UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)

[X] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

FOR THE FISCAL YEAR ENDED OCTOBER 31, 1999

OR

[ ] TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
FOR THE TRANSITION PERIOD FROM ------------ TO -----------

COMMISSION FILE NUMBER 0-21969

CIENA CORPORATION
(Exact name of registrant as specified in its charter)

DELAWARE	23-2725311
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
1201 WINTERSON ROAD, LINTHICUM, MD	21090
(Address of principal executive offices)	(Zip Code)

(410) 865-8500
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act: NONE

Securities registered pursuant to Section 12(g) of the Act: COMMON STOCK

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. YES [X] NO [ ]

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. [ ]

The aggregate market value of the 138,187,356 shares of Common Stock of the Registrant issued and outstanding as of October 31, 1999, excluding 3,362,959 shares of Common Stock held by affiliates of the Registrant was $4,659,531,160. This amount is based on the average bid and asked price of the Common Stock on the Nasdaq Stock Market of $34.56 per share on October 29, 1999.

DOCUMENTS INCORPORATED BY REFERENCE

Part III of the Form 10-K incorporates by reference certain portions of the Registrant's proxy statement for its 2000 annual meeting of stockholders to be filed with the Commission not later than 120 days after the end of the fiscal year covered by this report.

PART I

The information in this Form 10-K contains certain forward-looking statements, including statements related to markets for the Company's products and trends in its business 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 "Management's Discussion and Analysis of Financial Condition and Results of Operations-Risk Factors" and "Business" as well as those discussed elsewhere in this Form 10-K.

ITEM 1. BUSINESS

COMPANY

CIENA Corporation (the "Company" or "CIENA") was incorporated in Delaware in November 1992. The Company completed its initial public offering on February 7, 1997 and a secondary offering on July 2, 1997.

The Company's principal executive offices are located at 1201 Winterson Road, Linthicum, Maryland 21090. Its telephone number is (410) 865-8500.

GENERAL

OVERVIEW

CIENA is a leader in the rapidly emerging optical networking equipment market. The Company offers a comprehensive portfolio of products for tele- and data-communications service providers worldwide. CIENA's customers include long-distance carriers, competitive local exchange carriers, Internet service providers and wholesale carriers. CIENA offers optical transport, intelligent switching and multi-service delivery systems that enable service providers to provision, manage and deliver high-bandwidth services to their customers. The Company has pursued a strategy to develop and leverage the power of disruptive technologies to change the fundamental economics of building carrier-class tele- and data-communications networks, thereby providing its customers with a competitive advantage.

During its fiscal year 1999 CIENA significantly broadened its product offerings and believes it has increased its addressable market opportunity through internal developments, and through the acquisitions of Lightera Networks, Inc. ("Lightera") of Cupertino, California and Omnia Communications, Inc. ("Omnia") of Marlborough, Massachusetts. CIENA announced the acquisitions of Omnia and Lightera simultaneously on March 15, 1999, in conjunction with announcing its "LightWorks(TM) Initiative."

The acquisition of Lightera was completed on March 31, 1999 and was valued at approximately $459 million. The acquisition of Omnia was completed on July 1, 1999, with a value of approximately $483 million. Since the acquisitions, the Company has been working to bring Omnia's service delivery product, MultiWave EdgeDirector(TM) and Lightera's optical core switch, MultiWave CoreDirector(TM), to market.

The Company's research and development efforts and potential future acquisition and partnership activities are targeted at capitalizing on its installed base of carrier customers and leveraging its position as a leader in the rapidly emerging optical networking market.

Historically, the significant majority of CIENA's revenues have come from the sale of several products in a single product category: long-distance optical transport equipment. CIENA believes it is one of the worldwide market leaders in field deployment of open-architecture optical transport equipment with more than 7 million optical channel kilometers installed. For the fiscal year ended October 31, 1999, the Company recorded revenue from sales of optical transport equipment to a total of 27 customers, nearly double 1998's customer base of 14. Three customers each represented more than 10% of CIENA's revenues for fiscal 1999. The majority of the Company's fiscal 1999 revenue was derived from sales of its MultiWave Sentry 4000(TM) long-distance optical transport equipment. The Company also recognized significant revenue from the sale of its next generation long-distance optical transport system, MultiWave CoreStream(TM).

The Company's results for fiscal 1999, show total revenues of $482.1 million. Though a slight decrease from 1998's total revenue of $508.1 million, the Company believes its 1999 results represent a considerable achievement following the challenges that surrounded the end of its fiscal year 1998. Since its fourth fiscal quarter 1998, the Company has shown sequential quarterly improvement in both sales and gross margins. Sales increased from $91.2 million in fiscal fourth quarter 1998 to the $141.4 million reported in the fiscal fourth quarter 1999. Gross margins improved from 31.2% of total revenue during fiscal fourth quarter 1998 to 41.0% of total revenue during fiscal fourth quarter 1999.

INDUSTRY BACKGROUND

THE TELECOMMUNICATIONS MARKET

Service providers both domestically and internationally have widely deployed fiber optic cable forming the backbone of their communication networks. During the last several years carriers have faced several challenges resulting from a combination of factors, including:

- Unprecedented traffic growth
- Changing traffic demands
- Growing competition
- Increased demand for reliability
- Network scalability challenges
- Escalating operational costs

Unprecedented Traffic Growth

Service providers have seen dramatic network traffic growth caused by factors such as:

- the escalating use of the Internet, as well as increased use of electronic commerce, distributed computing, electronic mail, facsimile transmission, electronic transaction processing, video conferencing, remote access telecommuting and local and wide area networking;
- growing capacity and processing speed of data communications equipment such as Asynchronous Transfer Mode (ATM) switches and Internet Protocol (IP) routers; and
- development of high-bandwidth network access technologies, such as cable modems, hybrid fiber coaxial architectures and digital subscriber lines, that permit commercial and consumer users to transmit and receive high volumes of information.

This increased network utilization can create transmission bottlenecks on heavily used routes that were originally designed to handle significantly less traffic. Although exact statistics are not available, the Company believes that this volume increase has caused some 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.

Changing Traffic Demands

In addition to more traffic, telecommunication carriers are seeing a shift in the kind of traffic they are handling. Networks today are no longer carrying purely telephone or voice traffic, but instead are carrying an ever increasing volume of data traffic - traffic generated by computers that process and send information far more quickly and in much larger quantities than voice-centric networks were designed for. Carriers and equipment suppliers both have sought more efficient ways to handle this traffic, adopting cell and packet based protocols such as Frame Relay, ATM and IP. These protocols more efficiently handle data traffic by organizing it either in packets, as is the case with Frame Relay and IP, or in cells for ATM. Each packet or cell contains a header with the destination information the network needs to efficiently route or switch the packet/cell.

Recently advances by data communications equipment suppliers have made it possible for ATM switches and IP routers to operate at port speeds of OC-48/STM-16, or 2.5 gigabits per second ("Gb/s"). Several suppliers have announced their intention to provide equipment that operates at port speeds of OC-192/STM-64 or 10 Gb/s, during the year 2000. An industry analyst has estimated that the volume of data-centric traffic traveling in packets or cells will reach 99% of all network traffic by 2004. Whether or not the estimate is precisely accurate, the Company believes the trend of increasing cell and packet based traffic is unmistakable and, as a result, carriers will increasingly look for alternatives to the use of traditional voice-based or synchronous optical network/synchronous digital hierarchy ("SONET/SDH") telecommunications equipment in their network architecture. The Company expects that carriers will begin to move toward a simpler, more cost effective network where data traffic from an ATM switch or an IP router is directly fed to an optical transport device. The Company believes its ability to connect directly to ATM switches and IP routers through its DirectConnect(TM) feature positions it to benefit from this shift.

Growing Competition

Widespread deregulation of the United States telecommunications industry has resulted in increased competition among service providers both in the long-distance and local markets. In addition to heightened price competition, carriers are increasingly looking for new ways to differentiate their services from those offered by their competitors. Several new carriers have attempted to leverage leading edge, high capacity technology as a market differentiator for their networks. The Company believes this competition is itself a driver for broader deployment of high capacity such as that enabled by the Company's products throughout the network.

Increased Demand for Reliability

End-users are becoming more dependent on around-the-clock network availability, not only for voice, but also for data traffic. The Company believes these end-users are becoming less tolerant of service interruptions, which can be caused by factors such as equipment failure, fiber cuts or high traffic volume. Consequently, network service providers are faced with a multi-pronged challenge: additional traffic, a different type of traffic, and a growing demand for increased network reliability.

In many cases, this demand for greater reliability has led long distance carriers to adopt a "ring architecture" in which long distance routes are linked in a ring configuration so that in the event of a fiber optic 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. However, ring architectures typically demand twice as much fiber capacity as non-ring based architectures due to the need to maintain a redundant alternative path to serve as a protection path for each fiber in use. Most, if not all, of the major carriers have either already implemented or announced an intention to implement ring architecture for their networks, which will place greater bandwidth demand on their existing fiber optic networks.

Network Scalability Challenges

The bandwidth availability that dense wavelength division multiplexing ("DWDM") brought to the core of the network has created another network challenge as carriers attempt to scale the rest of their networks at the same pace at which they can now scale core bandwidth. DWDM replaces the single beam of light that traverses fiberoptic cable with multiple colors of light, each of which is capable of carrying tens of thousands of voice conversations or data transmissions. Conventional network ring architectures can no longer efficiently scale to match the bandwidth made possible by the application of DWDM.

Several years ago, network capacity - bandwidth - was the main bottleneck in long-distance networks due to fiber exhaust. The widespread acceptance of DWDM offered carriers an efficient and economical solution that relieved acute fiber exhaustion. With the advent of DWDM, carriers could turn up additional channels of bandwidth and gigabits of capacity as traffic dictated. With the Company's equipment, this typically involves no more than the insertion of additional channel cards into the existing MultiWave(R) optical transport system.

For the past several years DWDM has been implemented by carriers as a point-to-point solution in long-distance networks. To construct a network using DWDM equipment, a carrier must interconnect the point-to-point high-capacity links and manage all traffic flowing through them. A critical component enabling this interconnection in traditional architectures has been the SONET/SDH add/drop multiplexers ("ADMs").

In most network architectures, a SONET ADM transmits and receives each DWDM optical channel. This means that as optical channel counts escalate, the corresponding number of SONET ADMs also grows. For instance, in order to receive the traffic from an optical transport system running just 20 channels of DWDM, a network operator would require a total of 40 SONET ADMs, one for each channel at each end of the route. Every time an additional channel is turned up, two additional SONET ADMs must be purchased and installed.

Historically this has been the only way to scale a network. Unfortunately, this approach creates upwardly spiraling costs. In addition to the capital equipment costs, each SONET ADM uses valuable central office space and power. Furthermore, as the number of DWDM channels and links increases, the carrier's management of the network grows more complex, making service provisioning and network operation more difficult and cumbersome.

ESCALATING OPERATIONAL COSTS

In addition to the problems inherent in scaling traditional network architectures, carriers are challenged to scale their operating staff as quickly as they can grow their networks. According to information filed in United States Securities and Exchange Commission reports by carriers, many service providers are spending more on operating, growing, and managing their networks than they are on capital expenditures. In some cases, service providers are spending two to four dollars on network operations and support expenses for every dollar spent on capital equipment. In addition, in many cases, network operations and support expenses are growing faster than revenues. In one case, a carrier saw its network expenses grow 72% since 1996, while its revenue only grew 18%. In another, network expenses grew 806% since 1996, while revenue increased 126%.

CIENA LIGHTWORKS

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CIENA's LIGHTWORKS(TM) is an optical networking architecture designed to change the fundamental economics of building service provider networks. LightWorks focuses on the three critical areas of optical networking: optical transport, core switching and service delivery. The products in CIENA's LightWorks combine the functionality of several current network elements into a single network element, thereby lowering the capital equipment requirements of a service provider and simplifying the network, in order to reduce a carrier's network operating costs. The components of CIENA's LightWorks architecture can be sold together as a complete network solution or separately as best-of-breed solutions.

OPTICAL TRANSPORT

CIENA's optical transport solutions are designed to alleviate capacity, or bandwidth, constraints in high traffic, fiber optic routes without requiring the installation of new fiber. CIENA's MultiWave(R) open architecture optical transport systems enhance the transmission capacity of a single optical fiber through systems that utilize DWDM, without requiring significant modification or upgrade to existing transmission equipment.

All MultiWave optical transport systems are installed along segments of fiber optic routes; the beginning and end of which are defined by the presence of the customers' transmission equipment. CIENA's MultiWave optical transport systems are designed with an open architecture that allows them to interoperate with carriers' existing fiber optic transmission systems having a broad range of transmission speeds and signal formats.

LONG-DISTANCE APPLICATIONS

CIENA has introduced four generations of its long-distance optical transport product. In chronological order of introduction they are: MULTIWAVE 1600(TM), MULTIWAVE SENTRY 1600(TM), MULTIWAVE SENTRY 4000(TM) and MULTIWAVE CORESTREAM. Each subsequent generation builds on the feature sets and capabilities of the previous generation and previous generations are scalable to the latest generation's capacity.

MultiWave CoreStream is an advanced DWDM optical transport system with a future capacity of up to 2 Terabits per second (2,000 Gb/s) over a single fiber. The first release of the MultiWave CoreStream system enables simultaneous transmission of up to 96 optical channels on a single fiber at rates of up to 2.5 Gb/s per channel or up to 48 optical channels at rates of up to 10 Gb/s per channel, without opto-electronic regeneration.

MultiWave CoreStream's open architecture and DirectConnect short reach interfaces provide flexible connectivity enabling carriers to transport all types of traffic including voice, video and data. MultiWave CoreStream has a modular DWDM architecture which allows incremental, in-service capacity upgrades. Each optical channel can be any mix of 622 megabits per second ("Mb/s") (OC-12/STM-4), 2.5Gb/s (OC-48/STM-16) or 10Gb/s (OC-192/STM-64) traffic.

The MultiWave CoreStream product family consists of optical terminals, amplifiers and add/drop multiplexers. MultiWave CoreStream incorporates a new generation of broadband optical amplifiers that enable flexible bandwidth commissioning and long-distance span designs. MultiWave CoreStream optical add/drop multiplexers ("OADMs") enable flexible channel access in the middle of optical transport spans. The OADMs can drop up to eight channels of OC-12/STM-4, eight channels of OC-48/STM-16 or four channels of OC-192/STM-64 traffic.

CIENA's SmartSpan(TM) software automates system operations and ensures carrier-class reliability and performance by embedding software intelligence within each MultiWave CoreStream element. Each optical channel in a MultiWave CoreStream system is equipped with intelligent digital performance monitoring to help carriers troubleshoot and provide service level agreements. MultiWave CoreStream is managed by CIENA's WaveWatcher(R) element management system which has an easy-to-use graphical interface and allows carriers to monitor and maintain their operations from a single console.

In November 1999, the Company announced it was pursuing enhancements to its MultiWave CoreStream product that enable the system to offer the optimal combination of ultra long-distance transport functionality and, channel count to further lower network costs for service providers. Using forward error correction (FEC), nonlinearity management, and dispersion mapping technologies, plus embedded software intelligence, MultiWave CoreStream will be able to support optical spans longer than 5,000 kilometers without additional optical-to-electrical signal regeneration. The Company expects to begin beta trails of the ultra long distance feature of this product in the first half of calendar 2000. See Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations - Risk Factors".

SHORT-DISTANCE APPLICATIONS

CIENA's MULTIWAVE FIREFLY(TM) is an optical transport system developed specifically for use by carriers in short distance, point-to-point applications. This system multiplexes up to 24 channels at 2.5 Gb/s, over a single fiber pair, allowing a carrier to transport up to 60 Gb/s. Multiwave Firefly allows carriers to mix SONET/SDH, ATM & Fast IP traffic on a common optical network. The product also enables overbuilds to the network for applications such as new high speed data services that can be readily implemented on a separate channel over the current fiber plant. This kind of application allows the network to be partitioned by type of service offered, for simpler network management structure. MultiWave Firefly utilizes a standards-based, open system architecture, enabling it to interface inexpensively with a wide variety of SONET/SDH, ATM & Fast IP fiber optic transmission equipment and most embedded networks.

RING-BASED APPLICATIONS

The MULTIWAVE METRO(TM) is an optical transport system designed for use in metropolitan ring applications. The MultiWave Metro system consists of optical add/drop multiplexer nodes connected together on a two fiber ring. It provides up to 24 duplex channels over a single fiber pair, enabling a service provider to transport up to 60 Gb/s.

MultiWave Metro is extremely flexible, supporting various topologies, protocols and protection arrangements on the same fiber pair and in the same node. MultiWave Metro can simultaneously support point-to-point, star, ring, or mesh network configurations. Its standards-based, open architecture allows it to interface easily with a wide variety of SONET/SDH, ATM, and Fast IP equipment and most embedded network management systems. MultiWave Metro provides protection switching on signals where external protection, such as SONET/SDH protection, is not provided. Furthermore, MultiWave Metro allows

various protection types to be supported simultaneously on the same fiber pair. This flexibility removes uncertainty for incumbent and emerging carriers by allowing them to rapidly support new services.

MultiWave Metro is specifically designed for short-distance ring applications. It provides a cost effective alternative to time division multiplexed (TDM) rings when the total aggregate ring capacity is OC-12 or greater. Traditionally, carriers designate the transmission speed for a metropolitan ring, i.e.-OC-48, and transport all traffic on the ring at the transmission speed. Once the ring capacity is fully utilized, the carrier is forced to utilize another ring. As with point-to-point segments, this significantly increases the complexity, deployment timing and cost of a carrier's network. MultiWave Metro is an excellent alternative to new fiber builds in access rings where fiber exhaust is a problem because it allows carriers to utilize one fiber pair to create virtual rings of varying capacity. In addition, MultiWave Metro allows new services such as "virtual private SONET rings" to be offered using the existing fiber plant. A PC-based network design tool, which helps automate the design of the DWDM ring, is available with the system.

WAVEWATCHER NETWORK MANAGEMENT SYSTEM

WAVEWATCHER(R) is the MultiWave system's integrated network management software package. 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.

WaveWatcher operates on a UNIX platform and has been designed to adhere to both existing and evolving open system network management standards such as SNMP, TCP/IP and the ITU TMN standards.

WaveWatcher's 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. It provides customers with early warnings of network problems and allows them to manage and monitor network performance. WaveWatcher provides fault, performance, security and configuration management of optical networking systems. When used with MultiWave Sentry systems, WaveWatcher provides additional monitoring capabilities for channel identification and transmission quality throughout a customer's MultiWave network.

The Company believes its software development effort provides an important differentiator for its optical networking systems.

CORE SWITCHING

MULTIWAVE COREDIRECTOR(TM) is an intelligent optical core switch, designed to deliver a wide range of optical capacities with a variety of protection options. MultiWave CoreDirector features the networking intelligence of CIENA's LightWorks OS(TM), which enables network-wide optical provisioning and management. With its scalability, flexibility, and advanced networking capabilities, MultiWave CoreDirector dramatically reduces the cost of deploying, operating, and scaling optical networks. MultiWave CoreDirector is currently in the customer trial phase of development. CIENA expects field deployable units will be available at the end of the first calendar quarter of 2000, with general availability to follow. See Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations - Risk Factors".

MultiWave CoreDirector provides up to 640 Gb/s of full duplex switching in a single 7 foot bay. It supports up to 256 OC-48/STM-16 or 64 OC-192/STM-64 interfaces, with the ability to support OC-768/STM-256 in the future. MultiWave CoreDirector also supports OC-12/STM-4 and OC-3/STM-1 optical interfaces to accommodate legacy switches and routers without requiring standalone SONET/SDH multiplexers. Any optical interface may be software-configured as concatenated for "wavelength" switching or channelized down to STS-1 granularity. Because of its scalability, range of optical interfaces, and software-definable switching granularity, MultiWave CoreDirector eliminates the need for SONET/SDH Add/Drop Multiplexers, Digital Cross-Connects, and Optical Cross Connects.

LightWorks OS is CIENA's feature-rich operating system engineered specifically for intelligent optical networking. With LightWorks OS, carriers can automatically provision circuits with a wide range of capacities, flexible protection options, and rapid restoration from a single management console as opposed to individually configuring each network element as was necessary in legacy architectures. At the heart of LightWorks OS is Optical Signaling and Routing Protocol (OSRP(TM)), which enables distributed, dynamic information exchange between MultiWave CoreDirectors, allowing carriers to provision new services automatically and in real-time.

LightWorks OS allows carriers to decouple the growth of operations tasks from the growth of network traffic.

To get the most from their diverse service offerings and varied physical plant, carriers are looking beyond "one-size-fits-all" transport protection options. Some applications call for ring protection, others for linear line protection, while some broadband data applications are best served by path-level fast mesh protection. MultiWave CoreDirector supports all these applications, allowing multiple concurrent protection mechanisms. These include software-defined rings (VLSR(TM)), standards-compliant linear APS protection, and FastMesh(TM) path-level restoration.

