AS FILED WITH THE SECURITIES AND EXCHANGE COMMISSION ON FEBRUARY 4, 1997

REGISTRATION NO. 333-17729

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

AMENDMENT NO. 3

TO

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 DAVID SYLVESTER
HOGAN & HARTSON L.L.P.	HALE AND DORR LLP
111 SOUTH CALVERT STREET	1455 PENNSYLVANIA AVE., N.W.
BALTIMORE, MARYLAND 21202	WASHINGTON, D.C. 20004
(410) 659-2700	(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.

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.

EXPLANATORY NOTE

This Registration Statement contains two forms of prospectus: one to be used in connection with a United States offering of shares (the "U.S. Prospectus") and one to be used in connection with a concurrent international offering of shares (the "International Prospectus"). The U.S. Prospectus and the International Prospectus are identical except that they contain different front and back cover pages and different descriptions of the plan of distribution (contained under the caption "Underwriting" in each of the U.S. and International Prospectuses). The form of U.S. Prospectus is included herein and is followed by those pages to be used in the International Prospectus which differ from, or are in addition to, those in the U.S. Prospectus. Each of the pages for the International Prospectus included herein is labeled "Alternate Page for International Prospectus."

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 FEBRUARY 4, 1997

5,000,000 SHARES
[CIENA 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".

The Underwriters have reserved up to 9.9% of the shares of Common Stock offered in the offerings for sale, at the initial public offering price, to one of the Company's international distributors and certain employees and associates of the Company. See "Underwriting".

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

Application has been 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)	$	$	$

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(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
INCORPORATED

The date of this Prospectus is   , 1997.

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 FEBRUARY 4, 1997

5,000,000 SHARES

[CIENA LOGO]
COMMON STOCK
(PAR VALUE $.01 PER SHARE)

Of the 5,000,000 shares of Common Stock offered, 1,000,000 shares are being offered hereby in an international offering outside the United States and 4,000,000 shares are being offered in a concurrent United States offering. 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".

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

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(2) Before deducting estimated expenses of $1,100,000 payable by the Company.
(3) The Company has granted the International Underwriters an option for 30 days to purchase up to an additional 150,000 shares at the initial public offering price per share, less the underwriting discount, solely to cover over-allotments. Additionally, the Company has granted the U.S. Underwriters a similar option with respect to an additional 600,000 shares as part of the concurrent U.S. 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 International 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 INTERNATIONAL
ALEX. BROWN & SONS INTERNATIONAL

WESSELS, ARNOLD & HENDERSON

WILLIAM K. WOODRUFF & COMPANY
INCORPORATED

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.

[ALTERNATE PAGE FOR INTERNATIONAL PROSPECTUS]

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.

This Prospectus does not constitute an offer to sell or the solicitation of an offer to buy the shares of Common Stock in any jurisdiction in which such offer or solicitation is unlawful. There are restrictions on the offer and sale of the shares of Common Stock in the United Kingdom. All applicable provisions of the Financial Services Act 1986 and the Public Offers of Securities Regulations 1995 with respect to anything done by any person in relation to the shares of Common Stock, in, from or otherwise involving the United Kingdom must be complied with. See "Underwriting".

In this Prospectus, references to "dollars", "U.S.$" and "$" are to United States dollars.

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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, and the field trial in the WorldCom network was successfully completed in December 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".

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(1) Excludes 11,757,960 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	
	ACTUAL	PRO FORMA 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	55,715	--
Stockholders' equity (deficit)	(10,341)	128,574

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(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 99,111,000. Pro forma net income per common and common equivalent share is computed using the pro forma weighted average number of common and common equivalent shares outstanding. Pro forma weighted average common and common equivalent shares outstanding include Common Stock, stock options and warrants using the 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 agreement with WorldCom does 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 delivery commitments to customers. The Company is in the process of substantially increasing its flow of materials, optical assembly, final assembly and final component module and system test functions to respond to customer demand. The Company is expanding its manufacturing capacity at its existing facility in Savage and intends to lease a third facility. 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. The Company is also seeking to achieve ISO 9001 certification for its manufacturing facility. If the Company fails to achieve such certification, its competitive position may be materially and adversely affected. 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. Patent litigation recently brought against the Company by a competitor could also adversely affect demand for the MultiWave 1600 system. 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. A U.S. affiliate of Pirelli instituted litigation against the Company on December 20, 1996, alleging infringement of five U.S. patents held by Pirelli (the "Pirelli Litigation"). Pirelli and other competitors could use the existence of the Pirelli Litigation to raise questions in customers' and potential customers' minds as to the Company's ability to manufacture and deliver the MultiWave 1600 system. 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. On December 20, 1996, a U.S. affiliate of Pirelli filed a lawsuit against the Company alleging infringement of five U.S. patents held by Pirelli (the "Pirelli Litigation"). Intellectual property 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. In the future, the Company may be required to bring or defend against other litigation 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, including the Pirelli 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, including in the Pirelli 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 any valid 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. On December 20, 1996, a U.S. affiliate of Pirelli filed a lawsuit against the Company alleging infringement of five U.S. patents. Even if the Company is successful in defending against the Pirelli Litigation or any other 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's existing customer agreements provide for indemnification of Sprint, WorldCom and Teleway for liability that may be incurred in connection with the infringement of a third party's intellectual property rights, and the Company 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, based on the size and sophistication of its competitors and the history of rapid technological advances in its industry, that several competitors may have patent applications in progress in the United States 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.

LITIGATION

On December 20, 1996, eight days after the Company's initial filing of the registration statement of which this prospectus is a part, a U.S. affiliate of Pirelli filed suit in U.S. District Court in Delaware, alleging wilful infringement by the Company of five U.S. patents held by Pirelli (the "Pirelli Litigation"). The lawsuit seeks treble damages, attorneys' fees and costs, as well as preliminary and permanent injunctive relief against the alleged infringement.

There can be no assurance that the Company will be successful in the defense of the Pirelli Litigation, and an adverse determination in the litigation could result from a finding of infringement of only one claim of a single patent. The Company may consider settlement due to the costs and uncertainties associated with litigation in general and patent infringement litigation in particular and due to the fact that an adverse determination in the litigation could preclude CIENA from producing the MultiWave 1600 system until it were able to implement a non-infringing alternative design to any portion of the system to which such a determination applied. There can be no assurance that any settlement will be reached by the parties. An adverse determination in, or settlement of, the Pirelli Litigation could involve the payment of significant amounts, or could include terms in addition to such payments, which could have a material adverse effect on the Company's business, financial condition and results of operations.

The Company expects that defense of the lawsuit will be costly and will involve a diversion of the time and attention of some members of management. Further, Pirelli and other competitors may use the existence of the Pirelli Litigation to raise questions in customers' and potential customers' minds as to the Company's ability to manufacture and deliver the MultiWave 1600 system. There can be no assurance that such efforts by Pirelli and others will not disrupt the Company's existing and prospective customer relationships.

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

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 schedules, 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, the E-2000 Diamond connector, which is used to manufacture a portion of the MultiWave 1600 system, is available only from a sole source - the Diamond Company. 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 including Dr. Nettles, Dr. Huber, Mr. Chaddick and Mr. Huang. 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. In addition, while key employees are generally bound by Company-wide standard non-disclosure and proprietary rights agreements, the Company has not entered into separate non-competition agreements with any of its 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 except as described in "Underwriting". Within 90 days after the date of this Prospectus, approximately 71,538,747 shares (including 5,011,912 shares issuable upon the exercise of options and warrants) 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 66,018,610 shares and options and warrants to purchase 5,011,912 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 72,406,035 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 11,082,960 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.

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)	8,651	--
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)	19,690	--
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)	27,374	--
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	--	138,117
Notes receivable from stockholders	(60)	(60)
Retained earnings (deficit)	(10,413)	(10,413)
Total stockholders' equity (deficit)	(10,341)	128,574
Total capitalization	$48,047	$ 131,247

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(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 11,007,960 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%	

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(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 11,007,960 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	14,673	55,715
Stockholders' (deficit)	(35)	(2,388)	(10,149)	(10,341)

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(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 99,111,000. Pro forma net income per common and common equivalent share is computed using the pro forma weighted average number of common and common equivalent shares outstanding. Pro forma weighted average common and common equivalent shares outstanding include Common Stock, stock options and warrants using the 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 supply agreement was amended in December 1996 to provide a more definitive purchase and delivery schedule during 1997 in combination with a reduction in the Company's prices relating thereto. 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. In December 1996, the field trial in the WorldCom network was successfully completed. 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. The Company intends to lease additional facilities of 50,000 to 60,000 square feet as early as the second quarter of 1997.

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	99,111	99,111	99,111	99,111

	FISCAL QUARTER ENDED			
	JAN. 31, 1996	APR. 30, 1996	JUL. 31, 1996	OCT. 31, 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, an increase in expenses associated with operating as a public company and legal expenses associated with recently instituted litigation. See "Business -- Legal Proceedings".

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 intends to lease additional facilities of 50,000 to 60,000 square feet as early as the second quarter of fiscal 1997 and may spend up to $5.0 million to $8.0 million in improving such facilities as and to the extent necessary to meet expansion requirements.

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 and the field trial in the WorldCom network was successfully completed in December 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 technol-

ogy: 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. ISO 9001 is an internationally recognized documented standard prescribing quality assurance management. The Company believes that ISO 9001 certification will not only serve as a guide for quality management but may enhance the Company's competitive position, especially among potential customers who view such certification as an independent validation of quality assurance.

- 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:

[GRAPHIC]

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.

[GRAPHIC]

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 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 perpetual, non-exclusive license to certain software and a license to use, modify and enhance the Company's source code under certain conditions.

The supply agreement was amended in December 1996 to provide for a more definitive purchase and delivery schedule during 1997 in combination with a reduction in the Company's prices relating thereto. As a result of the amendment, the Company anticipates that Sprint's purchases during this period will approximate $130 million, and is planning to expand its production capacity accordingly. There can be no assurance that these purchases will occur or that the Company will be able to execute its expansion plan so as to assure timely delivery of all purchased

equipment, and the failure to deliver in a timely manner may result in a reduction of Sprint's actual purchases in 1997.

WORLDCOM RELATIONSHIP

In September 1996, the Company entered into a supply agreement with WorldCom. Pursuant to the terms of the supply agreement, the Company will be, subject to certain conditions, 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 and indirect 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 is 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. A U.S. affiliate of Pirelli recently brought patent infringement litigation against the Company. See "Business -- Legal Proceedings". 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. To the extent that the Company does not achieve ISO 9001 certification and its competitors do, the Company's competitive position may be materially and adversely affected.

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. These licenses expire when the last of the licensed patents expires or is abandoned. The Company also licenses from third parties certain software components for its network management software. These software licenses are perpetual but will generally terminate after an uncured breach of the agreement by the Company. 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 January 1, 1997, 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. Patents afford the holder the right to exclusive use for 17 years. Of the seven United States patents that have been issued, one will expire in 2012 and the remaining will expire in 2013. In addition, the Company holds a non-exclusive, perpetual license from General Instrument Corporation 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. The Company also intends in the second quarter of fiscal 1997 to lease additional facilities of 50,000 to 60,000 square feet to accommodate additional expansion.

LEGAL PROCEEDINGS

Pirelli Litigation. On December 20, 1996, a U.S. affiliate of Pirelli filed suit in U.S. District Court in Delaware, alleging wilful infringement by the Company of five U.S. patents held by Pirelli. The lawsuit seeks treble damages, attorneys' fees and costs, as well as preliminary and permanent injunctive relief against the alleged infringement.

Prior to the lawsuit, the Company was aware of several Pirelli patents in the fiberoptic field, including the five alleged in the Pirelli lawsuit to have been infringed by the Company. The Company had taken those patents and others into account in the design and development of its MultiWave 1600 system in order to avoid infringement. The Company believes its MultiWave 1600 system does not infringe any valid Pirelli patents and intends to defend itself vigorously. However, there can be no assurance that the Company will be successful in the defense of the Pirelli Litigation and an adverse determination in the litigation could result from a finding of infringement of only one claim of a single patent. The Company may consider settlement due to the costs and uncertainties associated with

litigation in general and patent infringement litigation in particular and due to the fact that an adverse determination in the litigation could preclude CIENA from producing the MultiWave 1600 system until it were able to implement a non-infringing alternative design to any portion of the system to which such a determination applied. There can be no assurance that any settlement will be reached by the parties. An adverse determination in, or settlement of, the Pirelli Litigation could involve the payment of significant amounts, or could include terms in addition to such payments, which could have a material adverse effect on the Company's business, financial condition and results of operations.

The Company expects that defense of the lawsuit will be costly and will involve a diversion of the time and attention of some members of management. Further, the Company expects that Pirelli and other competitors may use the existence of the Pirelli lawsuit to raise questions in customers' and potential customers' minds as to the Company's ability to manufacture and deliver the MultiWave 1600 system. There can be no assurance that such efforts by Pirelli and others will not disrupt the Company's existing and prospective customer relationships.

Kimberlin Litigation. 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 Preferred Stock 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. On January 6, 1997, the Company filed its answer to the Kimberlin Parties' complaint, and filed a counterclaim for rescission of the sale of the shares of Series C Preferred Stock purchased by the Kimberlin Parties in the Series C Preferred Stock financing. Discovery proceedings are now ongoing.

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

PLAN OF OPERATIONS FOR BALANCE OF FISCAL 1997

The Company's plan of operations for the remainder of the 1997 fiscal year is to continue manufacturing, marketing and supporting the MultiWave 1600 system. The Company intends to relocate its principal executive offices during the fiscal 1997, to convert substantially all of its current Savage, Maryland, facility into a manufacturing facility and to lease another 50,000 to 60,000 square feet of space for additional expansion. The Company will seek to develop additional customer relationships by responding to requests for proposals and engaging in direct and indirect sales efforts. Product development efforts for the balance of the fiscal year will be focused on expanding the capacity of the MultiWave 1600 system and adding operational features to the MultiWave

product. The Company anticipates that it will hire additional employees in all areas of operations during fiscal 1997, and intends to continue its technical support and customer service efforts by opening an office in Kansas City, Kansas (to support Sprint), Tulsa, Oklahoma (to support WorldCom), and other selected locations where it develops significant customer relationships. The net proceeds from the Offerings and from the exercise of warrants will be added by the Company 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 agreement with respect to any material acquisition of other businesses, products or technologies. The Company does not believe it will be necessary to seek additional external funding for its operations for the balance of fiscal 1997.

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

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(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 1990, 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

	ANNUAL COMPENSATION			LONG-TERM COMPENSATION
	YEAR	SALARY	BONUS	SECURITIES UNDERLYING OPTIONS
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 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

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(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	--

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(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 11,007,960 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. ("BVP")(1)	--	--	626,668	425,997
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

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(1) Includes (i) 24,000 shares of Series B Preferred Stock held by persons associated with Bessemer Securities Corporation ("BSC"), the parent of the limited partner of BVP, as to which BVP has the power to vote and as to which BVP disclaims beneficial ownership, and 22,222 shares of Series B Preferred Stock held by BVP III Special Situations L.P. ("BVP SS"), as to which Deer III & Co. ("Deer III"), the general partner of BVP, as the general partner of BVP SS, has voting and investment control and as to which BVP disclaims beneficial ownership and Deer III disclaims beneficial ownership except to the extent of its partnership interest in BVP SS, and (ii) 6,150 shares of Series C Preferred Stock held by persons associated with BSC, the parent of the limited partner of BVP, as to which BVP has the power to vote and as to which BVP disclaims beneficial ownership, and 9,523 shares of Series C Preferred Stock held by BVP SS, as to which Deer III, as the general partner of BVP SS, has voting and investment control and as to which BVP disclaims beneficial ownership and Deer III disclaims beneficial ownership except to the extent of its partnership interest in BVP SS. Does not include (i) 73,332 shares of Series B Preferred Stock held by partners of Deer III & Co. and persons associated with such partners or Deer III & Co., and (ii) 6,858 shares of Series C Preferred Stock held by partners of Deer III & Co. and person associated with such partners of Deer III & Co.

(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 Incorporated ("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	
DIRECTORS, OFFICERS AND PRINCIPAL STOCKHOLDERS	NUMBER OF SHARES BENEFICIALLY OWNED(1)	BEFORE THE OFFERINGS	AFTER THE OFFERINGS
Sevin Rosen Entities(2) Two Galleria Tower 13455 Noel Road, Suite 1670 Dallas, Texas 75240	11,838,490	13.5%	12.7%
InterWest(3) 3000 Sand Hill Road Building 3, Suite 255 Menlo Park, CA 94025	10,954,405	12.4	11.8
Charles River(4) c/o Charles River Ventures, Inc. 1000 Winter Street, Suite 3300 Waltham, MA 02154	8,750,000	10.0	9.4
Star Venture Entities Possartstrasse 9 D-81679 Munich, Germany	6,610,715	7.5	7.1
JAFCO Entities c/o Japan Associated Finance Co., Ltd. Toshiba Bldg., 10F 1-1-1, Shibaura, Minato-Ku Tokyo, Japan 105	5,857,145	6.7	6.3
BVP(5) 1025 Old Country Road Suite 205 Westbury, NY 11530	5,263,335	6.0	5.8
Vanguard IV, L.P.(6) 525 University Avenue Suite 600 Palo Alto, CA 94301	7,070,465	8.0	7.6
Patrick H. Nettles(7)	4,352,135	4.9	4.6
David R. Huber(8)	6,187,950	7.0	6.7
Steve W. Chaddick(9)	1,312,500	1.5	1.4
Lawrence P. Huang(10)	1,312,500	1.5	1.4
Joseph R. Chinnici(11)	322,500	*	*
Jon W. Bayless(12)	11,838,490	13.4	12.7
Harvey B. Cash(13)	10,954,405	12.4	11.8
Clifford W. Higgerson(14)	7,070,465	8.0	7.6
Billy B. Oliver(15)	75,000	*	*
Michael J. Zak(16)	8,750,000	10.0	9.4
All officers and directors as a group (16 persons)(17)	53,683,445	57.7	54.7
Dr. Meir Barel(18)	6,610,715	7.5	7.1
Kevin Kimberlin(19)	4,680,490	5.3	5.0
Weiss, Peck & Greer Venture Capital Funds(20)	3,625,000	4.1	3.9

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* 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) Includes (i) 24,000 shares of Series B Preferred Stock held by persons associated with Bessemer Securities Corporation ("BSC"), the parent of the limited partner of BVP, as to which BVP has the power to vote and as to which BVP disclaims beneficial ownership, and 22,222 shares of Series B Preferred Stock held by BVP III Special Situations L.P. ("BVP SS"), as to which Deer III & Co. ("Deer III"), the general partner of BVP, as the general partner of BVP SS, has voting and investment control and as to which BVP disclaims beneficial ownership and Deer III disclaims beneficial ownership except to the extent of its partnership interest in BVP SS, and (ii) 6,150 shares of Series C Preferred Stock held by persons associated with BSC, the parent of the limited partner of BVP, as to which BVP has the power to vote and as to which BVP disclaims beneficial ownership, and 9,523 shares of Series C Preferred Stock held by BVP SS, as to which Deer III, as the general partner of BVP SS, has voting and investment control and as to which BVP disclaims beneficial ownership and Deer III disclaims beneficial ownership except to the extent of its partnership interest in BVP SS. Does not include (i) 73,332 shares of Series B Preferred Stock held by partners of Deer III & Co. and persons associated with such partners or Deer III & Co., and (ii) 6,858 shares of Series C Preferred Stock held by partners of Deer III & Co. and person associated with such partners of Deer III & Co.

(6) 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.

(7) 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.

(8) 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.

(9) 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.

(10) 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.

(11) 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.

(12) 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.

(13) 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.

(14) 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.

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

(16) 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.

(17) Includes 3,125,000 shares issuable upon exercise of stock options, of which 1,917,715 shares are subject to a right of repurchase by the Company.

(18) Represents shares beneficially owned by Star Venture Entities of which Dr. Barel is affiliated. Dr. Barel disclaims beneficial ownership of such shares except to the extent of his proportional beneficial interest therein.

(19) 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".

(20) 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 and except as described in "Underwriting." Sales by affiliates will be subject to certain limitations and restrictions described below. Within 90 days after the date of this Prospectus, approximately 71,538,747 shares (including 5,011,912 shares issuable upon exercise of options and warrants) 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 66,018,610 shares and options and warrants to purchase 5,011,912 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; provided, however, the representatives of the Underwriters have agreed with the Company that they will not release from the lock-up agreements any shares held by holders of more than 100,000 shares (a "Significant Locked-Up Stockholder") without offering other Significant Locked-Up Stockholders the opportunity to have shares held by them released from their lock-up agreements on a pro rata basis.

Upon expiration of the lock-up period, 72,406,035 shares will become eligible for sale in the public market, subject in most cases to the limitations of Rule 144. The remaining 20,135,015 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 11,007,960 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 4,114,429 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 requirements. 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 and the non-U.S. holder owned more than 5% of the Company's Common Stock at any time during such period. 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 from 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 LLP, 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.

As disclosed in Note 15, the accompanying balance sheets at October 31, 1996 and 1995 have been restated to record accretion relating to the Company's Convertible Preferred Stock.

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)

	OCTOBER 31, 1995	OCTOBER 31, 1996	PRO FORMA STOCKHOLDERS' EQUITY AT OCTOBER 31, 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	3,711	8,651	$ --
Series B -- 8,000,000 shares authorized; 7,354,092 shares issued and outstanding; zero outstanding pro forma	10,962	19,690	--
Series C -- 3,750,000 shares authorized; 3,718,899 shares issued and outstanding; zero outstanding pro forma	--	27,374	--
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	--	--	54,982
Notes receivable from stockholders	--	(60)	(60)
Retained earnings (deficit)	(10,268)	(10,413)	(10,413)
Total stockholders' equity (deficit)	(10,149)	(10,341)	$ 45,374
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			99,111

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			NOTES RECEIVABLE		TOTAL STOCKHOLDERS'
	SHARES	AMOUNT	ADDITIONAL PAID-IN-CAPITAL	FROM STOCKHOLDERS	RETAINED (DEFICIT)	EQUITY (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
Accretion	--	--	(110)	--	(109)	(219)
Net loss	--	--	--	--	(7,629)	(7,629)
BALANCE AT OCTOBER 31, 1995	11,935,415	119	--	--	(10,268)	(10,149)
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
Accretion	--	--	(229)	--	(14,863)	(15,092)
Net income	--	--	--	--	14,718	14,718
BALANCE AT OCTOBER 31, 1996	13,191,585	$132	$ --	$(60)	$(10,413)	$(10,341)

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.

CIENA CORPORATION

NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

(1) THE COMPANY AND SIGNIFICANT ACCOUNTING POLICIES -- (CONTINUED)

Computation of Pro Forma Net Income per Share

Pro forma net income per common and common equivalent share is computed using the pro forma weighted average number of common and common equivalent shares outstanding. Pro forma weighted average common and common equivalent shares include Common Stock, stock options and warrants using the 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 the initial registration statement and through the effective date of such registration statement have been included in the calculation of the pro forma weighted average shares outstanding using the 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

CIENA CORPORATION

NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

(3) EQUIPMENT, FURNITURE AND FIXTURES

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

	OCTOBER 31, 1995	OCTOBER 31, 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	OCTOBER 31, 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

CIENA CORPORATION

NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

(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

CIENA CORPORATION

NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

(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.

Although the holders have not voted for redemption, in accordance with generally accepted accounting principles (Note 15) accretion has been recorded in the accompanying financial statements to increase the carrying value of the shares of Convertible Preferred Stock to the estimated redemption value. The estimated redemption value at October 31, 1996 for purposes of recording such accretion is approximately $16 per share for each series of Convertible Preferred Stock. Should the holders vote for redemption, the Company's first redemption payment would not be due until fiscal year 2001; the aggregate amount of this first redemption payment would be approximately $139 million based upon the October 31, 1996 estimated redemption value.

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)	--	--
Accretion	--	219	--	--	--	--
Balance at October 31, 1995	3,542,520	3,711	7,354,092	10,962	--	--
Issued	47,637	--	--	--	3,718,899	26,032
Costs associated with issuance	--	--	--	--	--	(82)
Accretion	--	4,940	--	8,728	--	1,424
Balance at October 31, 1996	3,590,157	$8,651	7,354,092	$19,690	3,718,899	$27,374

(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 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

CIENA CORPORATION

NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

(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	5,901	75	--	--	.06-15.94
Exercised	(579)	(676)	(48)	--	.00- 1.52
Canceled	(1,180)	--	(2)	--	.03- 3.69
Balance at October 31, 1996	11,083	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

CIENA CORPORATION

NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

(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	OCTOBER 31, 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) RECAPITALIZATION AND AUTHORIZATION OF OFFERINGS

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 shares 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.

(15) RESTATEMENT

The Company's balance sheets at October 31, 1996 and 1995 have been restated to record the amounts to accrete the carrying value of the shares of Convertible Preferred Stock to the current estimated fair value over the period to redemption (Note 8). The restatement had no effect on net income, pro forma net income per common and common equivalent share, or total pro forma stockholders' equity in the accompanying financial statements. The restatement resulted in an increase in mandatorily redeemable preferred stock and a corresponding net decrease in total stockholders' equity of approximately $15.3 million and $219,000 at October 31, 1996 and 1995, respectively. This restatement included adjusting the Company's previously reported retained earnings (deficit) of $4,559,000 and ($10,159,000) at October 31, 1996 and 1995, and the Company's pro forma retained earnings at October 31, 1996 of $4,559,000, to ($10,413,000), ($10,268,000) and ($10,413,000), respectively.

(16) EVENTS (UNAUDITED) SUBSEQUENT TO DATE OF ACCOUNTANTS' REPORT

On December 20, 1996, one of the Company's competitors filed suit in the U.S. District Court in Delaware, alleging wilful infringement by the Company of five U.S. patents held by the competitor. The lawsuit seeks treble damages, attorneys' fees and costs, as well as preliminary and permanent injunctive relief against the alleged infringement. The Company believes its product does not infringe any valid patents identified in the lawsuit and intends to defend itself vigorously. However, there can be no assurance that the Company will be successful in the defense of the lawsuit, and an adverse determination in the litigation could result from a finding of infringement of only one claim of a single patent. The Company may consider settlement due to the costs and uncertainties associated with litigation in general and patent infringement litigation in particular and due to the fact that an adverse determination in the litigation could preclude the Company from producing its product until it were able to implement a non-infringing alternative design to any portion of the system to which such a

CIENA CORPORATION

NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)

(16) EVENTS (UNAUDITED) SUBSEQUENT TO DATE OF ACCOUNTANTS' REPORT -- (CONTINUED)

determination applied. There can be no assurance that any settlement will be reached by the parties. An adverse determination in, or settlement of, the litigation could involve the payment of significant amounts, or could include terms in addition to such payments, which could have a material adverse effect on the Company's business, financial condition and results of operations. Additionally, the Company expects that defense of the lawsuit will be costly and will involve a diversion of the time and attention of some members of management. Further, the plaintiff and other competitors may use the existence of the lawsuit to raise questions in customers' and potential customers' minds as to the Company's ability to manufacture and deliver its product. There can be no assurance that such efforts by the plaintiff and others will not disrupt the Company's existing and prospective customer relationships. 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.

