Center, Suite 1300, New York, New York 10048. Copies of all or any part thereof may be obtained from the Commission upon the payment of certain fees prescribed by the Commission. The Commission also maintains a World Wide Web site that contains reports, proxy statements and other information regarding registrants, including the Company, that file such information electronically with the Commission. The address of the Commission's Web site is http://www.sec.gov.

Ciena Corporation

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Report of Independent Accountants

To the Board of Directors and Stockholders of CIENA Corporation In our opinion, the accompanying balance sheets and the related statements of operations, of cash flows and of changes in stockholders' equity (deficit) present fairly, in all material respects, the financial position of CIENA Corporation at October 31, 1996 and 1995, and the results of its operations and its cash flows for each of the three years in the period ended October 31, 1996, in conformity with generally accepted accounting principles. These financial statements are the responsibility of the Company's management; our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits of these statements in accordance with generally accepted auditing standards which require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for the opinion expressed above.

PRICE WATERHOUSE LLP Falls Church, VA November 27, 1996, except as to Note 14, which is as of December 10, 1996 CIENA CORPORATION BALANCE SHEETS (IN THOUSANDS, EXCEPT SHARE DATA)

	PRO FORMA STOCKHOLDERS' EQUITY AT OCTOBER 31, 1996	OCTOBER 31,	
		1995	1996
	(UNAUDITED)		
ASSETS			
Current assets:			
Cash and cash equivalents		$ 5,032	$ 22,557
Accounts receivable (net of allowance of $--)		8	16,759

Inventories, net	--	13,228		
Deferred income taxes	--	1,834		
Prepaid expenses and other	22	634		
Total current assets	5,062	55,012		
Equipment, furniture and fixtures, net	2,239	11,863		
Other assets	82	426		
Total assets	$ 7,383	$ 67,301		
LIABILITIES, MANDATORILY REDEEMABLE PREFERRED STOCK AND STOCKHOLDERS' EQUITY (DEFICIT)				
Current liabilities:				
Current installments of capital lease obligations	$ 368	$ 960		
Current maturities of notes payable	--	69		
Accounts payable	541	6,278		
Accrued liabilities	1,084	5,242		
Income taxes payable	--	3,342		
Deferred revenue	--	3,265		
Total current liabilities	1,993	19,156		
Capital lease obligations, less current installments	856	2,186		
Notes payable, less current maturities	--	487		
Deferred rent	10	98		
Total liabilities	2,859	21,927		
Commitments and contingencies	--	--		
Mandatorily redeemable preferred stock -- par value $.01, 16,250,000 shares authorized:				
Series A -- 4,500,000 shares authorized; 3,542,520 and 3,590,157 shares issued and outstanding; zero outstanding pro forma	3,492	3,492	$ --	
Series B -- 8,000,000 shares authorized; 7,354,092 shares issued and outstanding; zero outstanding pro forma	10,962	10,962	--	
Series C -- 3,750,000 shares authorized; 3,718,899 shares issued and outstanding; zero outstanding pro forma	--	25,950	--	
Stockholders' equity (deficit):				
Preferred stock -- par value $.01; 20,000,000 shares authorized; zero shares issued and outstanding; zero outstanding pro forma	--	--	--	
Common stock -- par value $.01; 180,000,000 shares authorized; 11,935,415 and 13,191,585 shares issued and outstanding; 86,507,325 outstanding pro forma	119	132	865	
Additional paid-in capital	110	339	40,010	
Notes receivable from stockholders	--	(60)	(60)	
Retained earnings (deficit)	(10,159)	4,559	4,559	

Total stockholders' equity (deficit)	(9,930)	4,970
Total liabilities, mandatorily redeemable preferred stock and stockholders' equity (deficit)	$ 7,383	$ 67,301

The accompanying notes are an integral part of these financial statements

Ciena Corporation

Statements of Operations (In Thousands, Except Per Share Data)

Year Ended October 31, 1994 1995 1996

Revenue	$ --	$ --	$54,838
Cost of goods sold	--	--	21,844
Gross profit	--	--	32,994
Operating expenses:			
Research and development	1,287	6,361	8,922
Selling and marketing	295	481	3,780
General and administrative	787	896	3,905
Total operating expenses	2,369	7,738	16,607
Income (loss) from operations	(2,369)	(7,738)	16,387
Interest and other income (expense), net	(36)	195	877
Interest expense	(2)	(86)	(296)
Income (loss) before income taxes	(2,407)	(7,629)	16,968
Provision for income taxes	--	--	2,250
Net income (loss)	$(2,407)	$(7,629)	$14,718
Pro forma net income per common and common equivalent share			$ .15
Pro forma weighted average common and common equivalent shares outstanding			99,107

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

Ciena Corporation

STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIT) FOR THE YEARS ENDED OCTOBER 31, 1994, 1995 AND 1996 (DOLLARS IN THOUSANDS)

	COMMON STOCK		ADDITIONAL	NOTES RECEIVABLE FROM	RETAINED EARNINGS	TOTAL STOCKHOLDERS' EQUITY
	SHARES	AMOUNT	PAID-IN-CAPITAL	STOCKHOLDERS	(DEFICIT)	(DEFICIT)
BALANCE AT OCTOBER 31, 1993	7,066,665	$ 71	$ 17	$ --	$ (123)	$ (35)

Issuance of common stock...	3,750,000	37	39	(65)	--	11
Payment of expenses by stockholder.....	--	--	43	--	--	43
Net loss.....	--	--	--	--	(2,407)	(2,407)
BALANCE AT OCTOBER 31, 1994.....	10,816,665	108	99	(65)	(2,530)	(2,388)
Exercise of warrants.....	1,075,000	11	11	--	--	22
Exercise of stock options.....	43,750	--	--	--	--	--
Repayment of receivables from stockholders.....	--	--	--	65	--	65
Net loss.....	--	--	--	--	(7,629)	(7,629)
BALANCE AT OCTOBER 31, 1995.....	11,935,415	119	110	--	(10,159)	(9,930)
Exercise of warrants.....	676,425	7	--	--	--	7
Exercise of stock options.....	579,745	6	71	(60)	--	17
Compensation cost of stock options.....	--	--	2	--	--	2
Issuance of warrants for settlement of certain equity rights.....	--	--	156	--	--	156
Net income.....	--	--	--	--	14,718	14,718
BALANCE AT OCTOBER 31, 1996.....	13,191,585	$132	$ 339	$(60)	$ 4,559	$ 4,970

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

Ciena Corporation

Statements of Cash Flows (In Thousands)