SERVICE DELIVERY

The MULTIWAVE EDGEDIRECTOR 500(TM) is a multi-service transport platform designed for the high capacity requirements of public carrier networks. The MultiWave EdgeDirector 500 enables public carriers to efficiently transport voice and data services such as Transparent LAN ("local area network"), Router IP, VPN ("Virtual Private Networks"), Voice, and Private Line Services over a single integrated fiber optic access and interoffice network. Previously, in order to offer its customers ATM, IP and voice services a carrier would have to purchase and deploy service-specific network elements such as ATM switches, IP routers and SONET ADMs. MultiWave EdgeDirector is designed to lower network equipment costs by enabling a carrier deliver ATM, IP and voice services from a single network element. The initial release of MultiWave EdgeDirector is commercially available. We expect to release additional versions of the MultiWave EdgeDirector over the next year to expand upon the functionality of the initial release to address specific customer and market requirements.

MultiWave EdgeDirector is designed to integrate support of a wide range of traditional and new services onto a single platform. It also integrates the functions of DLCs, SONET/SDH ADMs, DCSs, access concentrators and access routers into one network element, including the TDM 3/1/0 grooming functions. In addition, the MultiWave EdgeDirector supports up to 280 DS1s, 20 DS3s or 10/100Base-T interfaces.

When deployed, the MultiWave EdgeDirector 500:

- Frees up bandwidth wasted by SONET/SDH transport;
- Leverages the existing switching, routing, and fiber access infrastructure;
- Accelerates service turn-up;
- Reduces operational expenses and net management overhead; and
- Reduces space, power, and cabling requirements.

PRODUCT DEVELOPMENT

The Company believes the overall growth in utilization of fiber optic telecommunications networks will lead to transmission bottlenecks in other segments of the networks where the application of optical networking technologies may provide solutions. The Company also believes there may be opportunities for it to develop products and technologies complementary to existing optical networking technologies which may broaden the Company's ability to provide, facilitate and/or interconnect with high bandwidth solutions offered throughout fiber optic networks. The Company intends to focus its product development efforts and possibly pursue strategic alliances or acquisitions to address expected opportunities in these areas.

CUSTOMERS

CIENA has announced relationships with the following 26 customers:

DOMESTICALLY:

Alltell, Bell Atlantic, Bell South, Cable & Wireless USA, Digital Teleport, Incorporated, Enron Communications, Inc., GST Telecommunications, Inc., Intermedia Communications, Inc., IXC Communications, Inc., MCI WorldCom, Inc., RCN Corporation, Sprint Corporation, Williams Communications, Inc.

INTERNATIONALLY:

Cable & Wireless Communications, UK; Completel, France; Crosswave Communications, Inc., Japan; Daini Deuden Inc., Japan; GTS Network (Ireland) Ltd. (formerly Hermes Europe Railtel), UK; iaxis, Ltd., UK; Japan Telecom Co., Ltd., Japan; KDD/Teleway Japan Corporation, Japan; Racal Telecom, UK; TANet, UK; Telecom Developpement, France; Telia AB, Sweden, MobilCom AG, Germany.

In addition CIENA has several unannounced customer relationships.

PROSPECTIVE CUSTOMERS BY CATEGORY

INTEREXCHANGE CARRIERS (IXCS)

The initial deployments of CIENA's bandwidth enhancing optical transport equipment occurred in the core of the U.S. long-distance network with the interexchange carriers or IXCs. IXCs provide connections between local exchanges in different geographic areas. In recent years, incumbent IXCs such as Sprint, MCI WorldCom and AT&T have seen increased competition from emerging long-distance carriers such as Qwest Communications ("Qwest"), Global Crossing, IXC Communications Inc. ("IXC") and Level 3 Communications ("Level 3"). Consolidation in this space is happening at a rapid pace. Most recently MCI WorldCom and Sprint have announced their intention to merge. We expect that continued competition in long-distance call rates, as well as the carriers' desire for market and service differentiation, will continue to drive demand for the increased capacity and features offered by CIENA's optical networking equipment.

COMPETITIVE LOCAL EXCHANGE CARRIERS (CLECS)

Deregulation has fueled the growth of U.S. competitive local exchange carriers or CLECs. The Company believes that in the short-term, CLECs could benefit from the hesitancy of incumbent local exchange carriers, such as the Regional Bell Operation Companies ("RBOCs"), to open their local markets to competitors, and that these CLECs are likely to move aggressively to capitalize on opportunities in the local area. CIENA recognized revenues from CLEC customers in fiscal 1999 and expects that tactical CLEC applications for its long-haul products, as well as the short-distance products, will be well-suited to CLEC network applications.

INTERNATIONAL COMPETITIVE CARRIERS

New competitive carriers are emerging as a result of deregulation in the international telecommunications markets as well. CIENA has concentrated its sales efforts on these emerging carriers as opposed to the traditional carriers or PTTs. During Fiscal 1999, CIENA increased its international customer base from nine to fourteen customers. In many cases, these new competitive carriers do not have the installed fiber base of the larger carriers and therefore are in need of the scalable bandwidth CIENA's optical transport systems offer. In addition, because of the economies and flexibility afforded by the application of DWDM technology, CIENA's equipment is being used on several new builds where the service provider is physically constructing the network. The Company expects that in the near-term, the majority of its international revenue will come from these smaller, more aggressive competitive carriers, and will continue to concentrate its sales efforts accordingly.

NON-TRADITIONAL TELECOMMUNICATION SERVICE PROVIDERS

The growth of the Internet has produced traffic growth substantial enough to attract new, non-traditional telecommunication service providers to compete in this market as well. Both domestically and internationally,

companies with rights-of-way, such as utility companies, cable TV providers, and railroads are capitalizing on their "network" (whether a pipeline, a railroad, or a highway), and in some cases, are laying optical fiber and constructing telecommunications networks along those rights-of-way. The transmission capabilities of CIENA's optical networking equipment enables these new carriers to provide competitive services while purchasing and laying a minimal amount of fiber optic cable.

INCUMBENT LOCAL EXCHANGE CARRIERS

Incumbent local exchange carriers, such as the RBOCs, are very active in interoffice and local exchange markets and, under the Telecommunications Act of 1996, RBOCs are 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 aggressively to offer long distance services, 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.

Regardless of the timing of any such move, the Company believes there may be limited opportunities for in-region deployment of the Company's long distance optical transport products in certain RBOCs. RBOC mergers currently under consideration could greatly expand the geographic reach of the combined companies, such that opportunities for in-region deployment of the Company's products could be enhanced.

MARKETING AND DISTRIBUTION

The Company's systems require a relatively large investment, and the Company's target customers in the fiber optic 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 optical networking systems with existing transmission equipment. The convergence of these factors leads to a very long sales cycle for optical networking equipment, 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. See Item 7. "Management's Discussion and Analysis of Financial Conditions and Results of Operations - Risk Factors."

The Company has organized its resources for the separate but coordinated approach to United States 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 established CIENA Communications, Inc. as a wholly-owned subsidiary to coordinate worldwide sales, marketing, customer service and installation support functions. CIENA Communications Japan, Ltd. is a wholly-owned subsidiary established to coordinate sales, marketing and customer service efforts in Japan, the Pacific Rim and other Asian areas. The Company has established CIENA Limited as a wholly-owned subsidiary in the U.K. to facilitate European, and Middle Eastern sales. Through its subsidiaries, the Company has established offices in the U.S., Europe and Latin America, including offices in the U.K., Germany, France, Spain, Mexico and Brazil. The Company has distributor or marketing representative arrangements, including agreements with agents in Italy, the Republic of Korea, Japan, Venezuela, Columbia and Chile.

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

MANUFACTURING

The Company conducts most of the optical assembly, final assembly and final component, module and system test functions for its optical transport products at its manufacturing facilities in Maryland. It also manufactures the in-fiber Bragg gratings and Erbium-doped fiber amplifiers used in its optical transport product lines. The Company expects the majority of the manufacturing associated with its MultiWave CoreDirector and MultiWave EdgeDirector products will be performed by third-party manufacturers, with only final system test and assembly performed at its offices in Cupertino, California and Marlborough, Massachusetts. However, the Company continues to evaluate whether a portion of the manufacturing of modules for its optical transport products can be done on a reliable and cost-effective basis by third party manufacturers.

The Company believes that portions of its manufacturing technologies and processes represent a key competitive advantage and has accordingly invested significantly in automated production capabilities and manufacturing process improvements and expects to further enhance its manufacturing process with additional production process control systems. Certain critical manufacturing functions require a highly skilled work force, and the Company puts significant efforts into training and maintaining the quality of its manufacturing personnel.

The Company's optical transport product lines utilize in excess of 1,400 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. The Company regularly turns to component suppliers that may not have had an opportunity to demonstrate the ability to increase their production to keep pace with the Company's needs. Certain key optical and electronic components used in the Company's optical transport systems are currently available only from sole sources. The Company has from time to time experienced minor delays in the receipt of these components, variations in the quality of the components, and a lengthening of the lead times for some components. Any future difficulty in obtaining sufficient and timely delivery of components 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 Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations-Risk Factors."

COMPETITION

Competition in the telecommunications equipment industry is intense, particularly in that portion of the industry devoted to delivering higher bandwidth and more cost effective services throughout the telecommunications network. The Company believes that its position as a leading supplier of open architecture optical networking equipment and the field-tested design and performance of its optical transport products give it a current competitive advantage and expects to leverage that advantage in bringing its core switching and service delivery products to market. However, intensifying competition is a material risk factor facing the Company in fiscal 2000. See Item 7. "Management's Discussion and Analysis of Financial Conditions and Results of Operations-Risk Factors."

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 Technologies Inc., ("Lucent"), Northern Telecom Inc. ("Nortel"), Alcatel Alsthom Group ("Alcatel"), NEC Corporation ("NEC"), Pirelli SpA, Siemens AG ("Siemens"), Fujitsu Group ("Fujitsu"), Hitachi Ltd. ("Hitachi") and Telefon AB LM Ericsson ("Ericsson"). The Company also believes that several new companies will attempt to break into the rapidly emerging optical networking market. Each of the Company's major competitors is believed to be in various stages of development, introduction or deployment of products directly competitive with the Company's optical transport, core switching and service delivery systems.

In addition to optical networking equipment suppliers, traditional TDM-based transmission equipment suppliers compete with the Company in the market for transmission capacity. Lucent, Alcatel, Nortel, Fujitsu, Hitachi 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.

Competition in the optical networking market is 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 scalability requirements. The Company's customers are under increasing competitive pressure to deliver their services at the lowest possible cost. This pressure may result in pricing for optical networking systems becoming a more important factor in customer decisions, which may favor larger competitors that can spread the effect of price discounts in their optical networking product lines across an array of products and services, and across a customer base which are larger than the Company's.

New competitors may also emerge to compete with our existing products as well as our future products. There has been an increase in funding of new companies intending to develop new products for the optical networking market. These companies have time to market advantages due to the narrow and exclusive focus of their efforts. In particular, a number of companies, including several start-ups, have announced products that compete with our MultiWave CoreStream, Multiwave Metro, MultiWave CoreDirector and MultiWave EdgeDirector products.

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 optical transport systems. 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 registered trademarks for CIENA, WaveWatcher, MODULE SCOPE and CIENA Optical Communications. 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.

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. The Company's employees generally also sign agreements not to compete with the Company for a period of twelve months following any termination of employment.

As of October 1999, the Company had received twenty-nine United States patents, and had one hundred twenty-three pending patent applications. Of the United States patents that have been issued to the Company, the earliest any will expire is 2012. Pursuant to an agreement between the Company and General Instrument Corporation dated March 10, 1997, the Company is a co-owner with General Instrument Corporation of a portfolio of 27 United States and foreign patents relating to optical communications, primarily for video-on-demand applications. See Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations-Risk Factors." The Company has also acquired from Tyco Submarine Systems, Ltd. (TSSL), U.S. Patent No. 5,173,957 and eight corresponding foreign patents based thereon as well as a license to a portfolio of seven U.S. patents owned by TSSL.

STRATEGY

CIENA's strategy has been and will continue to be to maintain and build upon its market leadership in the deployment of optical networking systems and to leverage the Company's high-bandwidth technologies in order to provide solutions for both voice and data communications-based network architectures. Important elements of CIENA's strategy include:

- MAINTAIN LEADERSHIP IN DEPLOYMENT OF OPTICAL NETWORKING SOLUTIONS. The Company believes that the technological, operational and cost benefits of the Company's optical networking solutions create competitive advantages for telecommunications carriers worldwide, which are being pressed by their customers to deliver

services to address the dramatic growth in Internet and other data communications traffic. 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 optical networking deployments and will enhance its marketing to other carriers as a field proven supplier. The Company therefore intends to continue aggressively serving its existing customers while actively pursuing additional optical networking deployment opportunities among fiber optic carriers in domestic and foreign long distance, interoffice and local exchange markets. The Company intends to emphasize its global service and support excellence as a differentiating factor in its efforts to maintain and enhance its market position.

- - CONTINUE TO EMPHASIZE TECHNICAL SUPPORT AND CUSTOMER SERVICE. The Company markets technically advanced systems to sophisticated customers. The nature of the Company's systems and market require a high level of technical support and customer service, including installation assistance. The Company's efforts to develop substantial customer service and installation support organization were significantly enhanced with the acquisition of ATI Telecom International, Ltd. ("Alta") in February of 1998. Through the combination of its existing technical support and customer service operations and Alta, CIENA offers complete engineering, furnishing and installation services in addition to full-time customer support from selected locations worldwide where it develops significant customer relationships.

- - CONTINUE TO ENHANCE WORLD CLASS MANUFACTURING CAPABILITY. The Company's MultiWave systems serve 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 a world class manufacturing capability and that this capability provides the Company with a significant competitive advantage. The Company achieved ISO 9001 certification in July 1997 in further support of this element of its strategy. The Company expects to continue to invest in both the capital and the human resources necessary to maintain and leverage this advantage.

- - EXPAND SALES AND MARKETING EFFORTS. The nature of the target customer base for all MultiWave product lines 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 fiber optic carriers. The Company increased the number of optical transport customers from fourteen in 1998 to twenty-seven during 1999. In addition, CIENA significantly increased its international presence, particularly in Europe, growing the number of international customers from nine to fourteen and the percentage of revenues from international customers from approximately 23% of total revenue in 1998 to approximately 44% of revenue in 1999. The Company will continue to strengthen its marketing programs and to increase its international presence through both direct sales and international distributor relationships.

- - LEVERAGE THE COMPANY'S HIGH BANDWIDTH TECHNOLOGIES AND KNOW-HOW. The Company believes the overall growth in demand for bandwidth and the need for high bandwidth services in telecommunications networks will lead to transmission bottlenecks in other segments of the networks where the application of optical technologies and other high bandwidth enabling technologies may provide solutions, either within existing network architectures, or as part of the design and development of alternative data communications-based network architectures. The Company expects to leverage the core competencies it has developed in the design, development and manufacturing of the MultiWave product lines by pursuing new product development efforts, and strategic alliances or acquisitions, to address these expected opportunities. The Company intends to move aggressively to maintain leadership in the design and development of communications equipment and software which will both respond to customer needs and help the customers move toward newer, higher capacity, more cost-efficient network designs for the future.

EMPLOYEES

As of October 31, 1999, the Company and its subsidiaries employed 1,928 persons, of whom 416 were primarily engaged in research and development activities, 682 in manufacturing, 404 in installation services, 251 in sales, marketing, customer support and related activities and 175 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.

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.(1)	56	President, Chief Executive Officer and Director
Gary B. Smith	39	Senior Vice President, Chief Operating Officer
Joseph R. Chinnici	45	Senior Vice President, Finance and Chief Financial Officer
Steve W. Chaddick	48	President, Core Switching Division
Michael A. Champa	48	President, Access Systems Division
Mark Cummings	48	Senior Vice President, Operations
Jesus Leon	55	Senior Vice President, Products and Technology
Rebecca K. Seidman	53	Senior Vice President, Human Resources Development
Stephen B. Alexander	40	Vice President, Chief Technology Officer
Charles Chi	33	Vice President, Marketing
Michael O. McCarthy	34	Vice President, General Counsel and Secretary
Andrew C. Petrik	36	Vice President, Controller and Treasurer
Michael J. Zak(1)(2)(3)	46	Director
Harvey B. Cash(1)(2)	61	Director
Billy B. Oliver(1)(2)	74	Director
Stephen P. Bradley, Ph.D.(1)(3)	58	Director
John R. Dillon(1)(3)	58	Director

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(1) The Company's Directors hold staggered terms of office, expiring as follows: Messrs Bradley and Oliver in 2000; Messrs Dillon and Nettles in 2001; and Messrs Cash and Zak in 2002

(2) Member of the Human Resources Committee

(3) Member of the Audit Committee

PATRICK H. NETTLES, PH.D., has served as Chief Executive Officer and Director of the Company since February 1994, and as Director, President and Chief Executive Officer since April 1994. Dr. Nettles serves as a Trustee for the California Institute of Technology and also serves on the Advisory Board to the President at Georgia Institute of Technology. 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.

GARY B. SMITH has served as Senior Vice President, Chief Operating Officer since August 1999 and from September 1998 to August 1999, served as Senior Vice President Worldwide Sales and was previously Vice President of International Sales since joining the Company in November 1997. From June 1995 to October 1997, Mr. Smith served as Vice President, Sales and Marketing for Intelsat and from August 1991 to May 1995, Mr. Smith served as Vice President of Sales and Marketing for Cray Communications, Inc. Mr. Smith received an M.B.A. from Ashridge Management College, U.K.

JOSEPH R. CHINNICI joined the Company in September 1994 as Controller, and became Vice President, Finance and Chief Financial Officer in May 1995. He was promoted to Senior Vice President Finance and Chief Financial Officer in August 1997. 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 Platex Apparel, Inc. (now a division of Sara Lee Corporation), ending this period as Director of Operations Accounting and Financial Analysis. Mr. Chinnici currently serves on the board of directors for Online Technologies Group, Inc. Mr. Chinnici holds a B.S. in accounting from Villanova University and an M.B.A. from Southern Illinois University.

STEVE W. CHADDICK has served as President, Core Switching Division since September 1999 and from September 1998 to August 1999, served as Senior Vice President, Strategy and Corporate Development., From September 1996 to August 1998, he served as Senior Vice President, Products and Technologies, 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. Mr. Chaddick holds several patents in the area of WDM systems and techniques, and serves on the Advisory Board of the School of Electrical and Computer Engineering at Georgia Institute of Technology. Mr. Chaddick received both his B.S. and M.S. degrees in electrical engineering from the Georgia Institute of Technology.

MICHAEL A. CHAMPA has served as President, Access Systems Division since joining the Company in July 1999. From June 1997 to June 1999, Mr. Champa was President and CEO of Omnia Communications, Inc., and a co-founder of that company. From April 1992 to May 1997, Mr. Champa served as Vice President, Worldwide Sales and Service at Cascade Communications. Mr. Champa has a B.A. degree from the University of Massachusetts at Amherst as well as M.B.A. and M.P.A. degrees from Suffolk University.

MARK CUMMINGS joined the Company in May 1996 as Vice President, Manufacturing and was promoted to Senior Vice President, Operations in August 1997. From 1985 to 1996, Mr. Cummings was Vice President, Operations for Cray Communications, Inc., an international manufacturer of communications equipment. 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.

JESUS LEON has served as Senior Vice President Products and Technology since September 1998 and Vice President, Access Products since joining the Company in November 1996. From December 1995 to October 1996, Mr. Leon served as Vice President, Engineering, for the Access Systems Division of Alcatel ("Alcatel"). Prior to December 1996, Mr. Leon served in various positions with Alcatel with responsibility for over 1,200 engineers in Europe, Australia and South Africa. 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. She was promoted to Senior Vice President, Human Resources Development in August 1999. 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 holds a B.A. degree in economics and political science from Goucher College and is the co-author of Total Quality Distribution, a book discussing practical applications of Total Quality in the wholesale distribution industry.

STEPHEN B. ALEXANDER has served as Vice President, Chief Technology Officer since September 1998, and Vice President, Transport Products from September 1996 to August 1998. He 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. Mr. Alexander received both his B.S. and M.S. degrees in electrical engineering from the Georgia Institute of Technology.

CHARLES CHI has served as the Company's Vice President, Marketing since April 1999. From March 1998 to March 1999 Mr. Chi served as Vice President of Marketing and co-founder of Lightera Networks, Inc. From November 1997 to March 1998 Mr. Chi was Director of Partnership and Alliance Marketing with the Company. From May 1995 to November 1997, Mr. Chi was with Cisco Systems in sales and marketing, most recently as the Group Manager for carrier ATM systems. From 1988 to 1995, Mr. Chi held both technical and group management positions with AT&T Canada and Bell Canada in marketing, sales and corporate engineering. Mr. Chi earned his Bachelor of Engineering in Systems and Computer Engineering from Carleton University in Ottawa.

MICHAEL O. MCCARTHY has served as the Company's Vice President & General Counsel since July 1999 and previously served as the Assistant General Counsel since joining the Company in September 1997. From June 1996 to September 1997, Mr. McCarthy was a Corporate Counsel in MCI Communications Corporation's mergers and acquisitions group. Prior to joining MCI, Mr. McCarthy was an attorney with Hogan & Hartson's corporate and securities group where he served as outside counsel for a variety of emerging companies. Mr. McCarthy holds a B.A. degree in Mathematical Economics from Colgate University and a J.D. degree from Vanderbilt University's School of Law.