With respect to the suit filed in November 1996 by a stockholder and entities controlled by that stockholder disclosed in Note 13, on January 6, 1997, the Company filed its answer to the plaintiffs' complaint, and filed a counterclaim for rescission of the sale of the shares of Series C Preferred Stock purchased by the plaintiffs in the Series C financing. Discovery proceedings are ongoing.

In December 1996, the Company executed a modification to the license agreement disclosed in Note 11. As a result, the Company has a perpetual, royalty-free, non-exclusive license to the same technologies previously licensed.

Since October 31, 1996, the Company has continued to grant stock options to employees in the normal course of business. Through January 14, 1997, 605,500 options were granted, with exercise prices ranging from $16.27 to $18.00 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 Incorporated 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:

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

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 Underwriters have reserved for sale, at the initial public offering price and subject to local laws for any international sales, up to approximately 250,000 shares of Common Stock for NISSHO Electronics Corporation ("NISSHO") and certain of its affiliates (together with NISSHO, the "NISSHO Entities"). NISSHO is a distributor for the Company in Japan, and it and the other NISSHO Entities have expressed an interest in purchasing such shares in the Offerings, subject to their necessary board approvals. The NISSHO Entities have also expressed their intention to enter into lock-up agreements with the Representatives of the Underwriters if such sales take place, under which they will agree not to sell 125,000 shares for 180 days and the remaining 125,000 shares for 18 months after the date of the Prospectus. In addition, the Underwriters have reserved for sale, at the initial public offering price, shares of Common Stock for certain employees and associates of the Company in the United States and, subject to local laws, internationally, who have expressed an interest in purchasing shares of Common Stock in the Offerings. Such employees and associates will purchase, in the aggregate, less than 5% of the shares of Common Stock offered in the Offerings. There can be no assurance that any of the reserved shares will be so purchased. The number of shares available for sale to the general public in the Offerings will be reduced to the extent the NISSHO Entities or such other persons purchase such reserved shares. Any reserved shares not so purchased will be offered to the general public on the same basis as the other shares offered hereby.

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". Woodruff has agreed that it will not sell, transfer, assign, pledge or hypothecate any securities issued upon the exercise of the warrants for a period of one year following the date of this Prospectus and that its "piggyback" registration rights under the warrants shall be limited to a term of seven years from the date of this Prospectus.

Application has been 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.

[ALTERNATE PAGES FOR INTERNATIONAL PROSPECTUS]

UNDERWRITING

Subject to the terms and conditions of the Underwriting Agreement, the Company has agreed to sell to each of the International Underwriters named below, and each of such International Underwriters, for whom Goldman Sachs International, Alex. Brown & Sons Incorporated, Wessels, Arnold & Henderson, L.L.C. and William K. Woodruff & Company Incorporated 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:

UNDERWRITERS	NUMBER OF SHARES OF COMMON STOCK
Goldman Sachs International	
Alex. Brown & Sons Incorporated	
Wessels, Arnold & Henderson, L.L.C.	
William K. Woodruff & Company Incorporated	
Total	1,000,000

Under the terms and conditions of the Underwriting Agreement, the International Underwriters are committed to take and pay for all of the shares offered hereby, if any are taken.

The International 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 International 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 "U.S. Underwriting Agreement") with the underwriters of the U.S. offering (the "U.S. Underwriters") providing for the concurrent offer and sale of 4,000,000 shares of Common Stock in a U.S. offering in 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 U.S. offering, and vice versa. The representatives of the U.S. Underwriters are Goldman, Sachs & Co., Alex. Brown & Sons Incorporated, Wessels, Arnold & Henderson, L.L.C. and William K. Woodruff & Company Incorporated.

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 named herein has agreed pursuant to the Agreement Between that, as apart 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 United States persons or (b) to any person who it believes intends to reoffer, resell or deliver the shares in the U.S. 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 International Underwriters an option exercisable for 30 days after the date of this Prospectus to purchase up to an aggregate of 150,000 additional shares of Common Stock solely to cover over-allotments, if any. If the International Underwriters exercise their over-allotment option, the International 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 1,000,000 shares of Common Stock offered hereby. The Company has granted the U.S. Underwriters a similar option to purchase up to an aggregate of 600,000 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 Underwriters have reserved for sale, at the initial public offering price and subject to local laws for any international sales, up to approximately 250,000 shares of Common Stock for NISSHO Electronics Corporation ("NISSHO") and certain of its affiliates (together with NISSHO, the "NISSHO Entities"). NISSHO is a distributor for the Company in Japan, and it and the other NISSHO Entities have expressed an interest in purchasing such shares in the Offerings, subject to their necessary board approvals. The NISSHO Entities have also expressed their intention to enter into lock-up agreements with the Representatives of the Underwriters if such sales take place, under which they will agree not to sell 125,000 shares for 180 days and the remaining 125,000 shares for 18 months after the date of the Prospectus. In addition, the Underwriters have reserved for sale, at the initial public offering price, shares of Common Stock for certain employees and associates of the Company in the United States and, subject to local laws, internationally, who have expressed an interest in purchasing shares of Common Stock in the Offerings. Such employees and associates will purchase, in the aggregate, less than 5% of the shares of Common Stock offered in the Offerings. There can be no assurance that any of the reserved shares will be so purchased. The number of shares available for sale to the general public in the Offerings will be reduced to the extent the NISSHO Entities or such other persons purchase such reserved shares. Any reserved shares not so purchased will be offered to the general public on the same basis as the other shares offered hereby.

Each International Underwriter has also agreed that (a) it has not offered or sold and prior to the date six months after the date of issue of the shares of Common Stock will not offer or sell any shares of Common Stock to persons in the United Kingdom except to persons whose ordinary activities involve them in acquiring, holding, managing or disposing of investments (as principal or agent) for the purposes of their businesses or otherwise in circumstances which have not resulted

[ALTERNATE PAGES FOR INTERNATIONAL PROSPECTUS]

and will not result in an offer to the public in the United Kingdom within the meaning of the Public Offers of Securities Regulations 1995, (b) it has complied, and will comply, with all applicable provisions of the Financial Services Act of 1986 of Great Britain with respect to anything done by it in relation to the shares of Common Stock in, from or otherwise involving the United Kingdom, and (c) it has only issued or passed on and will only issue or pass on in the United Kingdom any document received by it in connection with the issuance of the shares of Common Stock to a person who is of a kind described in Article 11(3) of the Financial Services Act 1986 (Investment Advertisements) (Exemptions) Order 1996 of Great Britain or is a person to whom the document may otherwise lawfully be issued or passed on.

Buyers of shares of Common Stock offered hereby may be required to pay stamp taxes and other charges in accordance with the laws and practices of the country of purchase in addition to the initial public offering price.

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". Woodruff has agreed that it will not sell, transfer, assign, pledge or hypothecate any securities issued upon the exercise of the warrants for a period of one year following the date of this Prospectus and that its "piggyback" registration rights under the warrants shall be limited to a term of seven years from the date of this Prospectus.

Application has been 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 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)

[CIENA LOGO]

GOLDMAN, SACHS & CO.

ALEX. BROWN & SONS
INCORPORATED

WESSELS, ARNOLD & HENDERSON

WILLIAM K. WOODRUFF & COMPANY
INCORPORATED

REPRESENTATIVES OF THE UNDERWRITERS

[ALTERNATE PAGE FOR INTERNATIONAL PROSPECTUS]

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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)

[CIENA LOGO]

GOLDMAN SACHS INTERNATIONAL

ALEX. BROWN & SONS
INTERNATIONAL

WESSELS, ARNOLD & HENDERSON

WILLIAM K. WOODRUFF & COMPANY
INCORPORATED

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

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
1.3***	Letter Agreement between Goldman Sachs & Co. and the Company
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

EXHIBIT NUMBER	DESCRIPTION
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
10.16+	First Addendum to Procurement Agreement between the Registrant and Sprint/United Management Company dated December 19, 1996.
11.1**	Statement of Computation of Per Share Earnings
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

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* Filed on December 12, 1996 as Exhibits to the Company's Registration Statement on Form S-1 (333-17729).

** Filed on January 14, 1997 as Exhibits to Amendment No. 1 to the Company's Registration Statement on Form S-1 (333-17729).

*** Filed on January 21, 1997 as Exhibits to Amendment No. 2 to the Company's Registration Statement on Form S-1 (333-17729).

+ 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. The confidential portions have been filed separately with the Securities and Exchange Commission.

(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 4th day of February, 1997.

CIENA CORPORATION

By: /s/ Patrick H. Nettles

Patrick H. Nettles
President, Chief Executive Officer
and Director
(Principal Executive Officer)

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)	February 4, 1997
/s/ Joseph R. Chinnici* Joseph R. Chinnici	Vice President, Finance and Chief Financial Officer (Principal Financial Officer)	February 4, 1997
/s/ Andrew C. Petrik* Andrew C. Petrik	Controller and Treasurer (Principal Accounting Officer)	February 4, 1997
/s/ Jon W. Bayless* Jon W. Bayless	Director	February 4, 1997
/s/ Harvey B. Cash* Harvey B. Cash	Director	February 4, 1997
/s/ Clifford W. Higgerson* Clifford W. Higgerson	Director	February 4, 1997
/s/ Billy B. Oliver* Billy B. Oliver	Director	February 4, 1997

SIGNATURES	TITLE	DATE
/s/ Michael J. Zak* Michael J. Zak	Director	February 4, 1997
/s/ David R. Huber, Ph.D.* David R. Huber, Ph.D.	Director	February 4, 1997

*By: /s/ G. Eric Georgatos

G. Eric Georgatos
Attorney-in-fact

EXHIBIT NUMBER	DESCRIPTION
1.1*	Form of U.S. Underwriting Agreement
1.2*	Form of International Underwriting Agreement
1.3***	Letter Agreement between Goldman Sachs & Co. and the Company
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
10.16+	First Addendum to Procurement Agreement between the Registrant and Sprint/United Management Company dated December 19, 1996.
11.1**	Statement of Computation of Per Share Earnings
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

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* Filed on December 12, 1996 as Exhibits to the Company's Registration Statement on Form S-1 (333-17729).

** Filed on January 14, 1997 as Exhibits to Amendment No. 1 to the Company's Registration Statement on Form S-1 (333-17729).

*** Filed on January 21, 1997 as Exhibits to Amendment No. 2 to the Company's Registration Statement on Form S-1 (333-17729).

\+ 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. The confidential portions have been filed separately with the Securities and Exchange Commission.

AMENDED AND RESTATED BY-LAWS

OF

CIENA CORPORATION

ARTICLE I

Stockholders

SECTION 1. Annual Meeting. The annual meeting of the stockholders of the Corporation shall be held on such date, at such time and at such place within or without the State of Delaware as may be designated by the Board of Directors, for the purpose of electing Directors and for the transaction of such other business as may be properly brought before the meeting.

SECTION 2. Special Meetings. Except as otherwise provided in the Certificate of Incorporation, a special meeting of the stockholders of the Corporation may be called at any time only (1) by the Board of Directors pursuant to a resolution adopted by a majority of the total number of authorized directors (whether or not there exist any vacancies in previously authorized directorships at the time any such resolution is presented to the Board for adoption), or (2) by the holders of not less than ten percent (10%) of all the shares entitled to cast votes at the meeting. Any special meeting of the stockholders shall be held on such date, at such time and at such place within or without the State of Delaware as the Board of Directors may designate. At a special meeting of the stockholders, no business shall be transacted and no corporate action shall be taken other than that stated in the notice of the meeting unless all of the stockholders are present in person or by proxy, in which case any and all business may be transacted at the meeting even though the meeting is held without notice.

SECTION 3. Notice of Meetings. Except as otherwise provided in these By-Laws or by law, a written notice of each meeting of the stockholders shall be given not less than ten (10) nor more than sixty (60) days before the date of the meeting to each stockholder of the Corporation entitled to vote at such meeting at his address as it appears on the records of the Corporation. The notice shall state the place, date and hour of the meeting and, in the case of a special meeting, the purpose or purposes for which the meeting is called.

SECTION 4. Ouorum. At any meeting of the stockholders, the holders of a majority in number of the total outstanding shares of stock of the Corporation entitled to vote at such meeting, present in person or represented by proxy, shall constitute a quorum of the stockholders for all purposes, unless the representation of a larger number of shares shall be required by law, by the Certificate of Incorporation or by these By-Laws, in which case the representation of the number of shares so required shall constitute a quorum;

provided that at any meeting of the stockholders at which the holders of any class of stock of the Corporation shall be entitled to vote separately as a class, the holders of a majority in number of the total outstanding shares of such class, present in person or represented by proxy, shall constitute a quorum for purposes of such class vote unless the representation of a larger number of shares of such class shall be required by law, by the Certificate of Incorporation or by these By Laws.

SECTION 5. Adjourned Meetings. Whether or not a quorum shall be present in person or represented at any meeting of the stockholders, the holders of a majority in number of the shares of stock of the Corporation present in person or represented by proxy and entitled to vote at such meeting may adjourn from time to time; provided, however, that if the holders of any class of stock of the Corporation are entitled to vote separately as a class upon any matter at such meeting, any adjournment of the meeting in respect of action by such class upon such matter shall be determined by the holders of a majority of the shares of such class present in person or represented by proxy and entitled to vote at such meeting. When a meeting is adjourned to another time or place, notice need not be given of the adjourned meeting if the time and place thereof are announced at the meeting at which the adjournment is taken. At the adjourned meeting the stockholders, or the holders of any class of stock entitled to vote separately as a class, as the case may be, may transact any business which might have been transacted by them at the original meeting. If the adjournment is for more than thirty days, or if after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the adjourned meeting.

SECTION 6. Organization. The President or, in his absence, a Vice President shall call all meetings of the stockholders to order, and shall act as Chairman of such meetings. In the absence of the President and all of the Vice Presidents, the holders of a majority in number of the shares of stock of the Corporation present in person or represented by proxy and entitled to vote at such meeting shall elect a Chairman.

The Secretary of the Corporation shall act as Secretary of all meetings of the stockholders; but in the absence of the Secretary, the Chairman may appoint any person to act as Secretary of the meeting. It shall be the duty of the Secretary to prepare and make, at least ten days before every meeting of stockholders, a complete list of stockholders entitled to vote at such meeting, arranged in alphabetical order and showing the address of each stockholder and the number of shares registered in the name of each stockholder. Such list shall be open, either at a place within the city where the meeting is to be held, which place shall be specified in the notice of the meeting or, if not so specified, at the place where the meeting is to be held, for the ten days next preceding the meeting, to the examination of any stockholder, for any purpose germane to the meeting, during ordinary business hours, and shall be produced and kept at the time and place of the meeting during the whole time thereof and subject to the inspection of any stockholder who may be present.

SECTION 7. Voting. Except as otherwise provided in the Certificate of Incorporation or by law, each stockholder shall be entitled to one vote for each share of the capital stock of the Corporation registered in the name of such stockholder upon the books of the Corporation. Each stockholder entitled to vote at a meeting of stockholders or to express consent or dissent to corporate action in writing without a meeting may authorize another person or persons to act for him by proxy, but no such proxy shall be voted or acted upon after three years from its date, unless the proxy provides for a longer period. When directed by the presiding officer or upon the demand of any stockholder, the vote upon any matter before a meeting of stockholders shall be by ballot. Except as otherwise provided by law or by the Certificate of Incorporation, Directors shall be elected by a plurality of the votes cast at a meeting of stockholders by the stockholders entitled to vote in the election and, whenever any corporate action other than the election of Directors is to be taken, it shall be authorized by a majority of the votes cast at a meeting of stockholders by the stockholders entitled to vote thereon.

Shares of the capital stock of the Corporation belonging to the Corporation or to another corporation, if a majority of the shares entitled to vote in the election of directors of such other corporation is held, directly or indirectly, by the Corporation, shall neither be entitled to vote nor be counted for quorum purposes.

SECTION 8. Inspectors. When required by law or directed by the presiding officer, but not otherwise, the polls shall be opened and closed, the proxies and ballots shall be received and taken in charge, and all questions touching the qualification of voters, the validity of proxies and the acceptance or rejection of votes shall be decided at any meeting of the stockholders by one or more Inspectors who may be appointed by the Board of Directors before the meeting, or if not so appointed, shall be appointed by the presiding officer at the meeting. If any person so appointed fails to appear or act, the vacancy may be filled by appointment in like manner.

SECTION 9. Consent of Stockholders in Lieu of Meeting. To the fullest extent permitted by law, and subject to the last sentence of this Section 9, any action required to be taken or which may be taken at any annual or special meeting of the stockholders of the Corporation, may be taken without a meeting, without prior notice and without a vote, if a consent in writing, setting forth the action so taken, shall be signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted. Prompt notice of the taking of any such corporate action without a meeting by less than unanimous written consent shall be given to those stockholders who have not so consented in writing. From and after the date on which the Company's initial registration statement under the Securities Act of 1933, as amended, is declared effective by the Securities and Exchange Commission, any action required or permitted to be taken by the stockholders of the Corporation must be effected at a duly called annual or special meeting of stockholders of the Corporation and may not be effected by any consent in writing by such stockholders.

ARTICLE II

Board of Directors

SECTION 1. Number and Term of Office. (1) The number of directors shall initially be set at seven (7) and, thereafter, shall be fixed from time to time exclusively by the Board of Directors pursuant to a resolution adopted by a majority of the total number of authorized directors (whether or not there exist any vacancies in previously authorized directorships at the time any such resolution is presented to the Board for adoption). Prior to the effectiveness of the first registration statement filed by the Company under the Securities Act of 1933, as amended, the directors shall be elected at each annual meeting with a term to expire at the next annual meeting of stockholders. Upon the effectiveness of the first registration statement filed under the Securities Act of 1933, as amended (the "IPO Date"), the directors shall be divided into three classes with the term of office of the first class (Class I) to expire at the first annual meeting of stockholders following the IPO Date; the term of office of the second class (Class II) to expire at the second annual meeting following the IPO Date; the term of office of the third class (Class III) to expire at the third annual meeting following the IPO Date; and thereafter for each such term to expire at each third succeeding annual meeting of stockholders after such election. The initial allocation of existing directors among the classes shall be made by determination of the Board of Directors. Subject to the rights of the holders of any series of Preferred Stock then outstanding, a vacancy resulting from the removal of a director by the stockholders as provided in Article SIXTH, Section C below may be filled at a special meeting of the stockholders held for that purpose. All directors shall hold office until the expiration of the term for which elected, and until their respective successors are elected, except in the case of the death, resignation, or removal of any director.

(2) Subject to the rights of the holders of any series of Preferred Stock then outstanding, newly created directorships resulting from any increase in the authorized number of directors or any vacancies in the Board of Directors resulting from death, resignation or other cause (other than removal from office by a vote of the stockholders) may be filled only by a majority vote of the directors then in office, though less than a quorum, and directors so chosen shall hold office for a term expiring at the next annual meeting of stockholders at which the term of office of the class to which they have been elected expires, and until their respective successors are elected, except in the case of the death, resignation or removal of any director. No decrease in the number of directors constituting the Board of Directors shall shorten the term of any incumbent director.

(3) Subject to the rights of the holders of any series of Preferred Stock then outstanding, any directors, or the entire Board of Directors, may be removed from office at any time, with or without cause, but only by the affirmative vote of the holders of at least a

majority of the voting power of all of the then outstanding shares of capital stock of the Corporation entitled to vote generally in the election of directors, voting together as a single class. Vacancies in the Board of Directors resulting from such removal may be filled by a majority of the directors then in office, though less than a quorum, or by the stockholders as provided in (1) above. Directors so chosen shall hold office for a term expiring at the next annual meeting of stockholders at which the term of office of the class to which they have been elected expires, and until their respective successors are elected, except in the case of the death, resignation or removal of any director.

SECTION 2. Place of Meeting. The Board of Directors may hold its meetings in such place or places in the State of Delaware or outside the State of Delaware as the Board from time to time shall determine.

SECTION 3. Regular Meetings. Regular meetings of the Board of Directors shall be held monthly at the offices of the Corporation, or at such other place as the Board may determine. No notice shall be required for any regular meeting of the Board of Directors; but a copy of every resolution fixing or changing the time or place of regular meetings shall be mailed to every Director at least five days before the first meeting held in pursuance thereof.

SECTION 4. Special Meetings. Special meetings of the Board of Directors shall be held whenever called by direction of the President, or by any two of the Directors then in office. Notice of the day, hour and place of holding of each special meeting shall be given by mailing the same at least two days before the meeting or by causing the same to be transmitted by telegraph, cable or wireless at least one day before the meeting to each Director. Unless otherwise indicated in the notice thereof, any and all business other than an amendment of these By-Laws may be transacted at any special meeting, and an amendment of these By-Laws may be acted upon if the notice of the meeting shall have stated that the amendment of these By-Laws is one of the purposes of the meeting. At any meeting at which every Director shall be present, even though without any notice, any business may be transacted, including the amendment of these By-Laws.

SECTION 5. Quorum. Subject to the provisions of Section 2 of this Article II, a majority of the members of the Board of Directors in office (but in no case less than one-third of the total number of Directors) shall constitute a quorum for the transaction of business and the vote of the majority of the Directors present at any meeting of the Board of Directors at which a quorum is present shall be the act of the Board of Directors. If at any meeting of the Board there is less than a quorum present, a majority of those present may adjourn the meeting from time to time.

SECTION 6. Organization. A Chairman shall be elected from the Directors present to preside at all meetings of the Board of Directors. The Secretary of the Corporation shall act as Secretary of all meetings of the Directors; but in the absence of the Secretary, the Chairman may appoint any person to act as Secretary of the meeting.

SECTION 7. Committees. The Board of Directors may, by resolution passed by a majority of the whole Board, designate one or more committees, each committee to consist of one or more of the Directors of the Corporation. The Board may designate one or more Directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not he or they constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent provided by resolution passed by a majority of the whole Board, shall have and may exercise all the powers and authority of the Board of Directors in the management of the business and the affairs of the Corporation, and may authorize the seal of the Corporation to be affixed to all papers which may require it; but no such committee shall have the power or authority in reference to amending the Certificate of Incorporation, adopting an agreement of merger or consolidation, recommending to the stockholders the sale, lease or exchange of all or substantially all of the Corporation's property and assets, recommending to the stockholders a dissolution of the Corporation or a revocation of a dissolution, or amending these By-Laws; and unless such resolution, these By-Laws, or the Certificate of Incorporation expressly so provide, no such committee shall have the power or authority to declare a dividend or to authorize the issuance of stock.

SECTION 8. Conference Telephone Meetings. Unless otherwise restricted by the Certificate of Incorporation or by these By-Laws, the members of the Board of Directors or any committee designated by the Board, may participate in a meeting of the Board or such committee, as the case may be, by means of conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other, and such participation shall constitute presence in person at such meeting.

SECTION 9. Consent of Directors or Committee in Lieu of Meeting. Unless otherwise restricted by the Certificate of Incorporation or by these By-Laws, any action required or permitted to be taken at any meeting of the Board of Directors, or of any committee thereof, may be taken without a meeting if all members of the Board or committee, as the case may be, consent thereto in writing and the writing or writings are filed with the minutes of proceedings of the Board or committee, as the case may be.

SECTION 10. Compensation. The amount, if any, that each Director shall be entitled to receive as compensation for his services as such shall be fixed from time to time by resolution of the Board of Directors; provided that only independent directors may receive compensation for services as a director of the Corporation. Directors may receive reimbursement from the Corporation for expenses in connection with their attendance at any meeting of the Board of Directors.

ARTICLE III

Officers

SECTION 1. Officers. The officers of the Corporation shall be a President, one or more Vice Presidents, a Secretary and a Treasurer, and such additional officers, if any, as shall be elected by the Board of Directors pursuant to the provisions of Section 6 of this Article III. The President, one or more Vice Presidents, the Secretary and the Treasurer shall be elected by the Board of Directors at its first meeting after each annual meeting of the stockholders. The failure to hold such election shall not of itself terminate the term of office of any officer. All officers shall hold office at the pleasure of the Board of Directors. Any officer may resign at any time upon written notice to the Corporation. Officers may, but need not, be Directors. Any number of offices may be held by the same person. All officers, agents and employees shall be subject to removal, with or without cause, at any time by the Board of Directors. The removal of an officer without cause shall be without prejudice to his contract rights, if any. The election or appointment of an officer shall not of itself create contract rights. All agents and employees other than officers elected by the Board of Directors shall also be subject to removal, with or without cause, at any time by the officers appointing them.

Any vacancy caused by the death of any officer, his resignation, his removal, or otherwise, may be filled by the Board of Directors, and any officer so elected shall hold office at the pleasure of the Board of Directors.

In addition to the powers and duties of the officers of the Corporation as set forth in these By-Laws, the officers shall have such authority and shall perform such duties as from time to time may be determined by the Board of Directors.

SECTION 2. Powers and Duties of the President. Unless otherwise determined by the Board of Directors, the President shall be the chief executive officer of the Corporation and, subject to the control of the Board of Directors, shall have general charge and control of all its business and affairs and shall perform all duties incident to the office of President. He shall preside at all meetings of the stockholders and at all meetings of the Board of Directors and shall have such other powers and perform such other duties as may from time to time be assigned to him by these By-Laws or by the Board of Directors.

SECTION 3. Powers and Duties of the Vice Presidents. Each Vice President shall perform all duties incident to the office of Vice President and shall have such other powers and perform such other duties as may from time to time be assigned to him by these By-Laws or by the Board of Directors or the President.

SECTION 4. Powers and Duties of the Secretary. The Secretary shall keep the minutes of all meetings of the Board of Directors and the minutes of all meetings of the stockholders in books provided for that purpose; he shall attend to the giving or serving of

all notices of the Corporation; he shall have custody of the corporate seal of the Corporation and shall affix the same to such documents and other papers as the Board of Directors or the President shall authorize and direct; he shall have charge of the stock certificate books, transfer books and stock ledgers and such other books and papers as the Board of Directors or the President shall direct, all of which shall at all reasonable times be open to the examination of any Director, upon application, at the office of the Corporation during business hours; and he shall perform all duties incident to the office of Secretary and shall also have such other powers and shall perform such other duties as may from time to time be assigned to him by these By-Laws or the Board of Directors or the President.