Year Ended October 31, 1994 1995 1996

Cash flows from operating activities:			
Net income (loss).....	$ (2,407)	$ (7,629)	$ 14,718
Adjustments to reconcile net income (loss) to net cash (used in) provided by operating activities:			
Non-cash charges from equity transactions.....	75	--	158
Write down of leasehold improvements.....	--	--	883
Depreciation and amortization.....	25	355	1,007
Provision for inventory excess and obsolescence.....	--	--	1,937

Accrued interest on notes receivable from stockholders...	(2)	--	(2)
Provision for warranty and other contractual obligations.....	--	--	1,584
Changes in assets and liabilities:			
(Increase) decrease in accounts receivable.....	4	(8)	(16,751)
Increase in prepaid expenses and other.....	(2)	(16)	(612)
Increase in inventories.....	--	--	(15,165)
Increase in deferred income taxes.....	--	--	(1,834)
Increase in other assets.....	(26)	(56)	(343)
Increase in accounts payable and accruals.....	820	757	8,311
Increase in income taxes payable.....	--	--	3,342
Increase (decrease) in deferred revenue and deferred rent.....	21	(11)	3,353
Net cash (used in) provided by operating activities.....	(1,492)	(6,608)	586
Cash flows from investing activities:			
Additions to equipment, furniture and fixtures.....	(585)	(2,036)	(11,514)
Net cash used in investing activities.....	(585)	(2,036)	(11,514)
Cash flows from financing activities:			
Proceeds from notes payable.....	--	--	556
Proceeds from bridge loan.....	200	--	--
Repayment of bridge loan.....	(200)	--	--
Net proceeds from issuance of or subscription to mandatorily redeemable preferred stock.....	3,460	10,962	25,950
Proceeds from issuance of common stock and warrants.....	11	22	24
Repayment of notes receivable from stockholders.....	--	65	--
Proceeds from lease financing activities.....	504	944	2,564
Principal payments on capital lease obligations.....	--	(225)	(641)
Net cash provided by financing activities.....	3,975	11,768	28,453
Net increase in cash and cash equivalents.....	1,898	3,124	17,525
Cash and cash equivalents at beginning of year.....	10	1,908	5,032
Cash and cash equivalents at end of year.....	$ 1,908	$ 5,032	$ 22,557
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION:			
Cash paid during the year for:			
Interest.....	$ 2	$ 86	$ 296
Income taxes.....	$ --	$ --	$ 742
SUPPLEMENTAL DISCLOSURE OF NON-CASH FINANCING ACTIVITIES:			
Issuance of common stock for notes receivable from stockholders...	$ 65	$ --	$ 60

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

Ciena Corporation

Notes to Financial Statements

(1) the Company and Significant Accounting Policies

Description of Business CIENA Corporation (the "Company" or "CIENA"), a Delaware corporation, was incorporated on November 2, 1992 as HydraLite Incorporated. Subsequently, the Company changed its name to Cedrus Corporation and then to CIENA Corporation. The Company designs, manufactures and sells dense wavelength division multiplexing systems for long distance fiberoptic telecommunications networks. During the period from November 2, 1992 to October 31, 1995, CIENA

was a development stage company as defined in Statement of Financial Accounting Standards No. 7, "Development Stage Enterprises". Planned principal operations commenced during fiscal 1996 and, accordingly, CIENA is no longer considered a development stage company.

During fiscal 1996, all of the Company's revenue was attributable to a single product and to a single customer. Additionally, the Company's access to certain raw materials is dependent upon single and sole source suppliers.

Fiscal Year

The Company has a 52 or 53 week fiscal year which ends on the Saturday nearest to the last day of October in each year (November 2, 1996; October 28, 1995; and October 29, 1994). For purposes of financial statement presentation, each fiscal year is described as having ended on October 31. Fiscal 1994 and 1995 comprised 52 weeks and fiscal 1996 comprised 53 weeks.

Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires the Company to make estimates, judgments and assumptions that affect the reported amounts of assets, liabilities, revenue and expenses, together with amounts disclosed in the related notes to the financial statements. Particularly sensitive estimates include reserves for warranty and other contractual obligations and for excess and obsolete inventories. Actual results could differ from the recorded estimates.

Pro Forma Stockholders' Equity CIENA anticipates filing an initial registration statement with the Securities and Exchange Commission. If the contemplated Offerings are consummated under the terms presently anticipated, each share of the Mandatorily Redeemable Series A, B, and C Preferred Stock (collectively, the "Convertible Preferred Stock") will convert into five shares of the Company's Common Stock. Pro forma stockholders' equity as of October 31, 1996 reflects the anticipated conversion of the Convertible Preferred Stock into Common Stock.

Cash and Cash Equivalents The Company considers all highly liquid investments purchased with original maturities of three months or less to be cash equivalents. The Company's entire cash and cash equivalents balance at October 31, 1996 was on deposit with one financial institution, which represents a concentration of credit risk as defined under Statement of Financial Accounting Standards No. 105, "Disclosure of Information about Financial Instruments with Off-Balance-Sheet Risk and Financial Instruments with Concentrations of Credit Risk". The majority of the Company's cash equivalents are invested in overnight repurchase agreements, which are secured by the U.S. Government.

Ciena Corporation

Notes to Financial Statements -- (Continued)

(1) the Company and Significant Accounting Policies -- (Continued)

Inventories

Inventories are stated at the lower of cost or market, with cost determined on the first-in, first-out basis. The Company records a provision for excess and obsolete inventory whenever such an impairment has been identified.

Equipment, Furniture and Fixtures Equipment, furniture and fixtures are recorded at cost. Depreciation and amortization are computed using the straight-line method over useful lives of 2-5 years for equipment, furniture and fixtures and of 6-10 years for leasehold improvements.

Revenue Recognition

The Company recognizes product revenue in accordance with the shipping terms specified. For transactions where the Company has yet to obtain customer acceptance or has agreements pertaining to installation services, revenue is deferred until no significant obligations remain. Revenue for installation services is recognized as the services are performed. Amounts received in excess of revenue recognized are included as deferred revenue in the accompanying balance sheets. For distributor sales where risks of ownership have not transferred, the Company recognizes revenue when the product is shipped through to the end user.

During fiscal 1996, all of the Company's revenue and related trade accounts receivable were derived from one customer, which is headquartered within the United States.

Revenue-Related Accruals The Company provides for the estimated costs to fulfill customer warranty and other contractual obligations upon the recognition of the related revenue. Such reserves are determined based upon actual warranty cost experience, estimates of component failure rates, and management's industry experience. The Company's contractual sales arrangements generally do not permit the right of return of product by the customer.