ANDREW C. PETRIK joined the Company in July 1996 as Controller, and became Treasurer in December 1996 and was promoted to Vice President in August 1997. From 1989 to 1996, Mr. Petrik was employed by Microdyne Corporation where he was the Assistant Controller from 1989 to 1994 and Assistant Vice President of Marketing and Product Planning from 1994 to 1996. Mr. Petrik holds a B.S. in Accounting from the University of Maryland and is a Certified Public Accountant.

MICHAEL J. ZAK has been a Director of the Company since December 1994. He has been employed by Charles River Ventures of Waltham, Massachusetts since 1991. From 1986 through 1991, he was a founder and corporate officer of Concord Communications, Inc., a developer of network management software. He is a director of four other private companies. Mr. Zak has a B.S. degree in engineering from Cornell University and an M.B.A. from Harvard Business School.

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 serves on the board of directors of Liberte, Inc., PANJA Corporation, and i2 Technologies 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. Mr. Cash served on the board of directors of Benchmarq Microelectronics from 1990 to 1999, and on the board of directors of Aurora Electronics, Inc. from 1991 to 1999.

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 Enterprise Network Services Inc. and Communications Network Enhancement Inc. Mr. Oliver earned his B.S.E.E. degree from North Carolina State University.

STEPHEN P. BRADLEY, PH.D. became a Director of the Company in April 1998. Professor Bradley is a William Ziegler Professor of Business Administration and the Chairman of the Program for Management Development at the Harvard Business School. A member of the Harvard faculty since 1968, Professor Bradley is also Chairman of Harvard's Executive Program in Competition and Strategy and teaches in Harvard's Delivering Information Services program. Professor Bradley has written extensively on the telecommunications industry and the impact of technology on competitive strategy. Professor Bradley received his B.E. in Electrical Engineering from Yale University in 1963 and his M.S. and Ph.D. in Operations Research from the University of California, Berkeley, in 1965 and 1968 respectively.

JOHN R. DILLON became a Director of the Company in October 1999. Mr. Dillon's experience includes a variety of positions at such companies as The Coca-Cola Company, Scientific Atlanta and Fuqua National, where he served as President. Mr. Dillon was instrumental in taking Cox Communications private in 1985 and merging it with Cox Newspapers to form Cox Enterprises at which time he was elected Senior Vice President, CFO and a member of the board of directors. At Cox Enterprises, he was responsible for all corporate financial activities as well as planning and development, until his retirement in December 1996. He continued to serve on the Boards of TCG and Cox Communications for two years following his retirement from Cox Enterprises. Mr. Dillon holds an MBA from Harvard Business School and a BEE degree from Georgia Institute of Technology, where he was elected to the Academy of Distinguished Engineering Alumni in 1997. He was a founding director of the Georgia Center for Advanced Telecommunications Technology and currently serves on the Georgia Institute of Technology National Advisory Board.

ITEM 2. PROPERTIES

All of the Company's properties are leased. The Company's principal executive offices, sales and marketing functions are located in Linthicum, Maryland in a 68,000 square foot facility. The Company's product development functions are located in a 96,000 square foot facility in Linthicum, Maryland; a 27,500 square foot facility in Alpharetta, Georgia; and a 8,700 square foot facility in Santa Barbara, California. Combined product development and manufacturing functions are also located in a 43,000 square foot facility in Marlborough, Massachusetts; and in three facilities with a total of approximately 27,000 square feet located in Cupertino, California. The Company has leased an additional facility of approximately 109,000 square feet in Cupertino, California, where it intends to transfer the current Cupertino product development and manufacturing functions in the second quarter of fiscal 2000. The Company intends to sublease the vacated Cupertino facilities. The Company also has manufacturing facilities located in both Savage and Linthicum, Maryland which consist of four facilities with a total of approximately 210,000 square feet that are used for such functions as manufacturing production, systems integration and test, pilot production and customer service and support. The Company's primary engineering, furnishment and installation facility is located in a 26,000 square foot facility located in Duluth, Georgia. The Company has sales, marketing and customer support offices located in Overland Park, Kansas; Richardson, Texas; Tulsa, Oklahoma; Middletown, New Jersey; Boca Raton, Florida; Denver, Colorado; Minneapolis, Minnesota; Portland, Oregon; Bellevue, Washington; Edmonton, Canada; London, England; Paris, France; Brussels, Belgium; Frankfurt, Germany; Tokyo, Japan; Sao Paulo, Brazil; and Mexico City, Mexico.

ITEM 3. LEGAL PROCEEDINGS

CLASS ACTION LITIGATION

A class action complaint was filed on August 26, 1998 in U.S. District Court for the District of Maryland entitled Witkin et al. v. CIENA Corporation et al. (Case No. Y-98-2946). Several other complaints, substantially similar in content were consolidated by court order on November 30, 1998. An amended, consolidated complaint was filed on February 16, 1999. On July 19, 1999 the United States District Court dismissed the suit with leave to amend before any discovery had been taken. On August 20, 1999, plaintiffs filed a second amended class action complaint alleging that CIENA and certain officers and directors violated certain provisions of the federal securities laws, including Section 10(b) and Rule 10b-5 under the Securities Exchange Act of 1934, by making false statements, failing to disclose material information and taking other actions intending to artificially inflate and maintain the market price of CIENA's common stock during the Class Period of May 21, 1998 to September 14, 1998, inclusive. The plaintiffs intend to seek certification of the suit as a class action on behalf of all persons who purchased shares of CIENA's common stock during the Class Period and the awarding of compensatory damages in

an amount to have been determined at trial together with attorneys' fees. CIENA has filed, and the parties have fully briefed, a motion to dismiss the second amended complaint. CIENA believes the suit is without merit and CIENA intends to continue to defend the case vigorously.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

No matters were submitted to a vote of security holders during the fourth quarter of fiscal 1999.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON STOCK AND RELATED STOCKHOLDER MATTERS

The Company's Common Stock has been traded on the Nasdaq National Market since the Company's initial public offering on February 7, 1997 under the Nasdaq symbol CIEN. The following table sets forth for the fiscal periods indicated the high and low sales prices of the Common Stock, as reported on the Nasdaq National Market.

	Price Range of Common Stock	
	High	Low
Fiscal Year 1998		
First Quarter ended January 31, 1998	$63.56	$47.44
Second Quarter ended April 30, 1998	$58.25	$37.25
Third Quarter ended July 31, 1998	$92.38	$46.88
Fourth Quarter ended October 31, 1998...............	$75.88	$ 8.13
Fiscal Year 1999		
First Quarter ended January 31, 1999	$23.00	$12.44
Second Quarter ended April 30, 1999	$29.25	$16.63
Third Quarter ended July 31, 1999	$37.75	$22.69
Fourth Quarter ended October 31, 1999...............	$42.81	$29.06

The closing sale price for the Common Stock on October 29, 1999 was $35.25.

The market price of the Company's Common Stock has fluctuated significantly and may be subject to significant fluctuations in the future. See Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations-Overview and Risk Factors."

As of October 31, 1999, there were approximately 1,661 holders of record of the Company's Common Stock and 138,187,356 shares of Common Stock outstanding.

The Company has never paid cash dividends on its capital stock. The Company currently intends to retain earnings for use in its business and does not anticipate paying any cash dividends in the foreseeable future.

ITEM 6. SELECTED CONSOLIDATED FINANCIAL DATA

The following selected consolidated financial data should be read in conjunction with Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the consolidated financial statements and the notes thereto included in Item 8. "Financial Statements and Supplementary Data". 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 1995, 1997, 1998 and 1999 comprised 52 weeks and fiscal 1996 comprised 53 weeks.

	YEAR ENDED OCTOBER 31,				
	1995	1996	1997	1998	1999
	(in thousands, except per share data)				
STATEMENT OF OPERATIONS DATA:					
Revenue	$ 21,691	$ 88,463	$ 413,215	$ 508,087	$ 482,085
Cost of goods sold	16,185	47,315	166,472	256,014	299,769
Gross profit	5,506	41,148	246,743	252,073	182,316
Operating expenses:					
Research and development	6,361	8,922	23,773	73,756	104,641
Selling and marketing	1,907	5,641	22,627	47,343	61,603
General and administrative	3,034	6,422	11,965	19,274	22,986
Purchased research and development	-	-	-	9,503	-
Pirelli litigation	-	-	7,500	30,579	-
Merger related costs	-	-	-	2,548	13,021
Total operating expenses	11,302	20,985	65,865	183,003	202,251
Income (loss) from operations	(5,796)	20,163	180,878	69,070	(19,935)
Other income (expense), net	172	653	7,178	12,830	13,944
Income (loss) before income taxes	(5,624)	20,816	188,056	81,900	(5,991)
Provision (benefit) for income taxes	824	3,553	72,488	36,200	(2,067)
Net income (loss)	$ (6,448)	$ 17,263	$ 115,568	$ 45,700	$ (3,924)
Basic net income (loss) per common share	$ (0.51)	$ 1.25	$ 1.52	$ 0.39	$ (0.03)
Diluted net income (loss) per common and dilutive potential common share	$ (0.51)	$ 0.19	$ 1.10	$ 0.36	$ (0.03)
Weighted average basic common shares outstanding	12,717	13,817	75,964	117,990	133,521
Weighted average basic common and dilutive potential common shares outstanding	12,717	92,407	104,843	127,894	133,521

	OCTOBER 31,				
	1995	1996	1997	1998	1999
BALANCE SHEET DATA:	(in thousands)				
Cash and cash equivalents	$ 8,261	$ 24,040	$273,286	$250,714	$143,440
Working capital	7,221	42,240	338,078	391,305	427,471
Total assets	17,706	79,676	468,247	602,809	677,835
Long-term obligations, excluding current portion	2,074	3,465	1,900	3,029	4,881
Mandatorily redeemable preferred stock	14,454	40,404	-	-	-
Stockholders' equity (deficit)	(6,662)	10,783	377,278	501,036	530,473

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis should be read in conjunction with "Selected Consolidated Financial Data" and the Company's consolidated financial statements and notes thereto included elsewhere in this report on Form 10-K.

OVERVIEW

CIENA is a leader in the rapidly emerging optical networking equipment market. The Company offers a comprehensive portfolio of products for tele- and data-communications service providers worldwide. CIENA's customers include long-distance carriers, competitive local exchange carriers, Internet service providers and wholesale carriers. CIENA offers optical transport, intelligent switching and multi-service delivery systems that enable service providers to provision, manage and deliver high-bandwidth services to their customers. The Company has pursued a strategy to develop and leverage the power of disruptive technologies to change the fundamental economics of building carrier-class tele- and data-communications networks, providing its customers with a competitive advantage.

In conjunction with the agreements to acquire Lightera and Omnia, CIENA announced its LightWorks(TM) Initiative, CIENA's vision of how to change the fundamental economics of optical telecommunication service provider networks. The eventual addition of Lightera's and Omnia's products to CIENA's product suite will make it possible for CIENA to offer telecommunications service providers a comprehensive next-generation optical network architecture that dramatically reduces the total number of network elements, thereby lowering network costs.

On March 31, 1999 the Company completed a merger with Lightera in a transaction valued at approximately $459 million. Lightera is a developer of carrier class optical core switches for fiberoptic communications networks. Under the terms of the agreement, the Company acquired all of the outstanding shares and assumed outstanding stock options and warrants of Lightera in exchange for approximately 17.5 million shares of CIENA common stock and 2.9 million CIENA shares issuable upon exercise of stock options and warrants. The transaction constituted a tax-free reorganization and has been accounted for as a pooling of interests under Accounting Principles Board Opinion No. 16. Accordingly, all prior period consolidated financial statements presented have been restated to include the combined results of operations, financial position and cash flows of Lightera as though it had been a part of CIENA.

On July 1, 1999 the Company completed a merger with Omnia in a transaction valued at approximately $483 million. Omnia is a telecommunications equipment supplier which focuses on developing solutions to allow public telephone network operators to offer services cost effectively over integrated metropolitan fiberoptic access and transport networks. Under the terms of the agreement, the Company acquired all of the outstanding shares and assumed the stock options of Omnia in exchange for approximately 15.2 million shares of CIENA common stock and 0.8 million CIENA shares issuable upon exercise of stock options. The transaction constituted a tax-free reorganization and has been accounted for as a pooling of interests under Accounting Principles Board Opinion No. 16. Accordingly, all prior period consolidated financial statements presented have been restated to include the combined results of operations, financial position and cash flows of Omnia as though it had been a part of CIENA.

On August 3, 1999, CIENA announced that the Omnia AXR 500 multi-service transport platform had been integrated into the CIENA LightWorks architecture and that CIENA had renamed the product the MultiWave EdgeDirector(TM) 500. CIENA's MultiWave EdgeDirector 500 is a next generation multi-service transport platform that combines the functions of traditional transport equipment with advanced data networking. The MultiWave EdgeDirector 500 utilizes packet and cell technology to enable service providers to cost effectively deliver traditional voice and new high-speed data services over a single optical network. The initial release of the MultiWave EdgeDirector 500 became commercially available during the fourth quarter of fiscal 1999.

During the third quarter of fiscal 1999 both the MultiWave(R) Metro(TM), CIENA's system designed for use in metropolitan ring applications, and the MultiWave CoreStream(TM), CIENA's next generation long-distance optical transport system capable of up to 96channels of 2.5 Gb/s, became available for commercial shipments. During the fourth quarter of fiscal 1999, 10 Gb/s transmission capability of up to 48-channel configuration for its MultiWave CoreStream system became commercially available.

CIENA intends to continue the development of the MultiWave CoreDirector(TM) product. MultiWave CoreDirector is believed to be the world's first intelligent optical core. The MultiWave CoreDirector allows carriers to deliver a

full range of transport services, without costly SONET/SDH multiplexers or inflexible "wavelength only" devices. We expect that field deployable units of the MultiWave CoreDirector will be available at the end of the first calendar quarter 2000. See "Risk Factors".

In November 1999, the Company announced it was pursuing enhancements to its MultiWave CoreStream product that enable the system to offer the optimal combination of ultra long-distance transport functionality and, channel count to further lower network costs for service providers. Using forward error correction (FEC), nonlinearity management, and dispersion mapping technologies, plus embedded software intelligence, MultiWave CoreStream will be able to support optical spans longer than 5,000 kilometers without additional optical-to-electrical signal regeneration. The Company expects to begin beta trails of the ultra long distance feature of this product in the first half of calendar 2000. See "Risk Factors".

CIENA recognizes product revenue in accordance with the shipping terms specified and where collection is probable. For transactions where CIENA has yet to obtain customer acceptance, revenue is deferred until the terms of acceptance are satisfied. Revenue for installation services is recognized as the services are performed unless the terms of the supply contract combine product acceptance with installation, in which case revenues for installation services are recognized when the terms of acceptance are satisfied and installation is completed. Revenues from installation service fixed price contracts are recognized on the percentage-of-completion method, measured by the percentage of costs incurred to date compared to estimated total costs for each contract. 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, CIENA recognizes revenue when the product is shipped through to the end user.

CIENA increased the number of its revenue generating optical transport equipment customers from a total of fourteen during fiscal 1998 to twenty-seven for fiscal 1999. CIENA's gross margin percentage decreased from 49.6% in fiscal 1998 to 37.8% in fiscal 1999. While this gross margin pressure continues, CIENA believes that its product and service quality, manufacturing experience, and proven track record of delivery will enable it to be successful while it concentrates on efforts to reduce product costs and maximize production efficiencies. CIENA's gross margin percentage improved each quarter of fiscal 1999 as a result of its product cost reductions and production efficiencies. Gross margin percentage improved from 31.2% in the fourth quarter fiscal 1998 to 41.0% in the fourth quarter fiscal 1999. CIENA intends to preserve and enhance its market leadership and eventually build on its installed base with new and additional products.

Pursuit of these strategies, in conjunction with increased investments in research and development, selling, marketing, and customer service activities, will likely continue to limit CIENA's operating profitability during the first six months of fiscal 2000. CIENA intends to continue to pursue new or complementary technologies either through ongoing internal development or by acquisition in order to further broaden CIENA's product line.

As of October 31, 1999 the Company and its subsidiaries employed approximately 1,928 persons, which was an increase of 452 persons over the approximate 1,476 employed on October 31, 1998.

RESULTS OF OPERATIONS

FISCAL YEARS ENDED 1997, 1998 AND 1999

REVENUE. The Company recognized $482.1 million, $508.1 million and $413.2 million in revenue for the fiscal years ended October 31, 1999, 1998 and 1997, respectively. The approximate $26.0 million or 5.1% decrease in revenue from fiscal 1998 to fiscal 1999 was largely the result of reduced selling prices. The approximate $94.9 million or 23.0% increase in revenue from fiscal 1997 to fiscal 1998 was primarily due to an increase in product shipments.

CIENA recognized revenues from a total of twenty-seven, fourteen, and five optical equipment customers during fiscal 1999, 1998, and 1997, respectively. During fiscal year 1999 Sprint, MCIWorldCom, and GTS Network Ltd. (formerly Hermes Europe Railtel) each accounted for at least 10% or more of CIENA's revenue and all three combined accounted for 46.2% of CIENA's fiscal 1999 revenue. This compares to fiscal 1998 in which Sprint was the only 10% customer and in total accounted for 52.5% of CIENA's fiscal 1998 revenue and fiscal 1997 where both MCIWorldCom and Sprint were 10% customers and combined accounted for 88.0% of CIENA's fiscal 1997 revenue. Revenue derived from foreign sales accounted for approximately 44.3%, 23.0%, and 2.8% of the Company's revenues during fiscal 1999, 1998 and 1997, respectively.

For fiscal 1999 CIENA's optical network equipment revenues were derived from sales of the MultiWave Sentry 4000, MultiWave Sentry 1600, MultiWave 1600, MultiWave Metro, MultiWave Firefly, MultiWave EdgeDirector 500 and MultiWave CoreStream systems. During fiscal 1998 the Company recognized revenues from sales of MultiWave Sentry 1600, MultiWave 1600, MultiWave Firefly, and MultiWave Sentry 4000 systems. For fiscal year 1997 all of the Company's optical network equipment revenues were derived from the MultiWave 1600 product. The amount of revenue recognized from MultiWave Sentry 1600 and MultiWave 1600 sales declined in fiscal 1999 as compared to fiscal 1998 and also declined in fiscal 1998 as compared to fiscal 1997. This decline in MultiWave Sentry 1600 sales in fiscal 1999 was offset by the introduction of new revenues from the MultiWave CoreStream, MultiWave EdgeDirector 500 and MultiWave Metro products in fiscal 1999 and in fiscal 1998. The decline was offset by revenue recognized from sales of MultiWave Firefly, and MultiWave Sentry 4000 systems. Fiscal 1999 revenues from MultiWave Sentry 4000 and MultiWave Firefly were comparable to the revenues recognized for these products in fiscal 1998. Revenues derived from engineering, furnishing and installation services as a percentage of total revenue were 12.1%, 9.2% and 7.0% for the fiscal years 1999, 1998, and 1997, respectively.

Based on overall new bid activity, as well as expected network deployment plans of existing customers, the Company believes revenue growth in fiscal 2000 over fiscal 1999 is possible, but will be highly dependent on winning new bids from new and existing customers for shipments of the existing products as well as for the MultiWave CoreDirector and MultiWave EdgeDirector 500 systems. CIENA expects that field deployable units of the MultiWave CoreDirector will be available at the end of the first calendar quarter 2000. CIENA also expects the percentage of fiscal 2000 revenue derived from foreign sales to be comparable to the levels obtained during fiscal 1999. Competition of new bids is intense, and there is no assurance the Company will be successful in winning enough new bids and new customers to achieve year over year sequential growth. See "Risk Factors".

GROSS PROFIT. Cost of goods sold consists of component costs, direct compensation costs, warranty and other contractual obligations, royalties, license fees, inventory obsolescence costs and overhead related to the Company's manufacturing and engineering, furnishing and installation operations. Gross profit was $182.3 million, $252.1 million, and $246.7 million for fiscal years 1999, 1998, and 1997, respectively. Gross margin was 37.8%, 49.6%, and 59.7% for fiscal 1999, 1998, and 1997, respectively. The decrease in gross profit from fiscal 1998 to fiscal 1999 and from fiscal 1997 to fiscal 1998 was largely attributable to lower selling prices.

CIENA's gross margins may be affected by a number of factors, including continued competitive market pricing, lower manufacturing volumes and efficiencies and fluctuations in component costs. During fiscal 2000, CIENA expects to face continued pressure on gross margins, primarily as a result of substantial price discounting by competitors seeking to acquire market share. CIENA intends to counter this pressure with the addition of new products and continued product cost reduction and production efficiency programs. See "Risk Factors".

RESEARCH AND DEVELOPMENT EXPENSES. Research and development expenses were $104.6 million, $73.8 million, and $23.8 million for fiscal 1999, 1998, and 1997, respectively. The approximate $30.9 million or 41.9% increase from fiscal 1998 to 1999 and the approximate $50.0 million or 210.3% increase from fiscal 1997 to 1998 in research and development expenses related to increased staffing levels, purchases of materials used in development of new or enhanced product prototypes, and outside consulting services in support of certain developments and design efforts. During fiscal 1999, 1998, and 1997 research and development expenses were 21.7%, 14.5%, and 5.8% of revenue, respectively. CIENA expects that its research and development expenditures will continue to increase in absolute dollars and perhaps as a percentage of revenue during fiscal 2000 to support the continued development of the various optical networking products, the exploration of new or complementary technologies, and the pursuit of various cost reduction strategies. CIENA has expensed research and development costs as incurred.