SECTION 5. Powers and Duties of the Treasurer. The Treasurer shall have custody of, and when proper shall pay out, disburse or otherwise dispose of, all funds and securities of the Corporation which may have come into his hands; he may endorse on behalf of the Corporation for collection checks, notes and other obligations and shall deposit the same to the credit of the Corporation in such bank or banks or depository or depositories as the Board of Directors may designate; he shall sign all receipts and vouchers for payments made to the Corporation; he shall enter or cause to be entered regularly in the books of the Corporation kept for the purpose full and accurate accounts of all moneys received or paid or otherwise disposed of by him and whenever required by the Board of Directors or the President shall render statements of such accounts; he shall, at all reasonable times, exhibit his books and accounts to any Director of the Corporation upon application at the office of the Corporation during business hours; and he shall perform all duties incident to the office of Treasurer and shall also have such other powers and shall perform such other duties as may from time to time be assigned to him by these By-Laws or by the Board of Directors or the President.

SECTION 6. Additional Officers. The Board of Directors may from time to time elect such other officers (who may but need not be Directors), including a Controller, Chief Financial Officer, a Chief Technical Officer and one or more Assistant Treasurers, Assistant Secretaries and Assistant Controllers, as the Board may deem advisable, and such officers shall have such authority and shall perform such duties as may from time to time be assigned to them by the Board of Directors or the President.

The Board of Directors may from time to time by resolution delegate to any Assistant Treasurer or Assistant Treasurers any of the powers or duties herein assigned to the Treasurer; and may similarly delegate to any Assistant Secretary or Assistant Secretaries any of the powers or duties herein assigned to the Secretary.

SECTION 7. Giving of Bond by Officers. All officers of the Corporation, if required to do so by the Board of Directors, shall furnish bonds to the Corporation for the faithful performance of their duties, in such penalties and with such conditions and security as the Board shall require.

SECTION 8. Voting Upon Stocks. Unless otherwise ordered by the Board of Directors, the President or any Vice President shall have full power and authority on behalf of the Corporation to attend and to act and to vote, or in the name of the Corporation to execute proxies to vote, at any meetings of stockholders of any corporation in which the Corporation may hold stock, and at any such meetings shall possess and may exercise, in person or by proxy, any and all rights, powers and privileges incident to the ownership of such stock. The Board of Directors may from time to time, by resolution, confer like powers upon any other person or persons.

SECTION 9. Compensation of Officers. The officers of the Corporation shall be entitled to receive such compensation for their services as shall from time to time be determined by the Board of Directors (or the Compensation Committee of the Board, if one exists).

ARTICLE IV

Stock-Seal-Fiscal Year

SECTION 1. Certificates For Shares of Stock. The certificates for shares of stock of the Corporation shall be in such form, not inconsistent with the Certificate of Incorporation, as shall be approved by the Board of Directors. All certificates shall be signed by the President or a Vice President and by the Secretary or an Assistant Secretary or the Treasurer or an Assistant Treasurer, and shall not be valid unless so signed.

In case any officer or officers who shall have signed any such certificate or certificates shall cease to be such officer or officers of the Corporation, whether because of death, resignation or otherwise, before such certificate or certificates shall have been delivered by the Corporation, such certificate or certificates may nevertheless be issued and delivered as though the person or persons who signed such certificate or certificates had not ceased to be such officer or officers of the Corporation.

All certificates for shares of stock shall be consecutively numbered as the same are issued. The name of the person owning the shares represented thereby with the number of such shares and the date of issue thereof shall be entered on the books of the Corporation.

Except as hereinafter provided, all certificates surrendered to the Corporation for transfer shall be canceled, and no new certificates shall be issued until former certificates for the same number of shares have been surrendered and canceled.

SECTION 2. Lost. Stolen or Destroyed Certificates. Whenever a person owning a certificate for shares of stock of the Corporation alleges that it has been lost, stolen or destroyed, he shall file in the office of the Corporation an affidavit setting forth, to the best of his knowledge and belief, the time, place and circumstances of the loss, theft

or destruction, and, if required by the Board of Directors, a bond of indemnity or other indemnification sufficient in the opinion of the Board of Directors to indemnify the Corporation and its agents against any claim that may be made against it or them on account of the alleged loss, theft or destruction of any such certificate or the issuance of a new certificate in replacement therefor. Thereupon the Corporation may cause to be issued to such person a new certificate in replacement for the certificate alleged to have been lost, stolen or destroyed. Upon the stub of every new certificate so issued shall be noted the fact of such issue and the number, date and the name of the registered owner of the lost, stolen or destroyed certificate in lieu of which the new certificate is issued.

SECTION 3. Transfer of Shares. Shares of stock of the Corporation shall be transferred on the books of the Corporation by the holder thereof, in person or by his attorney duly authorized in writing, upon surrender and cancellation of certificates for the number of shares of stock to be transferred, except as provided in the preceding section.

SECTION 4. Regulations. The Board of Directors shall have power and authority to make such rules and regulations as it may deem expedient concerning the issue, transfer and registration of certificates for shares of stock of the Corporation.

SECTION 5. Record Date. In order that the Corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, or to express consent to corporate action in writing without a meeting or entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, as the case may be, the Board of Directors may fix, in advance, a record date, which shall not be more than sixty (60) nor less than ten (10) days before the date of such meeting, nor more than sixty (60) days prior to any other action.

If no record date is fixed, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held; the record date for determining stockholders entitled to express consent to corporate action in writing without a meeting, when no prior action by the Board of Directors is necessary, shall be the day on which the first written consent is expressed; and the record date for determining stockholders for any other purpose shall be at the close of business on the day on which the Board of Directors adopts the resolution relating thereto. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; provided, however, that the Board of Directors may fix a new record date for the adjourned meeting.

SECTION 6. Dividends. Subject to the provisions of the Certificate of Incorporation, the Board of Directors shall have power to declare and pay dividends upon

shares of stock of the Corporation, but only out of funds available for the payment of dividends as provided by law. Subject to the provisions of the Certificate of Incorporation, any dividends declared upon the stock of the Corporation shall be payable on such date or dates as the Board of Directors shall determine. If the date fixed for the payment of any dividend shall in any year fall upon a legal holiday, then the dividend payable on such date shall be paid on the next day not a legal holiday.

SECTION 7. Corporate Seal. The Board of Directors shall provide a suitable seal, containing the name of the Corporation, which seal shall be kept in the custody of the Secretary. A duplicate of the seal may be kept and be used by any officer of the Corporation designated by the Board or the President.

SECTION 8. Fiscal Year. The fiscal year of the Corporation shall be such fiscal year as the Board of Directors from time to time by resolution shall determine.

ARTICLE V

Miscellaneous Provisions

SECTION 1. Checks. Notes. etc. All checks, drafts, bills of exchange, acceptances, notes or other obligations or orders for the payment of money shall be signed and, if so required by the Board of Directors, countersigned by such officers of the Corporation and/or other persons as shall from time to time be designated by the Board of Directors or pursuant to authority delegated by the Board.

Checks, drafts, bills of exchange, acceptances, notes, obligations and orders for the payment of money made payable to the Corporation may be endorsed for deposit to the credit of the Corporation with a duly authorized depository by the Treasurer and/or such other officers or persons as shall from time to time be designated by the Treasurer.

SECTION 2. Loans. No loans and no renewals of any loans shall be contracted on behalf of the Corporation except as authorized by the Board of Directors. When authorized so to do, any officer or agent of the Corporation may effect loans and advances for the Corporation from any bank, trust company or other institution or from any firm, corporation or individual, and for such loans and advances may make, execute and deliver promissory notes, bonds or other evidences of indebtedness of the Corporation. When authorized so to do, any officer or agent of the Corporation may pledge, hypothecate or transfer, as security for the payment of any and all loans, advances, indebtedness and liabilities of the Corporation, any and all stocks, securities and other personal property at any time held by the Corporation, and to that end may endorse, assign and deliver the same. Such authority may be general or confined to specific instances.

SECTION 3. Waivers of Notice. Whenever any notice whatever is required to be given by law, by the Certificate of Incorporation or by these By-Laws to any person

or persons, a waiver thereof in writing, signed by the person or persons entitled to the notice, whether before or after the time stated therein, shall be deemed equivalent thereto. The attendance of any person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business on the ground that the meeting is not lawfully called or convened.

SECTION 4. Offices Outside of Delaware. Except as otherwise required by the laws of the State of Delaware, the Corporation may have an office or offices and keep its books, documents and papers outside of the State of Delaware at such place or places as from time to time may be determined by the Board of Directors or the President.

SECTION 5. Indemnification of Directors. Officers and Employees. The Corporation shall, to the fullest extent permitted by applicable law from time to time in effect, indemnify any and all persons who may serve or who have served at any time as Directors or officers of the Corporation, or who at the request of the Corporation may serve or at any time have served as Directors or officers of another corporation (including subsidiaries of the Corporation) or of any partnership, joint venture, trust or other enterprise, from and against any and all of the expenses, liabilities or other matters referred to in or covered by said law. Such indemnification shall continue as to a person who has ceased to be a Director or officer and shall inure to the benefit of the heirs, executors and administrators of such a person. The Corporation may also indemnify any and all other persons whom it shall have power to indemnify under any applicable law from time to time in effect to the extent authorized by the Board of Directors and permitted by such law. The indemnification provided by this Article shall not be deemed exclusive of any other rights to which any person may be entitled under any provision of the Certificate of Incorporation, other By-law, agreement, vote of stockholders or disinterested Directors, or otherwise, both as to action in his official capacity and as to action in another capacity while holding such office. For purposes of this Section 5, the term "Corporation" shad include constituent corporations referred to in Subsection (h) of the Section 145 of the General Corporation Law (or any similar provision of applicable law at the time in effect).

SECTION 6. Voting as Stockholder. Unless otherwise determined by resolution of the Board of Directors, the President or any Vice President shall have full power and authority on behalf of the Corporation to attend any meeting of stockholders of any corporation in which the Corporation may hold stock, and to act, vote (or execute proxies to vote) and exercise in person or by proxy all other rights, powers and privileges incident to the ownership of such stock. Such officers acting on behalf of the Corporation shall have full power and authority to execute any instrument expressing consent to or dissent from any action of any such corporation without a meeting. The Board of Directors may by resolution from time to time confer such power and authority upon any other person or persons.

SECTION 7. Construction. In the event of any conflict between the provisions of these By-laws as in effect from time to time and the provisions of the Certificate of Incorporation of the Corporation as in effect from time to time, the provisions of such Certificate of Incorporation shall be controlling.

ARTICLE VI

Amendments

Subject to the Company's Certificate of Incorporation, these By-Laws and any amendment thereof may be altered, amended or repealed, or new By-Laws may be adopted, by the Board of Directors at any regular or special meeting by the affirmative vote of a majority of all of the members of the Board, provided in the case of any special meeting at which all of the members of the Board are not present, that the notice of such meeting shall have stated that the amendment of these By-Laws was one of the purposes of the meeting; but these By-Laws and any amendment thereof, including the By-Laws adopted by the Board of Directors, may be altered, amended or repealed and other By-Laws may be adopted by the holders of a majority of the total outstanding stock of the Corporation entitled to vote at any annual meeting or at any special meeting, provided, in the case of any special meeting, that notice of such proposed alteration, amendment, repeal or adoption is included in the notice of the meeting.

An asterick(*) indicates that confidential portions of this exhibit have been omitted pursuant to Rule 406 under the Securities Act of 1933, as amended. The confidential portions so omitted have been filed separately with the Securities and Exchange Commission pursuant to Rule 406.

EXHIBIT 10.8

Agreement Number: KC103251ML

PROCUREMENT AGREEMENT BETWEEN SPRINT\UNITED MANAGEMENT COMPANY AND CIENA CORPORATION

THIS PROCUREMENT AGREEMENT ("Agreement"), made effective as of the 14 day of December, 1995 ("Effective Date"), by and between Sprint\United Management Company, a Kansas corporation, having its principal place of business at 2330 Shawnee Mission Parkway, Westwood, Kansas 66205 (hereinafter referred to as "SUMC"), and Ciena Corporation, a Delaware corporation, having its principal place of business at 8530 Corridor Road, Columbia, Maryland 20763 (hereinafter referred to as "Supplier").

WHEREAS, SUMC is a subsidiary of Sprint Corporation, a Kansas corporation ("Sprint Corp."), and provides certain administrative and purchasing services for Affiliated Entities (as defined in Article 25) of Sprint Corporation. (Sprint Corp., together with SUMC and Affiliated Entities, is hereinafter collectively referred to as "Sprint");

WHEREAS, Supplier is able and willing to develop, build, deliver, install and support the Equipment as required by this Agreement and Sprint desires to retain Supplier on such terms:.

NOW, THEREFORE, in consideration of the foregoing premises and the representations, warranties, covenants and agreements herein contained, the parties agree as follows:

DEFINITIONS: Defined terms and definitions are set forth in Article 25 of this Agreement.

ARTICLE 1. SUPPLIERS DELIVERABLES

1.1 Technical Requirements, Quantities, Terms

Supplier agrees to provide Deliverables which satisfy and perform in accordance with the Technical Requirements set forth in Exhibit B, in the quantities specified by Sprint in Purchase Orders in accordance with the terms and conditions set forth in this Agreement and Purchase Orders.

1.2 Sprint Testbed

(a) Supplier agrees to supply Sprint * , such production Equipment as is outlined in Section 1.2 (b) below for one testbed ("Sprint Testbed") to be located at a site designated by Sprint and communicated to Supplier on or before the Effective Date.

(b) The Sprint Testbed Equipment shall initially include a minimum of: * end terminals equipped with * payload information carriers (channels) each and at least * intermediate optical line amplifiers all of which satisfy and perform in accordance with the Technical Requirements are configured with Software Revision Levels and Equipment Revision Levels reasonably determined by Sprint so long as the determined configuration and Revision Levels are available from Supplier at that time ("Configuration"). * no * for any * installed in the Sprint Testbed. Supplier also agrees to provide Sprint with Ciena's EMS Software to enable Sprint to configure and provision functions for Equipment during testing.

(c) Supplier agrees to supply and maintain for the * , any Licensed Software needed to maintain the Sprint Testbed Equipment, including any additional intermediate line amplifiers purchased by Sprint from Supplier, in compliance with the Technical Requirements and Configuration. Supplier shall assemble the Licensed Software and Equipment into such Configuration as is stated in the applicable Purchase Order.

(d) Except as stated in 1.2 (b) above, any Equipment Sprint requests Supplier to add to the Sprint Testbed shall be *

1.3 Sprint Soak Tests

Sprint shall conduct Soak Tests * First Installations of Systems of end terminal to end terminal route segments designated by Sprint to demonstrate field performance of the Equipment, as part of the Final Acceptance in accordance with paragraph 3.6 of Exhibit B. Soak Tests will encompass testing the Equipment for both the A (working) and B (standby) Systems and will be conducted on the following Sprint SONET routes for the timeframes specified below:

	ROUTE	CONFIGURATION	SOAK DURATION
(a)	*	*	*
(b)	*	*	*
(c)	*	*	*

1.4 Supplier Testbed

(a) Supplier shall allow Sprint use of at Supplier's premises, an Equipment testbed meeting (i) the requirements set forth in Section 1.2(b), and (ii) configured with an additional * , ("Supplier Testbed"). During the Initial Term of the Agreement * . Sprint shall give reasonable Notice of its use of Supplier's Testbed.

(b) The Supplier Testbed shall be maintained by the Supplier * . At Sprint's request, Supplier agrees to install and integrate SONET Network Elements supplied to Sprint by another vendor needed for FAT and Interoperability testing, up to and including the most recent such revision levels deployed in Sprint's network as directed by Sprint. If Sprint requests the integration of third-party equipment into Suppliers Testbed, Sprint shall provide such equipment at no cost to Supplier.

1.5 Supplier shall, if requested by Sprint, assist Sprint personnel in the installation and maintenance of the Equipment and any Software and Equipment included in the Sprint Testbed and in the field. Such assistance will include but not be limited to providing information or help regarding installation procedures, testing and acceptance procedures, provisioning procedures, and general operational maintenance procedures. Such assistance shall be provided * . Supplier shall make available to Sprint, after the First Installations, additional technical support at the Prices set forth in Exhibit C.

1.6 Sprint shall perform validation and acceptance testing as set forth in Article 6 of this Agreement and Exhibit B.

1.7 Supplier shall notify Sprint within twenty four (24) hours, upon learning of any material defects in any of the Deliverables.

1.8 All Deliverables, including purchased spare parts, shall be newly manufactured.

1.9 (a) Supplier shall support all Licensed Software and Equipment * . Each Software Revision level shall have Backward Compatability with all existing in-service Equipment and with all Software Revision Levels delivered by Supplier to Sprint within the previous two (2) years.

(b) If Supplier discontinues manufacture and/or support of the Equipment, Supplier shall at Sprint's request, to the extent of Supplier's legal rights to do so, without obligation or charge to Sprint and without limiting Sprint's other rights or remedies, deliver to Sprint all of the technical information owned and possessed by Supplier relating to the manufacture and/or support of the Equipment, in the form being used in Supplier's factories in its

day-to-day operations of manufacture, or arrange for the replacement and repair spare parts for the Equipment to Sprint's reasonable satisfaction. Sprint may use such technical information only to manufacture, have manufactured, obtain such spare parts from other sources in connection with the Equipment and System Software obtained from Supplier and owned and operated or licensed by Sprint. Title to Suppliers technical information and intellectual property rights shall remain with Supplier.

1.10 Except as provided in Section 16.3(e), during the term of this Agreement, * .

ARTICLE 2. QUANTITIES AND DELIVERY SCHEDULES

2.1 During the Term of this Agreement, Sprint shall furnish Supplier a monthly Projection Schedule ("Schedule") setting forth a rolling * month forecast of the respective quantities of each type of Deliverable that Sprint then estimates it will require for each month in the immediately succeeding * month period. The Schedule for the immediately succeeding * period following the date the Schedule is submitted to Supplier ("Commitment") shall be considered a firm commitment by Sprint to order the forecasted Deliverables. In the event that Supplier indicates that it cannot meet Sprint's entire Commitment, Sprint shall have the right to reduce the Commitment and seek alternative sources for like Deliverables * . Notwithstanding the provisions set forth in Article 7, in the event that Sprint .fails to submit Purchase Orders for at least the respective forecasted quantity of Deliverables for the Commitment period by the last day of the month that the Deliverables are forecasted to have been delivered to Sprint ("Shortfall"), and provided that Supplier gives Sprint written Notice of such Shortfall, then Supplier may invoice Sprint for a penalty of * of the Net Price of such Shortfall. Sprint shall pay such penalty pursuant to the provisions set forth in Section 3.1(a). In the event that Sprint submits Purchase Orders for the Shortfall within * days following the forecasted delivery date, then (i) Supplier shall deliver the Deliverables in the times frames set forth in Section 2.2; and (ii) Sprint shall make payment for the remaining * of the Net Price of such Shortfall pursuant to the provisions set forth in Section 3.1(a).

2.2 During the Term of this Agreement, Sprint shall issue Purchase Orders specifying the Deliverables ordered, the quantities necessary, the delivery site or sites (hereinafter the "Specified Site[s]") for the Deliverables and the delivery schedule. The delivery schedule set forth in the Purchase Order will reflect the following intervals:

(a) * after receipt of order ("ARO") for PO's placed *

(b) * ARO for PO's placed *

(c) * ARO for orders placed *

Unless mutually agreed upon in advance in writing, Supplier shall make shipments in response to a Purchase Order only if the shipment completely satisfies the Purchase Order. Time is of the essence to Sprint and Supplier understands and acknowledges that the delivery schedule must and will be strictly observed. Sprint may defer delivery of all or part of the Deliverables ordered under any Purchase Order for as long as * days beyond the scheduled delivery date, provided that Sprint provides in written Notice in the form of a Purchase Order supplement to Supplier at least fifteen (15) days prior to the scheduled delivery date.

2.3 All deliveries of Deliverables shall be made F.O.B. Specified Site, third party bill. Supplier agrees to follow Sprint's routing instructions set forth in Exhibit E, including required carrier choices and Sprint agrees to pay freight charges. If Supplier fails to follow such routing instructions, Supplier will bear any expenses and/or other

liabilities above that which would have been incurred had the routing instructions been followed. Risk of loss or damage to the Deliverables shall remain with Supplier until delivered to Sprint at the Specified Site and Sprint has verified receipt of all Deliverables ordered in the Purchase Order, but such verification shall not prejudice Sprint's right to determine Final Acceptance. Except for First Installations, title to the Deliverables shall transfer upon delivery of Deliverables. The preceding provisions of this clause are valid for deliveries in the United States, its possessions and territories only. All deliveries outside the aforementioned areas will be mutually agreed upon on a case by case basis.

2.4 Sprint shall have the right to alter the Specified Site(s) within ten (10) days before Supplier's scheduled shipment date for Deliverables, without cost or expense to Sprint, by timely transmitting Notice to Supplier of the new Specified Site(s).

2.5 Supplier shall execute and deliver to Sprint an order acknowledgment within seven (7) days of Supplier's receipt of each Purchase Order. If the order is in excess of 110% of the most recent forecasted amount, Supplier will indicate if it will commit to delivery of the excess amount.

2.6 During the Term of the Agreement * . Additionally, Supplier agrees that in the event that at any time during the Term of this Agreement *

ARTICLE 3. PRICING, INVOICING, PAYMENT AND OTHER FINANCIAL TERMS

3.1 Prices for new or replaced Deliverables (if the replaced Deliverable has substantially similar purpose and functionality) are set forth in Exhibit C and shall not be increased for the Initial Term of this Agreement. In the event that Supplier decreases prices for Deliverables, Supplier shall apply immediately such decreases to any outstanding Purchase Order whose Deliverables have not yet been delivered to Sprint. Should Sprint order a Deliverable not listed in Exhibit C, Supplier shall grant Sprint the tier discount corresponding to the total volume of Deliverables previously ordered by Sprint under this Agreement or the equivalent discount of a similar category of Deliverable previously ordered by Sprint, whichever price is lower (but in no case shall the Net Price be more than that offered to Similarly Situated Customers). Sprint shall not be responsible for any other charges such as insurance or similar charges unless otherwise agreed to by Sprint in writing except sales, use, excise or similar taxes reimbursable by Sprint with respect to Deliverables, which shall be detailed as a separate line item on each applicable invoice. Payment terms are set forth as follows:

(a) Standard Orders: Except for the provisions of 3.1(b), 3.1(c), and 3.1(d), Sprint shall remit payment to Supplier for * percent * of the undisputed invoice amount within thirty (30) days after receipt of the invoice, which shall be issued upon shipment of the Equipment or completion of services as applicable.

(b) * : In consideration of * upon the Purchase Order acknowledgment, provided, however, that until Supplier has successfully completed the initial FAT. Sprint shall not be obliged to pay such invoices. Except as provided in 3.1(c), below, Supplier may invoice the balance due upon delivery.

(c) First Installation Orders: For orders designated by this Agreement as First Installations, Supplier shall invoice the balance due upon Final Acceptance in accordance with the provisions of paragraph 3.6 of Exhibit B.

(d) Sprint shall not be required to pay for Deliverables or Services which are rightfully rejected.

(e) In the event that a System does not complete Final Acceptance to Sprint's satisfaction, Sprint has the right to remove the respective Equipment that does not pass Final Acceptance in accordance with the provisions set forth in Sections 15.3 and 20.3.

(f) Notwithstanding the provisions set forth in Sections 3.1 (a), 3.1 (b), and 3.1 (c), in the event that Sprint experiences at least a * percent installation failure rate ("Installation Failure Rate") of field replaceable module types ("Module Types"), which Module Types are set forth in Exhibit C, Sprint shall have the right to suspend all outstanding payments, without penalty, until such time as the problem(s) causing such failures have been resolved or a satisfactory course of action is agreed to by Sprint and Supplier. The Installation Failure Rate of Module Types shall equal the total number of such Module Types which failed within * of installation thereof, divided by the total number of that Module Type installed during the preceding * .

3.2 In the event Supplier fails to receive payment from Sprint as required herein, or if Supplier reasonably disputes the amount remitted by Sprint, then Supplier shall so notify Sprint in writing. Sprint shall have fifteen (15) calendar days to cure such non-payment, *

3.3 Invoicing instructions shall be as follows:

Original Invoice Sent To:
Sprint
Accounts Payable
P.O. Box 5409
Kansas City, MO 64131-5409

One Copy of Invoice Sent To:
Sprint Transmission Engineering
ATTN.: SONET Project Manager
Mailstop: MOKCMD0203
901 E 104th Street
Kansas City, MO 64131-5409

3.4 *

ARTICLE 4. TERM

Subject to the terms and conditions of this Agreement, the initial term of this Agreement shall be three (3) years from the Effective Date and if none should be entered, the date of the signing of the Agreement by the last party to sign ("Initial Term"). At the end of the Initial Term, Sprint shall have the option to extend this Agreement for one additional one-year period. Thereafter, the Agreement may be renewed upon mutual agreement. The Initial Term in combination with any extensions is also referred to in this Agreement as the "Term."

ARTICLE 5. DOCUMENTATION AND REPORTS

5.1 (a) Supplier shall provide to Sprint, * , sufficient Documentation as reasonably determined by Sprint, and reports referred to in Sections 5.4 and 5.5, in each case, in English, on or before the specified delivery date for such Deliverable, in the case of System Documentation, or the specified due date in the case of reports. The Supplier will provide one copy of such Documentation and reports for each Specified Site, and twenty five (25) additional copies for administrative use. Delivery instructions therefor will be specified in each Purchase Order. Sprint agrees to provide Supplier with an updated distribution list for revisions or updates, or both, as provided for herein below. Soft (computer disk) copies of the Documentation will be available upon Sprint's request. Additionally, Sprint may order a Documentation in CD ROM form in lieu of paper copies, if available from Supplier * . Sprint may also reproduce hard copy Documentation for its internal use provided that any copyright notice of such Documentation is copied as well.

(b) All hard copy Documentation shall be delivered on 8 1/2 by 11 inch paper with numbered pages with one of those copies being in "camera ready" form for permissible reproduction and/or printing. Diagrams shall be included in the respective documents and may be 11 x 17 inch paper as appropriate, or issued separately if they are a stand-alone document.

5.2 Supplier shall, within the applicable time period set forth in Section 5.3, 5.4 and 16.11, provide Sprint with (a) updates, as such updates are made generally available, to the Documentation, and (b) new and/or revised data incorporating any changes to the Deliverables which affect form, fit, or function, in each case at no additional charge to Sprint. Such Documentation may be reproduced by Sprint for its internal use, provided that any copyright notice of such Documentation is copied as well. Soft copies of such Documentation shall be available upon Sprint's request. Such Documentation will be used for Sprint's internal use only on a strict need to know and need to use basis.

5.3 Supplier shall provide Sprint with relevant Documentation within thirty (30) days of correction of the conditions described in (a), (b) or (c) below:

(a) Any E1 or E2 condition of Software and/or Equipment as described in Article 16;

(b) A hazardous electrical or mechanical condition in the Equipment; or

(c) Support Services do not correct System Software and/or Equipment failures to meet Technical Requirements, even on a temporary basis.