Research and Development The Company charges all research and development costs to expense as incurred.

Income Taxes

The Company accounts for income taxes in accordance with Statement of Financial Accounting Standards No. 109 (SFAS No. 109), "Accounting for Income Taxes". SFAS No. 109 is an asset and liability approach that requires the recognition of deferred tax assets and liabilities for the expected

future tax consequences attributable to differences between the carrying amounts of assets and liabilities for financial reporting purposes and their respective tax bases, and for operating loss and tax credit carryforwards. In estimating future tax consequences, SFAS No. 109 generally considers all expected future events other than the enactment of changes in tax laws or rates. A valuation allowance is recorded if it is "more likely than not" that some portion or all of a deferred tax asset will not be realized.

Computation of Pro Forma Net Income per Share Pro forma net income per common and common equivalent share is computed using the weighted average number of common and common equivalent shares outstanding. Weighted average common and common equivalent shares include Common Stock, stock options and warrants using the modified treasury stock method and the assumed conversion of all outstanding shares of Convertible Preferred Stock into Common Stock. Since the conversion of the Convertible Preferred Stock has a significant effect on the earnings per share calculation, historical loss per share has not been calculated on the basis that it is irrelevant.

Pursuant to the requirements of the Securities and Exchange Commission, Common Stock, stock options, warrants and Convertible Preferred Stock issued by the Company during the twelve months immediately preceding the filing of an initial registration statement and through the effective date of such registration statement have been included in the calculation of the weighted average shares outstanding using the modified treasury stock method based on the estimated initial public offering price.

Software Development Costs Statement of Financial Accounting Standards No. 86, "Accounting for the Costs of Computer Software to be Sold, Leased or Otherwise Marketed", requires the capitalization of certain software development costs incurred subsequent to the date technological feasibility is established and prior to the date the product is generally available for sale. The capitalized cost is then amortized over the estimated product life. The Company defines technological feasibility as being attained at the time a working model is completed. To date, the period between achieving technological feasibility and the general availability of such software has been short and software development costs qualifying for capitalization have been insignificant. Accordingly, the Company has not capitalized any software development costs.

Accounting for Stock Options In October 1995, the Financial Accounting Standards Board issued Statement of Financial Accounting Standards No. 123 (SFAS No. 123), "Accounting for Stock-Based Compensation". The Company's adoption of SFAS No. 123 in fiscal 1997 will not have any effect on the Company's financial condition or results of operations, as the Company intends to continue to measure compensation cost of stock options granted to employees using the intrinsic value method provided by Accounting Principles Board Opinion No. 25, "Accounting for Stock Issued to Employees".

(2) Inventories

Inventories are comprised of the following (in thousands):

October 31, 1996

Raw materials	$ 8,585
Work-in-process	3,629
Finished goods	2,951
	15,165
Less reserve for excess and obsolescence	(1,937)
	$13,228

(3) Equipment, Furniture and Fixtures

Equipment, furniture and fixtures are comprised of the following (in thousands):

October 31, 1995 1996

Equipment, furniture and fixtures	$ 2,077	$ 11,647
Leasehold improvements	133	1,141
	2,210	12,788
Accumulated depreciation and amortization	(381)	(1,388)
Construction-in-progress	410	463
	$ 2,239	$ 11,863

In September 1994 and October 1995, the Company entered into separate master lease agreements to lease certain furniture and equipment. The Company may lease up to a maximum total of $4.5 million of furniture and equipment under these agreements, of which $4.1 million had been utilized as of October 31, 1996. Lease terms range from 36 to 48 months. In accordance with Statement of Financial Accounting Standards No. 13, "Accounting for Leases", the related leases have been recorded as capital lease transactions.

Furniture and equipment with a cost of $1,541,000 and $4,105,000 and accumulated depreciation of $311,000 and $1,080,000 have been accounted for as capital lease assets at October 31, 1995 and 1996, respectively. The Company has the option to purchase the assets at the end of the lease term.

(4) Accrued Liabilities

Accrued liabilities are comprised of the following (in thousands):

October 31, 1995 1996

Warranty and other contractual obligations	$ --	$ 1,584
Accrued compensation	434	2,314
Unbilled construction-in-progress and leasehold improvements	411	50
Other	239	1,294
	$ 1,084	$ 5,242

(5) Capital Lease Obligations

Capital lease obligations are summarized as follows (in thousands):

October 31, 1996

Capital lease obligations, secured by related assets, payable in monthly installments including interest at rates ranging from 8.72% to 13.15% through June 2000	$ 3,146
Less current installments	(960)
Long-term capital lease obligations	$ 2,186

(5) Capital Lease Obligations -- (Continued)

Future minimum capital lease payments at October 31, 1996 are as follows (in thousands):

Fiscal year ending October 31,	
1997	$ 1,288
1998	1,202
1999	942
2000	377
	3,809
Less amounts representing interest	(663)
	$ 3,146

(6) Line of Credit

In November 1996, the Company entered into an unsecured line of credit agreement with a bank, which provides for borrowings of up to $15,000,000. Interest on borrowings is set at the bank's prime rate (at November 20, 1996 the rate was 8.25%). Among other provisions, the Company is required to maintain certain financial covenants, principally certain minimum working capital levels and monthly profitability levels. The line of credit agreement also prohibits the Company from paying cash dividends on its capital stock, and expires in November 1997.

(7) Notes Payable

In June 1996, the Company borrowed $556,000 from the Maryland Economic Development Corporation for construction of leasehold improvements and executed promissory notes of $500,000 and $56,000 with annual interest rates of 6.63% and 3.00%, respectively. Initial interest payments on the notes are due three and six months following the date of disbursement with quarterly principal payments commencing on March 31, 1997. The Company provided $56,000 on deposit in escrow as collateral towards the notes and has recorded such amount as a component of other assets in the accompanying balance sheet.

The notes payable are due as follows (in thousands):

Fiscal year ending October 31,	
1997	$ 69
1998	153
1999	104
2000	111
2001	119
	$ 556

(8) Mandatorily Redeemable Preferred Stock

Each holder of Convertible Preferred Stock is entitled to vote on all matters on an as if converted basis. Dividends, if declared by the Board of Directors, are $.06, $.1275 and $.56 per share for the Series A, Series B and Series C Preferred Stock, respectively. No dividends have been declared through fiscal 1996. Subsequent to December 1, 2001, Series A dividends accrue on a quarterly basis and become cumulative. Upon liquidation, holders of the Series A, Series B and

(8) Mandatorily Redeemable Preferred Stock -- (Continued)

Series C Preferred Stock are entitled to receive $1.00, $1.50 and $7.00 per share, respectively, as adjusted for certain defined recapitalization events, plus accrued dividends, if any.