SELLING AND MARKETING EXPENSES. Selling and marketing expenses were $61.6 million, $47.3 million, and $22.6 million for fiscal 1999, 1998, and 1997, respectively. The approximate $14.3 million or 30.1% increase from fiscal 1998 to 1999 and the approximate $24.7 million or 109.2% increase from fiscal 1997 to 1998 in selling and marketing expenses was primarily the result of increased staffing levels in the areas of sales, technical assistance and field support, and increases in commissions earned, trade show participation and promotional costs. During fiscal 1999, 1998, and 1997 selling and marketing expenses were 12.8%, 9.3%, and 5.5% of revenue, respectively. The Company anticipates that its selling and marketing expenses may increase in absolute dollars and perhaps as a percentage of revenue during fiscal 2000 as additional personnel are hired and additional offices are opened to allow the Company to pursue new customers and market opportunities. The Company also expects the portion of selling and marketing expenses attributable to technical assistance and field support, specifically in Europe and Asia, will increase as the Company's installed base of operational MultiWave systems increases.

GENERAL AND ADMINISTRATIVE EXPENSES. General and administrative expenses were $23.0 million, $19.3 million, and $12.0 million for fiscal 1999, 1998, and 1997, respectively. The approximate $3.7 million or 19.3% increase from fiscal year 1998 to 1999 and the approximate $7.3 million or 61.1% increase from fiscal 1997 to 1998 in general and administrative expenses was primarily the result of increased staffing levels and outside consulting services. During fiscal 1999, 1998 and 1997, general and administrative expenses were 4.8%, 3.8%, and 2.9% of revenue, respectively. The Company believes that its general and administrative expenses will increase in absolute dollars and perhaps as a percentage of revenue during fiscal 2000 as a result of the expansion of the Company's administrative staff required to support its expanding operations.

PURCHASED RESEARCH AND DEVELOPMENT. Purchased research and development costs were $9.5 million for the fiscal year 1998. These costs were for the purchase of technology and related assets associated with the acquisition of Terabit during the second quarter of fiscal 1998.

PIRELLI LITIGATION. The Pirelli litigation costs of $30.6 million in fiscal 1998 were attributable to a $30.0 million payment made to Pirelli during the third quarter of 1998 and to additional other legal and related costs incurred in connection with the settlement of this litigation. The Pirelli litigation expense in fiscal 1997 was primarily the result of a $7.5 million charge for actual and estimated legal and related costs associated with the litigation.

MERGER RELATED COSTS. The merger costs for fiscal 1999 of approximately $13.0 million were costs related to CIENA's acquisition of Omnia and Lightera. These costs include an $8.1 million non-cash charge for the acceleration of warrants based upon CIENA's common stock price on June 30, 1999 and $4.9 million for fees, legal and accounting services and other costs. The warrants were issued to one of Omnia's customers and became exercisable upon the consummation of the merger between CIENA and Omnia. The merger related costs for fiscal 1998 were costs related to the contemplated merger between CIENA and Tellabs. These costs include approximately $1.2 million in Securities and Exchange Commission filing fees and approximately $1.3 million in legal, accounting, and other related expenses.

OTHER INCOME (EXPENSE), NET. Other income (expense), net, consists of interest income earned on the Company's cash, cash equivalents and marketable debt securities, net of interest expense associated with the Company's debt obligations. Other income (expense), net, was $13.9 million, $12.8 million, and $7.2 million for fiscal 1999, 1998, and 1997, respectively. The year to year increase in other income (expense), net, was primarily the result of the investment of the net proceeds of the Company's stock offerings and net earnings.

PROVISION (BENEFIT) FOR INCOME TAXES. The Company's benefit for income taxes was $2.1 million or 34.5% of pre-tax losses for fiscal 1999 and provision was $36.2 million and $72.5 million or 44.2% and 38.5% of pre-tax earnings for fiscal 1998 and 1997, respectively. The benefit for fiscal 1999 was less than the expected statutory benefit of 35% due to non-deductible merger costs. The increase in the tax rate from fiscal 1997 to fiscal 1998 was primarily the result of charges for purchased research and development expenses recorded in fiscal 1998 and an adjustment to the estimated prior year state income tax liability associated with Alta operations. Purchased research and development charges are not deductible for tax purposes. Exclusive of the effect of these charges, the Company's provision for income taxes was 38.6% of income before income taxes in fiscal 1998.

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 eight quarters in the period ended October 31, 1999. 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.

	Jan. 31, 1998	April 30, 1998	Jul. 31, 1998	Oct. 31, 1998	Jan. 31, 1999	April 30, 1999
Revenue	$ 145,092	$ 142,718	$ 129,116	$ 91,161	$ 100,417	$ 111,490
Cost of goods sold	58,980	63,915	70,431	62,688	65,778	71,238
Gross profit	86,112	78,803	58,685	28,473	34,639	40,252
Operating expenses:						
Research and development	11,245	17,986	21,965	22,560	22,218	24,094
Selling and marketing	9,975	11,107	12,937	13,324	13,608	13,092
General and administrative	3,984	4,757	4,186	6,347	5,036	5,849
Purchased research & development	-	9,503	-	-	-	-
Pirelli litigation	-	10,000	20,579	-	-	-
Merger related costs	-	-	2,017	531	-	2,253
Total operating expenses	25,204	53,353	61,684	42,762	40,862	45,288
Income (loss) from operations	60,908	25,450	(2,999)	(14,289)	(6,223)	(5,036)
Other income (expense), net	3,697	3,350	2,769	3,014	3,301	3,583
Income (loss) before income taxes	64,605	28,800	(230)	(11,275)	(2,922)	(1,453)
Provision (benefit) for income taxes	25,710	14,607	20	(4,137)	(1,041)	(468)
Net income (loss)	$ 38,895	$ 14,193	$ (250)	$ (7,138)	$ (1,881)	$ (985)
Basic net income (loss) per common share	$ 0.37	$ 0.13	$ 0.00	$ (0.06)	$ (0.01)	$ (0.01)
Diluted net income (loss) per common share and dilutive potential common share	$ 0.33	$ 0.12	$ 0.00	$ (0.06)	$ (0.01)	$ (0.01)
Weighted average basic common share	106,405	112,302	121,820	128,384	131,202	132,530
Weighted average basic common and dilutive potential common share	116,875	122,483	121,820	128,384	131,202	132,530

	Jul. 31, 1999	Oct. 31, 1999
Revenue	$ 128,826	$ 141,352
Cost of goods sold	79,361	83,392
Gross profit	49,465	57,960
Operating expenses:		
Research and development	28,402	29,927
Selling and marketing	16,839	18,064
General and administrative	5,433	6,668
Purchased research & development	-	-
Pirelli litigation	-	-
Merger related costs	10,768	-
Total operating expenses	61,442	54,659
Income (loss) from operations	(11,977)	3,301
Other income (expense), net	3,492	3,568
Income (loss) before income taxes	(8,485)	6,869
Provision (benefit) for income taxes	(2,928)	2,370
Net income (loss)	$ (5,557)	$ 4,499
Basic net income (loss) per common share	$ (0.04)	$ 0.03
Diluted net income (loss) per common share and dilutive potential common share	$ (0.04)	$ 0.03
Weighted average basic common share	133,016	133,808
Weighted average basic common and dilutive potential common share	133,016	145,302

	Jan. 31, 1998	Apr. 30, 1998	Jul. 31, 1998	Oct. 31, 1998	Jan. 31, 1999	Apr. 30, 1999	Jul. 31, 1999	Oct. 31, 1999
Revenue	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Cost of goods sold	40.7	44.8	54.5	68.8	65.5	63.9	61.6	59.0
Gross profit	59.3	55.2	45.5	31.2	34.5	36.1	38.4	41.0
Operating expenses:								
Research and development	7.8	12.6	17.0	24.7	22.1	21.6	22.1	21.2
Selling and marketing	6.9	7.8	10.0	14.6	13.6	11.7	13.1	12.8
General and administrative	2.7	3.3	3.3	7.0	5.0	5.3	4.2	4.7
Purchased research & development	-	6.7	-	-	-	-	-	-
Pirelli litigation	-	7.0	15.9	-	-	-	-	-
Merger related costs	-	-	1.6	0.6	-	2.0	8.4	-
Total operating expenses	17.4	37.4	47.8	46.9	40.7	40.6	47.8	38.7
Income (loss) from operations	41.9	17.8	(2.3)	(15.7)	(6.2)	(4.5)	(9.4)	2.3
Other income (expense), net	2.6	2.3	2.1	3.3	3.3	3.2	2.7	2.5
Income (loss) before income taxes	44.5	20.1	(0.2)	(12.4)	(2.9)	(1.3)	(6.7)	4.8
Provision (benefit) for income taxes	17.7	10.2	-	(4.6)	(1.0)	(0.4)	(2.3)	1.7
Net income (loss)	26.8%	9.9%	(0.2)%	(7.8)%	(1.9)%	(0.9)%	(4.4)%	3.1%

CIENA's quarterly operating results have varied and are expected to vary significantly in the future. The Company's detailed discussion of risk factors addresses the many factors that have caused such variation in the past, and may cause similar variations in the future. See "Risk Factors". In addition to those factors, in fiscal 1998, the distraction attendant to the aborted Tellabs merger had a significant, though difficult to quantify impact on CIENA's operations in the third and fourth quarter. But apart from the distraction factor, CIENA believes the single most significant trend affecting CIENA's financial performance is the material effect of very aggressive price discounting by competitors seeking to acquire market share in the market for high-capacity solutions. CIENA chose in the face of this pressure to continue to build market share in fiscal 1998 at the cost of declining margins. CIENA's gross margin percentage improved each quarter of fiscal 1999 as a result of its product cost reductions and production efficiencies. Gross margin percentage improved from 31.2% in the fourth quarter fiscal 1998 to 41.0% in the fourth quarter fiscal 1999. While this gross margin pressure continues, CIENA believes that its product and service quality, manufacturing experience, and proven track record of delivery will enable it to be successful while it concentrates on efforts to reduce product costs and maximize production efficiencies. The Company intends to continue this strategy in order to preserve and enhance its market leadership and eventually build on its installed base with new and additional products. Pursuit of this strategy, in conjunction with increased investments in selling, marketing, and customer service activities, will likely continue to limit the Company's operating profitability over at least the first half of fiscal 2000. See "Risk Factors".

LIQUIDITY AND CAPITAL RESOURCES

CIENA completed its initial public offering of Common Stock in February 1997 and realized net proceeds of approximately $121.8 million with an additional $0.6 million received from the exercise of certain outstanding warrants. In July 1997, CIENA completed a public offering of Common Stock and realized net proceeds of approximately $52.2 million. During fiscal 1997, 1998, and 1999 CIENA also realized approximately $53.1 million, $22.6 million and $11.0 million in tax benefits from the exercise of stock options and certain stock warrants, respectively. Also during fiscal 1997 and fiscal 1998 CIENA received approximately $5.2 million and $12.8 million, respectively, from issuance of stock associated with the initial capitalization of Omnia. During fiscal 1998 CIENA received approximately $15.5 million from the issuance of stock associated with the initial capitalization of Lightera. As of October 31, 1999, the Company had $143.4 million in cash and cash equivalents, and $119.0 million in corporate debt securities and U.S. Government obligations, with contractual maturities of six months or less.

The Company's operating activities provided cash of $17.7 million, $26.2 million and $84.7 million for fiscal 1999, 1998 and 1997, respectively. Cash provided by operations in fiscal 1999 was primarily attributable to a net loss adjusted for the non-cash charges of depreciation amortization, provisions for inventory obsolescence and warranty, a decrease in prepaid income taxes, increases in accounts payable, and accrued expenses; offset by increases in accounts receivable and inventories. Cash provided by operations in fiscal 1997 and 1998 was principally attributable to net income adjusted for the non-cash charges of depreciation, amortization, provisions for inventory obsolescence and warranty, increases in accounts payable, and accrued expenses; offset by increases in accounts receivable and inventories.

Cash used in investing activities in fiscal 1999, 1998 and 1997 was $149.7 million, $107.0 million and $67.0 million, respectively. Included in investment activities were additions to capital equipment and leasehold improvements in fiscal 1999, 1998 and 1997 of $46.8 million, $88.9 million and $67.0 million, respectively. The capital equipment expenditures were primarily for test, manufacturing and computer equipment. The Company expects additional combined capital equipment and leasehold improvement expenditures of approximately $55.0 million to be made during fiscal 2000 to support selling and marketing, manufacturing and product development activities and the construction of leasehold improvements for its facilities

The Company believes that its existing cash balance and 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.

EFFECTS OF RECENT ACCOUNTING PRONOUNCEMENTS

In June 1998, the Financial Accounting Standards Board issued Statement of Financial Accounting Standards No. 133 (SFAS No. 133), "Accounting for Derivative Instruments and Hedging Activities". This Statement requires companies to record derivatives on the balance sheet as assets or liabilities, measured at fair value. Gains or losses resulting from changes in the values of those derivatives would be accounted for depending on the use of the derivative and whether it qualifies for hedge accounting. SFAS No. 133 will be effective for the Company's fiscal year ending October 31, 2000. The Company believes the adoption of SFAS No. 133 will not have a material effect on the consolidated financial statements.

YEAR 2000 READINESS

Many computer systems were not designed to handle any dates beyond the year 1999; accordingly, affected hardware and software will need to be modified prior to the year 2000 in order to remain functional. CIENA's operations make use of a variety of computer equipment and software. If the computer equipment and software used in the operation of CIENA and its products do not correctly recognize date information when the year changes to 2000, there could be an adverse impact on CIENA's operations.

CIENA has taken actions to understand the nature and extent of work required, if any, to make its systems, products and infrastructure Year 2000 compliant. Based on internal testing performed to date and completed by CIENA, CIENA currently believes and warrants to its customers that its products are Year 2000 compliant. However, since all customer situations cannot be anticipated, particularly those involving interaction of CIENA's products with third party products, CIENA may experience warranty and other claims as a result of the Year 2000 transition. The impact of customer claims, if broader than anticipated, could have a material adverse impact on CIENA's results of operations or financial condition.

CIENA has concluded a comprehensive inventory and evaluation of both information technology ("IT") or software systems and non-IT systems used to run its systems. Non-IT systems typically include embedded technology such as microcontrollers. Examples of CIENA's Non-IT systems include certain equipment used for production, research, testing and measurement processes and calibration. CIENA has completed the process of upgrading or replacing those identified non-compliant systems. For the Year 2000 non-compliance systems identified, the cost of remediation was not material to CIENA's financial condition or operating results. However, if significant new noncompliance issues are identified, CIENA's results of operations or financial condition may be materially adversely affected.

CIENA changed its main financial, manufacturing and information system to a company-wide Year 2000 compliant enterprise resource planning ("ERP") computer-based system during the fourth quarter of fiscal 1998. CIENA estimates that it has spent approximately $4.5 million on its ERP implementation. During fiscal 1999, CIENA spent approximately $400,000 to address identified Year 2000 issues. CIENA used cash from operations for Year 2000 remediation and replacement costs. Approximately less than 2% of the information technology budget was used for remediation. No other information technology projects have been deferred due to the Year 2000 efforts. CIENA has employed an independent verification consultant to validate CIENA's processes in order to assure the reliability of CIENA's risk estimates. The consultant's findings identify CIENA's processes as sufficient and our risk of negative impact as low.

CIENA has contacted its critical suppliers to determine whether a supplier's operations, products and services are Year 2000 compliant. To date, CIENA's optical suppliers have represented that their products are Year 2000 compliant or have represented that they are in the process of becoming fully compliant by December 31, 1999. If these suppliers fail to adequately address the Year 2000 issue for the products they provide to CIENA, this could have a material adverse impact on CIENA's operations and financial results. Initial contingency plans have been developed in case CIENA or its key suppliers will not be Year 2000 compliant, and such noncompliance is expected to have a material adverse impact on CIENA's operations.

The risks to CIENA resulting from the failure of third parties in the public and private sector to attain Year 2000 readiness are generally similar to those faced by other firms in CIENA's industry or other business enterprises generally. The following are representative of the types of risks that could result in the event of one or more major failures of CIENA's information systems, factories or facilities to be Year 2000 ready, or similar major failures by one or more major third party suppliers to CIENA: (1) information systems - could include interruptions or

disruptions of business and transaction processing such as customer billing, payroll, accounts payable and other operating and information processes, until systems can be remedied or replaced; (2) factories and facilities - could include interruptions or disruptions of manufacturing processes and facilities with delays in delivery of products, until non-compliant conditions or components can be remedied or replaced; and (3) major suppliers to CIENA - could include interruptions or disruptions of the supply of raw materials, supplies and Year 2000 ready components which could cause interruptions or disruptions of manufacturing and delays in delivery of products, until the third party supplier remedied the problem or contingency measures were implemented. Risks of major failures of CIENA's principal products could include adverse functional impacts experienced by customers, the costs and resources for CIENA to remedy problems or replace products where CIENA is obligated or undertakes to take such action, and delays in delivery of new products.

RISK FACTORS

OUR RESULTS CAN BE UNPREDICTABLE

Our near term results may be break-even or may involve losses. In general, sequential revenue and operating results over the next 12 months are likely to fluctuate and may continue to fluctuate in the future due to factors including:

- timing and size of orders from customers
- the introduction of new products
- satisfaction of contractual customer acceptance criteria
- manufacturing and shipment delays and deferrals

Our products require a relatively large investment and our target customers are highly demanding and technically sophisticated. There are only a small number of customers in each geographic market and each customer has unique needs. As a result, the sales cycles for our products are long - often more than a year between our initial introduction to the customer and their commitment to purchase.

We budget expense levels on our expectations of long-term future revenue. These levels reflect our substantial investment in financial, engineering, manufacturing and logistics support resources we think we may need for large potential customers, even though we do not know the volume, duration or timing of any purchases from them. As a result, we may continue to experience increased inventory levels, operating expenses and general overhead.

Additionally, our Core Switching Division and Access Systems Division have ongoing development and operating expenses but are not expected to contribute materially to revenues until calendar 2000.

CHANGES IN TECHNOLOGY OR THE DELAYS IN THE DEPLOYMENT OF NEW PRODUCTS COULD HURT OUR NEAR TERM PROSPECTS

The market for optical networking equipment is changing at a rapid pace. The accelerated pace of deregulation in the telecommunications industry likely will intensify the competition for improved technology. Our ability to successfully develop and introduce new and enhanced products will depend upon our ability to successfully anticipate changes in technology, industry standards and customer requirements. If we fail to deploy new and improved products in a timely manner, our competitive position and financial condition would be materially and adversely affected. The complexity of the technology involved with several of our new products including the MultiWave CoreDirector and the MultiWave CoreStream products using 10 Gb/s transmission capability or ultra long-distance transport functionality could result in unanticipated delays in development and manufacturing. In addition, the complexity of technology associated with support equipment for these products could result in unanticipated delays in the deployment of these products. These delays could adversely affect our competitive and financial condition.

The introduction of new products embodying new technologies or the emergence of new industry standards could render our existing products uncompetitive from a pricing standpoint, obsolete or unmarketable. Any of these outcomes would have a material adverse effect on our business, financial condition and results of operations. The certification process for new telecommunications equipment used in RBOC networks, which is a process traditionally

conducted by Telcordia Technologies, has in the past resulted in and may continue to result in unanticipated delays which may affect the deployment of our products for the RBOC market.

Any delays in component availability could result in delays in deployment of these products and in recognizing revenues. These delays could adversely affect our customer relationships.

WE FACE INTENSE COMPETITION WHICH COULD HURT OUR SALES AND PROFITABILITY

The market for optical networking equipment is extremely competitive. Competition in the optical networking market is broadly based on varying combinations of price, manufacturing capability, comprehensiveness of the system solution meeting immediate network needs and foreseeable scalability requirements. A small number of very large companies have historically dominated the telecommunications equipment industry including Lucent, Alcatel, Nortel, NEC, Pirelli, Siemens, Ericsson, Fujitsu, and Hitachi. These companies have substantial financial, marketing, manufacturing and intellectual property resources. In addition, these companies have substantially greater resources to develop or acquire new technologies. We sell systems which compete directly with product offerings of these companies and in some cases displace their legacy equipment. As such, we represent a specific threat to these companies. The continued expansion of our product offerings with products such as the MultiWave CoreDirector and MultiWave EdgeDirector likely will increase this perceived threat. We expect continued aggressive tactics from many of these competitors, including:

- substantial price discounting

- early announcements of competing products

- "one-stop shopping" appeals

- customer financing assistance

- intellectual property disputes

These tactics can be particularly effective in a highly concentrated customer base such as ours. Our customers are under increasing competitive pressure to deliver their services at the lowest possible cost. This pressure may result in pricing for optical networking systems becoming a more important factor in customer decisions, which may favor larger competitors that can spread the effect of price discounts in their optical networking product lines across an array of products and services and across a customer base which is larger than ours. Our inability to compete successfully against our competitors would have a material adverse effect on our business, financial condition and results of operations.

Several of our customers have indicated that they intend to establish a second vendor for optical transport products. We do not know when or if these customers will select a second vendor or what impact the selection might have on purchases from us. These customers could reduce their purchases from us, which could in turn have a material adverse effect on us.