5.4 Supplier shall maintain a data base and furnish to the Sprint SONET Project Manager, at the times specified below and at a location to be designated by the Sprint Project Manager, three (3) copies each of the reports described below:

(a) Supplier shall furnish every * , unless otherwise stated, for * the following reports:

(i) Reports of all Items returned for repair and disposition of the Items by type, date of receipt, serial number and common language equipment identifier ("CLEI"). The categories of the report may be modified during the Life of System but at minimum will include: the cause of failure, including whether no trouble found ("NTF"), the disposition of the unit as being returned or replaced, and any repair action taken.

(ii) Percent NTF by type. Each report shall include a comparison of Sprint versus all Customers (who shall not be specifically identified).

(iii) CSR Report, which definition is set forth in Article 16.4, which shall show:

(A) the date each CSR was submitted to the Supplier by Sprint;

(B) as to each CSR, whether it is open or closed, and the date of closing of each closed CSR (such closing shall require the concurrence of Sprint);

(C) the identification number ("ID") assigned to the CSR by Sprint and if the ID number assigned thereto by the Supplier is different, then the Supplier's ID number shall also be included;

(D) the priority code assigned to the CSR (i.e., E1, E2, P1, P2 or P3) pursuant to Article 16 of this Agreement;

(E) whether the actions necessary to correct the trouble found, or provide upgrades or enhancements, involved one or more of the following: Software Upgrade, Equipment Upgrade, Software Feature Enhancement or Equipment Feature Enhancement

(iv) Product Change Notices ("PCN") issued by identification number and title.

(v) List of Sprint Purchase Orders providing the date of receipt, status of order and status of paid invoice.

(vi) Acknowledgment, in writing, as to whether Supplier can meet Sprint's entire Commitment. *

(vii) List of forecasted Deliverables for each month of the Commitment period, with associated Purchase Order(s), and applicable Shortfall, if any. *

(b) Supplier shall furnish (starting * from the date of initial delivery of the Equipment) the following reports:

(i) *
.

(ii) Turnaround (interval) time for normal and emergency repairs. The report for emergency turnaround shall provide the time the call was received versus the time the module was shipped. The report for normal turnaround shall provide the date the part is received versus the date the replacement or repaired part is shipped.

5.5 In addition, * during the Life of the System, Supplier shall provide Sprint with a * .

ARTICLE 6. DELIVERY, INSTALLATION AND ACCEPTANCE

6.1 Supplier shall meet or exceed all Technical, Test and Acceptance Requirements set forth in Exhibit B with respect to the Deliverables supplied to Sprint.

6.2 Supplier shall mark each shipment to Sprint with Supplier name, the Purchase Order number, Sprint work order number (if such designation is included in the Purchase Order), the identity and quantity of Deliverables, and notice of partial or final delivery. Partial delivery may be made only with prior written permission from Sprint. Final destination, interim staging area or any special shipping instructions and any applicable charge will be specified on each Purchase Order.

6.3 (a) During the Initial Term of this Agreement, Supplier shall make available on-site installation spares of all parts and components of the Equipment ("Spares Kits" or "Kits") at the time of installation in sufficient quantities to enable timely Final System Acceptance of Equipment. In the event that Sprint elects not to purchase Spares Kits at the start of installation, Sprint shall * . Sprint and Supplier shall periodically coordinate to determine a mutually agreed quantity and contents of the Kits , which shall be provided by Supplier to the extent required to meet Sprint's then current installation needs, and furnished to the Specified Sites. The actual composition of the Kits will be defined for each installation scheme and be based on the actual type of Equipment to be installed. Ownership of the Kits remains with Supplier until and except to the extent that spares are required to be used to complete installation of the applicable System. Upon completion of Final Acceptance at each site as set forth in Exhibit B, (i) Sprint shall have the option to return the respective Spares Kits to Supplier which shall include the defective Items from such installation; (ii) Supplier shall replenish such Kit to the extent necessary to replace all defective Items with respect to such installation, (iii) Supplier shall return such replenished Kit or a new installation Spares Kit to Sprint to the extent required to meet Sprint's installation needs, (iv) Sprint * of Sprint's purchase price for any unaccounted for and/or physically damaged installation spares.

(b) Sprint also shall have the option to * , or in the event of multiple Kits being used on an installation project, *

(c) Supplier shall provide, as back-up to the installation Spares Kit * emergency replacement of any failed unit during installation and supplement installation spares for spares which have been depleted.

ARTICLE 7. FORCE MAJEURE

7.1 Except as otherwise provided herein, neither Supplier nor Sprint shall be liable to the other for any delay in performing in accordance with this Agreement if such delay arises directly out of an Act of God including fire, flood, earthquake, explosion, casualty, or accident, or out of war, riot, civil commotion, labor dispute, the requirement of any governmental agency or instrumentality, or any other cause beyond the control of the party claiming force majeure, its agents, suppliers or other subcontractors ("subcontractors").

7.2 Such delay by Supplier that arises out of any delay in performing or failure to perform by any of its subcontractors shall be excusable only if the (a) delay or failure by such subcontractor arises directly out of a cause or event referred to in Section 7.1, and without the fault or negligence of either or both of Supplier and such subcontractor and (b) the materials or services to be furnished by such subcontractor or Supplier were not reasonably obtainable from other sources in sufficient time to permit Supplier to meet the required schedule.

7.3 The party asserting that an event of force majeure has occurred shall send the other party Notice thereof in accordance with Section 22 no later than five (5) business days after the beginning of such claimed event

setting forth a description of the event of force majeure, an estimate of its effect upon the party's ability to perform its obligations under this Agreement and the duration or expected duration thereof. The Notice shall be supplemented by such other information or documentation as the party receiving the notice may reasonably request.

7.4 The party asserting that an event of force majeure has occurred shall be excused, on a day-to-day basis, from the performance of its obligations under this Agreement to the extent prevented or delayed by such event (and the other party likewise shall be excused, on a day-to-day basis, from the performance of its obligations under this Agreement to the extent such party's obligations related to the obligations are so prevented or delayed); provided, however, that the party asserting the occurrence of a force majeure event shall use its best efforts to avoid or remove such force majeure event.

7.5 In the event that Supplier delays in performing or fails to perform any of its obligations under this Agreement as a result of an event of force majeure and such delay or failure continues for * or more, Sprint shall be entitled in its sole discretion to terminate any affected Purchase Order without penalty. As soon as possible after the cessation of any event of force majeure, the party which asserted such event shall give the other party written notice of such cessation. Whenever possible, each party shall give the other party written Notice of any threatened or impending event of force majeure.

ARTICLE 8. TRAINING

8.1 Supplier shall provide, upon Sprint's request and at the time or times required by Sprint during the Term of this Agreement, up * training class days of training and training materials for Sprint personnel, * . Such training shall be kept current to encompass the latest Licensed Software and Equipment, or any other Software Revision Level and/or Equipment Revision Level directed by Sprint. Subject to the foregoing, course content and material will be designed and agreed to by mutual consent. Supplier shall have operator training available * and train-the-trainer classes available within * . Sprint shall have the right to copy Supplier's training materials for its internal use provided that any copyright notice included in such material is copied as well. Unless otherwise directed by Sprint, courses shall be limited to ten (10) attendees in each course session. Sprint is obligated to pay for all travel and lodging of Sprint personnel. All training will be conducted at Ciena's Maryland location unless otherwise agreed. For each of the courses described below, Supplier shall sufficiently train and test class attendees such that the individual can perform the respective functions on the Equipment and Licensed Software. Supplier shall conduct classes for each course described below:

(a) Installation training will include training to technical personnel presumed not qualified or trained specifically on installation or testing of the Equipment as it interfaces with a SONET System or the Equipment or Software. The subject matter will include a general overview of Equipment technology and how it interfaces with fiber optic transmission systems, and any other information necessary to successfully install and test the Equipment in a field location.

(b) Operations, Maintenance and Provisioning ("OM&P") training will include training to technical personnel presumed not qualified or trained specifically on operating the Equipment and Software included therein. The subject matter will include (i) a general overview of wave division multiplexers and how that type of equipment interfaces with fiber optic transmission systems (ii) a system overview of the Equipment, Software initiation and configuration requirements, required interconnections, troubleshooting and testing requirements, recovery from System failures, use of the craft interface device, and (iii) any other information necessary to successfully operate, troubleshoot, maintain, or set up the Equipment to direct traffic to the intended location, in each case so that the Equipment successfully operates in a field location.

(c) *

Supplier will certify attendees upon successful completion of the course. Such course content and materials may be tailored or customized by Sprint for internal use only and shall include training with respect to the following topics which are applicable, as appropriate, to the installation, operation and maintenance of the Equipment such as:

(i) Hardware configuration;

(ii) Communication interfaces and protocols;

(iii) Software operating system (current to latest Software Revision Level);

(iv) Data base configuration, structure and content;

(v) Data base down loading;

(vi) Program function;

(vii) Troubleshooting procedures; and

(viii) Other subject matter which is necessary or desirable to understand current Equipment operation and maintenance as well as any enhancements as they are added to the Equipment.

ARTICLE 9. SOFTWARE LICENSE

9.1 Supplier hereby grants to Sprint, and Sprint hereby accepts from Supplier a perpetual, non-exclusive, fully paid-up, worldwide right to use license (the "RTU License"), with rights to transfer and sublicense, only to the extent explicitly authorized in this Agreement for:

(a) the EMS Software in machine readable form, including any applicable Software Upgrades provided under the warranty provisions of this Agreement and any EMS Software Feature Enhancements licensed by Sprint under this Agreement, and any copies of any of the foregoing as authorized herein;

(b) System Software in machine readable form, including any applicable Software Upgrades provided under the warranty provisions of this Agreement or any System Software Feature Enhancements licensed by Sprint under this Agreement, and any copies of any of the foregoing as authorized herein, and

(c) Third Party Software embedded in and integrated with the Equipment, System Software, and EMS Software, in machine readable form.

The RTU License for each Item of Licensed Software commences on * and extends perpetually thereafter unless terminated in accordance with the provisions of this Article 9.

* Sprint may physically transfer the EMS Software from one workstation to another without Notice to Supplier and from one site to another provided that (a) the workstation from which the EMS Software has been transferred shall cease to be a Licensed EMS Workstation for such transferred Software and the workstation to which the EMS Software has been transferred shall thereafter be deemed to be a Licensed EMS Workstation, and (b) the EMS Software delivered by

Supplier pursuant to a Sprint Purchase Order shall not be resident at any time on more than the total number of Licensed EMS Workstations set forth on the applicable Sprint Purchase Order.

Sprint's * for the System Software shall be limited to use in Equipment provided under this Agreement which incorporates such System Software for transmission of a number of information payload carriers ("Channels") excluding service channel carriers (order wires), in either optical transmission path of such Equipment which does not exceed the number of Channels set forth in Sprint's Purchase Order, or otherwise authorized by this Agreement, for (a) the Equipment and System Software, or (b) license upgrade applicable to the Equipment, and authorized by Supplier through provision of an applicable release of the System Software for that System or an acknowledgment by Supplier of purchase by Sprint's of * for increasing the maximum number of * (hereinafter, a "Licensed System"). Sprint may transfer the System Software from one site to another so long as operated only on a Licensed System.

The Licensed Software contains copyrighted material, trade secrets and other proprietary material of Supplier or Supplier's subcontractors. Sprint is granted no title or ownership rights to the Licensed Software, and Sprint shall not sell, transfer (except as authorized under this Agreement), rent, copy (other than for archival or backup purposes), reverse engineer, or grant any rights in the Licensed Software except as provided herein without Supplier's prior written consent. Sprint agrees to protect the Licensed Software in a manner consistent with the maintenance of Supplier's ownership and proprietary rights therein, including displaying of any copyright marks incorporated by Supplier.

9.2 Sprint agrees that the System Software is intended for use with Supplier's Equipment and Supplier agrees that the Software will have Interoperability with systems, equipment and software provided by other suppliers and Customers. *

9.3 Supplier agrees that each Software Revision Level of the System Software * shall maintain Backwards Compatibility with all existing in-service Equipment and the previous Software Revision Levels issued within the previous two (2) year period of the System Software) made available to the Customers by Supplier. Sprint shall be required to procure a license for not more than one Software Revision Level of the System or EMS Software at each site to acheive the functionality and features of the most current Software Revision Level and to maintain Backwards Compatibility if the Equipment is deployed with Supplier's the then-current version of System Software or EMS Software. In the event System Software or EMS Software supplied by the Supplier at any site at any time does not provide Backwards Compatibility as required by this Section 9.3, then Supplier shall provide, without charge to Sprint, the most current Software Upgrades of the System Software to each such site, and otherwise take such steps as may be necessary to achieve Backwards Compatibility. Some Software Feature Enhancements may require attendant hardware as described generally in Article 11, which will be purchased by Sprint consistent with Article 11.

9.4 The provisions of this Article 9 shall survive the termination of this Agreement, regardless of the cause of termination.

9.5 In conjunction with a distribution of the Source Code escrow described in Section 9.6, Supplier hereby grants to Sprint the perpetual right and license to use, modify, and enhance the released Source Code of the Software licensed by Sprint under the restrictions set forth in Section 9.6, and Supplier agrees that the rights and licenses granted herein: (i) are fully performed, (ii) are not of an executory nature, (iii) will not be subject to rejection under Title 11, Section 365 (a) of the United States Code, or any replacement provision therefor, and (iv) will be deemed to be, for purposes of Title 11, Section 365 (n) of the United States Code, or any replacement provision therefor, licenses to rights to "intellectual property" as defined therein.

9.6 Supplier hereby grants Sprint, and Sprint hereby accepts from Supplier, a Right to Modify license ("RTM License"), limited in use only for the maintenance, modification and support of that Equipment purchased or operated and System Software and EMS Software licensed by Sprint, including access to Source Code, with access to the Source Code exercisable by Sprint only under the following conditions:

(a) If Supplier becomes insolvent, makes a general assignment for the benefit of creditors, files a voluntary petition in bankruptcy or an involuntary petition in bankruptcy is filed against Supplier which is not dismissed within sixty (60) days, or suffers or permits the appointment of a receiver for its business, or its assets become subject to any proceeding under a bankruptcy or insolvency law, domestic or foreign, or has liquidated its business, or Supplier, or a business unit of Supplier that is responsible for maintenance of the Licensed Software ceases doing business without providing for a successor, and Sprint has reasonable cause to believe that any such event will cause Supplier to be unable to meet its support requirements hereunder; or

(b) If Supplier assigns, transfers or otherwise provides for maintenance rights or other such rights to the Licensed Software to a third party, excluding merger or acquisition, unless Sprint consents, in writing, to such transfer or assignment (which consent shall not be unreasonably withheld) after receiving assurances which are reasonably satisfactory to Sprint that Support Services provided under Article 16 for the Licensed Software, and Equipment during the Warranty Period and any Extended Warranty Periods as defined in Article 13 with respect to the same will be maintained as contemplated by this Agreement;

(c) *

9.7 Supplier agrees, at Sprint's request, to become a party to a mutually acceptable master Source Code escrow agreement signed by Sprint and Supplier and consistent with the terms of this Agreement ("Escrow Agreement") which will allow Sprint to obtain access to Supplier's Source Code in accordance with the terms set forth in Section 9.6 and such Escrow Agreement. Supplier shall pay those costs associated with providing Supplier's Source Code to the Escrow Agent and Sprint shall pay those costs associated with release of such Source Code. Supplier warrants and agrees that (a) the Source Code delivered into escrow in accordance with the Escrow Agreement will comprise the full Source Code language statement of the System Software and EMS Software as developed and used by Supplier to maintain or modify the Equipment and management system including (i) the complete Software, maintenance, and support Documentation, and (ii) all other materials necessary to allow a reasonably skilled third-party programmer to maintain, modify, or enhance the deposited Software without the assistance of any other person or the reference to any other material; and excluding (i) Third Party Software incorporated in the Licensed Software and sublicensed by Supplier to Sprint under the terms of Article 9.1 of this Agreement, (ii) commercial software development tools which were licensed by Supplier for its use in developing the Software; (b) such Source Code shall include all Software Revision Levels thereof which have been delivered by Supplier to Sprint under this Agreement from the date of initial creation of such Software until the date the RTM License becomes effective, (c) such Source Code shall be kept up to date, including all updates needed to maintain compliance with the Technical Requirements. In addition, all parts of the Source Code from the date of its creation until the date the RTM License first becomes effective thereof, and all updates thereto (including, without limitation, those which are necessary to maintain compliance with the Technical Requirements) shall be delivered into escrow in accordance with the Escrow Agreement, and (d) the escrow agent will give Sprint written notice of any deposit by Supplier and any refusal by Supplier to pay applicable any escrow fees and expenses. At Sprint's request, the escrow agent will also certify that the deposit meets the technical requirements set forth in the Escrow Agreement, including tests of the deposited Software. The Source Code delivered to the escrow agent will be in a form suitable for reproduction by Sprint.

9.8 In the event Sprint obtains the RTM License, Supplier warrants that the System Software delivered to Sprint will be in a form suitable for reproduction by Sprint and shall comprise the full Source Code language statement

of the System Software as used by Supplier sufficient to allow a reasonably skilled third party programmer to maintain or modify the Equipment without the help of any other person or reference to any other material.

9.9 In the event that, after exercising the RTM license, Sprint is later satisfied that Supplier can meet its Software Support and maintenance obligations as set forth in this Agreement, then Sprint shall cease to exercise its access rights under the RTU License and Sprint shall thereafter return any copies of Software delivered from escrow to Supplier.

ARTICLE 10. SOFTWARE CHANGES

10.1 Software Upgrades shall be provided to Sprint by Supplier at * , during the Warranty Period or Extended Warranty Period and such Upgrade shall have * prior to installation into the Sprint network.. Software Feature Enhancements during or after the Warranty Period shall be provided to Sprint by Supplier at any time, if requested by Sprint, and Sprint shall be obligated to pay * . Sprint shall not be obligated to pay any fee related to any Software Feature Enhancement supplied to Sprint at the initiative of Supplier unless Sprint elects to utilize any new feature included therein. The fee for any Software Enhancement addressed by the immediately preceding sentence shall be due and payable within days of written Notice from Sprint to Supplier that Sprint has elected to use such new feature and has made Final Acceptance thereof. In the event Supplier at any time issues a Software Upgrade which is combined with any Software Feature Enhancement (collectively the "Combined Release") to such Licensed Software, the Combined Release shall be provided at unless and until Sprint elects to use any of the Software Feature Enhancement(s) included within the Combined Release and has made Final Acceptance thereof. Any Software modification provided by Supplier to Sprint at any time shall be subject to the terms of the Software License set forth in Article 9.

10.2 To the extent practicable in light of Supplier's software development practices, Supplier shall give Sprint not less than * written notice of the introduction of any Software Feature Enhancement or Software Upgrade of the Licensed Software to be released by Supplier.

10.3 During the Term of this Agreement, Supplier agrees, if requested by Sprint, *

10.4 Except as provided in Section 16.3 (e), during the term of this Agreement, installation, testing and acceptance of the Licensed Software shall be performed in accordance with Exhibit B, prior to the delivery of the applicable Software Upgrade or Software Feature Enhancement, but in no event no later than thirty (30) days prior to the time such Software Upgrade or Software Feature Enhancement is to be deployed in the field.

10.5 In the event that any Third Party Software modification, Software Upgrade or Software Feature Enhancement or Software Revision Level supplied by Supplier during the Life of System has the effect of preventing the Equipment from satisfying, or performing in accordance with, the Technical Requirements or otherwise adversely affects the functionality or features of the Equipment, then Supplier shall promptly make such program changes, replace the Licensed Software or take such other corrective action as may be necessary to assure that the Licensed Software, as modified to include each such Software Upgrade or Software Feature Enhancement, will satisfy, and perform in accordance with, the Technical Requirements and restore all preexisting functionality and features as well as provide any new features and functionality provided by any of the foregoing modifications, in each case without any charge to Sprint.

10.6 Sprint shall have the option to procure a license for Supplier's Software Feature Enhancement releases. In the event that Sprint declines to procure a license for one or more successive releases pursuant to this section, it shall nonetheless be eligible to procure any current release at a price *

ARTICLE 11. EQUIPMENT CHANGES.

11.1 Equipment Upgrades shall be provided to Sprint by Supplier * except for Class A and Class AC * The Net Price for any Equipment Feature Enhancement addressed by the immediately preceding sentence shall be due within thirty (30) days of written Notice from Sprint to Supplier that Sprint has elected to use such new feature and has made Final Acceptance thereof. In the event Supplier at any time issues an Equipment Upgrade which is combined with any Equipment Feature Enhancement (collectively the "Combined Release") to such Equipment, the Combined Release shall be *

11.2 To the extent practicable in light of Supplier's Equipment development practices, Supplier shall give Sprint not less than * prior written Notice of the introduction of any new Equipment Feature Enhancement to the Equipment by Supplier.

11.3 During the Term of this Agreement, Supplier agrees, if requested by Sprint, *

11.4 Installation, testing and acceptance of the Equipment Upgrades and Equipment Feature Enhancements shall be performed in accordance with Exhibit B.

11.5 In the event that any Equipment Upgrade or Equipment Feature Enhancement supplied by Supplier during the Life of System has the effect of preventing the Equipment from satisfying, or performing in accordance with, the Technical Requirements or otherwise adversely affects the functionality or features of the Equipment, then Supplier shall promptly repair or take such other corrective action as may be necessary to assure that the optical Equipment, as modified to include each such Equipment Upgrade and Equipment Feature Enhancement, will satisfy, and perform in accordance with the Technical Requirements and restore all preexisting functionality and features as well as provide any new features and functionality provided by any of the foregoing modifications, in each case without any charge to Sprint.

11.6 Supplier reserves the right to discontinue any product that is a Deliverable under this Agreement if a functional equivalent is offered generally at substantially the same price or if Sprint has not ordered any of that product for * consecutive years. Supplier will provide a minimum of * Notice for products being discontinued. Notwithstanding the conditions set forth in the first two sentences of this Section 11.6, *

products still in use by Sprint. For a product to be considered a functional equivalent, however, it must meet the Technical Requirements.

ARTICLE 12. PROPRIETARY INFORMATION

12.1 Each party acknowledges the other party's ownership of trade secrets, proprietary or confidential information, including but not limited to products, planned products, services or planned services, the identity of or information concerning customers or prospective customers, data, financial information, computer software, processes, methods, knowledge, inventions, ideas, marketing promotions, discoveries, current or planned activities, research development or other information relating to the other party's business activities or operations and those of its customers or subcontractors (collectively referred to hereinafter as the "Proprietary Information").

12.2 (a) This Agreement creates a confidential relationship between Sprint and the Supplier and, in the course of, negotiating or performing this Agreement, including providing Deliverables pursuant to this Agreement, the disclosing party may disclose Proprietary Information to the receiving party. The receiving party shall keep Proprietary Information confidential and, except as directed or authorized in writing, shall use Proprietary Information only to provide the Deliverables and services pursuant to this Agreement and shall not disclose to any person or entity, directly or indirectly, in whole or in part, any Proprietary Information, information prepared from Proprietary Information, or information that comes into possession by reason of services hereunder. Dissemination of Proprietary Information shall be limited to the personnel within the receiving party's organization with a need to know and solely for the purpose of the performance of duties hereunder. Upon cessation of work hereunder, the receiving party shall return or destroy and certify to the disclosing party such destruction of all documents, papers and other materials in its control that contain or relate to Proprietary Information. To the extent practicable all proprietary information disclosed to the receiving party shall be promptly identified as such by the disclosing party in writing.

(b) The receiving party shall protect the Proprietary Information from unauthorized use or disclosure by exercising the same degree of care that it uses with respect to information of its own of a similar nature, but in no event less than reasonable care.

12.3 Proprietary Information does not include any information which:

(a) was rightfully known prior to * , other than information obtained in confidence under prior engagements;

(b) as shown by written records, has been independently developed without any reliance on Proprietary Information; or

(c) is or later becomes part of the public domain or is lawfully obtained from any nonparty to this Agreement.

12.4 Either party may from time to time, request that the other party disclose such of the other party's Proprietary Information as may be reasonably necessary to permit the design and implementation of such Software interfaces and other systems to permit Interoperability of the Equipment with the equipment or software of other suppliers of equipment and customers of Sprint, excluding equipment which is intended to replace portions of Supplier's Equipment, and each party shall otherwise reasonably cooperate with the other and such other suppliers and customers for the purpose of achieving such Interoperability.

12.5 Supplier may not use or reproduce the Sprint name with the diamond logo, the diamond logo alone, or any other registered or otherwise protected trademark of Sprint, even in responses to or in correspondence with Sprint, without the express, prior written permission of Sprint.

12.6 All equipment, materials, drawings, software, data or other such property of every description that Supplier receives directly or indirectly from Sprint or from a third party on behalf of Sprint in relation to this Agreement, or that is paid for or in whole or in part by Sprint, is the property of Sprint. ("Sprint Owned Property"). Supplier must mark all Sprint Owned Property as such and return all Sprint Owned Property to Sprint upon Sprint's request, or upon the termination or expiration of this Agreement whichever is earlier. Supplier is responsible and must account for all Sprint Owned Property, and bears the risk of loss while such property is in Supplier's possession. Sprint Owned Property may only be used in Supplier's performance of this Agreement. Sprint may inspect any agreements and associated records, including invoices, by which Supplier acquires Sprint Owned Property.

12.7 The provisions of this Article 12 shall survive * .

ARTICLE 13. WARRANTIES

13.1 Supplier warrants for a period of sixty (60) months from the date of delivery of any Deliverable or the provision of any Service ("Warranty Period") and any Extended Warranty Period as defined in Section 13.4, that such Deliverable or Service (as applicable) will meet all applicable industry standards, be free from defects in material and workmanship, including without limitation, design defects to the extent that such design defects prevent conformity with Technical Requirements as modified and attached hereto, will conform to the Technical Requirements, will be newly manufactured, and will be free from all liens and encumbrances. Supplier warrants that it is authorized to and hereby passes through to Sprint without modification, all warranties for Third Party Software and Equipment (that was not manufactured by Supplier) as were provided to Supplier by Third Party Software licensors and Equipment manufacturers.

13.2 Supplier warrants that during the Warranty Period or any Extended Warranty Period, that each Deliverable to be furnished hereunder will conform to all standards established for such Deliverables in accordance with applicable federal, state, local laws or regulations at time of delivery.

13.3 With respect to Deliverables repaired or replaced during the sixty (60) month Warranty Period, Supplier warrants, for a period equal to the greater of (i) the remaining unexpired portion of such Warranty Period, or (ii) * from the date the repair is effected, in the case of Deliverables repaired at the installation site, and from the date a replacement is shipped to Sprint, in the case of defective Deliverables that are replaced, that such Deliverables will satisfy and perform in accordance with the Technical Requirements, throughout such time period.

13.4 During the Life of System, Sprint shall be entitled to purchase an unlimited number of one-year extensions (each an "Extended Warranty Period") of any or all of the warranties set forth in Section 13.1, 13.2, or 13.3 (each an "Extended Warranty") with the amount of payment for each such Extended Warranty not to exceed that for any of Supplier's MFC's.