Holders of Convertible Preferred Stock may convert each of their shares into five shares of common stock at any time. Each outstanding share of Convertible Preferred Stock will be automatically converted into five shares of Common Stock upon (1) the consummation of the Offerings contemplated by the Company in its anticipated initial registration statement, or (2) the affirmative vote of the holders of record of (a) 67% of the outstanding shares of all series of Convertible Preferred Stock, voting together as one class to that effect, and (b) 85% of the outstanding shares of Series C Preferred Stock, voting separately as a class. Each outstanding share of Convertible Preferred Stock is mandatorily redeemable by the Company at the greater of purchase price or fair value upon the affirmative vote of holders of 72% of the outstanding shares for each individual series. A total of 50% of any such redemption is to be paid seven years from original issuance and 50% eight years from original issuance. The accompanying financial statements do not reflect any accretion to redemption value, because such accretion is not meaningful in light of the contemplated Offerings and the related expected conversion of all Convertible Preferred Stock to Common Stock.

During February 1994, the Company received a two month $200,000 bridge loan from two investors that subsequently purchased Series A Preferred Stock shares in April 1994. These two investors received warrants to purchase 50,000 shares of Series A Preferred Stock at either an exercise price of $1.00 per share or at a reduced share quantity for a cashless exercise price. The fair value of these warrants was determined to be immaterial on the date of grant and therefore no charge was recorded. In September 1996, warrants to purchase 50,000 of these shares were exercised and exchanged in a cashless exercise for 47,637 shares.

The following is a summary of the Company's Convertible Preferred Stock activity (dollars in thousands):

	SERIES A PREFERRED STOCK		SERIES B PREFERRED STOCK		SERIES C PREFERRED STOCK	
	SHARES	AMOUNT	SHARES	AMOUNT	SHARES	AMOUNT
Balance at October 31, 1993.....	--	$ --	--	$ --	--	$ --
Issued.....	3,542,520	3,543	--	--	--	--
Costs associated with issuance.....	--	(51)	--	--	--	--
Balance at October 31, 1994.....	3,542,520	3,492	--	--	--	--

```
Issued.............................          --       --     7,354,092     11,031          --
--
Costs associated with issuance........          --       --            --        (69)          --
--
Balance at October 31, 1995...........   3,542,520    3,492     7,354,092     10,962          --
--
Issued.............................       47,637       --            --         --    3,718,899
26,032
Costs associated with issuance........          --       --            --         --          --
(82)
Balance at October 31, 1996...........   3,590,157   $3,492     7,354,092    $10,962    3,718,899
$25,950
```

(9) Stock Options and Warrants

Stock Warrants

In January 1993, the Company issued a fully paid option to acquire up to five percent of the Company's outstanding shares of Common Stock after exercise. This option was issued in connection with the license of certain technologies described in Note 11. This option was redeemed

Ciena Corporation

Notes to Financial Statements -- (Continued)

(9) STOCK OPTIONS AND WARRANTS -- (CONTINUED) for 643,090 shares in early January 1996. As the fair value of these warrants was determined to be immaterial at the date of issuance, no charge to research and development expense was recorded.

In connection with the master lease agreement discussed in Note 5, the Company issued in September 1994, for $600, a warrant to the lessor to acquire 600,000 shares of the Company's Common Stock at an exercise price of $0.20 per share. As the fair value of these warrants was determined to be immaterial at the date of issuance, no charge was recorded by the Company.

In connection with the 1994 equity offerings, the Company issued warrants to investment bankers to purchase 1,075,000 shares of Common Stock at an exercise price of $0.02 and 150,000 shares of Series A Preferred Stock at an exercise price of $1.00 per share. No charge was recorded relative to these warrants as their fair value was determined to be immaterial. The warrants for the purchase of 1,075,000 shares of Common Stock were exercised in December 1994 for a $21,500 purchase price. During 1995, the warrants to purchase 150,000 shares of Series A Preferred Stock at $1.00 per share were canceled in exchange for the Company granting options to purchase 300,000 shares of Series B Preferred Stock at $2.00 per share.

During August 1996, in connection with the settlement of litigation involving a dispute over certain rights awarded from the April 1994 equity offerings of Series A Preferred Stock, the Company issued, for $150, a warrant to an investor to acquire 75,000 shares of the Company's Common Stock at an

exercise price of $4.00 per share. The Company recorded approximately $156,000 in expense for the fair value of the warrant when granted.

Stock Incentive Plans The Company has an Amended and Restated 1994 Stock Option Plan (the "1994 Plan"). Under the 1994 Plan, 20,050,000 shares of the Company's authorized but unissued Common Stock are reserved for options issuable to employees. These options are immediately exercisable upon grant, and both the options and the shares issuable upon exercise of the options generally vest to the employee over a four year period. The Company has the right to repurchase any exercised and non-vested shares at the original purchase price from the employees upon termination of employment. In June 1996 the Company approved the 1996 Outside Directors Stock Option Plan (the "1996 Plan"). Under the 1996 Plan, 750,000 shares of the Company's authorized but unissued Common Stock are reserved for options issuable to outside members of the Company's Board of Directors. These options vest to the director over periods from one to three years, depending on the type of option granted, and are exercisable once vested. Under the 1994 Plan and the 1996 Plan, options may be incentive stock options or non-statutory options, and the exercise price for each option shall be established by the Board of Directors provided, however, that the exercise price per share shall not be not less than the fair market value for incentive stock options and not less than

(9) Stock Options and Warrants -- (Continued)

85% of fair market value for non-statutory stock options. Following is a summary of the Company's stock option and warrant activity:

	NUMBER OF SHARES (IN THOUSANDS)				
	COMMON STOCK		PREFERRED STOCK SERIES A	PREFERRED STOCK SERIES B	EXERCISE PRICE
	OPTIONS	WARRANTS	WARRANTS	WARRANTS	PER SHARE
Balance at October 31, 1993.....	--	386	--	--	$.00- .10
Granted.....	3,560	1,916	200	--	.00- 1.00
Balance at October 31, 1994.....	3,560	2,302	200	--	.00- 1.00
Granted.....	3,856	49	--	300	.00- 2.00
Exercised.....	(44)	(1,075)	--	--	.02
Canceled.....	(431)	--	(150)	--	.02- 1.00
Balance at October 31, 1995.....	6,941	1,276	50	300	.00- 2.00
Granted.....	5,851	75	--	--	.06-15.94
Exercised.....	(579)	(676)	(48)	--	.00- 1.52
Canceled.....	(1,180)	--	(2)	--	.03- 3.69
Balance at October 31, 1996.....	11,033	675	--	300	$.02-15.94

All of the outstanding warrants above are currently exercisable, except the Common Stock warrant for 75,000 shares granted to an investor in August 1996. This warrant becomes exercisable in August 1997. Approximately 3.3 million of the total outstanding options and warrants were vested at October 31, 1996.