New competitors may also emerge to compete with our existing products as well as our future products. There has been an increase in funding of new companies intending to develop new products for the optical networking market. These companies have time to market advantages due to the narrow and exclusive focus of their efforts. In particular, a number of companies, including several start-ups, have announced products that compete with our MultiWave CoreStream, Multiwave Metro, MultiWave CoreDirector and MultiWave EdgeDirector products.

WE MAY NOT BE ABLE TO SUCCESSFULLY COMPLETE DEVELOPMENT AND ACHIEVE COMMERCIAL ACCEPTANCE OF NEW PRODUCTS

The MultiWave CoreDirector is in the customer trials phase and has not matured into commercially manufacturable units suitable for field deployment. We expect that field deployable units of the Multiwave CoreDirector will be available in the end of the first calendar quarter 2000. The MultiWave CoreStream product with ultra long-distance transport functionality is in the laboratory testing phase and has not matured into commercially manufacturable units suitable for field deployment. We expect that the MultiWave CoreStream product with ultra long-distance transport functionality will be available for customer trials in the first half of calendar 2000. The

maturing process from laboratory prototype to customer trials to commercial acceptance involves a number of steps, including:

- successful completion of product development

- the qualification and multiple sourcing of critical components, including application-specific integrated circuits ("ASIC's") which are not yet finalized

- validation of manufacturing methods

- extensive quality assurance and reliability testing, and staffing of testing infrastructure

- software validation

- establishment of systems integration and burn in requirements, and

- identification and qualification of component suppliers

Each of these steps in turn presents serious risks of failure, rework or delay, any one of which could materially and adversely affect the speed and scope of product introduction and marketplace acceptance of the products. Specialized ASIC's and intensive software testing and validation, in particular, are key to the timely introduction of the MultiWave CoreDirector, and schedule delays are common in the final software and validation phase, as well as in the manufacture of specialized ASICS. In addition, unexpected intellectual property disputes, failure of critical design elements, and a host of other execution risks may delay or even prevent the introduction of these products.

If we do not develop these products in a timely manner, our competitive position and financial condition could be adversely affected. The markets for the MultiWave CoreDirector and MultiWave EdgeDirector products are relatively new. Commercial acceptance of these products also is not established and there is no assurance that the substantial sales and marketing efforts necessary to achieve commercial acceptance in traditionally long sales cycles will be successful. If the markets for these products do not develop or the products are not accepted by the market, our competitive position and financial condition could be adversely affected.

We are in the laboratory testing phase for future releases of the MultiWave EdgeDirector product. These releases expand upon the limited functionality of the initial release of the MultiWave EdgeDirector and address anticipated market requirement. We can make no assurances about the market acceptance for the initial release of the MultiWave EdgeDirector or our ability to introduce future releases of the MultiWave EdgeDirector in a timely manner. If market acceptance of the initial or future releases of the MultiWave EdgeDirector is limited or we are unable to successfully develop future releases of the MultiWave EdgeDirector, our competitive position and financial condition could be adversely affected.

SMALLER CUSTOMERS MAY INCREASE FLUCTUATION IN OUR RESULTS

As we continue to address smaller emerging carriers, timing and volume of purchasing from these carriers can also be more unpredictable due to factors such as their need to build a customer base, acquire rights of way and interconnections necessary to sell network service, and build out new capacity, all while working within capital budget constraints. This increases the unpredictability of our financial results because even these carriers purchase our products in multi-million dollar increments.

Unanticipated changes in customer purchasing plans also create unpredictability in our results. Most of our anticipated revenue over the next several quarters is comprised of orders of less than $25 million each from several customers, some of which involve extended payment terms or other financing assistance. Our ability to recognize revenue from financed sales to these carriers will be impacted by their financial condition. Further, we will need to evaluate the collectibility of receivables from these carriers if their financial condition deteriorates in the future. Additionally, purchasing delays or changes in the amount of purchases by any of these customers, could have a material adverse effect on us.

WE MAY EXPERIENCE DELAYS FROM OUR SUPPLIERS AND FOR SOME ITEMS WE DO NOT HAVE SUBSTITUTE SUPPLIERS

We depend on a small number of suppliers for components of our products, as well as equipment used to manufacture and test our products. Our highest capacity product currently being shipped, the MultiWave CoreStream which currently is capable of up to 96 channels at 2.5 Gb/s or 48 channels at 10.0 Gb/s transmission speeds, includes several higher performance components for which reliable, high volume suppliers are particularly limited. On occasion, we have experienced delays in receipt of components. 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 our business, financial condition and results of operations. Delayed deliveries of key components from these sources could have a material adverse effect on CIENA's near-term results of operations.

OUR SUCCESS LARGELY DEPENDS ON OUR ABILITY TO RETAIN KEY PERSONNEL

Our success has always depended in large part on our ability to attract and retain highly-skilled technical, managerial, sales and marketing personnel, particularly those skilled and experienced with optical communications equipment. Our key founders and employees, together with the key founders and employees of Lightera and Omnia have received a substantial number of CIENA shares and vested options that can be sold at substantial gains. In many cases, these individuals could become financially independent through these sales, before CIENA's future products have matured into commercially deliverable products. Under the circumstances, we face a difficult and significant task of retaining and motivating these key personnel. As CIENA has grown and matured, competitors' efforts to entice our employees to leave have intensified, particularly among competitive startups and other early stage companies seeking to replicate CIENA's experience. CIENA and its employees are parties to agreements that limit the employee's ability to work for a competitor and to solicit CIENA employees and customers following termination of employment. We expect our competitors will respect these agreements and not interfere with them. However, CIENA has in the past been required and may in the future, be required to resort to legal actions to enforce these agreements. We could incur substantial costs in enforcing these claims. We can make no assurances that we will be successful in these suits, or that we will be able to retain all of our key contributors or attract new personnel to add to or replace them. The loss of key personnel would likely have a material adverse effect on our business, financial condition and results of operations.

PRODUCT PERFORMANCE PROBLEMS COULD LIMIT OUR SALES PROSPECTS

The production of new fiberoptic products and systems with high technology content involves occasional problems as the technology and manufacturing methods mature. We are aware of instances domestically and internationally of delayed installation and activation of some of our products due to faulty components. If significant reliability, quality or network monitoring problems develop, a number of material 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 interest from potential customers

Although we maintain accruals for product warranties, actual costs could exceed these amounts.

From time to time, there will be interruptions or delays in the activation of our products and the addition of channels, particularly because we do not control all aspects of the installation and activation activities. If we experience significant interruptions or delays that we can not promptly resolve, confidence in our products could be undermined, which could have a material adverse effect on us.

OUR PROSPECTS DEPEND ON DEMAND WHICH WE CANNOT PREDICT OR CONTROL

We may not anticipate changes in direction or magnitude of demand for bandwidth. Unanticipated reductions in bandwidth demand would adversely affect us.

Our products enable high capacity transmission over long distance, and certain short-haul portions, of optical communications networks. Our Multiwave CoreDirector product is targeted to high capacity applications and our Multiwave EdgeDirector product is targeted to providers of integrated fiberoptic access and transport networks. Customers, however, determine:

- the quantity of bandwidth needed

- the timing of its deployment, and

- the equipment configurations and network architectures they want

Customer determinations are subject to abrupt change in response to their own competitive pressures, pressures to raise capital and financial performance expectations.

OUR STOCK PRICE MAY EXHIBIT VOLATILITY

Our common stock price has experienced substantial volatility in the past, and is likely to remain volatile in the future. Volatility can arise as a result of the activities of short sellers and risk arbitrageurs, and may have little relationship to our financial results or prospects. Volatility can also result from any divergence between our actual or anticipated financial results and published expectations of analysts, and announcements we may make. This occurred in 1998. We attempt to address this possible divergence through our public announcements and reports; however, the degree of specificity we can offer in these announcements, and the likelihood that any forward-looking statements we make will prove correct in actual results, can and will vary. This is due primarily to:

- the uncertainties associated with our dependence on a small number of existing and potential customers

- the impact of changes in the customer mix

- the actions of competitors

- long and unpredictable sales cycles and customer purchasing programs

- the absence of unconditional minimum purchase commitments from any customer

- a lack of visibility into our customers' deployment plans over the course of the capital equipment procurement year, and

- the lack of reliable data on which to anticipate core demand for high bandwidth transmission capacity and for demand for edge service delivery and optical switching products such as our MultiWave CoreDirector.

Divergence will likely occur from time to time in the future, with resulting stock price volatility, irrespective of our overall year-to-year performance or long-term prospects. As long as we continue to depend on relatively few customers, and particularly when a substantial majority of their purchases consist of newly-introduced products like the MultiWave CoreStream, Multiwave EdgeDirector and MultiWave Metro, there is substantial risk of widely varying quarterly results.

LEGAL PROCEEDINGS COULD HAVE AN ADVERSE EFFECT ON OUR BUSINESS

In August 1998, shareholder class action lawsuits were filed against us and certain of our officers and directors. These lawsuits, which were consolidated into one amended complaint, which was dismissed by the United States District Court on July 19, 1999, with leave to amend. On August 20, 1999 plaintiffs filed the second amended class action complaint. We have filed and briefed a motion asking the Court to dismiss the second amended complaint. We believe the allegations in the complaint are without merit and intend to defend the case vigorously. If, after discovery

and trial, the case is decided adversely to CIENA, it could have a material adverse effect on our financial condition and results of operations.

SOME OF OUR SUPPLIERS ARE ALSO OUR COMPETITORS

Some of our component suppliers are both primary sources for components and major competitors in the market for system equipment. For example, we buy certain components from:

- Lucent
- Alcatel
- Nortel
- NEC, and
- Siemens

Each of these companies offers optical communications systems and equipment which are competitive with our products. Also, Lucent is the sole source of two components and is one of two suppliers of two others. Alcatel and Nortel are suppliers of lasers used in our products and NEC is a supplier of an important piece of testing equipment. A decline in reliability or other adverse change in these supply relationships could materially and adversely affect our business, financial condition and results of operations.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The following discussion about the Company's market risk disclosures involves forward-looking statements. Actual results could differ materially from those projected in the forward-looking statements. The Company is exposed to market risk related to changes in interest rates and foreign currency exchange rates. The Company does not use derivative financial instruments for speculative or trading purposes.

INTEREST RATE SENSITIVITY. The Company maintains a short-term investment portfolio consisting mainly of corporate debt securities and U.S. government agency discount notes with an average maturity of less than six months. These held-to-maturity securities are subject to interest rate risk and will fall in value if market interest rates increase. If market interest rates were to increase immediately and uniformly by 10 percent from levels at October 31, 1999, the fair value of the portfolio would decline by approximately $7.9 million. The Company has the ability to hold its fixed income investments until maturity, and therefore the Company would not expect its operating results or cash flows to be affected to any significant degree by the effect of a sudden change in market interest rates on its securities portfolio.

FOREIGN CURRENCY EXCHANGE RISK. As a global concern, the Company faces exposure to adverse movements in foreign currency exchange rates. These exposures may change over time as business practices evolve and could have a material adverse impact on the Company's financial results. Historically the Company's primary exposures have been related to nondollar-denominated operating expenses in Canada, Europe and Asia where the Company sells primarily in U.S. dollars. The introduction of the Euro as a common currency for members of the European Monetary Union began during the Company's fiscal year 1999. The foreign currency exposure resulting from the introduction of the Euro has been immaterial to the operating results of the Company. The Company is prepared to hedge against fluctuations in the Euro if this exposure becomes material. As of October 31, 1999 the assets and liabilities of the Company related to non-dollar denominated currencies was not material. Therefore an increase or decrease of 10 percent in the foreign exchange rate would not have a material impact on the Company's financial position.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The following is an index to the consolidated financial statements and supplementary data:

	PAGE NUMBER
Report of Independent Accountants	34
Consolidated Balance Sheets	35
Consolidated Statements of Operations	36
Consolidated Statements of Changes in Stockholders' Equity	37
Consolidated Statements of Cash Flows	38
Notes to Consolidated Financial Statements	39

REPORT OF INDEPENDENT ACCOUNTANTS

To the Board of Directors and
Stockholders of CIENA Corporation

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of operations, cash flows and changes in stockholders' equity present fairly, in all material respects, the financial position of CIENA Corporation and its subsidiaries at October 31, 1999 and 1998, and the results of their operations and their cash flows for each of the three years in the period ended October 31, 1999, 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.

PricewaterhouseCoopers LLP

McLean, VA
November 24, 1999

CIENA CORPORATION
CONSOLIDATED BALANCE SHEETS
(IN THOUSANDS, EXCEPT SHARE DATA)

	October 31, 1998	October 31, 1999
ASSETS		
Current assets:		
Cash and cash equivalents	$ 250,714	$ 143,440
Marketable debt securities	15,993	118,956
Accounts receivable (net of allowance of $1,528 and $1,703)	78,791	144,348
Inventories, net	70,908	79,608
Deferred income taxes	16,421	25,385
Prepaid income taxes	11,688	-
Prepaid expenses and other	11,409	21,262
Total current assets	455,924	532,999
Equipment, furniture and fixtures, net	125,767	125,252
Goodwill and other intangible assets, net	16,270	12,635
Other assets	4,848	6,949
Total assets	$ 602,809	$ 677,835
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 27,893	$ 34,399
Accrued liabilities	34,437	58,486
Income taxes payable	-	8,697
Deferred revenue	1,084	2,954
Other current obligations	1,205	992
Total current liabilities	64,619	105,528
Deferred income taxes	34,125	36,953
Other long-term obligations	3,029	4,881
Total liabilities	101,773	147,362
Commitments and contingencies		
Stockholders' equity:		
Preferred stock - par value $.01; 20,000,000 shares authorized; zero shares issued and outstanding	-	-
Common stock - par value $.01; 360,000,000 shares authorized; 134,605,491 and 138,187,356 shares issued and outstanding	1,346	1,382
Additional paid-in capital	328,821	360,082
Notes receivable from stockholders	(586)	(210)
Accumulated other comprehensive income	(107)	(40)
Retained earnings	171,562	169,259
Total stockholders' equity	501,036	530,473
Total liabilities and stockholders' equity	$ 602,809	$ 677,835

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

CIENA CORPORATION
CONSOLIDATED STATEMENTS OF OPERATIONS
(IN THOUSANDS, EXCEPT PER SHARE DATA)

	Year Ended October 31,		
	1997	1998	1999
Revenue	$ 413,215	$ 508,087	$ 482,085
Cost of goods sold	166,472	256,014	299,769
Gross profit	246,743	252,073	182,316
Operating expenses:			
Research and development	23,773	73,756	104,641
Selling and marketing	22,627	47,343	61,603
General and administrative	11,965	19,274	22,986
Purchased research and development	-	9,503	-
Pirelli litigation	7,500	30,579	-
Merger related costs	-	2,548	13,021
Total operating expenses	65,865	183,003	202,251
Income (loss) from operations	180,878	69,070	(19,935)
Interest and other income (expense), net	7,586	13,143	14,448
Interest expense	(408)	(313)	(504)
Income (loss) before income taxes	188,056	81,900	(5,991)
Provision (benefit) for income taxes	72,488	36,200	(2,067)
Net income (loss)	$ 115,568	$ 45,700	$ (3,924)
Basic net income (loss) per common share	$ 1.52	$ 0.39	$ (0.03)
Diluted net income (loss) per common share and dilutive potential common share	$ 1.10	$ 0.36	$ (0.03)
Weighted average basic common shares outstanding	75,964	117,990	133,521
Weighted average basic common and dilutive potential common shares outstanding	104,843	127,894	133,521

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

CIENA CORPORATION
CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY
(dollars in thousands)

	Common Stock Shares	Common Stock Amount	Additional Paid-in-Capital	Notes Receivable From Stockholders	Accumulated Other Comprehensive Income
Balance of October 31, 1996	14,191,585	$ 142	$ 407	$ (60)	$ -
Net income	-	-	-	-	-
Translation adjustment	-	-	-	-	(5)
Comprehensive income					
Exercise of warrants	666,086	7	-	-	-
Exercise of stock options	3,612,182	36	859	(73)	-
Compensation cost of stock options ...	-	-	85	-	-
Issuance of common stock, net of issuance costs	16,413,677	164	179,076	(4)	-
Conversion of Preferred Stock	74,815,740	748	40,256	-	-
Tax benefit from the exercise of stock options	-	-	29,709	-	-
Repayment of receivables from stockholders	-	-	-	69	-
Balance at October 31, 1997	109,699,270	1,097	250,392	(68)	(5)
Net income	-	-	-	-	-
Translation adjustment	-	-	-	-	(102)
Comprehensive income					
Exercise of stock options	2,647,907	26	6,215	(392)	-
Compensation of stock options	-	-	54	-	-
Issuance of common stock, net of issuance costs	21,954,170	220	28,474	(225)	-
Tax benefit from the exercise of ..... stock options	- -	-	22,634	-	-
Repayment of receivables from stockholders	-	-	-	99	-
Purchase acquisitions, net of transaction costs	304,144	3	20,817	-	-
Issuance of warrants for technology rights	-	-	235	-	-
Balance at October 31, 1998	134,605,491	1,346	328,821	(586)	(107)
Net loss	-	-	-	-	-
Translation adjustment	-	-	-	-	67
Comprehensive loss					
Exercise of warrants	403,951	4	-		-
Exercise of stock options	1,721,384	17	8,219	-	-
Compensation cost of stock options and warrants	-	-	8,521	-	-
Issuance of common stock, net of issuance costs	1,456,530	15	3,517	(481)	-
Tax benefit from the exercise of stock options	-	-	11,004	-	-
Repayment of receivables from stockholders	-	-	-	857	-
Adjustment to conform fiscal year ends of pooled acquisition	-	-	-	-	-
Balance at October 31, 1999	138,187,356	$ 1,382	$ 360,082	$ (210)	$ (40)

	Retained Earnings	Total Stockholders' Equity
Balance of October 31, 1996	$ 10,294	$ 10,783
Net income	115,568	115,568
Translation adjustment	-	(5)
Comprehensive income		115,563
Exercise of warrants	-	7
Exercise of stock options	-	822
Compensation cost of stock options ...	-	85
Issuance of common stock, net of issuance costs	-	179,236
Conversion of Preferred Stock	-	41,004
Tax benefit from the exercise of stock options	-	29,709
Repayment of receivables from stockholders	-	69
Balance at October 31, 1997	125,862	377,278
Net income	45,700	45,700
Translation adjustment	-	(102)
Comprehensive income		45,598
Exercise of stock options	-	5,849

Compensation of stock options	-	54
Issuance of common stock, net of issuance costs	-	28,469
Tax benefit from the exercise of ..... stock options	-	22,634
Repayment of receivables from stockholders	-	99
Purchase acquisitions, net of transaction costs	-	20,820
Issuance of warrants for technology rights	-	235
Balance at October 31, 1998	171,562	501,036
Net loss	(3,924)	(3,924)
Translation adjustment	-	67
Comprehensive loss		(3,857)
Exercise of warrants	-	4
Exercise of stock options	-	8,236
Compensation cost of stock options and warrants	-	8,521
Issuance of common stock, net of issuance costs	-	3,051
Tax benefit from the exercise of stock options	-	11,004
Repayment of receivables from stockholders	-	857
Adjustment to conform fiscal year ends of pooled acquisition	1,621	1,621
Balance at October 31, 1999	$ 169,259	$ 530,473

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

CIENA CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS
(IN THOUSANDS)

	YEAR ENDED OCTOBER 31,		
	1997	1998	1999
Cash flows from operating activities:			
Net income (loss)	$ 115,568	$ 45,700	$ (3,924)
Adjustments to reconcile net income to net cash provided by operating activities:			
Adjustment to conform fiscal year ends of pooled acquisitions	-	-	1,621
Non-cash charges from equity transactions	85	289	8,521
Amortization of premiums on marketable debt securities	-	464	1,776
Effect of translation adjustment	(5)	(102)	67
Purchased research and development	-	9,503	-
Write down of leasehold improvements and equipment	923	1,605	-
Depreciation and amortization	10,256	33,623	50,418
Provision for doubtful accounts	489	806	250
Provision for inventory excess and obsolescence	7,585	9,617	6,534
Provision for warranty and other contractual obligations	11,866	10,523	8,396
Changes in assets and liabilities:			
Increase in accounts receivable	(46,309)	(7,026)	(65,807)
Increase in inventories	(35,466)	(39,416)	(15,234)
Increase in deferred income tax assets	(7,305)	(7,282)	(8,964)
(Increase) decrease in prepaid income taxes	-	(11,688)	11,688
Increase in prepaid expenses and other assets	(2,468)	(18,528)	(13,222)
Increase (decrease) in accounts payable and accrued expenses	30,608	(6,288)	22,159
Increase (decrease) in income taxes payable	(3,916)	(46)	8,697
Increase in deferred income tax liabilities	4,793	5,958	2,828
Increase (decrease) in deferred revenue and other obligations	(2,007)	(1,507)	1,870
Net cash provided by operating activities	84,697	26,205	17,674
Cash flows from investing activities:			
Additions to equipment, furniture and fixtures	(67,030)	(88,913)	(46,776)
Purchase of marketable debt securities	-	(93,869)	(274,897)
Maturities of marketable debt securities	-	77,876	171,934
Net cash paid for business combinations	-	(2,070)	-
Net cash used in investing activities	(67,030)	(106,976)	(149,739)
Cash flows from financing activities:			
Net proceeds from (repayment of) other obligations	(2,238)	1,148	1,639
Net proceeds from issuance of common stock	180,665	34,318	11,291
Tax benefit related to exercise of stock options and warrants	53,083	22,634	11,004
Repayment of notes receivable from stockholders	69	99	857
Net cash provided by financing activities	231,579	58,199	24,791
Net increase (decrease) in cash and cash equivalents	249,246	(22,572)	(107,274)
Cash and cash equivalents at beginning of period	24,040	273,286	250,714
Cash and cash equivalents at end of period	$ 273,286	$ 250,714	$ 143,440
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION:			
Cash paid during the period for:			
Interest	$ 405	$ 265	$ 504
Income taxes	$ 27,455	$ 30,203	$ 313
SUPPLEMENTAL DISCLOSURE OF NON-CASH FINANCING ACTIVITIES:			
Issuance of common stock for notes receivable from stockholders	$ 77	$ 617	$ 481

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

CIENA CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(1) THE COMPANY AND SIGNIFICANT ACCOUNTING POLICIES

Description of Business

CIENA is a leader in the rapidly emerging optical networking equipment market. The Company offers a comprehensive portfolio of products for tele- and data-communications service providers worldwide. CIENA's customers include long-distance carriers, competitive local exchange carriers, Internet service providers and wholesale carriers. CIENA offers optical transport, intelligent switching and multi-service delivery systems that enable service providers to provision, manage and deliver high-bandwidth services to their customers. The Company has pursued a strategy to develop and leverage the power of disruptive technologies to change the fundamental economics of building carrier-class tele- and data-communications networks, providing its customers with a competitive advantage.