13.5 Supplier warrants that it has good marketable title to the Equipment, that it has the full power and authority to grant the license granted Sprint under this Agreement with respect to the Licensed Software, and to Supplier's knowledge, after investigation, neither the license to nor use by Sprint of the Licensed Software or Equipment, as permitted under this Agreement, will in any way constitute an infringement or other violation of any copyright, patent, trade secret, trademark, non-disclosure, or any other intellectual property right of any third party. The Licensed Software licensed under this Agreement will be free and clear of all liens and encumbrances.

13.6 Except for the warranties expressly set forth in this Article 13 and Section 14.5, Supplier hereby expressly disclaims any and all warranties, whether express or implied, verbal or written, statutory or at law, including, without limitation, any warranty of merchantability or fitness for any particular purpose.

13.7 In the event that Sprint makes any unauthorized modifications to the Equipment or System Software, the Equipment warranty will be voided.

13.8 The Software delivered to Sprint under this Agreement will be free from any viruses, disabling programming codes, instructions, or other such items that may interfere with or adversely affect Sprint's permitted use of the Software.

13.9 To the best of Supplier's knowledge, after investigation, neither Supplier nor its personnel performing services under this Agreement has any existing obligation that would violate or infringe upon the rights of third parties, including property, contractual, employment, trademark, trade secrets, copyright, patent, proprietary information and non disclosure rights, that may affect Supplier's ability to fulfill its obligations under this Agreement.

ARTICLE 14. REPRESENTATIONS AND OTHER WARRANTIES

14.1 Each party represents and warrants that it is duly organized, existing and in good standing under the laws of its State of organization, and is duly qualified as a foreign corporation and in good standing in all jurisdictions in which the failure to so qualify would have a materially adverse impact upon its business and assets.

14.2 Each party represents and warrants that it has the corporate power and requisite authority to execute, deliver and perform this Agreement, the non disclosure agreement between the parties incorporated as Exhibit D, the Hardware and Software Trial Evaluation agreement between the parties dated * , any Source Code escrow agreement entered into pursuant to this Agreement, and all Purchase Orders to be executed pursuant to or in connection with this Agreement, and that it is duly authorized to, and has taken all corporate action necessary to authorize, the execution, delivery and performance of this Agreement and such other agreements and documents.

14.3 Each party represents and warrants that neither the execution and delivery of this Agreement and the agreements or documents stated in Section 14.2 above executed by it pursuant to or in connection with this Agreement, nor the consummation of any of the transactions herein or therein contemplated, nor compliance by it with the terms and provisions hereof or with the terms and provisions thereof will (i) contravene or materially conflict with any provision of applicable law to which it is subject or any judgment, license, order or permit applicable to it, or any indenture, mortgage, deed of trust, or other agreement or instrument to which it is a party or by which it or its property may be bound, or to which it or its property may be subject, (ii) violate any provision of its articles of incorporation or bylaws or partnership agreement, if any or (iii) require the consent or approval of, the giving of notice to, or the registration, recording or filing of any document with, or the taking of any other action in respect of, any person, entity or governmental agency.

14.4 Each party represents and warrants that this Agreement and the agreements or documents stated in Section 14.2 above executed by it pursuant to or in connection with this Agreement will constitute when executed in full the legal, valid and binding obligations of said party, enforceable in accordance with their respective terms, subject to applicable bankruptcy, insolvency, reorganization, fraudulent transfer, moratorium or similar laws affecting the enforcement of creditors rights generally and to general principles of equity.

14.5 Supplier represents and warrants that Supplier possesses the technical capability, personnel, financial and other resources and proprietary rights to develop, build, test, deliver and support on a timely basis Deliverables that will satisfy the Technical Requirements.

ARTICLE 15. REMEDIES

15.1 In the event that any Licensed Software , or Equipment is discovered to be defective or otherwise fails to satisfy, or perform in accordance with, the Technical Requirements, or to conform to any of the other warranties specified in Article 13 during the applicable Warranty Period, Supplier promptly shall repair or replace, at its option and expense, all such defective or nonconforming System Software, EMS Software or Equipment so as to cause them to satisfy, and perform in accordance with, the Technical Requirements, and all of the other warranties in Article 13 during the applicable Warranty Period or any Extended Warranty Period. In the event that any Deliverable is returned for repair (including Deliverables with no trouble found following inspection) * , Supplier shall not deliver that specific Deliverable to Sprint repaired, but will exchange it at no cost to Sprint, for a new Deliverable.

15.2 During the Term of the Agreement, in the event Supplier fails to meet the delivery schedule specified in an applicable Purchase Order for Deliverables, Supplier shall have a
grace period following the scheduled delivery date, then Sprint shall either *

15.3 *

15.4 During the Term of the Agreement, in the event Supplier does not correct the cause of any failure contemplated by Section 16.7 within the time periods specified therein, Sprint shall be entitled to deduct from the payments otherwise required to be made by Sprint to Supplier under this Agreement, or request or credit to its account with Supplier or a payment from Supplier, in an amount equal to * Should occurrence cause additional derivative problems of the type as identified in Section 16.7, the remedies payable to Sprint by Supplier shall not be cumulative.

15.5 The parties acknowledge that disclosure of any Proprietary Information other than as allowed by Article 12 may give rise to irreparable injury and may be inadequately compensable in monetary damages and therefore

the non-disclosing party shall be entitled to seek and to obtain injunctive or other equitable relief against the breach or threatened breach of the obligations of said Article 12, in addition to any other remedies which may be available.

15.6 Notwithstanding any other provision to the contrary in Article 15 (except Section 15.4) or elsewhere in this Agreement:

(a) Except for those provided in Section 16.7, all remedies available to either party under this Agreement are cumulative and may be exercised concurrently or separately; the exercise of any one remedy shall not be deemed an election of such remedy to the exclusion of other remedies; and the rights and remedies of the parties as set forth in this Agreement are not exclusive and are in addition to any other rights and remedies available to it at law or in equity; provided, however, that the aggregate amount that Sprint shall be permitted to deduct from payments otherwise required to be made by it to Supplier under this Article 15, or to request a credit or payment as aforesaid, shall not exceed the aggregate Net Price of Deliverables invoiced to Sprint pursuant to Purchase Orders throughout the Term of this Agreement.

(b) *

15.7 Except for Supplier's indemnity obligations set forth in Article 19, anything in this Agreement to the contrary notwithstanding, Supplier's uninsured liability to Sprint pursuant to this Agreement or in connection with any matters in any manner related to this Agreement shall not exceed in the aggregate the Net Price of all Deliverables purchased by Sprint from Supplier and paid for during the term of this Agreement.

15.8 Except for Supplier's indemnity obligations set forth in Article 19, anything else to the contrary in this Agreement notwithstanding (except for Sections 15.2 and 15.4 of this Agreement), Neither party shall be liable to the other or to anyone claiming through the other party for any indirect, consequential, special or exemplary damages of any kind whatsoever.

ARTICLE 16. SUPPORT SERVICES

16.1 Support services consist of immediate and long-term emergency and non-emergency services provided during the Warranty Period and any Extended Warranty Period. Subject to the terms and conditions of this Agreement, Supplier will provide to Sprint the support services described below ("Support Services") *

(a) Upon receipt of a request for technical assistance, the nature of the problem will be identified, and a priority assigned by Sprint as either an emergency or non-emergency condition and resolution thereof will be expedited accordingly.

(b) Following corrective actions by Sprint in accordance with applicable maintenance documentation provided by the Supplier, when Supplier is notified by Sprint that the Licensed Software or Equipment fails to operate in accordance with the Technical Requirements, Supplier will promptly commence and diligently pursue all reasonable efforts to correct the defect.

(c) Supplier's correction of such defects in the Licensed Software or Equipment may take the form of new System Software code, new or supplementary operating instruction or procedures, modifications of the Software code in customer's possession, modification of Equipment, or any other commonly used method for correcting Software defects, as Sprint and Supplier deem appropriate.

(d) Supplier will provide non-emergency technical support to Sprint via telephone, facsimile transmission, or modem access, during Sprint's normal business hours.

(e) Supplier will provide an emergency technical assistance to Sprint via telephone, twenty-four (24) hours per day, three hundred sixty-five (365) days per year.

16.2 (a) From time to time, failures in or degradation of Equipment or System Software may cause services provided by the Equipment to be adversely affected. Critical service outages which cannot be resolved by Sprint field technicians or technical support engineers using procedures defined in Supplier documentation and training will be transmitted to the Supplier as a Trouble Report ("TR"). Supplier shall assign an identifying number to each TR to aid in tracking its disposition. TR's will be immediately addressed by the Supplier through emergency technical assistance under guidelines set forth below. It is necessary that immediate assistance be provided by the Supplier to allow Sprint to restore the affected service. Trouble Reports may not be considered concluded until the solution is concurred in by a designated Sprint Operations Control Center. The root cause of problems resulting in TR's may be system deficiencies which must be corrected through Equipment, System Software or procedure changes. Problems with the Equipment requiring such changes will be referred to the Supplier for action through a Customer Service Request ("CSR"). CSR's will also be the means for Sprint to request certain improvements or the addition of features to the Equipment.

(b) Sprint is authorized by Supplier to install and integrate any Software Upgrade or Software Feature Enhancement provided by Supplier pursuant to Supplier's instructions.

16.3 (a) The term Emergency Technical Assistance ("ETA") is defined to mean the provision of emergency technical assistance to Sprint for the purpose of resolving a problem which adversely affects service. When a problem is encountered which adversely affects service with respect to the Deliverables provided by Supplier, a Sprint maintenance technician will attempt to repair, correct, or replace any malfunctioning Deliverable using the procedures recommended in the Supplier's Documentation. If unsuccessful, a Sprint technical representative will consult the Supplier's designated ETA group at the telephone number provided by the Supplier in Section 16.3(c). Following receipt of notification by the ETA group, the ETA group will utilize all available technical resources and will ensure that a qualified technical engineer is communicating with Sprint personnel regarding the problem within fifteen (15) minutes of such notification.

(b) A problem adversely affecting service that has a severity level defined below as either E1 or E2 is to be addressed under ETA procedures:

(i) The term E1 Emergency Condition is defined to mean any failure of a Deliverable that renders any primary function and all recovery procedures inoperative. Supplier shall clear all E1 Emergency Conditions within twenty-four (24) hours or as soon as possible. Work must continue around the clock until the defect causing the E1

Emergency Condition is solved or the severity thereof is reduced to P1, as defined below, or less.

(ii) The term E2 Emergency Condition is defined to mean any emergency condition in which there is a clearly identified degradation of customer service that continues or repeats even after recovery procedures have been executed, and which will ultimately results in the loss of any primary function of the Deliverable. Supplier shall clear all E2 Emergency Conditions within twenty-four (24) hours or as soon as possible. This includes problems resulting in loss of system redundancy. Work must continue around the clock until the defect causing the E2 Emergency Condition is solved or the severity is reduced to P1, as defined below, or less.

(c) In the event that an E1 or E2 Emergency Condition should remain unresolved following referral to the Supplier by Sprint, the problem causing such condition shall be reported to the levels of management set forth below (with comparable titles, if different) to ensure all available resources necessary to address the problem will be committed in accordance with the following:

*

*	*	*	*
*	*	*	*
*	*	*	*
*	*	*	*
	*	*	
*	*	*	*

(d) In the event that Sprint reasonably determines that Supplier has not provided sufficient ETA to resolve any E1 or E2 Emergency Condition on a timely basis, *

.

(e) Time is of the essence during E1 and E2 Emergency Conditions, and Supplier shall deliver to Sprint each Software Upgrade and each Equipment Upgrade developed by or on behalf of Supplier to resolve any E1 or E2 Emergency Condition promptly following completion of development and successful testing of such Software Upgrade or Equipment Upgrade but in no event later than * following completion of such development.

16.4 (a) The term Non-Emergency Services includes providing to Sprint any requested technical assistance and support, remote monitoring and outage review consultation and the handling of Customer Service Requests ("CSR").

(b) Technical assistance and support shall be provided for the purpose of resolving non-emergency problems defined below as P1, P2 and P3 which shall be reported to Supplier.

(i) The term P1 Major Condition is defined to mean any non-emergency failure of specific features or functions of the Deliverable that restricts its operations, but does not render the Deliverable inoperable, or require significant manual intervention for the Deliverable to operate properly.

(ii) The term P2 Significant Problem is defined to mean any non-emergency, intermittently occurring problem related to specific primary functions, or features and/or any inoperable secondary functions, but the impact of such problems does not have a significant adverse affect on the overall performance of the Deliverable. By-pass or work around procedures shall be used to alleviate such problem until it is corrected.

(iii) The term P3 Minor Problem is defined to mean any non-emergency problem that does not affect the performance or functions of the Deliverable. The Deliverable is fully operable without restrictions. Such problems may include Documentation inaccuracies, cosmetics, minor requests for changes or maintenance requests. Supplier will clear minor problems during the next available scheduled Software Upgrade or Equipment Upgrade.

(c) Should non-emergency problems remain unresolved following referral to the Supplier by Sprint, such problem shall be reported to higher levels of management to ensure all available resources are committed to address such problem in accordance with the following schedule:

*
*

*	*	*	*	*
*	*	*	*	*
*	*	*	*	*
*				
*			*	*

Non-emergency problems referred to the Supplier as a CSR will be resolved based upon the priority assigned to them as reasonably determined by Sprint , and will generally be incorporated into the next scheduled Software Upgrade, Feature Enhancement or Revision Level, or Equipment Upgrade, Feature Enhancement or Revision Level, as applicable and which time reasonably permits. Technical assistance for P1, P2, and P3 type problems shall be included in the Support Services during the Warranty or Extended Warranty Period during normal business hours (Monday-Friday 0800 - 1700 hours local time, Kansas City).

16.5 In the event that emergency or non-emergency technical support provided from the Supplier's technical support center is not sufficient to resolve level E1 or E2 Emergency Conditions or P1 or P2 problems, Supplier shall send a technically qualified person to this site of such emergency condition or problem to assist Sprint employees in solving the condition or problem. The technically qualified person shall be on-site within twenty-four (24) hours or as soon thereafter as reasonably practicable after notification to Supplier by Sprint, or at such later time as may be determined by Sprint.

16.6 A CSR will be submitted by Sprint to request a repair of Emergency Conditions or a Non-Emergency Problem, or to request the addition of a Software or Equipment Upgrade or other Software or Equipment Feature Enhancement. Sprint's CSRs will define the problem or feature desired, and state whether Sprint considers the CSR to be a Software Equipment Upgrade or Software Equipment Feature Enhancement. Changes to the Equipment resulting from CSR's must be fully tested and accepted in accordance with the provisions of Exhibit B. The Supplier shall respond to the submission of a CSR by Sprint within five (5) business days, acknowledging receipt of the CSR, confirming or denying agreement with Sprint's assessment of whether the CSR may be considered a Software or Equipment Upgrade or a Software or Equipment Feature Enhancement and summarizing the Supplier's intended actions to handle the CSR. A CSR may result in a Software Upgrade or Equipment Upgrade as well as a Software Feature Enhancement or Equipment Feature Enhancement.

To the extent that Sprint notifies Supplier of a problem to be remedied by Supplier, whether under Article 16 or any other provision of this Agreement, and such problem is determined to be not attributable to products or services provided by Supplier, Sprint shall promptly, but in no event later than thirty (30) days after receipt of * therefor*. Notwithstanding the previous sentence, if such problem is the result of an installation by Sprint is based on erroneous Documentation or advice from Supplier, any expenses incurred by Supplier shall not be paid by Sprint. Reimbursement provisions for Supplier's expenses are set forth in Exhibit C.

16.7 In the event that Sprint's efforts in resolving the following issues are unsuccessful, Sprint may submit a CSR to Supplier.:

(a) *

(b) *

.

(c) Software Upgrades or Software Feature Enhancements cannot be installed into working Equipment without affecting customer traffic.

Supplier shall have * from the date the CSR is submitted to identify and isolate the cause, recommend a solution that is satisfactory to Sprint or notify Sprint that Supplier does not believe that the fault relates to its Deliverable, and the basis for this conclusion. If, in Sprint's determination a Deliverable is at fault, Supplier agrees to correct the cause of the failure at no cost or expense to Sprint (and to deliver the same to Sprint).

If the cause of any failure is not corrected within the time periods specified above, Sprint shall be entitled to the remedy set forth in Section 15.4.

16.8 Deliverables which fail in service will be returned by Sprint to the Supplier for repair in accordance with the following:

(a) During the applicable Warranty Period, or Extended Warranty Period, repair of failed Deliverables shall be accomplished by the Supplier * .

(b) Under non-emergency circumstances, Supplier shall repair or replace failed Equipment and return it to Sprint no later than * following receipt from Sprint.

(c) Under emergency conditions, the Supplier shall provide emergency replacement of failed or inoperational Deliverables in the event that a spare is not available through Sprint's stock of spares in the region affected. In such event, Supplier shall deliver emergency spare parts to Sprint within * of Supplier's receipt of Sprint's request. A request from Sprint shall be made through the emergency support contact as defined in Section 16.3. If Supplier fails to comply with the aforesaid obligation in *

one emergency request.

16.9 All units repaired by the Supplier for immediate or eventual return to Sprint shall be tested for full functionality in accordance with Supplier's current practices. Should no trouble be found ("NTF") with Equipment returned by Sprint to the Supplier for repair, a functionality testing period, intended to discover latent problems with the Equipment, shall be accomplished by the Supplier for no less *

16.10 Supplier will notify Sprint of any problem described in this Section, below, with Equipment, Software or Documentation discovered through any internal investigation or trouble reporting process from any customer using the Equipment. Such notification shall be in writing and shall be made within * of the discovery of level E1 or E2 Emergency Condition, * for level P1 problems and * for level P2 or P3 problems. Supplier shall make reasonable efforts to verbally notify Sprint and discuss the problem with a technician or engineer as soon as practicable, but in no event later than * after the internal discovery of level E1 or E2 Emergency Condition problems. Written notifications will be made by fax or overnight courier at Supplier's discretion. Notification will include:

(a) Impact on traffic if the condition or problem is not fixed;

(b) Impact on traffic caused by implementing fix;

(c) If fix is already included in an upcoming Software Upgrade, Revision Level, Equipment Upgrade or Revision Level;

(d) Cost, if any, to Sprint to implement;

(e) Impact on performance of the Equipment or Software if implemented; and

(f) Any workarounds or modifications to protect Sprint customer traffic and the associated cost as applicable.

16.11 Changes to the system required by Supplier due to its normal business processes or required by TR's, CSR's or other problem resolution methods shall be communicated to Sprint through a formal Product Change Notice ("PCN") process. This process will ensure formal Documentation is issued to Sprint to describe any necessary modifications to the Software or to the Equipment, and procedures for implementing them on a timely basis.

(a) Product Changes for problems for which a fix has been identified through the TR or CSR process must be tested and demonstrated within * for E1 or E2 level conditions, and * for P1, P2 or P3 level problems and implemented in the network as soon as reasonably practicable.

(b) Sprint must be notified of all upgrades that result in a functional change prior to the change being implemented on repaired Deliverables, or through Software Upgrades to individual Deliverables or the overall Equipment. Sprint must approve changes that affect functionality or Interoperability of Supplier's Equipment.

(c) An Equipment Upgrade or Software Upgrade to Supplier's Equipment that changes functionality may, at Sprint's election, be jointly tested by the Supplier and Sprint in Supplier's or Sprint's Testbed prior to use by Sprint.

16.12 All Equipment capable of being marked with bar codes using the CLEI standards as defined by Bellcore shall be so marked.

16.13 Supplier shall make available appropriate members of its senior management at a mutually agreed upon date once each quarter, or at such dates no more frequently directed by Sprint, to participate in quality assurance meetings conducted by Sprint which will cover, at a minimum, Supplier performance, business process and procedure improvements, projected schedules for future System Software releases and their proposed contents, and ongoing operations topics.

16.14 The Supplier shall be obligated to fulfill all of the duties and perform all of the obligations, for reasonable rates after the Warranty Period or Extended Warranty Period as the case may be, set forth in or contemplated by each of Sections 16.1 through and including 16.13 during the Life of System.

ARTICLE 17. DISASTER RECOVERY

17.1 Supplier shall commit to its best efforts to have available to Sprint sufficient Equipment and/or System Software inventory to replace the most complex Sprint network node site which would include any combination of up to * Sprint network, in each case as directed by Sprint. This commitment shall be exercised in the event the Sprint's network incurs a Catastrophic Failure and thereupon Supplier shall be obligated to use its best efforts to ship such Equipment and System Software immediately following Sprint's request in writing, but in no event later than twenty-four (24) hours following such request. Equipment and/or System Software used in the Supplier's testbed, specified under Article 1, may be used in combination with Supplier's inventory to satisfy this commitment. Where appropriate, Sprint shall purchase Equipment or procure additional licenses for Software supplied to Sprint.

17.2 In the event the Equipment and/or System Software is used to support Sprint in a disaster recovery, Supplier shall restore to full operation the Supplier Testbed in the configuration specified in Article 1 as soon as possible but in no event later than * after such Equipment and/or Licensed Software was removed.

ARTICLE 18. INSURANCE

18.1 Supplier shall procure and maintain, during the Term of this Agreement insurance in not less than the following amounts:

(a) Worker's Compensation insurance in accordance with the provisions of the applicable Workers' Compensation or similar law of the state with jurisdiction applicable to Supplier's personnel.

(b) Commercial General Liability, including Contractual Liability insurance with a coverage limit of not less than five million dollars ($5,000,000) Combined Single Limit per occurrence for bodily injury or property damage liability. Such policy or policies shall name Sprint as an additional insured and shall contain a provision waiving the insurer's right of subrogation against Sprint and its employees, agents, officers and directors.

(c) If the use of any automobile is required by the Supplier or any third party acting on behalf of Supplier in the performance of this Agreement, Supplier shall also obtain and maintain business auto liability insurance for the operation of all owned, non-owned and hired automobiles with a coverage limit of not less than one million dollars ($1,000,000) combined single limit per accident for bodily injury or property damage liability. Such policy or policies shall name Sprint as an Additional Insured and shall contain a provision waiving the insurer's rights of subrogation against Sprint and its employees, agents, officers and directors.

18.2 Supplier shall deliver to Sprint certificates of insurance satisfactory in form and content to Sprint evidencing that all of the insurance required by this Agreement is in force, and that no policy may be canceled or materially altered without first giving Sprint at least thirty (30) days prior written notice.

18.3 Nothing in this Article 18 is intended to imply that the Supplier's liability to Sprint is limited to the amount of insurance carried. Supplier's liability is limited by other provisions of this Agreement, such as Section 15.7.

ARTICLE 19. PATENT, COPYRIGHT AND TRADE SECRET

19.1 Supplier agrees to indemnify, defend and hold harmless Sprint, and each director, officer, employee or agent of Sprint (the "Indemnified Parties"), against any claims, suits, proceedings, damages, liabilities, judgments, amounts paid in settlement with the consent of the Supplier (which consent shall not be unreasonably withheld), costs or expenses (including the reasonable cost of investigating and defending any of the foregoing and attorneys' fees incurred in connection therewith), joint or several, as incurred, which may be based in whole or in part upon, or arise in whole or in part out of (A) any infringement or alleged infringement of any patent or copyright or similar rights protected under the laws of the United States of America ("USA") or any other country which is a signatory to the Paris Convention of March 20, 1883, as revised relating to the Deliverables or use thereof;(B) any wrongful use or misappropriation or alleged wrongful use or misappropriation of any trade secret or other proprietary rights relating to Deliverables, hereunder pursuant to any statute, regulation or common law of the USA or any other country which is a signatory to the Paris Convention of March 20, 1883, as revised (collectively referred to hereinafter as "Indemnified Liabilities"), provided that Supplier shall not be liable with respect to any Indemnified Liabilities which result from use by Sprint of the Equipment and Licensed Software different from the uses contemplated by this Agreement.

19.2 Without limiting the foregoing, in the event any such claim, action, suit, proceeding or investigation is brought against any Indemnified Party, unless Supplier assumes the defense as hereinafter provided, (a) the Indemnified Parties may retain counsel satisfactory to them and Supplier and Supplier shall pay all fees and expenses of such counsel for the Indemnified Parties promptly as statements therefor are received; and (b) Supplier will use all reasonable efforts to assist in the vigorous defense of any such matter, provided that Supplier shall not be liable for any settlement effected without its written consent, which consent, however, shall not be unreasonably withheld. The Supplier will be entitled to participate at its own expense in the defense, or, if the Supplier so elects, to assume the defense of any suit brought to enforce any such liability, but, if the Supplier elects to assume the defense, such defense shall be conducted by counsel chosen by the Supplier. In the event Supplier elects to assume the defense of any such suit and retain such counsel, any Indemnified Party may retain additional counsel but shall bear the fees and expenses of such counsel unless (i) the Supplier shall have specifically authorized the retaining of such counsel or (ii) the parties to such suit include such Indemnified Party, and the Supplier and the Indemnified Party have been advised by counsel that one or more legal defenses may be available to it or them which may not be available to the Supplier, in which case the Supplier shall not be entitled to assume the defense of such suit notwithstanding its obligation to bear the fees and expenses of such counsel.

19.3 Any Indemnified Party wishing to claim indemnification under this Article 19, upon learning of any such claim, action, suit, proceeding or investigation, shall notify the Supplier promptly (but the failure so to notify shall not relieve Supplier from any liability which it may have under this Article 19 except to the extent such failure prejudices Supplier). Supplier shall promptly notify Sprint that it has assumed the defense of any claim, action, suit, proceeding, or investigation and shall apprise Sprint of the progress of such defense.

19.4 If Sprint is enjoined from use of the Equipment or any component thereof or Licensed Software, Supplier must procure the rights, at Supplier's cost and expense, for Sprint to continue use of the Equipment or affected

component, or Licensed Software, or replace it with non-infringing Equipment or components, or Licensed Software, or modify same to be non-infringing.

19.5 This indemnity obligation shall be in addition to, and not in limitation of, any liability or obligation which Supplier might otherwise have to any Indemnified Party.

19.6 The indemnities provided in this Article 19 do not extend to: (i) any suit or proceeding which is based on an infringement claim covering a combination of a Deliverable purchased under this Agreement with other devices or elements not provided, and of which Supplier is unaware, or specified by Supplier unless such is an intended combination; (ii) any Deliverable whose infringement is a direct result of Supplier being required to adhere to a specific design provided by Sprint if, and only if, Supplier informs Sprint that it does not approve the specific design be; or (iii) any Deliverable that is otherwise modified by Sprint in a manner not authorized by Supplier.

19.7 Except for the indemnity provisions of this Agreement, neither party will be liable to the other for special, indirect, or consequential loss or damage, whether or not such loss or damage is caused by the fault or negligence of that party, its employees, agents, or subcontractors.