(10) Income Taxes

In fiscal 1996, the provision for income taxes consists of the following (in thousands):

Current:	
Federal	$ 3,452
State	632
	4,084
Deferred:	
Federal	(1,690)
State	(144)
	(1,834)
	$ 2,250

In fiscal 1994 and 1995, the tax provision was comprised primarily of a tax benefit of approximately $960,000 and $3.1 million, respectively, which was offset by valuation allowance of the same amount.

In fiscal 1994 and 1995, the tax provision differed from the expected tax benefit, computed by applying the U.S. federal statutory rate of 35% to the loss before income taxes, principally due to the effect of increases in the valuation allowance. In fiscal 1996, the tax provision reconciles to the

(10) Income Taxes -- (Continued)

amount computed by multiplying income before income taxes by the U.S. federal statutory rate of 35% as follows:

Provision at statutory rate	35.0%
Reversal of valuation allowance	(24.3)
State taxes, net of federal benefit	2.9
Current tax credits	(1.1)
Other	0.8
	13.3%

The components of deferred tax assets were as follows (in thousands):

October 31,	1995	1996
Reserve for excess and obsolete inventories	$ --	$ 736
Accrued warranty and other contractual obligations	--	602

Start-up costs deferred for tax purposes	496	379
Other accrued expenses not deducted for tax	--	114
Accrual to cash basis adjustments	689	--
Net operating loss carryforward	2,814	--
Other	51	3
Gross deferred tax assets	4,050	1,834
Valuation allowance	(4,050)	--
Net deferred tax asset	$ --	$ 1,834

The increase in the valuation allowance during fiscal 1995 was primarily attributable to the increase in net operating losses. The reversal of the valuation allowance during the third quarter of fiscal 1996 was attributable to the receipt of product acceptance by the Company from its initial customer and the start of profitable operations during that period. In assessing the realizability of deferred tax assets, management considers whether it is "more likely than not" (as defined under SFAS No. 109) that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers projected future taxable income and tax planning strategies in making this assessment. Based upon their evaluation of the evidence relating to net deferred tax assets at October 31, 1995, management determined that realization was not "more likely than not" and, accordingly, established a valuation allowance of $4.1 million.

(11) License Agreement

The Company has an exclusive agreement to license certain technologies which requires a 7.5% royalty on sales of products using the licensed technologies or certain minimum annual requirements. To date, the Company has incurred only the minimum annual royalty fees of $50,000 and $100,000 for the years ended October 31, 1995 and 1996, respectively. The Company may terminate the agreement upon notice to the licensor and would be liable for any payments accrued or owed prior to such termination.

(12) Employee Benefit Plans

In January 1995, the Company adopted a 401(k) defined contribution profit sharing plan. The plan covers all full-time employees who are at least 21 years of age, have completed three months of service and are not covered by a collective bargaining agreement where retirement benefits are subject to good faith bargaining. Participants may contribute up to 15% of pretax compensation, subject to certain

limitations. The Company may make discretionary annual profit sharing contributions of up to the lesser of $30,000 or 25% of each participant's compensation. The Company has made no profit sharing contributions to date.

(13) Commitments and Contingencies

Operating Lease Commitments The Company has certain minimum obligations under noncancelable operating leases expiring on various dates through 2006 for equipment and facilities. Future annual minimum rental commitments under noncancelable operating leases at October 31, 1996 are as follows (in thousands):

Fiscal Year Ending	
1997	$ 1,487
1998	1,816
1999	1,807
2000	1,796
2001	1,796
Thereafter	7,245
	$ 15,947

Rental expense for fiscal 1994, 1995 and 1996 was approximately $42,000, $111,000 and $602,000, respectively.

Litigation

In November 1996, a stockholder and entities controlled by that stockholder (the "plaintiffs") who provided initial equity capital during the formation of the Company and participated in the Series C Preferred Stock financing, filed suit against the Company and certain directors of the Company (the "defendants"). This suit alleges that the plaintiffs were entitled by the terms of an agreement with the Company to purchase approximately 230,000 shares of additional Series C Preferred Stock, at $7.00 per share, at the time of the closing of the Series C Preferred Stock financing, but were denied that opportunity by the defendants. The plaintiffs seek to recover unspecified actual and punitive damages. The Company believes that the plaintiffs' claims are without merit and intends to defend itself vigorously. However, due to the very early stage of this matter, it is not possible to determine what impact, if any, the outcome of this litigation might have on the financial condition, results of operations or cash flows of the Company.

The Company has agreed to indemnify its customer for liability incurred in connection with the infringement of a third-party's intellectual property rights. Although the Company has not received notice from its customer advising the Company of any alleged infringement of a third-party's intellectual property rights, there can be no assurance that such indemnification of alleged liability will not be required from the Company in the future.

Substantial inventories of intellectual property are held by a few industry participants and major universities and research laboratories. The Company has on a few occasions hired personnel from

Ciena Corporation

Notes to Financial Statements -- (Continued)

(13) Commitments and Contingencies -- (Continued)

such parties. The Company has in the past received letters from legal counsel to one such party, asserting that the hiring of their personnel involves a compromise of that party's intellectual properties. The Company disagrees with such assertions and, if any formal claim were to be filed, the Company would vigorously defend itself. Such litigation could be very expensive to defend, regardless of the merits of any possible claim.

(14) Subsequent Events

On November 22, 1996, the Company's Board of Directors approved the following effective on December 9, 1996: (i) a five-for-one stock split of the Company's Common Stock; (ii) an increase in the number of Common Stock authorized from 112,500,000 to 180,000,000; (iii) an increase in the number of shares of Common Stock issuable upon conversion of the Convertible Preferred Stock from one-for-one to five-for-one, and (iv) the authorization of 20,000,000 shares of undesignated Preferred Stock. All references to the number of shares authorized, issued and outstanding, the Preferred Stock to Common Stock conversion factor and per share information for all periods presented have been adjusted to give effect to the aforementioned stock split and share authorizations.