Principles of Consolidation

The Company has twelve wholly owned U.S. and international subsidiaries which have been consolidated in the accompanying financial statements. The Company completed a merger with Omnia Communications, Inc. ("Omnia") a Delaware company headquartered in Marlborough, Massachusetts on July 1, 1999. On March 31, 1999 the Company completed a merger with Lightera Networks, Inc. ("Lightera") a Delaware company headquartered in Cupertino, California. On February 19, 1998, the Company completed a merger with ATI Telecom International Ltd., ("Alta"). Each of these transactions constituted a tax-free reorganization and have been accounted for as a pooling of interests under Accounting Principles Board Opinion No. 16. Accordingly, all prior period consolidated financial statements presented have been restated to include the combined results of operations, financial position and cash flows of each of the companies as though they had been a part of CIENA.

The accompanying consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries. All material intercompany accounts and transactions have been eliminated in consolidation.

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 (October 30, 1999; October 31, 1998; and November 1, 1997). For purposes of financial statement presentation, each fiscal year is described as having ended on October 31. Fiscal 1999, 1998 and 1997 comprised 52 weeks. Omnia's fiscal year ended on December 31.

Since the fiscal years for CIENA and Omnia differ, the periods combined for the purposes of the consolidated financial statements are as follows:

CIENA	Omnia
Fiscal year ended October 31, 1997	June 3, 1997 (date of inception) to December 31, 1997
Fiscal year ended October 31, 1998	January 1, 1998 to December 31, 1998

The fiscal year ended October 31, 1999, contain two months of Omnia's financial results, which are also recorded in the fiscal year ending October 31, 1998. The net loss for these two months, November and December 1998 was $1,621,000.

Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires the Company to make estimates, judgements 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. Actual results could differ from the recorded estimates.

Cash and Cash Equivalents

The Company considers all highly liquid investments purchased with original maturities of three months or less to be cash equivalents.

Marketable Debt Securities

The Company has classified its investments in marketable debt securities as held-to-maturity securities as defined by Statement of Financial Accounting Standards No. 115, "Accounting for Certain Investments in Debt and Equity Securities". Such investments are recorded at their amortized cost in the accompanying consolidated balance sheets. All of the marketable debt securities are corporate debt securities with contractual maturities of six months or less and have $60,000 and $11,000 of unrealized gains and $9,000 and $108,000 of unrealized loss, as of October 31, 1998 and 1999, respectively. See Note 3.

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.

Goodwill

The Company has recorded goodwill from two purchase transactions. See Note 2. It is the Company's policy to continually assess the carrying amount of its goodwill to determine if there has been an impairment to its carrying value. The Company would record any such impairment when identified.

Concentrations

Substantially all of the Company's cash and cash equivalents are custodied at four major U.S. financial institutions. The majority of the Company's cash equivalents include U.S. Government Federal Agency Securities, short-term marketable securities, and overnight repurchase agreements. Deposits held with banks may exceed the amount of insurance provided on such deposits. Generally these deposits may be redeemed upon demand and, therefore, bear minimal risk.

Historically, the Company has relied on a limited number of customers for a substantial portion of its revenue. During fiscal year 1999 Sprint, MCI WorldCom, and GTS Network Ltd. (formerly Hermes Europe Railtel) each accounted for at least 10% or more of CIENA's revenue and all three combined accounted for 46.2% of the Company's fiscal 1999 revenue. During fiscal 1998 Sprint was the only 10% customer and in total accounted for 52.5 % of the Company's fiscal 1998 revenue. During 1997 both WorldCom and Sprint were 10% customers and combined accounted for 88% of the Company's fiscal 1997 revenue. The Company expects that a significant portion of its future revenue will continue to be generated by a limited number of customers. The loss of any one of these customers or any substantial reduction in orders by any one of these customers could materially adversely affect the Company's financial condition or operating results. Additionally, the Company's access to certain raw materials is dependent upon single and sole source suppliers. The inability of any supplier to fulfill supply requirements of the Company could impact future results.

The Company performs ongoing credit evaluations of its customers and generally does not require collateral from its customers. The Company maintains an allowance for potential losses when identified. As of October 31, 1999 the trade accounts receivable included three customers who each accounted for 30%, 14%, and 12% of the trade accounts receivable, respectively. As of October 31, 1998 the trade accounts receivable included four customers who each accounted for 10%, 11%, 25%, and 26% of the trade accounts receivable, respectively.

Revenue Recognition

CIENA recognizes product revenue in accordance with the shipping terms specified and where collection is probable. For transactions where CIENA has yet to obtain customer acceptance, revenue is deferred until the terms of acceptance are satisfied. Revenue for installation services is recognized as the services are performed unless the terms of the supply contract combine product acceptance with installation, in which case revenues for installation services are recognized when the terms of acceptance are satisfied and installation is completed. Revenues from installation service fixed price contracts are recognized on the percentage-of-completion method, measured by the percentage of costs incurred to date compared to estimated total costs for each contract. 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, CIENA recognizes revenue when the product is shipped through to the end user.

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 after the product has been accepted.

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. Tax savings resulting from deductions associated with stock options and certain stock warrants are credited directly to additional paid in capital when realization of such benefit is fully assured and to deferred tax liabilities prior to such point. See Note 9.

Foreign Currency Translation

The majority of the Company's foreign branches and subsidiaries use the U.S. dollar as their functional currency as the U.S. parent exclusively funds the branches and subsidiaries' operations with U.S. dollars. For those subsidiaries using the local currency as their functional currency, assets and liabilities are translated at exchange rates in effect at the balance sheet date. Resulting translation adjustments are recorded directly to a separate component of stockholders' equity. Where the U.S. dollar is the functional currency, translation adjustments are recorded in other income. The net gain (loss) on foreign currency remeasurement and exchange rate changes for fiscal 1997, 1998 and 1999 was immaterial for separate financial statement presentation.

Computation of Basic Net Income per Common Share and Diluted Net Income per Common and Dilutive Potential Common Share

The Company calculates earnings per share in accordance with the Statement of Financial Accounting Standards No. 128, "Earnings per Share" (SFAS No. 128). SFAS No. 128 simplifies the earnings per share (EPS) computation and replaces the presentation of primary EPS with a presentation of basic EPS. This statement also requires dual presentation of basic and diluted EPS on the face of the income statement for entities with a complex capital structure and requires a reconciliation of the numerator and denominator used for the basic and diluted EPS computations. See Note 7.

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", which is effective for the Company's consolidated financial statements for fiscal years 1997, 1998, and 1999. SFAS No. 123 allows companies to either account for stock-based compensation under the new provisions of SFAS No. 123 or using the intrinsic value method provided by Accounting Principles Board Opinion No. 25 (APB No. 25), "Accounting for Stock Issued to Employees", but requires pro forma disclosure in the footnotes to the financial statements as if the measurement provisions of SFAS No. 123 had been adopted. The Company has elected to continue to account for its stock based compensation in accordance with the provisions of APB No. 25 and present the pro forma disclosures required by SFAS No. 123. See Note 8.

Comprehensive Income

In June 1997, the Financial Accounting Standards Board issued Statement of Financial Accounting Standards No. 130 (SFAS No. 130), "Comprehensive Income". SFAS No. 130 became effective for the Company's fiscal year 1999. SFAS No. 130 establishes new rules for the reporting and display of comprehensive income and its components. SFAS No. 130 requires that changes in the amounts of certain items, including foreign currency translation adjustments and gains and losses on certain securities be shown in the financial statements. CIENA's accumulated other comprehensive income is comprised entirely of accumulated foreign currency translation adjustments and is shown as a separate amount on CIENA's Consolidated Balance Sheets.

The components of comprehensive income (loss) are as follows (in thousands):

	October 31,	
	1998	1999
Net income (loss)	$ 45,700	$ (3,924)
Change in accumulated translation adjustments	(102)	67
Total comprehensive income (loss)	$ 45,598	$ (3,857)

Segment Reporting

In June 1997, the Financial Accounting Standards Board issued Statement of Financial Accounting Standards No. 131 (SFAS No. 131), "Disclosures about Segments of an Enterprise and Related Information". The Statement is effective for the Company's fiscal year 1999. SFAS No. 131 establishes annual and interim reporting standards for operating segments of a company. It also requires entity-wide disclosures about the products and services an entity provides, the material countries in which it holds assets and reports revenues, and its major customers. The Company is not organized by multiple operating segments for the purpose of making operating decisions or assessing performance. Accordingly, the Company operates in one operating segment and reports only certain enterprise-wide disclosures.

Newly Issued Accounting Standards

In June 1998, the Financial Accounting Standards Board issued Statement of Financial Accounting Standards No. 133 (SFAS No. 133), "Accounting for Derivative Instruments and Hedging Activities". This Statement requires companies to record derivatives on the balance sheet as assets or liabilities, measured at fair value. Gains or losses resulting from changes in the values of those derivatives would be accounted for depending on the use of the derivative and whether it qualifies for hedge accounting. SFAS 133 will be effective for the Company's fiscal year ending October 31, 2000. The Company believes the adoption of SFAS No. 133 will not have a material effect on the consolidated financial statements.

Reclassification

Certain prior year amounts have been reclassified to conform to current year consolidated financial statement presentation.

(2) BUSINESS COMBINATIONS

Omnia

On July 1, 1999, the Company completed a merger with Omnia in a transaction valued at approximately $483 million. Omnia is a telecommunications equipment supplier which focuses on developing solutions to allow public telephone network operators to offer services cost effectively over integrated metropolitan fiberoptic access and transport networks. Under the terms of the merger, the Company acquired all of the outstanding shares and assumed the stock options of Omnia in exchange for approximately 15.2 million shares of CIENA common stock and 0.8 million CIENA shares issuable upon exercise of stock options. The transaction constituted a tax-free reorganization and has been accounted for as a pooling of interests under Accounting Principles Board Opinion No. 16. Accordingly, all prior period consolidated financial statements presented have been restated to include the combined results of operations, financial position and cash flows of Omnia as though it had been a part of CIENA.

The following table shows the separate historical results of CIENA and Omnia for the periods prior to the consummation of the merger of the two entities. No financial information has been presented for the fiscal year ended 1996 as Omnia did not commence operations until June 1997. Omnia's fiscal year end is December 31. CIENA's results for the years ended October 31, 1997 and 1998 include Omnia's financial results from June 3, 1997 (date of inception) to December 31, 1997 and January 1, 1998 to December 31, 1998, respectively (in thousands).

	Year Ended October 31,		Nine Months Ended July 31,
	1997	1998	1999
Revenues:			
CIENA	$ 413,215	$ 508,087	$ 340,733
Omnia	-	-	-
Intercompany elimination's	-	-	-
Consolidated revenues	$ 413,215	$ 508,087	$ 340,733
Net Income (loss):			
CIENA	$ 115,967	$ 51,113	$ (1,020)
Omnia	(399)	(5,413)	(7,403)
Consolidated net income (loss)	$ 115,568	$ 45,700	$ (8,423)

Lightera

On March 31, 1999 the Company completed a merger with Lightera in a transaction valued at approximately $459 million. Lightera is a developer of carrier class optical core switches for fiberoptic communications networks. Under the terms of the merger agreement, the Company acquired all of the outstanding shares and assumed outstanding stock options and warrants of Lightera in exchange for approximately 17.5 million shares of CIENA common stock and 2.9 million CIENA shares issuable upon exercise of stock options and warrants. The transaction constituted a tax-free reorganization and has been accounted for as a pooling of interests under Accounting Principles Board Opinion No. 16. Accordingly, all prior period consolidated financial statements presented have been restated to include the combined results of operations, financial position and cash flows of Lightera as though it had been a part of CIENA.

The following table shows the separate historical results of CIENA and Lightera for the periods prior to the consummation of the merger of the two entities. No financial information has been presented for the fiscal year ended 1997 as Lightera did not commence operations until April 1998 (in thousands).

	Year Ended October 31, 1998	Six Months Ended April 30, 1999
Revenues:		
CIENA	$ 508,087	$ 211,907
Lightera	-	-
Intercompany eliminations	-	-
Consolidated revenues	$ 508,087	$ 211,907
Net Income (loss):		
CIENA	$ 53,194	$ 8,046
Lightera	(2,081)	(6,169)
Consolidated net income	$ 51,113	$ 1,877

Terabit

During April 1998 the Company completed an Agreement and Plan of Reorganization with Terabit Technology, Inc. ("Terabit"), a developer of optical components known as photodetectors or optical receivers. Terabit is located in Santa Barbara, California. The purchase price was approximately $11.5 million and consisted of the issuance of 134,390 shares of CIENA common stock, the payment of $1.1 million in cash, and the assumption of certain stock options. The transaction was recorded using the purchase accounting method with the purchase price representing approximately $9.5 million in purchased research and development, $1.8 million in goodwill and other intangibles, and approximately $0.2 million in net assets assumed. The amortization period for the intangibles, based on management's estimate of the useful life of the acquired technology, is five years. The operations of Terabit are not material to the consolidated financial statements of the Company and, accordingly, separate pro forma financial information has not been presented.

In connection with the Terabit acquisition, the Company recorded a $9.5 million charge in the year ended October 31, 1998 for purchased research and development. This generally represents the estimated value of purchased in-process technology related to Terabit's avalanche photodiodes (APD) that have not yet reached technological feasibility and have no alternative future use.

The amount of purchase price allocated to in-process research and development was determined using the discounted cash flow method. This method consisted of estimating future net cash flows attributable in-process APD technology for a discrete projection period and discounting the net cash flows back to their present value. The discount rate includes a factor that takes into account the uncertainty surrounding the successful development of the purchased in-process technology. The estimated revenue associated with the APD technology future net cash flows assumed a five year compound annual growth rate of between 5% to 43%. The revenue growth rates were developed considering, among other things, the current and expected industry trends and acceptance of the technologies in historical growth rates for similar industry products. Management's estimates or projections were based upon an estimated period of ten years with revenues reaching a peak in 2002 and declining through 2008.

The estimated net cash flows were discounted to present value at a rate of return which considers the relative risk of achieving the net cash flows and the time value of money. A 30% was used to effect the risk associated with Terabits APD technology. This rate is higher than the Company's normal discount rate due to inherent uncertainties surrounding the successful development of purchase in-process technology, the useful life of the technology, and the profitability levels of such technology.

The resulting net cash flows from the APD project was based on management's estimates of revenues, cost of sales, research and development costs, selling general and administrative costs, and income taxes associated with the project.

Alta

On February 19, 1998, the Company completed a merger with ATI Telecom International Ltd., ("Alta"), a Canadian corporation headquartered near Atlanta, Georgia, in a transaction valued at approximately $52.5 million. Alta provides a range of engineering, furnishing and installation services for telecommunications service providers in the areas of transport, switching and wireless communications. Under the terms of the agreement the Company exchanged 1,000,000 shares of its common stock for all the common stock of Alta. The merger constituted a tax-free reorganization and has been accounted for as a pooling of interests under Accounting Principles Board Opinion No. 16. Accordingly, all prior period consolidated financial statements presented have been restated to include the combined results of operations, financial position and cash flows of Alta as though it had been a part of CIENA.

Prior to the merger, Alta's year ended on December 31. In recording the business combination, Alta's prior period financial statements have been restated to conform to CIENA's fiscal year end.

All intercompany transactions between CIENA and Alta have been eliminated in consolidation. Certain reclassifications were made to Alta financial statements to conform to CIENA's presentation. No material adjustments were made to conform to CIENA's accounting policies.

The following table shows the separate historical results of CIENA and Alta for the periods prior to the consummation of the merger of the two entities (in thousands):

	Year Ended October 31,	
	1996	1997
Revenues:		
CIENA	$ 54,838	$ 373,827
Alta	33,625	39,531
Intercompany eliminations	-	(143)
Consolidated revenues	$ 88,463	$ 413,215
Net Income (loss):		
CIENA	$ 14,718	$ 112,945
Alta	2,545	3,022
Consolidated net income	$ 17,263	$ 115,967

Astracom

During December 1997, the Company completed an Agreement and Plan of Merger with Astracom, Inc. ("Astracom"), an early stage telecommunications company located in Atlanta, Georgia. The purchase price was approximately $13.1 million and consisted of the issuance of 169,754 shares of CIENA common stock, the payment of $2.4 million in cash, and the assumption of certain stock options. The transaction was recorded using the purchase accounting method with the purchase price representing approximately $11.4 million in goodwill and other intangibles, and approximately $1.7 million in net assets assumed. The amortization period for the intangibles, based on management's estimate of the useful life of the acquired technology, is five years. The operations of Astracom are not material to the consolidated financial statements of the Company and, accordingly, separate pro forma financial information has not been presented.

(3) MARKETABLE DEBT SECURITIES

Marketable debt securities are comprised of the following (in thousands):

	October 31,	
	1998	1999
Commercial paper	$ 15,993	$105,215
U.S. Government obligations ...	-	13,741
	$ 15,993	$118,956

(4) INVENTORIES

Inventories are comprised of the following (in thousands):

	October 31,	
	1998	1999
Raw materials	$ 43,268	$ 49,298
Work-in-process	8,592	16,386
Finished goods	30,202	26,369
	82,062	92,053
Reserve for excess and obsolescence ..	(11,154)	(12,445)
	$ 70,908	$ 79,608

The following is a table depicting the activity in the Company's reserve for excess and obsolescence (in thousands):

	October 31,	
	1998	1999
Beginning balance	$ 7,466	$ 11,154
Provision charged to operations	9,617	6,534
Amounts written off against the reserve ..	(5,929)	(5,243)
Ending balance	$ 11,154	$ 12,445

(5) EQUIPMENT, FURNITURE AND FIXTURES

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

	October 31,	
	1998	1999
Equipment, furniture and fixtures	$ 141,845	$ 182,794
Leasehold improvements	24,076	30,231
	165,921	213,025
Accumulated depreciation and amortization ..	(41,506)	(88,716)
Construction-in-progress	1,352	943
	$ 125,767	$ 125,252

(6) ACCRUED LIABILITIES

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

	October 31, 1998	October 31, 1999
Warranty and other contractual obligations ..	$17,256	$28,582
Accrued compensation	9,229	15,471
Other	7,952	14,433
	$34,437	$58,486

(7) EARNINGS (LOSS) PER SHARE CALCULATION

The following is a reconciliation of the numerators and denominators of the basic net income (loss) per common share ("basic EPS") and diluted net income (loss) per common and dilutive potential common share ("diluted EPS"). Basic EPS is computed using the weighted average number of common shares outstanding. Diluted EPS is computed using the weighted average number of common shares outstanding, stock options and warrants using the treasury stock method and shares issued upon conversion of all outstanding shares of Mandatorily Redeemable Preferred Stock (in thousands except per share amounts).

	October 31, 1997	1998	1999
Net income (loss)	$ 115,568	$ 45,700	$ (3,924)
Weighted average shares-basic	75,964	117,990	133,521
Effect of dilutive securities:			
Employee stock options and warrants ...	8,791	9,904	-
Conversion of preferred stock	20,088	-	-
Weighted average shares-diluted	104,843	127,894	133,521
Basic EPS	$ 1.52	$ 0.39	$ (0.03)
Diluted EPS	$ 1.10	$ 0.36	$ (0.03)

Approximately 182,000, 769,000 and 11,886,000 options and restricted stock were outstanding during fiscal 1997, 1998 and 1999 respectively, but were not included in the computation of the Diluted EPS as the effect would be anti-dilutive.