19.8 No limitation of liability contained in this Agreement will be applicable in the event of Supplier's gross negligence or intentional misconduct, or in the event of personal injury or property damage. Furthermore, no limitation of liability contained in this Agreement will apply with respect to any Supplier liability arising under or relating to Section 13.5 and 13.9, or this Article 19.

ARTICLE 20. TERMINATION

20.1 Either party may terminate this Agreement and any outstanding Purchase Order, in whole or in part, in the event of a default by the other, provided that the non-defaulting party so advises the defaulting party in writing of the event of alleged default and affords the defaulting party thirty (30)days within which to cure the default. The termination upon default of this Agreement for any reason shall not terminate any license or sublicense granted to Sprint by this Agreement. Default is defined to include:

(a) Either party becomes insolvent, makes a general assignment for the benefit of creditors, files a voluntary petition in bankruptcy or an involuntary petition in bankruptcy is filed against such party which is not dismissed within * , or suffers or permits the appointment of a receiver for its business, or its assets become subject to any proceeding under a bankruptcy or insolvency law, domestic or foreign, or has liquidated its business;

(b) Either party's material breach of any of the terms or conditions hereof;

(c) The execution by either party of an Assignment for the benefit of creditors or any other transfer or assignment of similar nature.

20.2 Neither the expiration of this Agreement according to its terms nor its termination under the provisions of Section 20.1 shall prejudice any claim for any outstanding amount owed Supplier and Sprint to each other, damages or any other rights or remedies that any party may have under this Agreement or at law or in equity or relieve any party from the duty to hold in confidence proprietary information and otherwise comply with, and exercise the rights set forth in, Articles 9, 11.1, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, and 25 hereof, each of which shall survive such termination.

20.3 In the event Sprint terminates this Agreement as described in Section 20.1 by reason of Supplier's non-performance of a specific Purchase Order, and does so prior to Final Acceptance of the Deliverables or completion of the work authorized in that Purchase Order, upon Sprint's request, Supplier shall return all fees and moneys paid to Supplier in connection with that Purchase Order within thirty (30) days of such termination. Sprint shall permit Supplier, at its expense to regain possession, upon reasonable advance notice and during normal business hours or such other time of the day designated by Sprint, all Deliverables provided by Supplier to Sprint in connection with that Purchase Order. The license rights which Supplier has provided to Sprint in conjunction with Deliverables delivered under that Purchase Order shall likewise cease, in this event, only. Either party may also pursue any other rights or remedies pursuant to Article 15 or Article 21 or otherwise available to it at law or in equity.

ARTICLE 21. DISPUTE RESOLUTION

21.1 The parties will attempt in good faith to promptly resolve any controversy or claim arising out of or relating to this Agreement or any subsequent performance by the parties before resorting to other remedies available to them. Any such dispute shall be referred to appropriate executives of each party who shall have the authority to resolve the matter. If the executives are unable to resolve the dispute, the parties may by agreement refer the matter to an appropriate form of alternative dispute resolution such as mediation. If the parties cannot resolve the matter or if they cannot agree upon an alternative form of dispute resolution, then either party may pursue resolution of the matter through arbitration in accordance with the rules of the American Arbitration Association applying the substantive law of the State of Kansas without regard to any conflict of laws provisions. The arbitration will be governed by the United States Arbitration Act, 9, U.S.C. Section 1, et. seq. and judgment upon the award rendered by the arbitrators may be entered by any court with jurisdiction. The arbitrators are not empowered to award damages in excess of compensatory damages , and each party waives any damages in excess of compensatory damages. The parties agree to continue performance during the pendency of any dispute, unless performance is terminated according to Article 20 of this Agreement.

21.2 Notwithstanding the foregoing, either party may bring a claim for injunctive relief as provided in Section 15.5 in any court of competent jurisdiction without first submitting the claim to arbitration.

ARTICLE 22. NOTICE AND REPRESENTATIVES OF THE PARTIES

Any notice ("Notice") required or permitted under this Agreement must be given in writing to the address or facsimile number provided for a party below (or such other address or number as any party may provide to the other in writing in the manner contemplated hereby) and will be deemed effective as follows:

(a) if delivered in person or by courier, on the date it is delivered;

(b) if sent by facsimile transmission, on the date that the transmission is received by the recipient party in legible form;

(c) if sent by certified or registered mail or the equivalent (return receipt requested), on the date that mail is delivered or its delivery is attempted but acceptance is refused ;

unless the date and time of any delivery or receipt, as applicable, is not during normal working hours on a local business day, in which case Notice shall be deemed given and effective on the first following day that is a local business day. For purposes hereof, a "local business day" is a business day in the city specified in the address for notice provided by the recipient.

The Notices provided for by this Article 22 shall be given to the following:

If to Sprint:

SONET Project Manager
Sprint Communications Company L.P.
901 E. 104th Street
Kansas City, Missouri 64131
Mailstop MOKCMD0203
Telephone (816) 854-5832
Facsimile (816) 854-7044

With a copy to:
Sprint Materials & Services Management
903 E. 104th Street
Kansas City, Missouri 64131
ATTN: Lead Negotiator, Procurement
Mailstop: MOKCMW0801
Telephone: 816-854-5825
FAX: 816-854-7022

If to Supplier:

Ciena Corporation
ATTN: Vice President, Sales & Marketing
8530 Corridor Road
Columbia, Maryland 20763
Telephone: 301-317-5800

With a copy to:

PAUL, WEISS, RIFKIND, WHARTON & GARRISON
1615 L Street, NW
Washington, DC 20036-5694
ATTN.: Phil Spector

ARTICLE 23. GENERAL

23.1 Assignment. Provided that Sprint gives Notice to Supplier in a manner consistent with Article 22 hereof, Sprint may assign this Agreement to any one or more of the Sprint Affiliated Entities as Sprint may determine in its sole discretion, whether or not Supplier consents to such assignment provided that Sprint remains primarily liable for the performance of its obligations hereunder. Neither party to this Agreement may assign, pledge, encumber or hypothecate its interest in this Agreement or any of its rights hereunder or delegate its obligations hereunder without the prior written consent of the other party to this Agreement, which consent shall not be unreasonably withheld, and any attempted assignment which does not comply fully with this Article 23.1 shall be null and void.

23.2 Governing Law. This agreement shall be construed in accordance with and governed by the law of the State of Kansas without regard to the conflict of law provisions of such state or any other jurisdiction.

23.3 Laws and Regulations. The parties hereby agree to comply with all local, municipal, state, federal, foreign, governmental and regulatory laws, orders, codes, rules and regulations that are applicable to their respective performance of this Agreement.

23.4 Amendment. Any provision of this Agreement, or any schedule, exhibit or rider hereto, may be amended only if such amendment is in writing and signed by all the parties hereto.

23.5 Waiver. Any waiver or delay in the exercise by either party of any of its rights under this Agreement shall not be deemed to prejudice such party's right of termination or enforcement for any further, continuing or other breach by the other party.

23.6 Successors and Assigns. The provisions of this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective permitted successors and permitted assigns.

23.7 Public Disclosures. Neither party will issue or release for publication any written or recorded, audibly, magnetically or otherwise, materials relating to the existence of this Agreement, the Deliverables or any services to be performed pursuant to this Agreement without the prior written consent of the other party.

23.8 Severability. Whenever possible, each provision of this Agreement, as well as any schedule, exhibit or rider attached hereto, will be interpreted in such manner as to be effective and valid under applicable law, order, code, rule or regulation, but if any provision of this Agreement, as well as any schedule, exhibit or rider hereto, is held to be invalid, illegal or unenforceable in any respect under any applicable law, order, code, rule or regulation, such invalidity, illegality or unenforceability will not affect any other provision, schedule, exhibit or rider of this Agreement, but this Agreement, schedule, exhibit or rider will be reformed, construed and enforced in such jurisdiction as if such invalid, illegal or unenforceable provision, schedule, exhibit or rider had never been contained herein or attached hereto.

23.9 Descriptive Headings. The descriptive headings of this Agreement are inserted for convenience only and do not constitute a part of this Agreement.

23.10 Counterparts. This Agreement may be executed in separate counterparts each of which will be an original and all of which taken together will constitute one and the same agreement.

23.11 Relationship of Parties. Neither Supplier, its subcontractors, employees or agents shall be deemed to be employees or agents of Sprint, it being understood that Supplier, its subcontractors, employees or agents are independent contractors with respect to Sprint for all purposes and at all times. This Agreement shall not be construed as establishing a partnership or joint venture between Sprint and Supplier.

23.12 Supersession of PO. The terms and conditions of this Agreement supersede any pre-printed terms and conditions on any Purchase Order, both front and back, unless otherwise agreed by the parties in writing.

ARTICLE 24. INCORPORATION OF DOCUMENTS

This Agreement hereby incorporates by reference the following Exhibits:

EXHIBIT A. CUSTOMER SERVICE REQUEST PROCESS
EXHIBIT B. SPRINT TECHNICAL REQUIREMENTS
EXHIBIT C. PRICE SCHEDULE
EXHIBIT D. PROPRIETARY INFORMATION AGREEMENT
EXHIBIT E. SPRINT ROUTING INSTRUCTIONS

In the event of an inconsistency or conflict between or among the provisions of this Agreement, the inconsistency shall be resolved by giving precedence in the following order:

(a) Agreement
(b) Exhibits
(c) Purchase Orders (excluding any preprinted terms and conditions)

ARTICLE 25. DEFINITIONS

25.1 "Affiliated Entity" shall mean any current or hereinafter acquired corporation, partnership, joint venture or other entity controlled by or under common control with Sprint Corp., directly or indirectly by or through one or more intermediaries or which Sprint Corp. has a minimum of * or similar interest therein. Affiliated Entities are permitted to purchase Deliverables under the terms and conditions of this Agreement.

25.2 *

25.3 "Catastrophic Failure" shall mean any event where/when a large amount of Sprint equipment fails at a site or multiple sites thus rendering Supplier's Equipment to be inoperable due to Acts of God or acts not within Sprint's control, and such repair of Equipment is beyond the normal repair and return or sparing capabilities established for routine maintenance. Such events shall include but not be limited to floods, fires, malicious acts, vandalism and sabotage.

25.4 "CD ROM" shall mean compact disc read only memory.

25.5 "Customer" shall mean any end user customer of Supplier. This term shall include the customers and Supplier's any affiliates, subsidiaries, distributors, agents, licensees or other parties authorized to sell, distribute, market or otherwise make Supplier's products available to telecommunications companies. The term customer shall include Sprint.

25.6 "Deliverable(s)" shall mean all products and Services required to be delivered by this Agreement or any Purchase Order issued pursuant to this Agreement.

25.7 "Documentation" shall mean such written instructions, manuals, practices, descriptions, and similar information relating to installation, maintenance, provisioning, commissioning, testing, operations, and troubleshooting, command manuals, and general descriptions as are necessary for a reasonable Sprint employee to engineer, order, install, provision, maintain, operate, test, and troubleshoot the Deliverables or perform his/her function in relation to this Agreement.

25.8 "DVT" shall mean design verification testing which shall be performed in accordance with Exhibit B and which includes verifying that the general mechanical design characteristics such as thermal shock, vibration, earthquake zone 4 component damage, etc. meet Sprint's Technical Requirements.

25.9 "EMS Software" shall mean Ciena's WaveWatcher(TM) element management system Software.

25.10 "Equipment" shall mean Supplier's MultiWave(TM) division multiplex product line with embedded equipment software systems comprising line amplifiers, remodulators, ancillary system components, and other items and spare parts with respect to any of the foregoing.

25.11 *

25.12 *

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25.13 *

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25.14 "Executable Code" shall mean machine readable code (Software Binaries) used by the Equipment for execution of System Software programs.

25.15 "FAT" shall mean factory acceptance testing which test(s) may be conducted at either Supplier's or Sprint's premises for the purpose of initially validating the functionality of the Deliverables or subsequent Product Changes with respect to Interoperability with Supplier's Equipment or Third Party Software in accordance with the Technical Requirements.

25.16 "Final Acceptance" shall mean acknowledgment in writing by Sprint that the initial Deliverables, or subsequent Product Changes to such Deliverables, operate satisfactorily in a production, traffic-bearing environment and otherwise meet the Technical Requirements and that final copies of all pertinent Documentation (including training Documentation) have been approved and delivered to Sprint.

25.17 "First Installations" shall mean * , which segments are set forth in Section 1.4).

25.18 "Interoperability" shall mean the ability of all Equipment to interconnect and successfully operate with all other Equipment, Licensed Software and the equipment of other suppliers which complies with SONET standards or, for FOT asynchronous terminals and regenerators, which have been otherwise certified by Supplier and Sprint in accordance with paragraph 2.2 of Exhibit B for Interoperability.

25.19 "Item" shall mean any Software item listed in Supplier's standard price list on the date this Agreement becomes effective or at any time thereafter and it shall specifically include, without limitation, all Software Upgrades, Software Feature Enhancements, Equipment Upgrades, Equipment Feature Enhancements and modifications, enhancements, updates or other revisions of any kind in any such item and spare parts with respect to any of the foregoing.

25.20 "Licensed Software" shall mean System Software, EMS Software, and Third Party Software, each of which in machine-readable form, and subsequent Software Upgrades and Software Feature Enhancements, necessary to install, operate, and maintain the Deliverables purchased or licensed by Sprint pursuant to this Agreement.

25.21 "Life of System" shall mean * after the Effective Date.

25.22 "Net Price" shall mean the final price paid by any Customer after all sales discounts, price reductions, sales rebates, volume discounts or similar adjustments of any kind are applied, whether under the original contract of purchase or any supplemental, separate, or complimentary transaction.

25.23 "Network Element" shall mean a material component of the Fiber Optic Transmission System, such as an optical amplifier or end node at a given site or node in the network.

25.24 "Purchase Order" shall mean the document issued by Sprint which identifies the Deliverables and specifies the scope of work, Technical Requirements, quantities and dates for delivery, billing instructions, and any other necessary information.

25.25 "Regenerator" shall mean a receiver and transmitter combination used to reconstruct signals for digital transmission.

25.26 "Services" shall mean the services provided by Supplier to Sprint as specified in a Purchase Order to the extent such Services are not included in the supply of other Deliverables.

25.27 *

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25.28 "Soak Test(s)" shall mean those tests which are conducted in a field environment in the Sprint network using actual Equipment and/or Licensed Software that is intended to be deployed by Sprint. Such tests will be conducted according to Exhibit B and will comprise the configuration as determined by Sprint and as such is available from Supplier at that time in order to determine the ability of the Deliverables to meet the Technical Requirements in live traffic circumstances.

25.29 "Software" refers to all the programs, computer languages, and operations used to make Equipment perform a useful function or used to enable human access to the Equipment for the purposes of installing, operating, or maintaining such Equipment

25.30 *

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25.31 *

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25.32 *

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25.33 "SONET" shall mean a Synchronous Optical Network which adheres to the interface standard of the same name created by the Exchange Carriers Standards Association for the American National Standards Institute ("ANSI"), and promulgated by Bellcore on behalf of the Regional Bell Operating Companies.

25.34 "Source Code" shall mean all intellectual information including but not limited to Documentation, Software in human-readable form, flow charts, schematics and annotations which comprise the pre-coding detailed design specifications for System Software (excluding Third Party Software).

25.35 "System" shall mean a configuration of Equipment with two (2) end terminals, any intermediate line amplifiers connected by fiber to the end terminals, all associated Software, which meets the Technical Requirements, and with the ability to communicate to an element management system such that traffic can be transmitted from end terminal to end terminal and operation can be monitored by the element management system.

25.36 "System Software" shall mean computer programs and routines, with embedded Third Party Software, integral to a Deliverable and contained on a magnetic tape, disk, semi-conductor device, or other memory device or system memory and consisting of (a) hard-wired logic instructions which manipulate data in the central processor and control input-output operations, and error diagnostic and recovery routines, and (b) other instruction sequences in machine readable code, as well as associated Documentation used to describe, maintain or use such programs and routines.

25.37 "Technical Requirements" shall mean (i) the specifications set forth in Exhibit B or as such specifications may be most currently modified or amended pursuant to mutual agreement of the parties, (ii) any mandatory requirements and/or standards recognized in the telecommunications industry, as such standards may be most currently modified or amended with respect to a SONET System in use or designated for use in the Sprint Network for transmission line rates up to OC-48, (iii) Backwards Compatibility, (iv) Interoperability.

25.38 "Third Party Software" shall mean Software which is independently developed by a third party, sub licensed to Sprint under this Agreement or otherwise provided with the Deliverables hereunder.

ARTICLE 26. ENTIRE AGREEMENT

This Agreement together with all Exhibits and Attachments constitutes the entire Agreement between Sprint and Supplier with respect to the subject matter hereof and supersedes all prior agreements and understandings, both written and oral, between the parties with respect to such subject matter, and except as provided in Article 19, is not intended to confer upon any person other than the parties hereto any rights or remedies hereunder.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their duly authorized representatives as of the day and year below written.

CIENA CORPORATION	SPRINT\UNITED MANAGEMENT COMPANY
BY: /s/ PATRICK H. NETTLES	BY: /s/ DAVID FOXLEMAN
TITLE: President & CEO	TITLE: Acting A-VP, M & SM
DATE: December, 14, 1995	DATE: December, 14 1995

EXHIBITS

EXHIBIT A. CUSTOMER SERVICE REQUEST PROCESS

*

EXHIBIT B. SPRINT TECHNICAL REQUIREMENTS

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EXHIBIT C. PRICE SCHEDULE

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EXHIBIT D. NON DISCLOSURE AGREEMENT

EXHIBIT D

Proprietary Information Agreement

WAVE DIVISION MULTIPLEX EQUIPMENT

(HARDWARE AND SYSTEM SOFTWARE
AND ELEMENT MANAGEMENT SYSTEM)

BETWEEN

SPRINT/UNITED MANAGEMENT COMPANY

AND

CIENA CORPORATION

PROPRIETARY INFORMATION AGREEMENT

This Agreement is made effective as of January 25, 1995, by SPRINT COMMUNICATIONS COMPANY L.P., a Delaware limited partnership ("Company"), and Ciena Corp., A Delaware Corporation ("Participant"), in order to protect certain Proprietary Information which may be disclosed. The parties agree as follows:

1. The Proprietary Information disclosed under this Agreement is described as

   See attachment.

2. The party/parties disclosing information are:

   Sprint and Ciena

3. The party representatives for disclosing or receiving information are:

   Company: Ciena Corporation

   Participant: Pat Nettles, Larry Huang, David Huber, Steve Chaddick, David Evans

4. This Agreement only relates to Proprietary Information disclosed between the effective date of this Agreement and is effective for five years from the date of the last disclosure of confidential information, at which time it will terminate.

5. A party receiving Proprietary Information ("Recipient") has a duty to protect the information for 5 years from the date of receipt.

6. A recipient may only use the Proprietary Information for the purpose of evaluating possible use or application of products in Company's network.

7. Recipient shall protect the Proprietary Information from unauthorized use or disclosure by exercising the same degree of care that Recipient uses with respect to information of its own of a similar nature, and recipient shall not use less than reasonable care.

8. The Proprietary Information which Recipient must protect shall

only include tangible information (such as written materials, models and specimens) which is clearly identified as being Proprietary Information by an appropriate, conspicuous legend (such as "RESTRICTED"). If the Proprietary Information is in oral or visual form, it must be identified as being Proprietary Information at the time of disclosure and the disclosing party must confirm the substance of the oral or visual disclosure which is considered Proprietary in a written memorandum delivered to the receiving party within thirty (30) days after the disclosure.

9. Recipient shall have no obligation to protect information which:

a) was known or available to Recipient prior to this Agreement:

b) is or becomes available to the public, other than breach of this Agreement;

c) is disclosed by ("Discloser") the disclosing party to a third party without restrictions as to disclosure;

d) becomes known to Recipient by a third party without restrictions as to disclosure;

e) is independently developed by Recipient; or

f) is disclosed pursuant to Governmental action and no suitable protective order or equivalent is available.

10. Neither party has an obligation to disclose any Proprietary Information.

11. Each Discloser warrants that it has the right to disclose all Proprietary Information disclosed and each Discloser agrees to indemnify and hold harmless Recipient from all claims related to the disclosure of a third party's information.

12. This Agreement shall be interpreted and applied in accordance with the laws of the State of Kansas.

13. This Agreement grants no rights of ownership, licenses or any other intellectual property rights.

14. This Agreement shall not be construed as creating any agency, partnership, joint venture or any other such relationship.

15. This Agreement is subject to all of the laws and regulations of the U.S. Government. The exporter in the case of exports or the importer in the case of imports, shall be responsible for obtaining any necessary export licenses, import licenses or other governmental authorizations.

16. This Agreement may only be changed or modified by an agreement in writing signed by authorized representatives of each party.

Ciena Corporation	SPRINT COMMUNICATIONS COMPANY L.P.
1340-C Ashton Road	8140 Ward Parkway
Hanover, MD 21076	Kansas City, MO 64114

By: [sig]	By: [sig]
Title: President & CEO	Title: Director Engr
Date: January 24, 1995	Date: 1/25/95

Proprietary Information Agreement Attachment

Any and all information relating to the Participant's products strategy, customer base and personnel, including but not limited to intellectual property, project pricing, product features, delivery schedules, sales, presentations, target customers, account strategies, and the Participant's financial position. Any information relating to the Company's network, network development, product requirements, and project plans.

EXHIBIT E. SPRINT ROUTING INSTUCTIONS

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EXHIBIT 10.9

An asterick(*) indicates that confidential portions of this Exhibit have been omitted pursuant to Rule 406 under the Securities Act of 1933, as amended. The confidential portions so omitted have been filed seperately with the Securities and Exchange Commission Pursuant to Rule 406.

BASIC PURCHASE AGREEMENT

THIS BASIC PURCHASE AGREEMENT (this "Agreement") is made this 19 day of September, 1996, by and between CIENA Corporation (hereinafter called "Vendor"), having its office at 8530 Corridor Road, Savage, Maryland 20763 and WORLDCOM NETWORK SERVICES, INC. (hereinafter called "WorldCom"), having its principal offices and place of business at One Williams Center, Tulsa, Oklahoma 74172.

W I T N E S S E T H

WHEREAS, WorldCom desires to purchase from Vendor, and Vendor desires to sell to WorldCom certain Vendor products and associated software (hereinafter collectively referred to as the "Products") upon the terms and conditions included herein; and

WHEREAS, the Products purchased hereunder and other terms and conditions relevant thereto shall be described in the Product and Pricing Attachments to this Agreement (the "P&P Attachments").

NOW, THEREFORE, it is mutually agreed as follows:

1. TERM OF AGREEMENT. The term of this Agreement shall be governed by the term of the individual P&P Attachments and it shall remain in effect until the expiration of all of the P&P Attachments. Notwithstanding the foregoing, the sections of this Agreement which are intended to survive termination or expiration of this Agreement shall so survive; such sections shall include, but not be limited to, indemnities, software licenses and Section 12.F of this Agreement.

2. METHOD OF ORDERING.

A. All purchases of Products by WorldCom shall be made by means of purchase orders ("Order(s)") issued from time to time by WorldCom.

B. All Orders issued by WorldCom, and all acceptances by Vendor hereunder, shall be deemed to incorporate the terms and conditions set out in this Agreement and the P&P Attachments. WorldCom shall use its best efforts to have all Orders covered by this Agreement reference this Agreement. Any pre-printed terms and conditions contained in any Order or acceptance which are in conflict with any of the terms of this Agreement and/or the P&P Attachments shall be deemed deleted and of no force and effect. However, WorldCom and Vendor may mutually agree, in writing, to additional, special or modified terms and conditions for specific Order(s) if the scope of such Order(s) warrants.

C. A particular Order issued with reference to this Agreement may be amended from time to time by change orders in writing which shall set forth the particular changes to be made, and the effect, if any, of such changes on the price, quantity and delivery

dates. A change order shall not be binding on either party unless and until accepted by both parties.

D. Upon written notice to Vendor, WorldCom may terminate all or any part of an Order for any reason; provided, that WorldCom shall pay termination fees in accordance with the terms set forth in the P&P Attachment.

3. PRICING.

Pricing terms shall be as set forth in the P&P Attachment.

4. DELIVERY. The matters constituting delivery and the requested delivery date applicable to Products purchased hereunder shall be in accordance with requirements and applicable delivery intervals shown in each P&P Attachment unless otherwise agreed to by the parties in writing.

5. TERMS OF PAYMENT. Payment for Products purchased by WorldCom under this Agreement shall be within thirty (30) days from receipt by WorldCom of an invoice for the Products purchased and delivery of the Products by Vendor (as constituted by compliance with such matters as are applicable to a particular Product) to WorldCom's designated location, whichever is the latter to occur.

6. SHIPMENT. All Products shall be shipped F.O.B. point of origin via the shipping method requested by WorldCom on the face of each Order. In the absence of such request, Vendor shall ship freight prepaid, uninsured, via the carrier selected by Vendor. Vendor shall separately itemize prepaid freight charges and applicable insurance charges on its invoices submitted to WorldCom.

7. SUBSTITUTIONS AND MODIFICATIONS. Vendor reserves the right to modify the design and specifications of the Products supplied hereunder, provided the modification does not adversely affect its operation, life or interchangeability, and meets or exceeds Specifications (defined in Section 15 herein) and is subject to the General Warranty Provisions of Section 8 of this Agreement.

8. GENERAL WARRANTY PROVISIONS.

A. Subject to the limitations stated herein, Products (exclusive of Software, as hereinafter defined, supplied by Vendor) are warranted to be free of defects in workmanship and material at the time of delivery to WorldCom and shall operate in conformity with the Specifications for the warranty period specified in any P&P Attachment. In the event the Products are not as warranted herein at the time of delivery and during the warranty period applicable to the Product in question, Vendor agrees to promptly repair, correct, or replace the nonconforming Product to conform with this warranty at Vendor's sole cost and expense.

B. Subject to the limitations stated herein, Software furnished as part of the Products is warranted to conform with the Specifications for the warranty period specified in any P&P Attachment. Vendor's sole obligation hereunder shall be to promptly remedy any defect in the Software and restore the Software to conform with the foregoing warranty at Vendor's facility at its sole cost and expense by either altering the generic software release of the Software provided to WorldCom or supplying WorldCom with a later generic software release of the Software with the correction included. Any materials or equipment which may be necessary to maintain compatibility between the relevant Product and such later generic software release shall be supplied by Vendor at its sole cost and expense.

C. In order to obtain warranty service for Products and/or Software described above, each of the following conditions must be met unless otherwise indicated in the P&P Attachment applicable to the Product and/or Software in question:

(i) WorldCom must give Vendor notice of the claimed defect or unsuitability of the Product and/or Software in writing within the applicable warranty period;

(ii) The defective Product component (does not apply to Software) is returned to Vendor's designated Warranty Repair Center, transportation prepaid and risk of loss borne by WorldCom, in accordance with Vendor's instructions which shall be promptly given and which shall not be unusually burdensome on WorldCom;

(iii) The Product and/or Software defect was not caused by abuse or improper use, maintenance, repair, installation or alteration by a party other than Vendor or its authorized service center.