On December 10, 1996, the Company's Board of Directors authorized management of the Company to file a registration statement with the Securities and Exchange Commission for the initial public offering of its common stock. The Company plans to issue 5,000,000 shares at an estimated initial public offering price of between $17 and $19 per share.

Underwriting

Subject to the terms and conditions of the Underwriting Agreement, the Company has agreed to sell to each of the U.S. Underwriters named below, and each of such U.S. Underwriters, for whom Goldman, Sachs & Co., Alex. Brown & Sons Incorporated, Wessels, Arnold & Henderson, L.L.C. and William K. Woodruff & Company are acting as representatives, has severally agreed to purchase from the Company, the respective number of shares of Common Stock set forth opposite its name below:

NUMBER OF SHARES OF UNDERWRITER COMMON STOCK Goldman, Sachs & Co. ..... Alex. Brown & Sons Incorporated..... Wessels, Arnold & Henderson, L.L.C. ..... William K. Woodruff &

Company..... Total..... 4,000,000 Under the terms and conditions of the Underwriting Agreement, the U.S. Underwriters are committed to take and pay for all of the shares offered hereby, if any are taken.

The U.S. Underwriters propose to offer the shares of Common Stock in part directly to the public at the initial public offering price set forth on the cover page of this Prospectus and in part to certain securities dealers at such price less a concession of $ per share. The U.S. Underwriters may allow, and such dealers may reallow, a concession not in excess of $ per share to certain brokers and dealers. After the shares of Common Stock are released for sale to the public, the offering price and other selling terms may from time to time be varied by the representatives.

The Company has entered into an underwriting agreement (the "International Underwriting Agreement") with the underwriters of the international offering (the "International Underwriters") providing for the concurrent offer and sale of 1,000,000 shares of Common Stock in an international offering outside the United States. The offering price and aggregate underwriting discounts and commissions per share for the two offerings are identical. The closing of the offering made hereby is a condition to the closing of the international offering, and vice versa. The representatives of the International Underwriters are Goldman Sachs International, Alex. Brown & Sons Incorporated, Wessels, Arnold & Henderson, L.L.C. and William K. Woodruff & Company.

Pursuant to an Agreement between the U.S. and International Underwriting Syndicates (the "Agreement Between") relating to the two offerings, each of the U.S. Underwriters named herein has agreed that, as a part of the distribution of the shares offered hereby and subject to certain exceptions, it will offer, sell or deliver the shares of Common Stock, directly or indirectly, only in the United States of America (including the States and the District of Columbia), its territories, its possessions and other areas subject to its jurisdiction (the "United States") and to U.S. persons, which term shall mean, for purposes of this paragraph: (a) any individual who is a resident of the United States or (b) any corporation, partnership or other entity organized in or under the laws of the United States or any political subdivision thereof and whose office most directly involved with the purchase is located in the United States. Each of the International Underwriters has agreed pursuant to the Agreement Between that, as part of the distribution of the shares offered as a part of the international offering, and subject to certain exceptions, it will (i) not, directly or indirectly, offer, sell or deliver shares of Common Stock (a) in the United States or to any U.S. persons or (b) to any person whom it believes intends to reoffer, resell or deliver the shares in the United States or to any U.S. persons, and (ii) cause any dealer to whom it may sell such shares at any concession to agree to observe a similar restriction.

Pursuant to the Agreement Between, sales may be made between the U.S. Underwriters and the International Underwriters of such number of shares of Common Stock as may be mutually agreed. The price of any shares so sold shall be the initial public offering price, less an amount not greater than the selling concession.

The Company has granted the U.S. Underwriters an option exercisable for 30 days after the date of this Prospectus to purchase up to an aggregate of 600,000 additional shares of Common Stock solely to cover over-allotments, if any. If the U.S. Underwriters exercise their over-allotment option, the U.S.

Underwriters have severally agreed, subject to certain conditions, to purchase approximately the same percentage thereof that the number of shares to be purchased by each of them, as shown in the foregoing table, bears to the 4,000,000 shares of Common Stock offered. The Company has granted the International Underwriters a similar option to purchase up to an aggregate of 150,000 additional shares of Common Stock.

The Company, optionholders, warrantholders and certain stockholders of the Company have agreed that, during the period beginning from the date of this Prospectus and continuing to and including the date 180 days after the date of the Prospectus, they will not offer, sell, contract to sell or otherwise dispose of any securities of the Company (other than pursuant to employee stock option plans existing, or on the conversion or exchange of convertible or exchangeable securities outstanding, on the date of this Prospectus) which are substantially similar to the shares of the Common Stock or which are convertible into or exchangeable for securities which are substantially similar to the shares of Common Stock without the prior written consent of the Representatives, except for the shares of Common Stock offered in connection with the concurrent U.S. and international offerings.

The representatives of the Underwriters have informed the Company that they do not expect sales to accounts over which the Underwriters exercise discretionary authority to exceed five percent of the total number of shares of Common Stock offered by them.

Prior to the Offerings, there has been no public market for the shares. The initial public offering price will be negotiated between the Company and the representatives of the U.S. Underwriters and the International Underwriters. Among the factors to be considered in determining the initial public offering price of the Common Stock, in addition to prevailing market conditions, will be the Company's historical performance, estimates of the business potential and earnings prospects of the Company, an assessment of the Company's management and the consideration of the above factors in relation to market valuation of companies in related businesses.

Under the terms of a settlement agreement with the Company entered into in August 1996, the Company has (i) agreed to retain Woodruff as one of the representatives of the United States Underwriters and the International Underwriters, (ii) granted Woodruff warrants to purchase 75,000 shares at a purchase price of $4.00 per share and (iii) made a cash payment to Woodruff of $87,500. See "Certain Transactions -- Litigation Settlement".

Application will be made for quotation of the Common Stock on the Nasdaq National Market under the symbol "CIEN".

The Company has agreed to indemnify the Underwriters against certain liabilities, including liabilities under the Securities Act.

This Prospectus may be used by underwriters and dealers in connection with offers and sales of the Common Stock, including shares initially sold in the international offering, to persons located in the United States.