(8) STOCKHOLDERS' EQUITY

Stockholder Rights Plan

In December 1997, the Company's Board of Directors adopted a Stockholder Rights Plan. This plan is designed to deter any potential coercive or unfair takeover tactics in the event of an unsolicited takeover attempt. It is not intended to prevent a takeover of the Company on terms that are favorable and fair to all shareholders and will not interfere with a merger approved by the Board of Directors. Each right entitles shareholders to buy a "unit" equal to one one-thousandth of a share of Preferred Stock of the Company. The rights will be exercisable only if a person or a group acquires or announces a tender or exchange offer to acquire 15% or more of the Company's common stock or if the Company enters into certain other business combination transactions not approved by the Board of Directors.

In the event the rights become exercisable, the rights plan allows for CIENA shareholders to acquire stock of the surviving corporation, whether or not CIENA is the surviving corporation, having a value twice that of the exercise price of the Rights. The Rights were distributed to shareholders of record in January 1998. The Rights will expire December 2007 and are redeemable for $.001 per right at the approval of the Company's Board of Directors.

Public Offerings

In February 1997, the Company successfully completed its initial public offering of Common Stock. The Company sold 5,750,000 shares, inclusive of 750,000 shares from the exercise of the underwriters over-allotment option, at a price of $23 per share. Net proceeds from the offering were approximately $121,800,000 with an additional $600,000 received from the exercise of 300,000 shares of outstanding Convertible Preferred Stock warrants.

In July 1997, the Company completed a public offering of 10,477,216 shares of Common Stock of which 1,252,060 shares were sold by the Company inclusive of 252,060 shares from the exercise of the underwriters over-allotment option, at a price of $44 per share. Net proceeds to the Company from the public offering were approximately $52,200,000.

Other Offerings

During 1997, Omnia issued 9,411,617 shares of common stock in exchange for approximately $5,223,000. In 1998 and 1999 Omnia issued 5,376,665 and 184,495 shares of common stock in exchange for approximately $12,801,000 and $66,000, respectively.

During 1998, Lightera issued a total of 16,577,505 shares of common stock in exchange for certain technology rights, notes receivable totaling $211,000 and proceeds of approximately $15,893,000. In 1999, Lightera issued 968,511 shares of common stock in exchange for approximately $104,000.

Stock Incentive Plans

In August of 1999, the Company approved the 1999 Non-Officers Incentive Stock Plan (the "1999 Plan"). Under the 1999 Plan, 6,000,000 shares of the Company's authorized but unissued Common Stock are reserved for options issuable to employees who are not executive officers of the Company. These options vest to the employee over four years and are exercisable once vested. Options under the 1999 Plan are categorized as non-qualified, and the exercise price for each option shall be established by the Board of Directors provided the price is not less than 85% of fair market value.

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. Certain of 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-qualified 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 85% of fair market value for non-qualified stock options.

As a result of the Company's merger with Omnia, the Company assumed the Omnia 1997 Stock Plan Option Plan ("the 1997 Plan"). The 1997 Plan provided for the granting of stock options to employees and consultants of Omnia. Options granted under the 1997 Plan were either incentive stock options or nonstatutory stock options. Incentive stock options, ("ISO"), could be granted only to Omnia employees (including officers and directors who were also employees). Nonstatutory stock options ("NSO") could be granted to Omnia employees and consultants. The Company has reserved 759,889 shares of Common Stock for outstanding options under the plan. Options exercised are immediately subject to a repurchase right held by the Company which lapse over a maximum period of four years at such times and under such conditions as determined by the Board of Directors. To date, options granted generally vest over four years.

As a result of the Company's merger with Lightera, the Company assumed the Lightera 1998 Stock Option Plan ("the 1998 Plan"). The 1998 Plan provided for the granting of stock options to employees and consultants of Lightera. Options granted under the 1998 Plan were either incentive stock options or nonstatutory stock options. Incentive stock options, ("ISO"), could be granted only to Lightera employees (including officers and directors who were also employees). Nonstatutory stock options ("NSO") could be granted to Lightera employees and consultants. The Company has reserved 2,529,161 shares of Common Stock for outstanding options under the plan. Options exercised are immediately subject to a repurchase right held by the Company which lapse over a maximum period of five years at such times and under such conditions as determined by the Board of Directors. To date, options granted generally vest over four years.

Following is a summary of the Company's stock option activity (shares in thousands):

	Shares	Weighted Average Exercise Price
Balance at October 31, 1996	11,083	0.97
Granted	1,737	32.81
Exercised	(3,612)	0.27
Canceled	(98)	0.52
Balance at October 31, 1997	9,110	7.33
Granted	6,414	18.99
Exercised	(2,648)	2.40
Canceled	(3,340)	40.12
Balance at October 31, 1998	9,536	4.82
Granted	8,131	23.45
Exercised	(1,728)	4.65
Canceled	(878)	13.29
Balance at October 31, 1999	15,061	14.43

During September 1998, the Company canceled and re-issued outstanding employee stock options with exercise prices in excess of the fair market value, except those options held by outside directors and officers of the Company. A total of 2,905,116 options with an average exercise price of $42.87 were cancelled and reissued at $12.38 per share. At October 31, 1999 approximately 2,030,000 shares of Common Stock subject to repurchase by the Company had been issued upon the exercise of options and restricted stock purchase agreements. 3,961,914 million of the total outstanding options were vested and not subject to repurchase by the Company upon exercise. As of October 31, 1999, approximately 6.4 million shares are available for issuance under these plans.

The following table summarizes information with respect to stock options outstanding at October 31, 1999:

	Options Outstanding			Options Not Subject to Repurchase Upon Exercise	
Range of Exercise Price	Number Outstanding at Oct. 31, 1999	Weighted Average Remaining Contractual Life (Years)	Weighted Average Exercise Price	Number at Oct. 31, 1999	Weighted Average Exercise Price
$ 0.01 - $ 0.03	754,475	5.24	$ 0.03	752,775	$ 0.03
$ 0.06 - $ 1.66	2,586,246	8.27	$ 0.37	724,100	$ 0.67
$ 2.25 - $ 4.70	2,523,154	6.66	$ 2.47	1,483,635	$ 2.47
$ 7.17 - $ 15.63	2,472,106	8.91	$ 12.36	958,723	$ 12.37
$ 17.00 - $ 24.25	2,328,629	9.16	$ 18.25	17,681	$ 17.10
$ 25.00 - $ 29.81	2,314,488	9.91	$ 29.51	-	-
$ 30.06 - $ 43.25	2,082,210	9.76	$ 33.04	25,000	$ 43.25
$ 0.01 - $ 43.25	15,061,308	8.55	$ 14.43	3,961,914	$ 4.39

Employee Stock Purchase Plan

In March 1998, the shareholders approved the Corporation's 1998 Stock Purchase Plan ("the Purchase Plan") under which 2.5 million shares of common stock have been reserved for issuance. Eligible employees may purchase a limited number of shares of the Company's stock at 85% of the market value at certain plan-defined dates. As of October 31, 1999, 303,524 shares of common stock had been issued for $3,347,000 and approximately 2.2 million shares are available for issuance under this plan.

Pro forma Stock-Based Compensation

Had compensation cost for the Company's stock option plans and the Purchase Plan been determined based on the fair value at the grant date for awards in fiscal years 1997, 1998 and 1999 consistent with the provisions of SFAS No. 123, the Company's net income and net income per share for fiscal 1997 and 1998 would have been decreased and the net loss per share for fiscal 1999 would have been increased to the pro forma amounts indicated below (in thousands, except per share):

	October 31,		
	1997	1998	1999
Net income (loss) applicable to common stockholders - as reported	$ 115,568	$ 45,700	$ (3,924)
Net income (loss) applicable to common stockholders - pro forma	$ 110,005	$ 20,816	$ (40,067)
Basic net income (loss) per share - as reported	$ 1.52	$ 0.39	$ (0.03)
Basic net income (loss) per share - pro forma	$ 1.45	$ 0.18	$ (0.30)
Diluted net income (loss) per share - as reported	$ 1.10	$ 0.36	$ (0.03)
Diluted net income (loss) per share - pro forma	$ 1.05	$ 0.16	$ (0.30)

The above pro forma disclosures are not necessarily representative of the effects on reported net income or loss for future years.

The aggregate fair value and weighted average fair value of each option granted under the various stock option plans, excluding the purchase plan, in fiscal years 1997, 1998 and 1999 were approximately $33.6 million, $73.2 million, and $129.2 million and $19.33, $15.17, and $18.89 respectively. The fair value of each option grant is estimated on the date of grant using the Black-Scholes Option Pricing Model with the following weighted average assumptions for fiscal years 1997, 1998, and 1999:

	October 31,		
	1997	1998	1999
Expected volatility	60%	109%	88%
Risk-free interest rate	5.8%	4.4%	5.5%
Expected life	3.0 yrs.	3.0 yrs.	2.8 yrs
Expected dividend yield	0%	0%	0%

The aggregate fair value and weighted average fair value of each option granted under the Stock Purchase Plan in fiscal 1999 was approximately $6.5 million and $11.20, respectively. The fair value of each option grant is estimated on the date of grant using the Black-Scholes Option Pricing Model with the following weighted average assumptions for fiscal year 1999:

	October 31, 1999
Expected volatility	88%
Risk-free interest rate	5.5%
Expected life	0.5 yrs.
Expected dividend yield	0%

(9) INCOME TAXES

Income (loss) before income taxes and the provision (benefit) for income taxes consists of the following (in thousands):

	October 31,		
	1997	1998	1999
Income (loss) before income taxes	$ 188,056	$ 81,900	$ (5,991)
Provision (benefit) for income taxes:			
Current:			
Federal	67,529	36,865	5,175
State	7,373	4,444	235
Foreign	98	40	75
Total current	75,000	41,349	5,485
Deferred:			
Federal	(2,015)	(4,496)	(7,477)
State	(497)	(653)	(75)
Foreign	-	-	-
Total deferred	(2,512)	(5,149)	(7,552)
Provision (benefit) for income taxes	$ 72,488	$ 36,200	$ (2,067)

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

	October 31,		
	1997	1998	1999
Provision at statutory rate	35.0%	35.0%	35.0%
Non-deductible purchased research and development ..	-	4.3	-
State taxes, net of federal benefit	2.6	4.3	(2.6)
Research and development credit	-	(4.0)	48.9
Foreign sales corporation benefit	-	(1.6)	28.7
Non-deductible merger costs and other	0.9	6.2	(75.5)
	38.5%	44.2%	34.5%

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

	October 31, 1998	October 31, 1999
Deferred tax assets:		
Reserves and accrued liabilities	$ 14,611	$ 14,931
Other	690	637
Net operating loss and credit carry forward ...	2,682	11,244
Gross deferred tax assets	17,983	26,812
Valuation allowance	(1,562)	(1,427)
Net current deferred tax asset	$ 16,421	25,385
Deferred tax liabilities:		
Equipment leases	$ 7,978	$ 8,738
Services	21,594	23,916
Depreciation and other	4,553	4,299
Deferred long term tax liabilities	$ 34,125	$ 36,953

As of October 31, 1998, the Company assumed net operating loss carry forwards through its acquisitions of Lightera and Omnia. As of October 31, 1999, the Company has $22.5 million of net operating loss carry forwards which begin to expire in fiscal 2016.

The income tax provisions do not reflect the tax savings resulting from deductions associated with the Company's stock option plans or the exercise of certain stock warrants. Tax benefits of approximately $22.6 million and $3.6 million in fiscal 1998, and $11.0 million and $0.7 million in fiscal 1999 from exercises of stock options and certain stock warrants were credited directly to additional paid-in-capital and to long-term deferred income taxes, respectively.

The IRS is currently examining the Company's federal income tax returns for fiscal 1997 and fiscal 1998. Management does not expect the outcome of these examinations to have a material adverse affect on the Company's consolidated financial position, results of operations or cash flows.

(10) EMPLOYEE BENEFIT PLANS

Employee 401(k) Plan

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 pre-tax 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. In fiscal 1997 the Company revised the plan to include an employer matching contribution equal to 100% of the first 3% of participating employee contributions, with a five year vesting plan applicable to the Company's contribution. The Company has made no profit sharing contributions to date. During fiscal 1997, 1998 and 1999 the Company made matching contributions of approximately $0.3 million, $1.1 million and $1.7 million, respectively.

(11) COMMITMENTS AND CONTINGENCIES

Operating Lease Commitments

The Company has certain minimum obligations under non-cancelable operating leases expiring on various dates through 2006 for equipment and facilities. Future annual minimum rental commitments under non-cancelable operating leases at October 31, 1999 are as follows (in thousands):

Fiscal year ending October 31,	
2000	$11,187
2001	10,919
2002	9,350
2003	7,666
2004	7,538
Thereafter	29,932
	$76,592

Rental expense for fiscal 1997, 1998 and 1999 was approximately $2,699,000, $6,104,000, and $9,467,000, respectively.

Litigation

A class action complaint was filed on August 26, 1998 in U.S. District Court for the District of Maryland entitled Witkin et al. v. CIENA Corporation et al. (Case No. Y-98-2946). Several other complaints, substantially similar in content were consolidated by court order on November 30, 1998. An amended, consolidated complaint was filed on February 16, 1999. On July 19, 1999 the United States District Court dismissed the suit with leave to amend before any discovery had been taken. On August 20, 1999, plaintiffs filed a second amended class action complaint alleging that CIENA and certain officers and directors violated certain provisions of the federal securities laws, including Section 10(b) and Rule 10b-5 under the Securities Exchange Act of 1934, by making false statements, failing to disclose material information and taking other actions intending to artificially inflate and maintain the market price of CIENA's common stock during the Class Period of May 21, 1998 to September 14, 1998, inclusive. The plaintiffs intend to seek certification of the suit as a class action on behalf of all persons who purchased shares of CIENA's common stock during the Class Period and the awarding of compensatory damages in an amount to have been determined at trial together with attorneys' fees. CIENA has filed, and the parties have fully briefed, a motion to dismiss the second amended complaint. CIENA believes the suit is without merit and CIENA intends to continue to defend the case vigorously.

Pirelli Litigation. On June 1, 1998 the Company resolved the long-standing litigation with Pirelli S.p.A. The terms of the settlement involve dismissal of Pirelli's three lawsuits against CIENA previously pending in Delaware, dismissal of CIENA's legal proceedings against Pirelli in the United States International Trade Commission, a worldwide, non-exclusive cross-license to each party's patent portfolios, a five-year moratorium on future litigation between the parties. As a result of the settlement, CIENA recorded a charge for the fiscal year ended October 31, 1998 of $30.6 million relating to the Pirelli settlement and associated legal fees.

(12) FOREIGN SALES

The Company has sales and marketing operations outside the United States in Canada, the United Kingdom, Belgium, France, Germany, Japan, Mexico and Brazil. The Company has distributor or marketing representative arrangements covering Italy, the Republic of Korea, Japan, Venezuela, Columbia and Chile. Included in revenues are export sales of approximately $11.7 million, $117.1 million, and $213.6 million in fiscal years 1997, 1998 and 1999, respectively.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

PART III

ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT

Information relating to the directors and executive officers of the Company is set forth in Part I of this report under the caption Item 1. Business- "Directors, and Executive Officers" and is incorporated by reference herein.

SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Michael A. Champa and Charles Chi each filed a late Form 3 reporting their initial statement of beneficial ownership of the Company's stock. Stephen Bradley filed a late Form 4 reporting a single transaction, Charles Chi filed two late Form 4's reporting six transactions, and Harvey Cash filed one late Form 4 reporting two transactions. Billy Oliver filed three late Form 4's totaling 5 transactions. Clifford Higgerson filed one late Form 5 reporting two transactions.

ITEM 11. EXECUTIVE COMPENSATION

The information is incorporated herein by reference to the Company's definitive 2000 Proxy Statement.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The information is incorporated herein by reference to the Company's definitive 2000 Proxy Statement.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

The information is incorporated herein by reference to the Company's definitive 2000 Proxy Statement.

ITEM 14. EXHIBITS, FINANCIAL STATEMENT SCHEDULES AND REPORTS ON FORM 8-K

(a) The following documents are filed as a part of this Form:

1. Financial Statement Schedules:
   All schedules are omitted because they are not applicable or the required information is shown in the consolidated financial statements or notes thereto.

2. Exhibits: See Index to Exhibits on page 56. The Exhibits listed in the accompanying Index to Exhibits are filed or incorporated by reference as part of this report.

(b) Reports on Form 8-K

No reports filed on Form 8-K were filed during the fourth quarter fiscal 1999.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Linthicum, County of Anne Arundel, State of Maryland, on the 10th day of December 1999.

CIENA CORPORATION

By: /s/ Patrick H. Nettles

Patrick H. Nettles
President, Chief Executive Officer
and Director

Pursuant to the requirements of the Securities Exchange Act of 1934, this report 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 (Principal Executive Officer)	President, Chief Executive Officer and Director	December 10, 1999
/s/ Joseph R. Chinnici ------------------------------------ Joseph R. Chinnici (Principal Financial Officer)	Sr. Vice President, Finance and Chief Financial Officer	December 10, 1999
/s/ Andrew C. Petrik ------------------------------------ Andrew C. Petrik (Principal Accounting Officer)	Vice President, Controller and Treasurer	December 10, 1999
/s/ Harvey B. Cash ------------------------------------ Harvey B. Cash	Director	December 10, 1999
/s/ John Dillon ------------------------------------ John Dillon	Director	December 10, 1999
/s/ Billy B. Oliver ------------------------------------ Billy B. Oliver	Director	December 10, 1999
/s/ Michael J. Zak ------------------------------------ Michael J. Zak	Director	December 10, 1999
/s/ Stephen P. Bradley ------------------------------------ Stephen P. Bradley	Director	December 10, 1999

INDEX TO EXHIBITS

Exhibit Number	Description
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
4.2***	Rights Agreement dated December 29, 1997
4.3****	Amendment to Rights Agreement
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
10.7*	Lease Agreement dated October 5, 1995 between the Company and CS Corridor-32 Limited Partnership
10.6*	Series C Preferred Stock Purchase Agreement dated December 20, 1995
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
10.13*	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
10.17*****	Third Addendum to Procurement Agreement between the Registrant and Sprint/United Management Company
10.18*****	Form of Transfer of Control/Severance Agreement
10.19@	Lightera 1998 Stock Option Plan and Form of Stock Option Agreement
10.20-	Omnia Communications, Inc. 1997 stock plan and form of agreements
10.21	Employment Agreement dated August 18, 1999 between the Company and Gary B. Smith (filed herewith)
10.22	1999 Non-Officer Stock Option Plan and Form of Stock Option Agreement (filed herewith)
10.23	Lease Agreement dated June 1, 1999 between the Company and Ridgeview Court Associates, L.L.C. (filed herewith)
21**	Subsidiaries of registrant
23.1	Consent of Independent Accountants (filed herewith)
27.1	Financial Data Schedule

* Incorporated by reference from the Company's Registration Statement on Form S-1 (333-17729).

** Incorporated by reference from the Company's Registration Statement on Form S-1 (333-28525).

*** Incorporated by reference from the Company's Form 8-K dated December 29, 1997.

**** Incorporated by reference from the Company's Form 8-K dated October 14, 1998.

***** Incorporated by reference from the Company's Form 10-K dated December 10, 1998.

@ Incorporated by reference from the Company's Form 10-Q dated May 21, 1999.

- - Incorporated by reference from the Company's Form 10-Q dated August 19, 1999.

\+ Confidential treatment has been granted by the Securities and Exchange Commission with respect to certain portions of these exhibits.

EXHIBIT 10.21

CIENA CORPORATION
EXECUTIVE INCENTIVE AGREEMENT

This EXECUTIVE INCENTIVE AGREEMENT (the "Agreement"), dated as of August 18, 1999, by and between CIENA CORPORATION, a Delaware corporation with its principal address at 1201 Winterson Road, Linthicum, Maryland 21090 (together with its subsidiaries, the "Corporation") and GARY B. SMITH (the "Executive" and with the Corporation the "Parties").

WITNESSETH

The Executive is serving as the CHIEF OPERATING OFFICER of the Corporation and possesses an intimate knowledge of the business and affairs of the Corporation. The Corporation and the Board of Directors for the Corporation (the "Board") recognize the Executive's contribution to its growth and success and desires to enter into this Agreement with the Executive in order to assure to the Corporation the continuing benefits of the Executive's expertise and knowledge. The Executive, in turn, desires an assurance of an agreed upon bonus by the Corporation payable at the end of the period set forth herein.

ACCORDINGLY, in consideration of the mutual covenants and representations contained herein and the mutual benefits derived here from, the Parties hereto agree as follows:

1. Certain Definitions. In addition to those terms defined herein, when used herein, the following Capitalized terms shall have the meanings indicated:

1.1. "Bonus Payment Date" shall mean the earlier of (a) a Triggering Event or (b) August 18, 2002.

1.2. "Cause" means (a) the Executive's willful or continued failure substantially to perform the duties of the Executive's position (other than as a result of Disability or as a result of termination by the Executive for Good Reason) or to comply with the provisions of this Agreement after written notice to the Executive by the Board specifying such failure, provided that such "cause" shall have been found by a majority vote of the Board after at least 10 days' written notice to the Executive specifying the failure on the part of the Executive and after an opportunity for the Executive to be heard at a meeting of the Board; (b) any willful act or omission by the Executive constituting dishonesty, fraud or other malfeasance, or any act or omission by the Executive constituting immoral conduct, which in any such case is injurious to the financial condition or business reputation of the Corporation or any of its affiliates; (c) the Executive's indictment for a felony under the laws of the United States or any state thereof or any other jurisdiction in which the Corporation conducts business, (d) the Executive's willful violation of the terms of any confidentiality or proprietary information agreement or other obligation between the Executive and the Corporation, or (e) Executive has accepted employment with an entity other than the Corporation. For purposes of this definition, no act or failure to act shall be deemed "willful" unless effected by the Executive not in good faith and without a reasonable belief that such action or failure to act was in or not opposed to the Corporation's best interests.