D. Any Product or Software repaired or replaced by Vendor in accordance with the foregoing warranty shall be returned to WorldCom with transportation therefor and risk of loss borne by Vendor. Any Product and/or Software shall continue to be warranted for the remainder of the applicable warranty period or six (6) months after repair or replacement of the Product, whichever is longer.

E. Vendor warrants that its Installation Services (if ordered) shall include testing of the Product(s) and related Software for operation in conformity with the Specifications and shall be performed in a good and workmanlike manner in conformity with all applicable codes and ordinances; and any related installation material supplied by Vendor shall be free from defects in workmanship. If Installation Services are found defective * from the date of completion of the installation in question or such other period as may be agreed to by the parties and set forth in a P&P Attachment ("Installation Services Warranty Period"), Vendor shall fulfill this warranty through repair or replacement of any installation materials and/or repair or correction of errors in installation workmanship, provided written notice of the claimed defect is given to Vendor within the Installation Services Warranty Period applicable to the installation in question.

F. Product or Software repair services provided to WorldCom by Vendor, outside the scope of the above specified warranties, are warranted by Vendor for a period of ninety (90) days against defects in material and workmanship, subject, however, to all other applicable terms, limitations and conditions set forth herein.

9. CONTINUING AVAILABILITY OF TECHNICAL SUPPORT AND REPLACEMENT AND REPAIRED PARTS. Vendor shall provide WorldCom with continuing availability of technical support, replacement parts and repaired parts in the following manner:

A. Technical Support - Vendor agrees to offer technical support in the form of both telephone consultation and on-site assistance as may be requested by WorldCom at Vendor's then current price (if any) for a period of at least ten (10) years following delivery of the Product. In the event that the on-site assistance and/or telephone calls arise from a warranty issue and during the applicable warranty period, the on-site assistance and/or telephone calls shall be at no charge to WorldCom.

B. Replacement Parts - Vendor agrees to:

(i) Offer for sale newly manufactured systems, subassemblies, replacement modules and component parts throughout the period in which the Product is in current factory production;

(ii) Provide WorldCom with six (6) months' notice prior to moving the Product from status of "current production" to a status of "additions and maintenance." Modules, selected subassemblies and component parts shall be available during the "additions and maintenance" period to provide for the expansion of previously delivered Product and to augment WorldCom's spares pool for ongoing Product support;

(iii) Provide another notice to WorldCom six (6) months prior to moving the Product to a status of "manufacture discontinued." Upon giving such six (6) month notice, if at any time that Vendor thereafter fails or is unable to supply subassemblies, replacement modules and component parts of the Product to WorldCom at the contractually agreed price and within sixty (60) days from the agreed delivery date for such items, WorldCom shall have the right, in addition to any other right or remedy under this Agreement, to require Vendor to supply WorldCom with all plans, documents, drawings, technical specifications, parts lists and other documents as may be reasonably necessary to enable and authorize WorldCom to obtain or manufacture such subassemblies, replacement modules and component parts; and

(iv) Continue to offer for sale to WorldCom, after the Product is moved to the status of "manufacture discontinued," subassemblies, replacement modules and component parts for so long as inventories of those items are available.

C. Repair Services - Vendor agrees to offer repair services to WorldCom, subject to charges then generally billed by Vendor to its customers, for so long as component parts to perform the repairs are available and the repairs can be accomplished through reasonable efforts.

10. LIMITATION OF LIABILITY. EACH PARTY SHALL BE LIABLE FOR PHYSICAL INJURY TO INDIVIDUALS AND DAMAGE TO PROPERTY PROXIMATELY CAUSED BY SUCH PARTY. NEITHER VENDOR NOR WORLDCOM SHALL BE LIABLE TO THE OTHER FOR INDIRECT, SPECIAL, INCIDENTAL, REMOTE OR CONSEQUENTIAL DAMAGES (INCLUDING BUT NOT LIMITED TO THE LOSS OF REVENUE OR PROFITS) RESULTING FROM OR ARISING OUT OF THE RESPECTIVE PARTIES' PERFORMANCE OR FAILURE TO PERFORM UNDER THIS AGREEMENT.

11. *

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A. Vendor agrees that it shall defend, at its own expense, all suits against WorldCom for *

and Vendor agrees that it shall pay costs incurred by WorldCom to defend such an action, including its attorneys' fees, and shall pay all sums which, by final judgment or decree in any such suits or through settlement, may be assessed against WorldCom on account of * , provided that Vendor shall be given timely written notice of any claims of any * and of any suits brought or threatened against WorldCom and authority to assume the defense thereof through its own counsel and to compromise or settle any suits so far as this may be without prejudice to the right of WorldCom to continue the use, as contemplated, of such Products.

B. If in any such suit so defended *

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12. SOFTWARE LICENSE. Subject to the terms of the P&P Attachment, Vendor agrees to grant a fully paid up, nonexclusive license for the use of any Software furnished in conjunction with Vendor furnished Products in accordance with the definitions set forth in the P&P Attachment and the following:

A Limitations of License Grant - No title to or ownership of the Software or any part thereof is conveyed to WorldCom. Software furnished hereunder is to be used solely in conjunction with the hardware Products with which the Software is furnished as it may be repaired from time to time. WorldCom shall have no right to modify or reverse compile any Software supplied hereunder by Vendor.

B. Software as Proprietary Information - Software furnished hereunder shall be treated as the exclusive property of Vendor, and WorldCom shall hold such Software in confidence to the same extent that it protects its own similar confidential or proprietary information. WorldCom shall not provide or make such Software available to any person, except to those persons working with the Products purchased hereunder. WorldCom shall not reproduce or copy such Software in whole or in part except for backup and archival purposes or as otherwise permitted in writing by Vendor.

C. Term of Software License - This Software license shall remain in effect for the full calendar measured term that beneficial use is derived from the System. Either party shall have the right to terminate this license if the other party fails to comply with the terms and conditions contained herein and WorldCom may voluntarily discontinue the use of the licensed Software upon thirty (30) days' written notice to Vendor. In either event, WorldCom, upon written request from Vendor, shall immediately destroy the original and any copies of the licensed Software, including any source material which may have been furnished, and provide notice of such destruction to Vendor.

D. Assignment of Software License - The Software license granted under this Agreement may not be transferred or assigned by WorldCom without the prior consent of Vendor, which consent shall not be unreasonably withheld or delayed. However, WorldCom may assign such license (i) pursuant to a sale of the System or substantially all assets of WorldCom to a third party or (ii) to an entity, business organization or enterprise that either controls WorldCom, is controlled by WorldCom or is under common control with WorldCom.

E. Software Documentation - Vendor shall keep and maintain a current copy of the Software source codes for, and any other proprietary data information and documentation relevant to, the use and maintenance of the Software licensed hereunder in secure vault storage at its principal place of business designated herein. Should Vendor at a future date contemplate voluntary bankruptcy or be subject to an involuntary bankruptcy proceeding or take other measures to terminate operations or terminate the manufacture and sale of the Software, Vendor agrees that all security-vaulted Software source codes, any other relevant Vendor proprietary data information and documentation, and any licenses, rights and authorizations necessary in utilizing, modifying or copying such, shall be promptly conveyed to WorldCom at no charge. Vendor acknowledges that if a trustee in bankruptcy or Vendor as a debtor in possession rejects this Agreement, WorldCom may elect to retain its rights under this Section 12.F as provided in 11 U.S.C. Section 365(n) of the United States Bankruptcy Code (the "Bankruptcy Code"). Vendor further acknowledges that all security-vaulted Software source codes, any other relevant Vendor proprietary data information and

documentation, and any licenses, rights and authorizations necessary in utilizing, modifying or copying such, shall be deemed to be "embodiments" of the Software licensed hereunder as that term is used in Section 365(n) of the Bankruptcy Code. Should Vendor at a future date contemplate the sale of the right to manufacture the hardware Products, including Software support thereof, to a third party, Vendor agrees that it shall assign to the third party its obligations under this license. Should the third party fail to execute a written assumption of Vendor's license obligations to WorldCom, Vendor's security-vaulted Software source codes, any other relevant Vendor proprietary data information and documentation, and any licenses, rights and authorizations necessary in utilizing, modifying or copying such, shall be promptly conveyed to WorldCom at no charge, prior to the execution by Vendor of any contract for sale to any such third party.

F. Software Upgrades - WorldCom shall be informed by Vendor of Software Upgrades as specified herein. Vendor shall supply Software Upgrades at no charge to WorldCom during the term of the Software License set forth in Section 12.D. However, installation of any Software Upgrade is the responsibility of WorldCom.

G. Tax Determination - For the purposes of determining tax liability, Software licensed hereunder is considered intangible property in as much as it is merely a license to use a Vendor owned method of computer operation and its tangible attributes are only incidental.

13. TAXES.

A. The prices stated in this Agreement or in the P&P Attachments do not include any state, federal or local sales, use or excise taxes. WorldCom expressly agrees to pay Vendor, in addition to the charges herein specified, the amount of any such taxes which may be imposed upon or payable by Vendor upon the sale of the Products.

B. Should WorldCom consider any Products purchased hereunder to be exempt from said taxes, WorldCom shall place on file with Vendor valid tax exemption certificates for the state or other governmental entity which may impose said taxes at the time of sale.

14. TITLE AND RISK OF LOSS. Except as provided in Section 12 as to Software, title and risk of loss or damage to the Products contained in each shipment shall pass to WorldCom upon delivery thereof to a carrier acceptable to both Vendor and WorldCom. Shipping arrangements with such carrier shall be handled by Vendor. Vendor shall pack the Products for shipment in accordance with its standard commercial packing practices. However, if in-transit damage results from Vendor's failure to adequately package the Products or to comply with any custom packaging requested by WorldCom and agreed to by Vendor, Vendor shall repair or replace the damaged Products at no charge to WorldCom.

15. SPECIFICATIONS. Products furnished hereunder are represented to perform in accordance with (a) the higher of Vendor's standard commercial product

specifications and the additional specifications, if any, set forth in a P&P Attachment and (b) any applicable federal regulatory agency requirements (collectively referred to herein as "Specifications"), which Specifications shall constitute the sole basis for technical acceptance of such Products by WorldCom.

16. CONFIDENTIAL INFORMATION.

A. Both parties hereto agree not to use or disclose to anyone other than employees of the parties during the term of this Agreement and for a period of five (5) years thereafter, any Confidential Information concerning the other party. "Confidential Information" is information marked as confidential by either party and which relates to either party's research, development, trade secrets, or business affairs or that of any of its customers or affiliates. Each party agrees to indemnify the other party for any loss or damage resulting from a breach of this provision. However, the obligations of the parties shall not extend to information and data which:

(i) Was already known to either party prior to commencing effort under this Agreement; or

(ii) Was known or was generally available to the public at the time of disclosure hereunder; or

(iii) Becomes known or generally available to the public (other than by act of the recipient) subsequent to its disclosure hereunder; or

(iv) Is disclosed or made available in writing to the recipient by a third party having a bona fide right to do so; or

(v) Is subject to disclosure by process of law.

B. The provisions of this Section 16 may not be construed to encompass data which the parties do not protect from disclosure to third parties.

C. The parties acknowledge that disclosure of any confidential information other than as allowed by this Section 16 may give rise to irreparable injury and may be inadequately compensable in monetary damages and therefore the non-disclosing party shall be entitled to seek and to obtain injunctive or other equitable relief against the breach or threatened breach of such obligations, in addition to any other remedies which may be available.

17. SEVERABILITY. If any term of this Agreement is found or held to be contrary to the laws of any jurisdiction having control of its construction, validity or enforcement or if it is found that any term is void or voidable, then said term shall not apply and this Agreement shall be construed as if said term were not present and its removal shall have no effect on the remainder of the Agreement. In the event that any term is found to be

void or voidable, then Vendor and WorldCom shall in good faith renegotiate the terms of the voided provision.

18. EXCUSABLE DELAYS. Acts of God or of the public enemy, earthquakes, hurricanes, acts of the U.S. Government in its sovereign capacity (including, but not limited to the courts), fires, floods, epidemics, quarantine restriction, strikes and freight embargoes and such similar occurrences which cause failure by either party to perform hereunder, and which, in every case, are beyond the reasonable control and are without the fault or negligence of the party or its subcontractors, shall constitute an excusable delay, provided that notice thereof is promptly given to the other party. In the event of delay resulting from any of the above causes, the performance schedule shall be extended for a mutually agreed period reasonable under the circumstances, but in no event longer than thirty (30) days. If delay pursuant to this Section 18 continues for longer than thirty (30) days, WorldCom may cancel this Agreement with no further liability and shall be reimbursed by Vendor for any monies paid for Products not received due to such delays.

19. GOVERNING LAW. Except for laws relating to conflict of laws, this Agreement, its formation and dispute resolution, construction and interpretation shall be governed by the laws of the State of Delaware in the United States of America. The parties will attempt in good faith to promptly resolve any controversy or claim arising out of or relating to this Agreement or any subsequent performance by the parties before resorting to other remedies available to them. Any such dispute shall be referred to appropriate executives of each party who shall have the authority to resolve the matter. If the executives are unable to resolve the dispute, the parties may by agreement refer the matter to an appropriate form of alternative dispute resolution such as mediation. If the parties cannot resolve the matter or if they cannot agree upon an alternative form of dispute resolution, then either party may pursue resolution of the matter through arbitration in accordance with the rules of the American Arbitration Association applying the substantive law of the State of Delaware without regard to any conflict of laws provisions. The arbitration will be governed by the United States Arbitration Act, 9, U.S.C. Section 1, et. seq. and judgment upon the award rendered by the arbitrators may be entered by any court with jurisdiction. The arbitrators are not empowered to award damages in excess of compensatory damages, and each party waives any damages in excess of compensatory damages. The parties agree to continue performance during the pendency of any dispute, unless performance is terminated according to Article 20 of this Agreement. Notwithstanding the foregoing, either party may bring a claim for injunctive relief as provided in any court of competent jurisdiction without first submitting the claim to arbitration.

20. ASSIGNMENT. Neither party shall assign any of the terms and conditions hereof or any of its rights or obligations hereunder without the prior written consent of the other party which shall not be unreasonably withheld. Notwithstanding the foregoing, however, either party may assign its rights and obligations hereunder to an entity which controls, is controlled by or is under common control with such party, or a successor

organization, which in all respects shall inure to such rights and be bound by such obligations.

21. NOTICES. Notices under this Agreement shall be in writing and delivered to the representative of the party to receive notice (identified below) at the address of the party to receive notice as it appears below or as otherwise provided for by proper notice hereunder. The effective date for any notice under this Agreement shall be the date of delivery of such notice (not the date of mailing) which may be effected by certified U.S. Mail return receipt requested with postage prepaid thereon or by recognized overnight delivery service, such as, FedEx or UPS:

If to Vendor: CIENA Corporation
Attn: Eric Georgatos, Vice President and General Counsel
8530 Corridor Road
Savage, Maryland 20763

If to WorldCom: WorldCom Network Services, Inc.
Attn: Contract Administration
One Williams Center
Tulsa, Oklahoma 74172

22. INSURANCE. Vendor shall obtain, pay for and maintain insurance for the coverages and amounts of coverage not less than those set forth below and shall provide WorldCom certificates issued by insurance companies satisfactory to WorldCom to evidence such coverages. Such certificates shall provide that there shall be no termination, nonrenewal or modification of such coverage without thirty (30) days' prior written notice to WorldCom.

A. Workers' Compensation insurance complying with the law of the state or states of operation, whether or not such coverage is required by law, and Employer's Liability insurance with limits of $500,000 per employee and $500,000 disease policy limit. If work is to be performed in Nevada, North Dakota, Ohio, Wyoming, Washington or West Virginia, Vendor shall purchase Workers' Compensation in the State Fund established in the respective states. Stop Gap Coverage, and if available, Employer's Overhead coverage shall be purchased.

B. Commercial General Liability insurance with a combined single limit for bodily injury and property damage of $1,000,000 each occurrence and General and Products Liability aggregates of $2,000,000 each, covering all insurable obligations or operations of Vendor. The policy shall include no modifications that reduce the standard coverages provided under a Commercial General Liability insurance policy form.

C. Business Automobile Liability insurance with a combined single limit for bodily injury and property damage of $1,000,000 each occurrence to include coverage for all owned, non-owned and hired vehicles.

D. Excess or Umbrella Liability insurance with a combined single limit for bodily injury and property damage of not less than $1,000,000 each occurrence with an annual aggregate of $1,000,000 to apply in excess of all insurance coverages stipulated above.

In the event coverage is denied or reimbursement of a properly presented claim is disputed by the carrier for insurance provided in A through D above in connection with a claim relating to Vendor's performance of its obligations under this Agreement, Vendor shall, upon written request, provide WorldCom with a certified copy of the involved insurance policy or policies within ten (10) business days of receipt of such request.

Vendor waives its right, and its underwriter's right, of subrogation against WorldCom, its shareholders, officers, directors, agents and employees thereof, WorldCom's affiliates and their shareholders, officers, directors, agents and employees thereof, and WorldCom's subsidiaries and their shareholders, officers, directors, agents and employees thereof, providing that such waiver in writing prior to loss does not void or alter coverage, and such waiver shall not affect Vendor's other rights or remedies under this Agreement or under law.

Neither the insurance required herein nor the amount and type of insurance maintained by Vendor shall change the extent of Vendor's liability hereunder for injury, death, loss or damage.

Except as provided in this Agreement, WorldCom, its affiliates and its subsidiaries shall not insure or be responsible for any loss or damage to property of any kind owned or leased by Vendor or its employees, servants and agents. Any policy of insurance covering the property owned or leased by Vendor against loss by physical damage shall provide that the underwriters have given their permission to waive their rights of subrogation against WorldCom, its affiliates and their directors, officers and employees, as well as their subsidiaries including the directors, officers and employees thereof.

Certificate Holder must be shown as:

WorldCom Network Services, Inc.
Attn: Contract Administration
P.O. Box 21348
Tulsa, OK 74121

Except as provided in this Agreement, Vendor, its affiliates and its subsidiaries shall not insure or be responsible for any loss or damage to property of any kind owned or leased by WorldCom or its employees, servants and agents.

If Vendor utilizes contractor(s) per this Agreement, then Vendor shall require such contractor(s) to comply with these insurance requirements and supply certificates of insurance before any work commences.

23. GENERAL PROVISIONS.

A. In the event suit is brought by either party to enforce the terms of this Agreement or to collect any monies due hereunder or to collect money damages for breach hereof, the prevailing party as determined by the judiciary of the forum in which suit is brought, shall be entitled to recover, in addition to any other remedy, reimbursement for reasonable attorneys' fees and court costs incurred in connection therewith.

B. Except as set forth to the contrary herein, any right or remedy shall be cumulative and without prejudice to any other right or remedy, whether contained herein or not. Any single or partial exercise of any right or remedy shall not preclude the further exercise thereof or the exercise of any other right or remedy.

C. Nothing in this Agreement provides any legal or equitable rights to anyone not an executing party of this Agreement.

D. In the event of a conflict between the provisions of this Agreement and those of a P&P Attachment, the provisions of the P&P Attachment shall prevail. Each P&P Attachment identified with this Agreement shall only be effective if the same is reasonably identified herewith and subscribed to by authorized representatives of the parties.

E. All headings used herein are for index and reference purposes only, and are not to be given any substantive effect.

F. Unless defined herein, words having well-known technical or trade meanings shall be so construed. All listings of items shall not be taken to be exclusive, but shall include other items, whether similar or dissimilar to those listed, as the context reasonably requires.

G. No rule of construction requiring interpretation against the draftsman hereof shall apply in the interpretation of this Agreement.

H. Each party to this Agreement represents and warrants to the other that:

(i) It has the right, power and authority to enter into and perform its obligations under this Agreement;

(ii) It has taken all requisite action (corporate or otherwise) to approve execution, delivery and performance of this Agreement, and this Agreement constitutes a legal, valid and binding obligation upon itself in accordance with its terms, except as enforceability may be limited by bankruptcy, insolvency or similar laws;

(iii) Neither the execution of this Agreement nor the fulfillment of or compliance with the terms and provisions hereof shall conflict with or result in a breach of the terms, conditions or provisions of, or constitute a default under, or result in a violation of the charter, bylaws or other governing instruments of such party, or any contract, instrument, order, judgment or decree to which such party is subject; and

(iv) The fulfillment of its obligations hereunder shall not constitute a material violation of any existing applicable law, rule, regulation or order of any government authority, and except as otherwise provided herein, all material, necessary or appropriate public or private consents, permissions, agreements, licenses or authorizations to which it may be subject have been or shall be obtained in a timely manner.

I. Neither party to this Agreement shall use any funds received under this Agreement for illegal or otherwise "improper" purposes. Neither party shall pay any commissions, fees or rebates to any employee of the other party nor favor any employee of the other party or its affiliates with gifts or entertainment of significant cost or value. In the event WorldCom has reasonable cause to believe that this section has been violated, WorldCom or its representative shall have the right to audit the records of Vendor to the extent necessary to determine compliance with this section.

J. Neither party to this Agreement shall divulge its terms to any suppliers or competitors of either party hereto; provided, that it is understood that Vendor may file this Agreement with any U.S. Federal or State governmental agency if such filing is required by law.

24. ENTIRE AGREEMENT. This Agreement together with P&P Attachments, if any, comprise all the terms, conditions and agreements of the parties with respect to the subject matter hereof and may not be altered or amended except in writing and signed by authorized representatives of each party hereto.

IN WITNESS WHEREOF, the parties hereto by their duly authorized representatives have executed this Agreement as of the date and year first set forth above.

"WORLDCOM"

WORLDCOM NETWORK SERVICES, INC.

By: /s/ Larry Murphy for Russ Ray 9/19/96
Name: Larry Murphy for Russ Ray 9/19/96
Its: VP Eng

"VENDOR"

Ciena Corporation

By: /s/ EGG
Name: Eric Georgatos
Its: VP and General Counsel

PRODUCTS AND PRICING ATTACHMENT NO. 1

THIS PRODUCTS AND PRICING ATTACHMENT NO. 1 (this "P&P ATTACHMENT") is made this 19 day of September, 1996, to that certain Basic Purchase Agreement between WorldCom Network Services, Inc. ("WorldCom") and CIENA Corporation("VENDOR") dated September 19, 1996 (the "AGREEMENT"). The following described Products and relevant pricing terms shall be subject to the terms of the Agreement. Unless otherwise specified herein, defined terms shall have the same meanings as set forth in the Agreement. However, in the event of a conflict between the terms and conditions of the Agreement and the terms and conditions of this P&P Attachment, this P&P Attachment shall control.

This P&P Attachment shall also replace and over-rule any previous Letters of Commitment or Letters of Understanding that may exist between the two parties.

1. TERM/COMMITMENT TO ORDER/EXCLUSIVITY.

Under this P&P Attachment, in exchange for the prices offered by CIENA, as represented in Section 2 below, WorldCom agrees that Vendor shall be WorldCom's exclusive supplier of dense (meaning greater than 4 channel) wave division multiplexing system equipment and associated software ("WDM Systems") for a period starting from the execution date of this P&P Attachment through December 31, 1997 ("EXCLUSIVE PERIOD"). This is not a commitment by WorldCom to order any minimum quantity of WDM Systems; however, if WorldCom shall fail to purchase from Vendor during such Exclusive Period Vendor's WDM Systems having an aggregate price, * . WorldCom's obligation to purchase exclusively from Vendor during the Exclusive Period is expressly subject to successful completion of the field trial currently in progress pursuant to that Trial Evaluation Agreement between Vendor and WorldCom dated August 3, 1996. Completion of such trial shall be determined to be successful or not solely at the discretion of WorldCom, and WorldCom shall promptly notify Vendor in writing of its determination.

WorldCom shall have the right to make Orders for the Products described herein and place such Orders within sixty (60) months of the date of this P&P Attachment and Vendor shall accept such Orders subject to the terms of the Agreement and this P&P Attachment. Orders shall indicate (1) quantity of items ordered, (2) desired delivery date, (3) intended delivery site, and (4) delivery site for Vendor's standard documentation. Orders placed byWorldCom with Vendor shall not be binding upon Vendor until accepted in writing by a duly authorized officer or employee of Vendor. Such acceptance will occur within five working days of receipt of order by Vendor. If Vendor fails to respond to the WorldCom individual purchasing agent placing the order within five working days, and if the purchase order otherwise conforms to the terms, conditions and prices required under this Agreement, then such purchase order is presumed to have been accepted by Vendor.

Upon execution of this Agreement and the P&P Attachment, WorldCom agrees that Vendor may, at its election, make public announcement of the commencement by WorldCom of a field trial of Vendor's WDM System equipment, with the wording of such announcement subject to the reasonable approval of WorldCom. Upon successful completion of the field trial (which shall be deemed successful, if at all, entirely at WorldCom's sole discretion), WorldCom agrees that Vendor may make public announcement of the signing of this Agreement and the P&P Attachment, with the wording of such announcement subject to the reasonable approval of WorldCom.

2. PRODUCT PRICING.

Subject to the True Up obligations set forth below, WorldCom's orders for WDM Systems during the Exclusivity Period shall be entitled to pricing based upon the price schedule listed below:

module description	model number	unit price($)
channel shelf	16000-01	*
common shelf	16000-02	*
dual amp module	16090-01	*
980 pump module	16080-01	*
1480 pump module (standard)	16080-12	*
1480 pump module (high power)	16080-11	*
service channel module	16070-01	*
nodal controll processor	16060-03	*
power supply module	16050-01	*
combiner module (8 way)	16030-08	*
splitter module (8 way)	16040-08	*
dual combiner module	16030-16	*
dual splitter module	16040-16	*
remodulator module (ch. 1)	16010-01	*
remodulator module (ch. 2)	16010-02	*
remodulator module (ch. 3)	16010-03	*
remodulator module (ch. 4)	16010-04	*
remodulator module (ch. 5)	16010-05	*
remodulator module (ch. 6)	16010-06	*
remodulator module (ch. 7)	16010-07	*
remodulator module (ch. 8)	16010-08	*
remodulator module (ch. 9)	16010-09	*
remodulator module (ch. 10)	16010-010	*
remodulator module (ch. 11)	16010-011	*
remodulator module (ch. 12)	16010-012	*
remodulator module (ch. 13)	16010-013	*
remodulator module (ch. 14)	16010-014	*
remodulator module (ch. 15)	16010-015	*
remodulator module (ch. 16)	16010-016	*
dual selector module (ch. X/X)	16020-XX	*

faceplate, 4HP, (0.8 wide)	16120-14	*
faceplate, 7HP, (1.4 wide)	16120-09	*
orderwire	16140-01	*
auxillary management module	16130-01	*
alarm and power distribution		*
fan try	16600-01	*
air filter	16600-02	*
fiber dressing/air plenum	16600-03	*
heat ramp	16600-04	*
fan replacement		*
EMS software**		*
*		*
*		*

PRE-WIRED RACK ASSEMBLIES

7' unequal flange rack (equipped for 8 ch.)	16110-70	*
7' unequal flange rack (equipped for 16 ch.)	16110-80	*
8' unequal flange rack (equipped for 8 ch.)	16110-88	*
8' unequal flange rack (equipped for 16 ch.)	16111-70	*
8'-8" unequal flange rack (equipped for 8 ch.)	16112-70	*
8'-8" unequal flange rack (equipped for 16 ch.)	16112-80	*
7' channel rack (equipped for 8 ch.)	16112-88	*
7' channel rack (equipped for 16 ch.)	16113-70	*

** Price quoted is for Vendor's proprietary EMS Software. Vendor's proprietary EMS Software runs on a Sun workstation with Sun operating software. Vendor believes Sun's price for a primary workstation is approximately $20,000 and for the necessary Sun operating software is approximately $34,000; Vendor further believes Sun's price for a secondary, or sub-network workstation is approximately $10,000 to $15,000 and for the necessary Sun operating software is approximately $19,000. *

Not later than 60 days prior to the end of the Exclusive Period, Vendor shall notify WorldCom of the amount of all WorldCom Orders it has shipped or received since the date of execution of this Agreement and the P&P Attachment. Vendor agrees to meet and confer with WorldCom as to any questions WorldCom may have as to Vendor's record of such amount, and will use its best efforts to reconcile its record with any different record from WorldCom. Vendor's failure to give such notice in a timely manner shall not affect WorldCom's "true-up amount" payment obligations as set forth in the next paragraph.