[This diagram shows pictures of various employees of the Company] NO PERSON HAS BEEN AUTHORIZED TO GIVE ANY INFORMATION OR TO MAKE ANY REPRESENTATIONS OTHER THAN THOSE CONTAINED IN THIS PROSPECTUS, AND, IF GIVEN OR MADE, SUCH INFORMATION OR REPRESENTATIONS MUST NOT BE RELIED UPON AS HAVING BEEN AUTHORIZED. 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 OR AN OFFER TO SELL OR THE SOLICITATION OF AN OFFER TO BUY SUCH SECURITIES IN ANY CIRCUMSTANCES IN WHICH SUCH OFFER OR SOLICITATION IS UNLAWFUL. NEITHER THE DELIVERY OF THIS PROSPECTUS NOR ANY SALE MADE HEREUNDER SHALL, UNDER ANY CIRCUMSTANCES, CREATE ANY IMPLICATION THAT THERE HAS BEEN NO CHANGE IN THE AFFAIRS OF THE COMPANY SINCE THE DATE HEREOF OR THAT THE INFORMATION CONTAINED HEREIN IS CORRECT AS OF ANY TIME SUBSEQUENT TO ITS DATE.

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THROUGH AND INCLUDING , 1997 (THE 25TH DAY AFTER THE DATE OF THIS PROSPECTUS), ALL DEALERS EFFECTING TRANSACTIONS IN THE COMMON STOCK, WHETHER OR NOT PARTICIPATING IN THIS DISTRIBUTION, MAY BE REQUIRED TO DELIVER A PROSPECTUS. THIS IS IN ADDITION TO THE OBLIGATION OF DEALERS TO DELIVER A PROSPECTUS WHEN ACTING AS UNDERWRITERS AND WITH RESPECT TO THEIR UNSOLD ALLOTMENTS OR SUBSCRIPTIONS.

5,000,000 Shares

CIENA CORPORATION COMMON STOCK (PAR VALUE $.01 PER SHARE)

[Logo]

Goldman, Sachs & Co.

Alex. Brown & Sons Incorporated

Wessels, Arnold & Henderson

William K. Woodruff & Company Representatives of the Underwriters

Part Ii Information Not Required in Prospectus

Item 13. Other Expenses of Issuance and Distribution

The following table sets forth all fees and expenses, other than the underwriting discounts and commissions, payable by the Registrant in connection with the sale of the Common Stock being registered. All amounts shown are estimates except for the registration fee and the NASD filing fee.

SEC registration fee	$ 33,107
NASD filing fee	11,425
Nasdaq National Market listing fee	30,000
Blue sky qualification fees and expenses	10,000
Printing and engraving expenses	190,000
Legal fees and expenses	500,000
Accounting fees and expenses	300,000
Transfer agent and registrar fees	25,000
Miscellaneous	468
Total	$ 1,100,000

* To be supplied by amendment.

Item 14. Indemnification of Officers and Directors

Section 145 of the Delaware General Corporation Law permits indemnification of officers, directors and other corporate agents under certain circumstances and subject to certain limitations. The Registrant's Third Amended and Restated Certificate of Incorporation and bylaws provide that the Registrant shall indemnify its directors, officers, employees and agents to the full extent permitted by Delaware General Corporation Law, including in circumstances in which indemnification is otherwise discretionary under Delaware law. In addition, the Registrant has entered into separate indemnification agreements with its directors, officers and certain employees which require the Registrant, among other things, to indemnify them against certain liabilities which may arise by reason of their status or service (other than liabilities arising from willful misconduct of a culpable nature) and to maintain directors' and officers' liability insurance, if available on reasonable terms. The Registrant intends to obtain directors' and officers' liability insurance with up to $10 million coverage per occurrence.

These indemnification provisions and the indemnification agreement to be entered into between the Registrant and its officers and directors may be sufficiently broad to permit indemnification of the Registrant's officers and directors for liabilities (including reimbursement of expenses incurred) arising under the Securities Act.

The Underwriting Agreements filed as Exhibits 1.1 and 1.2 to this Registration Statement provide for indemnification by the Underwriters of the Registrant and its officers and directors for certain liabilities arising under the Securities Act, or otherwise.

Item 15. Recent Sales of Unregistered Securities

Since December 1993, the Registrant has sold and issued the following unregistered securities (stated after giving effect to a 1,333.33-for-1 stock split in April 1994 and a five-for-one stock split effective on December 9, 1996).

(1) In April 1994, the Registrant sold 3,332,520 shares of Series A Preferred Stock for an aggregate price of $3,332,520.

(2) In April 1994, the Registrant sold 3,500,000 shares of Common Stock for an aggregate price of $70,000.

(3) In August 1994, the Registrant sold 210,000 shares of Series A Preferred Stock for an aggregate price of $210,000.

(4) In October 1994, the Registrant sold 250,000 shares of Common Stock for an aggregate price of $5,000.

(5) In December 1994, the Registrant sold 1,075,000 shares of Common Stock upon exercise of a warrant for an aggregate price of $21,500.

(6) In December 1994, the Registrant sold 7,354,092 shares of Series B Preferred Stock for an aggregate price of $11,031,138.

(7) In December 1995, the Registrant sold 3,718,899 shares of Series C Preferred Stock for an aggregate price of $26,032,293.

(8) In December 1995, the Registrant sold 33,335 shares of Common Stock upon exercise of a warrant for an aggregate price of $3,300.

(9) In January 1996, the Registrant sold 643,090 shares of Common Stock upon exercise of a warrant granted in consideration for the license of certain technologies.

(10) In September 1996, the Registrant sold 23,789 shares of Series A Preferred Stock upon a cashless exercise of a warrant.

(11) In September 1996, the Registrant sold 23,848 shares of Series A Preferred Stock upon a cashless exercise of a warrant.

(12) From December 1, 1993 through October 31, 1996, the Registrant has sold an aggregate of 623,495 shares for an aggregate consideration of $82,268 upon exercise of stock options granted pursuant to the Registrant's Amended and Restated 1994 Stock Option Plan.

The issuances described above were deemed to be exempt from registration under the Securities Act in reliance on Section 4(2) of the Securities Act as transactions by an issuer not involving a public offering. In addition, certain issuances described in Paragraph 13 were deemed exempt from registration under the Securities Act in reliance on Rule 701 promulgated thereunder as transactions pursuant to compensatory benefit plans and contracts relating to compensation. The recipients of securities in each such transaction represented their intention to acquire the securities for investment only and not with a view to or for sale in connection with any distribution thereof and appropriate legends were affixed to the share certificates and other instruments issued in such transactions. All recipients either received adequate information about the Registrant or had access, through employment or other relationships, to such information. Effective upon the completion of the Offerings being registered hereby, all of the issued and outstanding shares of the Company's Convertible Preferred Stock will automatically convert into 73,315,740 shares of the Company's Common Stock. The Registrant will rely upon the exemption from registration contained in Section 3(a)(9) of the Securities Act.

Item 16. Exhibits

(a) Exhibits.