On or before January 31, 1998, , Vendor shall compute the aggregate price, based on Section 2 prices, of all Orders received on or before December 31, 1997 and shipped or scheduled for shipment within 45 days after December 31, 1997, (such Orders are referred to as the "Exclusive Period Orders" and the aggregate price attributable thereto is referred to as the "Total Purchases"). If the Total Purchases equal or exceed *,

Vendor shall have no claim against WorldCom for payments beyond invoiced amounts on all such Orders. *, Vendor shall recompute the purchase price of all Exclusive Period Orders * (the "Undiscounted Purchases"). (Exclusive Period Orders shall not include orders for installation services, emergency technical support services or training services.) The amount by which the Undiscounted Purchases exceed the aggregate purchase price paid or to be paid by WorldCom on all Exclusive Period Orders shall be the "True Up Amount." WorldCom shall pay the True Up Amount within 30 days of receipt of Vendor's invoice therefor *

The following examples are for illustration:

a)	Assume Total Purchases equal	$*
	Loss of * discount (True Up Amount)	$*

	Total Due	$*
b)	Assume Total Purchases equal	$*
	Loss of * discount (True Up Amount)	$*
		----
	*	*
	*	
	*	*
	*	*

. * Unless and until such negotiations result in a mutual written agreement to the contrary, all Orders received after * .

3. DELIVERY.

To assist in Vendor's manufacturing planning, concurrent with and conditional upon WorldCom's notification to Vendor of successful completion of the field trial, and on each monthly anniversary of the execution hereof, WorldCom shall deliver Vendor a subsequent 12-month forecast of Orders (such Orders to include spares requirements). Such forecast shall not represent a binding purchase commitment by WorldCom; however, for forecasted Orders, Vendor commits to deliveries, including spares, within * after acceptance of Order. Vendor's obligation to deliver * of acceptance of such Orders shall apply only to Orders included in a 12-month rolling forecast provided hereunder.

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4. SOFTWARE/HARDWARE COMMITMENTS.

Vendor commits to provide the following specific software/hardware features at the charges indicated, which features shall be tested and generally available for the Product described herein by the dates indicated:

Hardware

Feature	availability	price	note
	*	*	1
*			
*			
*	*		
*		*	
*		*	
*		*	
*		*	
*		*	
*		*	
*		*	
*		*	
*	*	*	*
*	*	*	*
*	*	*	*
*	*	*	
*	*	*	*
*	*	*	*
*	*	*	
*			

Notes:

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*

Software

a. The following terms shall have the meaning set forth below:

"EMS Software" shall mean the CIENA WaveWatcher(TM) element management system software, which does not include third party hardware or software on which the EMS Software operates.

"Licensed Software" shall mean EMS Software, System Software, and Third Party Software, each of which in machine-readable form, and subsequent Software Upgrades and Software Enhancements, necessary to install, operate, and maintain the WDM Systems purchased by WorldCom pursuant to this Agreement.

"System Software" shall mean computer programs and routines, with Third Party Software, embedded in and integral to a product contained in the WDM System and contained on a magnetic tape, disk, semiconductor device, or other memory device or system memory and consisting of (a) hard-wired logic instructions which manipulate data in the central processor and control input/output operations, and error diagnostic and recovery routines, and (b) other instruction sequences, in machine readable but not source code, as well as associated documentation used to describe, maintain or use such programs and routines.

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"Software Upgrade" shall mean a change or modification or release in or to the EMS Software or System Software which fixes or otherwise corrects faults, design shortcomings, shortcomings in meeting specifications, or makes other corrections as necessary to enable EMS Software or System Software to perform in accordance with specifications. A "Software Upgrade" does not include changes or modifications or releases which add one or more new functions which are not present in the most current version of the EMS Software or System Software or which otherwise materially enhance functionality, value or performance (a "Software Enhancement").

"Software Revision Level" shall mean each specific release of Licensed Software that reflects any amendment, modification or change from the immediately preceding release, each of which releases shall contain a unique, sequential, alphabetical or numeric designation to identify each release of Licensed Software from another.

"Third Party Software" shall mean software which is independently developed by a third party, sublicensed to WorldCom under this Agreement or otherwise provided with the WDM Systems hereunder.

b. *

(1) The EMS Software in machine readable form, including any applicable Software Upgrades provided under the warranty provisions of Section ehereof, and any copies of the foregoing as authorized herein;

(2) System Software in machine readable form, including any applicable Software Upgrades provided under the warranty provisions of Section e hereof, and any copies of the foregoing as authorized herein;

(3) Third Party Software embedded in and integrated with the System, System Software and EMS Software, in machine readable form.

c. WorldCom's RTU License for a single unit of the EMS Software is limited to use with a single workstation which manufacturer and model are authorized by Vendor through provision of the designated release of EMS Software for such workstation. WorldCom may physically transfer the EMS Software from one workstation to another without notice to Vendor, and from one site to another provided that (a) the workstation from which the EMS Software has been transferred shall cease to be a licensed workstation for such transferred EMS Software, and the workstation to which the EMS Software has been transferred shall thereafter be deemed to be a licensed workstation, and (b) the EMS Software delivered by Vendor shall not be resident at any time on more than

the total number of licensed EMS workstations set forth in this Agreement or on the applicable attachment hereto.

d. The EMS Software and System Software contain copyrighted material, trade secrets and other proprietary material of Vendor or Vendor's subcontractors. WorldCom is granted no title or ownership rights to such software, and WorldCom shall not sell, transfer (except as authorized under this Agreement), rent, copy (other than for archival or backup purposes), reverse engineer, reverse compile, or grant any rights in such software without Vendor's prior written consent. WorldCom agrees to protect the software licensed hereunder in a manner consistent with the maintenance of Vendor's ownership and proprietary rights therein, including displaying of any copyright marks incorporated by Vendor.

e. *

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f. *

g. *

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h. WorldCom shall have the option at any time during the term of this Agreement, upon 60 days advance written notice to Vendor, to purchase the Source Code for Vendor's EMS Software for * , paid concurrent with delivery of the Source Code. Notwithstanding such purchase by WorldCom, WorldCom shall have no right to sell, assign, transfer, license or sublicense the Source Code without the prior written consent of Vendor, which consent may be withheld in Vendor's sole discretion. From and after delivery by Vendor of Source Code pursuant to WorldCom's election to purchase it under this Agreement, Vendor's continuing warranty obligations, if any, with respect to providing repair service, Software Upgrades, or other technical support services, shall be void and of no further force or effect insofar as they affect or relate to EMS Software.

5. SONET COMPLIANCE

Vendor represents that its WDM System has been and will continue to be tested for satisfactory functional interoperability with NorTel OC-48 SONET transmission terminals. Vendor further agrees to establish and continuously update and maintain a lab facility WDM System representative of the single WDM System purchased and installed by WorldCom which has the highest number of channels and cascaded optical line amplifiers, for use in replicating and diagnosing any field performance problems. It is acceptable that this facility be a shared facility supporting the combined training and testing requirements of all customers utilizing the same Vendor Product(s). In the event that notwithstanding Vendor's testing for satisfactory interoperability and Vendor's lab replication and diagnosis, there remain in-field interoperability problems, Vendor will designate not less than two of its personnel to form a task force with WorldCom to conduct sufficient additional testing and diagnosis to determine the cause of the problem and possible solutions.

6. ADDITIONAL SPECIFICATIONS.

Vendor and WorldCom acknowledge and agree that the ongoing field trial may result in WorldCom requesting additional specifications for the Products. Vendor and WorldCom agree to work together to develop mutually agreed statements of such specifications and mutually agreed increases, if any, to the prices set forth in Section 2, as a result of such specifications.

7. WARRANTY PERIOD.

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8. DOCUMENTATION AND TRAINING.

A. Documentation

For each:

1. Network Manager System
2. MultiWave(TM) terminal
3. MultiWave(TM) line amplifier

delivered under this P&P Attachment, Vendor shall promptly, at time of delivery, provide, at no additional charge to WorldCom, one complete set of written documentation and user's manual for said Product(s). This documentation will be shipped to the same location that said Product(s) are delivered.

Upon delivery of the first Order placed under this P&P Attachment, Vendor shall, at no charge to WorldCom, provide an additional six (6) complete sets of Product documentation to satisfy WorldCom Engineering requirements.

In accordance with Section 7, "Substitutions and Modifications", of the Agreement, product updates or modifications must be documented and notification of these changes provided in written form ahead of Product deliveries incorporating said changes. Vendor agrees to provide notification and modification documentation in quantities sufficient to update all sets of existing documentation delivered to WorldCom at the time of notification.

Vendor agrees to allow WorldCom to edit, duplicate, and apply said Product literature and documentation solely and exclusively for internal WorldCom use.

B. Training

During the period ending June 30, 1998, Vendor shall provide *
, with WorldCom free to exercise discretion in how to allocate such days based on the following classes and class duration:

Course Number	Class Name	Number of Days	Eastern Time Zone	Central Time Zone	Mountain Time Zone	Pacific Time Zone
M-101	Installation	2	*	*	*	*
M-102	OAM&P	2	*	*	*	*
M-103	WaveWatcher Operator	1	*	*	*	*
M-104	WaveWatcher Administrator	2	*	*	*	*
M-100	Train the Trainer	3	*	*	*	*

WorldCom shall pay Vendor for travel and lodging expenses for Vendor personnel teaching classes held at WorldCom's facilities. WorldCom may pay such expenses at fixed rates in the schedule above or may reimburse Vendor for actual expenses incurred. Class shall be charged by Vendor at Vendor's standard rates.

Class size at Vendor's facilities will be limited to ten (10) people and scheduled three (3) weeks in advance.

Class size at WorldCom facilities will be determined by WorldCom in consultation with Vendor and scheduled three (3) weeks in advance.

Within three (3) months of executing this P&P Attachment, Vendor agrees to develop a Training Video to demonstrate the functionality and maintenance of associated Products. Vendor agrees to solicit input from WorldCom to insure the video addresses WorldCom training concerns. Vendor will provide a master copy of this video to WorldCom at no charge, which WorldCom may duplicate as often as it deems necessary but for the sole purpose of internal training. Except for WorldCom's right to use and duplicate such video for its own internal purposes, Vendor shall own all rights in and to such video, and may use it for training of other customers, distributors, etc.

Training services in excess of the * days shall, if conducted at Vendor's Maryland facility, be charged to WorldCom in accordance with the following schedule:

Course Number	Class Name	Number of Days	Course In Savage
M-101	Installation	2	*
M-102	OAM&P	2	*
M-103	WaveWatcher Operator	1	*
M-104	WaveWatcher Administrator	2	*
M-100	Train the Trainer	3	*

Training services in excess of the 100 free instructor class days shall, if conducted at a WorldCom site, be charged to WorldCom in accordance with the following schedule:

Course Number	Class Name	Number of Days	Eastern Time Zone	Central Time Zone	Mountain Time Zone	Pacific Time Zone
M-101	Installation	2	*	*	*	*
M-102	OAM&P	2	*	*	*	*

M-103	WaveWatcher Operator	1	*	*	*	*
M-104	WaveWatcher Administrator	2	*	*	*	*
M-100	Train the Trainer	3	*	*	*	*

8. TECHNICAL SUPPORT AND INSTALLATION SERVICES PRICING.

Installation Services shall be invoiced to WorldCom at Vendor's standard rates, plus expenses, in accordance with the following schedule:

	1st 48 hrs./week	Overtime Hours	Capabilities
Installer I	*	*	*

An installer is fully trained and equipped for the following tasks: S - superstructure; P - Power; F - Fiber connections; A - Alarm connections. Hauling and Hoisting will be billed as incurred.

For the initial deployment of Vendor's Products and in cases where WorldCom's network service quality is being impacted by problems/failures related to Vendor's Products, the Vendor agrees to provide support personnel that can be available within 24 hours of notification to assist WorldCom personnel resolve a problem on-site. For the case of initial deployment, this service shall be provided per WorldCom's request at Vendor's expense. In cases of emergency troubleshooting, if Vendor's Products were found to be at fault, expenses for travel and assistance are Vendor's responsibility. If Vendor's Products were not at fault, WorldCom will be responsible for Vendor's manpower expenses and reasonable travel and lodging expenses.

After initial deployment and installaction, emergency technical support shall be available by phone from Vendor's Maryland facility 24 hours a day, seven days a week. During core business hours, this service will be available to WorldCom at no charge. For after-hour, week-end, and holiday support rendered from Vendor's Maryland facility, * provided, that in each case, if Vendor's Products were found to be at fault, there shall be no charge for such service.

9. REPAIR AND RETURN.

A. Vendor agrees to maintain the following emergency safety stock specifically for WorldCom utilization:

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*

This safety stock may be the same hardware used to populate the Vendor lab facility specified in Article 8 Section B of this P&P Attachment as long as this hardware is not committed to another customer's testing or emergency support.

This safety stock must be accessible 24 hours a day, seven days a week, for emergency shipment to a WorldCom-indicated location within a 24 hour time-frame.

At such time as WorldCom places orders for any of the following modules, there shall be added to the safety stock the number of such modules listed below:

*
*
*
*
*

B. For items no longer within warranty (as defined in this P&P Attachment), Vendor shall within 10 working days of receipt of damaged product, provide WorldCom an estimate for repair charges to any Product, component, or sub-assembly to any Product manufactured by the Vendor.). Such estimate shall not exceed the greater of (i) the price set forth in Section 2 of this P&P Attachment for such product, or (ii) Vendor's cost of materials for making such repair plus 50%. WorldCom may thereafter elect to order such repair work to be done or to purchase replacement Products, components or subassemblies.

C. If repaired, standard repair turn-around time shall be no longer than thirty (30) days from receipt of malfunctioning Product, component, or subassembly to any Product. If Vendor fails to deliver on or before the thirty (30) days and the Product is still under warranty, then Vendor agrees to ship a new replacement, at no cost to WorldCom, within 24 hours to maintain WorldCom's network performance and survivability level.

D. Vendor agrees to provide WorldCom repair reports for every item returned. These reports shall describe the problem found and the corrective action taken. Vendor agrees to maintain a cumulative list documenting problem types and number of occurrences.

10. Assurances.

Vendor agrees to support unannounced WorldCom quality assurance inspections related to the manufacturing and testing of Products WorldCom has on order hereunder.

Vendor warrants and represents that the Products are in current factory production and Vendor has no present plans to discontinue manufacture of the Products. Further, Vendor recognizes the signficance that WorldCom places on the Product commitments contained herein.

All of which is agreed to by the undersigned.

WorldCom Network Services, Inc.	CIENA Corporation (Vendor)
BY: /s/ Larry Murphy for Russ Ray 9/19/96	BY: /s/ EGG
(Signature)	(Signature)
Larry Murphy	Eric Georgatos
(Print Name)	(Print Name)
VP Eng.	VP and General Counsel
(Title)	(Title)

An asterick (*) indicates that Confidential portions of this exhibit have been omitted pursuant to Rule 406 under the Securities Act of 1933, as amended. The confidential portions so omitted have been filed separately with the Securities and Exchange Commission pursuant to Rule 406.

First Addendum to Procurement Agreement Between Sprint/United Management Company and CIENA Corporation

This First Addendum to Procurement Agreement (the "Addendum") is effective as of the 19th day of December, 1996 (the "Effective Date"), by and between Sprint/United Management Company, a Kansas corporation, having its principal place of business at 2330 Shawnee Mission Parkway, Westwood, Kansas 66205 (hereinafter referred to as "Sprint") and CIENA Corporation, a Delaware corporation, having its principal place of business at 8530 Corridor Road, Savage, Maryland 20763 (hereinafter referred to as "CIENA"), as an addendum to that certain Procurement Agreement KC103251ML dated December 14, 1996, between Sprint and CIENA (the "Agreement"). Except as otherwise indicated, defined terms in this Addendum have the same meaning as in the Agreement.

A. BACKGROUND

1. Pursuant to the Agreement, Sprint has been purchasing and CIENA has been supplying Deliverables.

2. Sprint contemplates purchasing Deliverables from CIENA at a higher quantity level during 1997 than 1996, and desires certain pricing and other concessions from CIENA in consideration therefor. CIENA agrees to offer such pricing and other concessions in exchange for Sprint's commitment to (1) purchase at a higher quantity level over such period, and (2) order Deliverables on a written schedule as mutually agreed upon by the parties.

Now, therefore, in consideration of the foregoing premises, the parties agree as follows:

B. ADDENDUM

1. DEFINITIONS.

1.1 "Addendum Deliverables" means Deliverables ordered commencing ****** and shipped not later than **********. Addendum Deliverables shall not include orders for installation services, emergency technical support services or training services.

1.2 "Addendum Term" means the period from the Effective Date through ***********.

1.3 "CIENA(`s) Shortfall" means that occurrence when CIENA is not able to fulfill its obligations as set forth in the Deliverables Schedule.

1.4 "Deliverables Schedule" means that written document representing the mutually agreed upon quantities and delivery dates of Deliverables throughout the Addendum Term. The Deliverables Schedule is incorporated by reference into this Addendum as Exhibit A.

1.5 ***********************

1.6 "Sprint(`s) Shortfall" means that occurrence when Sprint is unable to fulfill its obligations as set forth in the Deliverables Schedule.

2. PREFERRED PROVIDER.

2.1 Sprint designates CIENA as its Preferred Provider during the Addendum Term, provided all of the following conditions are met:

(a) The Deliverables conform to the Technical Requirements; and (b) CIENA can provide the Deliverables according to the Deliverables Schedule.

3. PRICES, QUANTITIES AND DELIVERY SCHEDULES.

3.1 Sections 2.1, 2.2, and 2.6 of Article 2 of the Agreement are deleted for the duration of the Addendum Term, and the following is substituted therefor during the Addendum Term:

(a) Prices for the Addendum Deliverables are set forth in Exhibit B, which is incorporated herein by reference.

(b) CIENA agrees to ********* for the Addendum Term.

(c) The Deliverables Schedule, as incorporated in this Addendum, is Sprint's firm commitment to order for shipment during the Addendum Term the quantities of Deliverables stated therein. Sprint acknowledges and agrees that the aggregate price of such Deliverables, at Exhibit B prices, shall be not less than **********.

(d) During the Addendum Term, Sprint and CIENA shall meet on a monthly basis to review Sprint's issuance of Purchase Orders for the Addendum Deliverables, and CIENA's deliveries of same, each in relation to the Deliverables Schedule. No increase in the quantity of Deliverables, and no acceleration of the timing of deliveries of such Deliverables may be changed from the quantities and times set forth in the Deliverables Schedule without the written consent of both parties. If CIENA issues a notice to Sprint of a CIENA Shortfall ("CIENA Shortfall Notice"), with respect to the Deliverables Schedule or any amendment thereto agreed to in writing by both parties, then Sprint has the right to reduce the corresponding amount of Addendum Deliverables affected by CIENA's Shortfall and seek alternative sources for like Deliverables with no penalty. The CIENA Shortfall Notice must be submitted to Sprint within ********* after CIENA identifies such shortfall but in no event later than ******** after the most recent prior monthly meeting; otherwise, it will be assumed that CIENA can meet the delivery obligations set forth on the most current Deliverables Schedule.

(e) Sprint shall issue Purchase Orders for the Addendum Deliverables at least ******* in advance of the delivery date set forth on the Deliverables Schedule. Unless mutually agreed in advance in writing, CIENA shall make shipment in response to a Purchase Order only if the shipment completely satisfies the Purchase Order. Time is of the essence to Sprint, and CIENA understands and acknowledges that the Deliverables Schedule must and will be strictly observed. Sprint may defer delivery of all or part of the Deliverables ordered under any Purchase Order for as long as ****** days beyond the scheduled delivery date set forth on Exhibit A, provided that Sprint issues a Purchase Order supplement to CIENA at least ********* days prior to the scheduled delivery date.

(f) In the event Sprint issues Purchase Orders in excess of ******** during the Addendum Term, then as to such excess only, CIENA immediately will issue Sprint an additional discount of ******* on the prices for the Deliverables constituting such excess.

5. TRUE-UP OBLIGATION

Sprint currently anticipates issuing Purchase Orders for at least ********* in Addendum Deliverables by or before ********. If Sprint fails to do so, Sprint agrees to meet with CIENA in ********* to inform CIENA as to the reasons for such failure and to advise CIENA whether Sprint then anticipates that Purchase Orders during the Addendum Term will equal or exceed ********. If Sprint is unable at that time to provide CIENA reasonable assurances that Purchase Orders will equal or exceed ******** during the Addendum Term, Sprint agrees to negotiate reasonable compensation to CIENA for any anticipated Sprint Shortfall, it being understood that CIENA's willingness to reduce its prices during the Addendum Term was and is in consideration for Sprint's commitment to purchase ******** in Addendum Deliverables during the Addendum Term.

III. GENERAL

Other than as set forth above, the Agreement remains unchanged and in full force and effect. In the event of a conflict between the terms of the Agreement and this Addendum, this Addendum will control.

This Addendum is executed by authorized representatives of Sprint and CIENA and is made a part of and incorporates the terms and conditions of the Agreement.

IN WITNESS WHEREOF, the parties hereto have caused this Addendum to be executed by their duly authorized representatives as of the day and year below written.

CIENA CORPORATION	SPRINT/UNITED MANAGEMENT COMPANY
By: ----------------------------	By: ----------------------------
Title: -------------------------	Title: -------------------------
Date: -------------------------	Date: -------------------------

Exhibit A
Page 1

SPRINT MONTHLY SUMMARY - 1997 CAP

MONTH	TERMINALS	LINE AMPLIFIERS	OPTICAL ADD DROP	CHANNEL UNITS	COMMON SPARES	TERM. SPARES
****	****	****	****	****	****	****
****	****	****	****	****	****	****
****	****	****	****	****	****	****
****	****	****	****	****	****	****
****	****	****	****	****	****	****
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EXHIBIT B--PRICING DURING THE ADDENDUM TERM

Subject to Section 5 of the Addendum, Sprint's orders for DWDM systems from September 16, 1996 through the end of the Addendum Term shall be entitled to pricing based upon the price schedule listed below:

MODULE DESCRIPTION	MODEL NUMBER	UNIT PRICE($)
channel shelf	16000-01	*****
common shelf	16000-02	*****
dual amp module	16090-01	*****
930 pump module	16080-01	*****
1480 pump module (standard)	16080-12	*****
1480 pump module (high power)	16080-11	*****
service channel module	16070-01	*****
nodal control processor	16060-03	*****
power supply module	16050-01	*****
combiner module (8 way)	16030-08	*****
splitter module (8 way)	16040-08	*****
dual combiner module	16030-16	*****
dual splitter module	16040-16	*****
remodulator module (ch. 1)	16010-01	*****
remodulator module (ch. 2)	16010-02	*****
remodulator module (ch. 3)	16010-03	*****
remodulator module (ch. 4)	16010-04	*****
remodulator module (ch. 5)	16010-05	*****
remodulator module (ch. 6)	16010-06	*****
remodulator module (ch. 7)	16010-07	*****
remodulator module (ch. 8)	16010-08	*****
remodulator module (ch. 9)	16010-09	*****
remodulator module (ch. 10)	16010-010	*****
remodulator module (ch. 11)	16010-011	*****
remodulator module (ch. 12)	16010-012	*****
remodulator module (ch. 13)	16010-013	*****
remodulator module (ch. 14)	16010-014	*****
remodulator module (ch. 15)	16010-015	*****
remodulator module (ch. 16)	16010-016	*****
dual selector module (ch. X/X)	16020-XX	*****
faceplate, 4HP, (0.8 wide)	16120-14	*****
faceplate, 7HP, (1.4 wide)	16120-09	*****
orderwire	16140-01	*****
auxiliary management module	16130-01	*****
alarm and power distribution		*****
fan try	16600-01	*****
air filter	16600-02	*****
fiber dressing/air plenum	16600-03	*****
heat ramp	16600-04	*****
fan replacement		*****
pre-wired rack assemblies		*****
7' unequal flange rack (equipped for 8 ch.)	16110-70	*****
7' unequal flange rack (equipped for 16 ch.)	16110-80	*****

8' unequal flange rack (equipped for 8 ch.)	16110-88	*****
8' unequal flange rack (equipped for 16 ch.)	16110-70	*****
8'-8' unequal flange rack (equipped for 8 ch.)	16112-70	*****
8'-8' unequal flange rack (equipped for 16 ch.)	16112-80	*****
7' channel rack (equipped for 8 ch.)	16112-88	*****
7' channel rack (equipped for 16 ch.)	16113-70	*****

Add-Drop Capabilities

ADM Amplifier	*****
ADM Module (1 channel)	*****
ADM Module (2 channel)	*****
ADM Module (3 channel)	*****
ADM Module (4 channel)	*****
ADM Combiner/Splitter 1	*****
ADM Combiner/Splitter 2	*****
980 nm Pump (single output)	*****

CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the use in the Prospectus constituting part of this Registration Statement on Form S-1 of our report dated November 27, 1996, except as to the stock split, share authorizations and registration statement authorization described in Note 14 which is as of December 10, 1996, relating to the financial statements of CIENA Corporation, which appears in such Prospectus. We also consent to the reference to us under the heading "Experts" in such Prospectus.

PRICE WATERHOUSE LLP

Falls Church, VA

February 4, 1997