Exhibit Number Description

1.1	Form of U.S. Underwriting Agreement
1.2	Form of International Underwriting Agreement
3.1	Certificate of Amendment to Third Restated Certificate of Incorporation
3.2	Third Restated Certificate of Incorporation

Exhibit Number Description

3.3	Amended and Restated Bylaws
4.1*	Specimen Stock Certificate
5.1*	Opinion of Hogan & Hartson L.L.P.
10.1	Form of Indemnification Agreement for Directors and Officers
10.2	Amended and Restated 1994 Stock Option Plan
10.3	Form of Employee Stock Option Agreements
10.4	1996 Outside Directors Stock Option Plan
10.5	Forms of 1996 Outside Directors Stock Option Agreement
10.6	Series C Preferred Stock Purchase Agreement dated December 20, 1995
10.7	Lease Agreement dated October 5, 1995 between the Company and CS Corridor-32 Limited Partnership
10.8+	Purchase Agreement Between Sprint/United Management Company and the Company dated December 14, 1995
10.9+	Basic Purchase Agreement between WorldCom Network Services, Inc. and the Company dated September 19, 1996
10.10	Settlement Agreement and Mutual Release, between the Company and William K. Woodruff & Company, dated August 26, 1996
10.11	Warrant, dated August 21, 1996, granted by the Company to William K. Woodruff & Company
10.12	Employment Agreement dated April 9, 1994 between the Company and David Huber
10.13	Employment Agreement dated April 9, 1994 between the Company and Patrick Nettles
10.14	Lease Agreement dated November 1, 1996 by and between the Company and Aetna Life Insurance Company
10.15	Revolving Note and Business Loan Agreement dated November 25, 1996 between the Company and Mercantile-Safe Deposit & Trust Company
23.1*	Consent of Hogan & Hartson L.L.P. (included in Exhibit 5.1)
23.2	Consent of Independent Accountants
27.1	Financial Data Schedule

* To be filed by amendment.

+ Confidential treatment has been requested with respect to certain portions of these exhibits in reliance on Rule 406 under the Securities Act of 1933, as amended.

(b) Financial Statement Schedules Schedules have been omitted because the information required to be set forth therein is not applicable or is shown in the financial statements or notes thereto.

Item 17. Undertakings

The undersigned Registrant hereby undertakes to provide to the Underwriters at the closing specified in the Underwriting Agreements certificates in such denominations and registered in such names as required by the Underwriters to permit prompt delivery to each purchaser.

Insofar as indemnification by the Registrant for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the provisions referenced in Item 14 of this Registration Statement 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 hereunder, 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, 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; and (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 the time shall be deemed to be the initial bona fide offering thereof.

Signatures

Pursuant to the requirements of the Securities Act of 1933, the Registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Savage, County of Howard, State of Maryland, on the 12th day of December, 1996.

Ciena Corporation

By: /s/ Patrick H. Nettles Patrick H. Nettles President, Chief Executive Officer and Director (Principal Executive Officer)

Power of Attorney

KNOW ALL MEN BY THESE PRESENT, that each person whose signature appears below constitutes and appoints Patrick H. Nettles, Joseph R. Chinnici and G. Eric Georgatos, and each of them, his or her true and lawful attorney-in-fact and agents, with full power of substitution and resubstitution, from such person and in each person's name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to the Registration Statement, any Registration Statement relating to this Registration Statement under Rule 462 and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, full power and authority to do and perform each and every act and thing requisite and necessary to be done as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act, this Registration Statement has been signed by the following persons in the capacities and on the date indicated.

Signatures Title Date

/s/ Patrick H. Nettles Patrick H. Nettles	President, Chief Executive Officer and Director (Principal Executive Officer)	December 12, 1996
/s/ Joseph R. Chinnici Joseph R. Chinnici	Vice President, Finance and Chief Financial Officer (Principal Financial Officer)	December 12, 1996
/s/ Andrew C. Petrik Andrew C. Petrik	Controller and Treasurer (Principal Accounting Officer)	December 12, 1996

/s/ Jon W. Bayless Director December 12, 1996 Jon W. Bayless /s/ Harvey B. Cash Director December 12, 1996 Harvey B. Cash

Signatures Title Date

/s/ Clifford W. Higgerson Director December 12, 1996 Clifford W. Higgerson /s/ Billy B. Oliver Director December 12, 1996 Billy B. Oliver /s/ Michael J. Zak Director December 12, 1996 Michael J. Zak /s/ David R. Huber, Ph.D. Director December 12, 1996 David R. Huber, Ph.D.

Exhibit Number Description

1.1	Form of U.S. Underwriting Agreement
1.2	Form of International Underwriting Agreement
3.1	Certificate of Amendment to Third Restated Certificate of Incorporation
3.2	Third Restated Certificate of Incorporation
3.3	Amended and Restated Bylaws
4.1*	Specimen Stock Certificate
5.1*	Opinion of Hogan & Hartson L.L.P.
10.1	Form of Indemnification Agreement for Directors and Officers
10.2	Amended and Restated 1994 Stock Option Plan
10.3	Forms of Employee Stock Option Agreements
10.4	1996 Outside Directors Stock Option Plan
10.5	Forms of 1996 Outside Directors Stock Option Agreement
10.6	Series C Preferred Stock Purchase Agreement dated December 20, 1995
10.7	Lease Agreement dated October 5, 1995 between the Company and CS Corridor-32 Limited Partnership
10.8+	Purchase Agreement Between Sprint/United Management Company and the Company dated December 14, 1995
10.9+	Basic Purchase Agreement between WorldCom Network Services, Inc. and the Company dated September 19, 1996
10.10	Settlement Agreement and Mutual Release, between the Company and William K. Woodruff & Company, dated August 26, 1996
10.11	Warrant, dated August 21, 1996, granted by the Company to William K. Woodruff & Company
10.12	Employment Agreement dated April 9, 1994 between the Company and David Huber
10.13	Employment Agreement dated April 9, 1994 between the Company and Patrick Nettles

10.14	Lease Agreement dated November 1, 1996 by and between the Company and Aetna Life Insurance Company
10.15	Revolving Note and Business Loan Agreement dated November 25, 1996 between the Company and Mercantile-Safe Deposit & Trust Company
23.1*	Consent of Hogan & Hartson L.L.P. (included in Exhibit 5.1)
23.2	Consent of Independent Accountants
27.1	Financial Data Schedule

* To be filed by amendment.

+ Confidential treatment has been requested with respect to certain portions of these exhibits in reliance on Rule 406 under the Securities Act of 1933, as amended. </TEXT>