1.3. "Disability" means either (a) "total disability" as defined for purposes of the Corporation's long-term disability benefit plan; or (b) the Executive's inability, as a result of physical or mental incapacity, to perform the Executive's duties for a period of six (6) consecutive months or for an aggregate of six (6) months in any twelve (12) consecutive month period.

1.4. "Effective Date" means the date this Agreement is executed by the Parties hereto.

1.5. "Good Reason" means (a) material diminution in the Executive's title, position, duties or responsibilities, or the assignment to the Executive of duties that are inconsistent, in a material respect, with the scope of duties and responsibilities associated with the Executive's position immediately prior to the Effective Date; or (b) reduction in base salary or incentive compensation opportunity, or a reduction in level of participation in long term incentive, benefit and other plans for senior executives as in effect immediately preceding the Effective Date, or their equivalents. For purposes of this Section, an isolated, insubstantial and inadvertent action not taken in bad faith and which is remedied by the Corporation promptly after receipt of notice thereof given by the Executive shall be excluded.

1.6. "Incentive Bonus" shall mean Three Million U.S. Dollars ($3,000,000).

1.7. "Pro-Rata Bonus" and "Pro-Rata Portion" shall have the meanings set forth in Section 3(b) below.

1.8. "Triggering Event" shall mean the occurrence of a Transfer of Control, and subsequent termination of Executive's employment with the Corporation either without Cause by the Corporation, or for Good Reason by the Executive. For purposes of this Section, Executive's employment with the Corporation will be deemed to have terminated on the earlier of the date the Executive's employment with the Corporation ceases or the date that written notice of any such termination is received by the Executive or by the Corporation, as the case may be, even though the parties may agree in connection therewith that the Executive's employment with the Corporation will continue for a specified period thereafter. The failure by the Executive or the Corporation to set forth in any such notice sufficient facts or circumstances showing Good Reason or Cause, as the case may be, shall not waive any right of the Executive or the Corporation or preclude either party from asserting such facts or circumstances in the enforcement of any such right

1.9. "Transfer of Control" shall be deemed to have taken place on the earliest of the date of (a) the direct or indirect sale or exchange by the stockholders of the Corporation of all or substantially all of the stock of the Corporation where the stockholders of the Corporation before such sale or exchange do not retain, directly or indirectly, at least a majority of the beneficial interest in the voting stock of the surviving, continuing, successor, or purchasing corporation or parent corporation thereof, as the case may be (the "Acquiring Corporation") after such sale or exchange; (b) a merger or consolidation where the stockholders of the Corporation before such merger or consolidation do not retain, directly or indirectly, at least a majority of the beneficial interest in the voting stock of the Acquiring Corporation after such merger or consolidation; (c) the sale, exchange, or transfer of all or substantially all of the assets of the Corporation (other than a sale, exchange, or transfer to one or more subsidiary corporations of the Corporation); (d) a liquidation or dissolution of the Corporation; or (e) any other event that the Board, in its sole discretion, shall determine constitutes a Transfer of Control In each case the determination of whether or not a "Transfer of Control" is deemed to have taken place shall be made without regard to whether such events or occurrences constituting the Transfer of Control were hostile or against the position of the Board, or were approved or concurred in by the Board.

2. Payment of Incentive Bonus. CIENA promptly shall pay Executive the Incentive Bonus on the Bonus Payment Date. The Executive shall be entitled to receive the prime rate of interest published from time to time by The Wall Street Journal on any payment under this Agreement that is more than thirty (30) days overdue.

3. Revocation of the Incentive Bonus. The obligation of the Corporation to pay Executive the Incentive Bonus under this Agreement shall be considered revoked, and Executive's rights in relation thereto forfeited, to the extent provided below.

(a) Termination of Employment for Cause, or by Executive's Voluntary Action. If prior to the Bonus Payment Date, Executive is terminated for Cause, or Executive voluntarily ceases to be an employee of the Corporation for any reason except death, Disability or Good Reason, the obligation of the Corporation to pay the Incentive Bonus under this Agreement shall be considered revoked. For purposes of this Section, Executive's employment with the Corporation will be deemed to have terminated on the earlier of the date the Executive's employment with the Corporation ceases or the date that written notice of any such termination is received by the Executive or by the Corporation, as the case may be, even though the parties may agree in connection therewith that the Executive's employment with the Corporation will continue for a specified period thereafter

(b) Other Termination of Executive's Employment. If prior to the Bonus Payment Date (a) Executive's employment with the Corporation is terminated by the Executive for Good Reason or as a result of Executive's death or Disability, or (b) Executive's employment with the Corporation is terminated by the Corporation for any reason other than for Cause, Executive (or Executive's legal representative) shall be entitled to a pro-rata portion of the Incentive Bonus, such portion to be calculated as set forth below (the "Pro-Rata Bonus"), and the balance of the Incentive Bonus shall be considered revoked on the date Executive's employment was terminated.

For purposes of this Section 3(b), the Pro-Rata Bonus shall equal the product of (x) the Incentive Bonus and (y) the Pro-Rata Portion. The "Pro-Rata Portion" shall be calculated according to the following schedule:

	Pro-Rata Portion
Prior to August 18, 2000	0
On August 18, 2000, provided Executive is continuously employed by the Corporation from the Effective Date	25%
Plus	
For each full month of Executive's continuous employment by the Corporation from and after August 18, 2000	3.125%
In no event shall the Pro-Rata Bonus exceed 100% of the Incentive Bonus.	

(c) Leave of Absence. For purposes hereof, Executive's employment with the Corporation shall not be deemed to terminate if Executive takes any sick leave, or other bona fide leave of absence approved by the Corporation of ninety (90) days or less. In the event of a leave in excess of ninety (90) days, Executive's employment shall be deemed to terminate on the ninety-first (91st) day of the leave unless Executive's right to reemployment with the Corporation remains guaranteed by statute or contract. Notwithstanding the foregoing, unless otherwise designated by the Corporation (or required by law) a leave of absence shall not be treated as employment for purposes of determining the Pro-Rata Bonus under Section 3(b).

4. Termination of Agreement. This Agreement shall automatically be deemed to have terminated on the earlier of: (a) the revocation of the Corporation's obligations pursuant to Section 3(a) above, (b) the payment of the Pro-Rata Bonus pursuant to Section 3(b) above, or (c) the payment in full of the Incentive Bonus to Executive pursuant to Section 2. Upon the termination of this Agreement, all rights and obligations of the Corporation hereunder immediately shall terminate.

5. Miscellaneous/ General.

5.1. Successors. All rights under this Agreement are personal to the Executive and, without the prior written consent of the Corporation, shall not be assignable by the Executive. This Agreement shall inure to the benefit of or be enforceable in the event of the Executive's death or disability by the Executive's legal representative as expressly provided in this Agreement. This Agreement shall inure to the benefit of and be binding upon the Corporation and its successors and assigns. The Corporation will require any successor (whether direct or indirect, by purchase, merger, consolidation or otherwise) to all or substantially all of the business of the Corporation to assume expressly and agree to perform this Agreement in the same manner and to the extent that the Corporation would be required to perform it if no such event resulting in a successor had taken place. As used in this Agreement, "Corporation" shall mean the Corporation and any successor to its business and/or assets as aforesaid which assumes and agrees, or is otherwise obligated, to perform this Agreement by operation of law, or otherwise.

5.2 No Effect on Other Agreements; Inconsistent Provisions. This Agreement shall be in addition to, and have no effect on, the provisions of any other agreements, including without limitation indemnification agreements and proprietary inventions/confidentiality agreements that may exist between the Corporation and the Executive. Notwithstanding the foregoing, to the extent that the terms and conditions of this Agreement are inconsistent with those found in any other agreement or plan to which the Corporation and the Executive are each a party, the terms and conditions of this Agreement shall be controlling.

5.3. Controlling Law. This Agreement shall in all respects be governed by, and construed in accordance with, the laws of the State of Delaware (without regard to the principles of conflicts of laws).

5.4. Arbitration. DISPUTES REGARDING THE EXECUTIVE'S EMPLOYMENT WITH THE CORPORATION, INCLUDING, WITHOUT LIMITATION, ANY DISPUTE HEREUNDER, WHICH CANNOT BE RESOLVED BY NEGOTIATIONS BETWEEN THE CORPORATION AND THE EXECUTIVE SHALL BESUBMITTED TO, AND SOLELY DETERMINED BY, FINAL AND BINDING ARBITRATION CONDUCTEDBY JAMS/ENDISPUTE, INC. OR ANY SUCCESSOR THERETO, IN ACCORDANCE WITH JAMS/ENDISPUTE, INC.'S ARBITRATION RULES APPLICABLE TO EMPLOYMENT DISPUTES, AND THE PARTIES AGREE TO BE BOUND BY THE FINAL AWARD OF THE ARBITRATOR IN ANY SUCH PROCEEDING. THE ARBITRATOR SHALL APPLY THE LAWS OF THE STATE OF DELAWARE WITH RESPECT TO THE INTERPRETATION OR ENFORCEMENT OF ANY MATTER RELATING TO THIS AGREEMENT. ARBITRATION MAY BE HELD IN BALTIMORE, MARYLAND OR SUCH OTHER PLACE AS THE PARTIES HERETO MAY MUTUALLY AGREE, AND SHALL BE CONDUCTED SOLELY BY A FORMER JUDGE. JUDGMENT UPON THE AWARD BY THE ARBITRATOR MAY BE ENTERED IN ANY COURT HAVING JURISDICTION THEREOF. THE PREVAILING PARTY IN THE ARBITRATION, AS DETERMINED BY THE ARBITRATOR, SHALL BE ENTITLED TO REIMBURSEMENT OF HIS REASONABLE ATTORNEY'S FEES AND DISBURSEMENTS INCURRED IN SUCH PROCEEDINGS BY THE NON-PREVAILING PARTY.

5.5. Severability. Any provision in this Agreement which is prohibited or unenforceable shall be ineffective only to the extent of such prohibition or unenforceability without invalidating or affecting the remaining provisions hereof.

5.6. Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which together will constitute one and the same instrument.

5.7. Integrated Agreement. This Agreement constitutes the entire understanding and agreement of Executive and the Corporation with respect to the subject matter contained herein, and there are no agreements, understandings, restrictions, representations, or warranties among Executive and the Corporation other than those as set forth or provided for herein.

5.8. Tax Advice. Executive represents and warrants that he has consulted with a tax advisor of his own choosing in connection with understanding and planning for any and all federal or state income or capital gains taxes associated with this Agreement, and that he has not received and is not expecting or relying on the Corporation for such advice.

IN WITNESS WHEREOF, the Parties have executed and delivered this Agreement on the date first above written.

CIENA CORPORATION	EXECUTIVE
By: ___________________	By: ________________
Name: Patrick H. Nettles	Name: Gary B. Smith
Title: Chief Executive Officer	

EXHIBIT 10.22

CIENA CORPORATION
1999 NON-OFFICER STOCK OPTION PLAN

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CIENA CORPORATION
1999 NON-OFFICER STOCK OPTION PLAN

CIENA Corporation, sets forth herein the terms of this 1999 Non-Officer Stock Option Plan (the "Plan") as follows:

1. PURPOSE

The Plan is intended to advance the interests of the Company by providing eligible individuals (as designated pursuant to Section 5 below) with incentives to improve business results, by providing an opportunity to acquire or increase a proprietary interest in the Company, which thereby will create a stronger incentive to expend maximum effort for the growth and success of the Company, and will encourage such eligible individuals to continue to serve the Company. To this end, the Plan provides for the grant of stock options as set out herein.

2. DEFINITIONS

For purposes of interpreting the Plan and related documents (including Stock Option Agreements), the following definitions shall apply:

2.1. "Affiliate" means any company or other trade or business that is controlled by or under common control with the Company (determined in accordance with the principles of Section 414(b) and 414(c) of the Code and the regulations thereunder).

2.2. "Agreement" means a written agreement between the Company and the recipient individual that sets out the terms and conditions of the grant of an Incentive Award.

2.3. "Board" means the Board of Directors of the Company.

2.4. "Code" means the Internal Revenue Code of 1986, as now in effect or as hereafter amended.

2.5. "Committee" means the committee appointed by the Board pursuant to Section 3.2of the Plan.

2.6. "Company" means CIENA Corporation.

2.7. "Effective Date" means the date of adoption of the Plan by the Board.

2.8. "Exchange Act" means the Securities Exchange Act of 1934, as now in effect or as hereafter amended.

2.9. "Exercise Price" means the Option Price multiplied by the number of Shares purchased pursuant to the exercise of an Option.

2.10. "Expiration Date" means the date fixed for termination of the Option at the time it is granted, or, if earlier, the termination of the Option pursuant to Section 17.3.

2.11. "Fair Market Value" means the value of each Share subject to the Plan determined as follows: if on the Grant Date or other determination date the Shares are listed on an established national or regional stock exchange, are admitted to quotation on the National Association of Securities Dealers Automated Quotation System, or are publicly traded on an established securities market, the Fair Market Value of the Shares shall be the closing

price of the Shares on such exchange or in such market (the highest such closing price if there is more than one such exchange or market) on the trading day immediately preceding the Grant Date or such other determination date (or if there is no such reported closing price, the Fair Market Value shall be the mean between the highest bid and lowest asked prices or between the high and low sale prices on such trading day) or, if no sale of the Shares is reported for such trading day, on the next preceding day on which any sale shall have been reported. If the Shares are not listed on such an exchange, quoted on such System or traded on such a market, Fair Market Value shall be determined by the Board in good faith.

2.12. "Grant Date" means the later of (i) the date as of which the Board approves the grant, (ii) the date as of which the Optionee and the Company or Subsidiary enter the relationship resulting in the Optionee being eligible for grants and (iii) such other date as may be specified by the Board.

2.13. "Incentive Award" means an award of an Option under the Plan.

2.14. "Option" means an option to purchase one or more Shares pursuant to the Plan.

2.15. "Optionee" means a person who holds an Option under the Plan.

2.16. "Option Period" means the period during which Options may be exercised as defined in Section 11.

2.17. "Option Price" means the purchase price for each Share subject to an Option.

2.18. "Plan" means the CIENA Corporation 1999 Nonofficer Stock Option Plan.

2.19. "Reporting Person" means a person who is required to file reports under Section 16(a) of the Securities Exchange Act of 1934, as amended.

2.20. "1933 Act" means the Securities Act of 1933, as now in effect or as hereafter amended.

2.21. "Shares" mean shares of common stock, par value $.01 per Share, of the Company.

2.22. "Stock Option Agreement" means the written agreement evidencing the grant of an Option hereunder.

2.23. "Subsidiary" means any "subsidiary corporation" of the Company within the meaning of Section 425(f) of the Code.

3. ADMINISTRATION

3.1. BOARD.

The Plan shall be administered by the Board, which shall have the full power and authority to take all actions and to make all determinations required or provided for under the Plan or any Option granted or Stock Option Agreement entered into hereunder and all such other

actions and determinations not inconsistent with the specific terms and provisions of the Plan deemed by the Board to be necessary or appropriate to the administration of the Plan or any Option granted or Stock Option Agreement entered into hereunder. The interpretation and construction by the Board of any provision of the Plan or of any Option granted or Stock Option Agreement entered into hereunder shall be final and conclusive.

3.2. COMMITTEE

The Board may from time to time appoint the Committee, and the Board, in its sole discretion, may provide that the role of the Committee shall be limited to making recommendations to the Board concerning any determinations to be made and actions to be taken by the Board pursuant to or with respect to the Plan, or the Board may delegate to the Committee such powers and authorities related to the administration of the Plan, as set forth in Section 3.1 hereof, as the Board shall determine, consistent with the Certificate of Incorporation and Bylaws of the Company and applicable law. In the event that the Plan or any Option granted or Stock Option Agreement entered into hereunder provides for any action to be taken by or determination to be made by the Board, such action may be taken by or such determination may be made by the Committee if the power and authority to do so has been delegated to the Committee by the Board as provided for in this Section 3.2. Unless otherwise expressly determined by the Board, any such action or determination by the Committee shall be final and conclusive.

3.3. NO LIABILITY

No member of the Board or of the Committee shall be liable for any action or determination made, or any failure to take or make an action or determination, in good faith with respect to the Plan or any Option granted or Stock Option Agreement entered into hereunder.

4. SHARES

The Shares that may be issued pursuant to Incentive Awards may be treasury Shares or authorized but unissued Shares. The number of Shares that may be issued pursuant to Incentive Awards under the Plan shall not exceed, in the aggregate, six million (6,000,000) Shares. If any Incentive Award expires, terminates, or is terminated or canceled for any reason prior to exercise or vesting in full, the Shares that were subject to the unexercised, forfeited, or terminated portion of such Incentive Award shall be available immediately for future grants of Incentive Awards under the Plan.

5. ELIGIBILITY

5.1. DESIGNATED RECIPIENTS

Incentive Awards may be granted under the Plan to (i) any full-time employee of the Company or any Subsidiary as the Board shall determine and designate from time to time or (ii) any other individual whose participation in the Plan is determined by the Board to be in the best interests of the Company and is so designated by the Board (such determination to be deemed to be made with respect to any recipient by virtue of the grant of an Incentive Award such individual); provided, however, that any individual who is a Reporting Person, as defined in Section 2 above, shall not participate in the Plan and shall not be granted Incentive Awards under the Plan.

5.2. SUCCESSIVE GRANTS

An individual may hold more than one Incentive Award, subject to such restrictions as are provided herein.

6. EFFECTIVE DATE AND TERM OF THE PLAN

6.1. EFFECTIVE DATE

The Plan shall be effective as of August 18, 1999, the date of adoption by the Board.

6.2. TERM

The Plan has no termination date.

7. GRANT OF OPTIONS

Subject to the terms and conditions of the Plan, the Board may, at any time and from time to time, grant to such eligible individuals as the Board may determine, Options to purchase such number of Shares on such terms and conditions as the Board may determine. Such authority specifically includes the authority, in order to effectuate the purposes of the Plan but without amending the Plan, to modify grants to eligible individuals who are foreign nationals or are individuals who are employed outside the United States to recognize differences in local law, tax policy, or custom.

8. PARACHUTE LIMITATIONS

Notwithstanding any other provision of this Plan or of any other agreement, contract, or understanding heretofore or hereafter entered into by the Optionee with the Company, except an agreement, contract, or understanding hereafter entered into that expressly modifies or excludes application of this paragraph (an "Other Agreement"), and notwithstanding any formal or informal plan or other arrangement for the direct or indirect provision of compensation to the Optionee (including groups or classes of participants or beneficiaries of which the Optionee is a member), whether or not such compensation is deferred, is in cash, or is in the form of a benefit to or for the Optionee (a "Benefit Arrangement"), if the Optionee is a "disqualified individual," as defined in Section 280G(c) of the Code, any Option or right to receive any payment or other benefit under this Plan held by the Optionee shall not become exercisable or vested (i) to the extent that such right to exercise, vesting, payment, or benefit, taking into account all other rights, payments, or benefits to or for the Optionee under this Plan, all Other Agreements, and all Benefit Arrangements, would cause any payment or benefit to the Optionee under this Plan to be considered a "parachute payment" within the meaning of Section 280G(b)(2) of the Internal Revenue Code as then in effect (a "Parachute Payment") and (ii) if, as a result of receiving a Parachute Payment, the aggregate after-tax amounts received by the Optionee from the Company under this Plan, all Other Agreements, and all Benefit Arrangements would be less than the maximum after-tax amount that could be received by him or her without causing any such payment or benefit to be considered a Parachute Payment. In the event that the receipt of any such right to exercise, vesting, payment, or benefit under this Plan, in conjunction with all other rights, payments, or benefits to or for the Optionee under any Other Agreement or any Benefit Arrangement would cause the Optionee to be considered to have received a Parachute Payment under this Plan that would have the effect of decreasing the after-tax amount received by the Optionee as described in clause (ii) of the preceding sentence, then the Optionee shall have the right, in the Optionee's sole discretion, to designate those rights, payments, or benefits under this Plan, any Other Agreements, and any Benefit Arrangements that should be reduced or eliminated so as to avoid having the payment or benefit to the Optionee under this Plan be deemed to be a Parachute Payment.

9. STOCK OPTION AGREEMENTS

All Options granted pursuant to the Plan shall be evidenced by Stock Option Agreements, to be executed by the Company and by the Optionee, in such form or forms as the Board shall from time to time determine. Stock Option Agreements covering Options granted from time to time or at the same time need not contain similar provisions; provided, however, that all such Option Agreements shall comply with all terms of the Plan.

10. OPTION PRICE

The Option Price shall be fixed by the Board and stated in each Stock Option Agreement. The Option Price shall not be less than 85% of the Fair Market Value of the Shares.

11. TERM AND EXERCISE OF OPTIONS

11.1. TERM

Each Option granted under the Plan shall terminate and all rights to purchase shares thereunder shall cease at such time as may be fixed by the Board and stated in the Stock Option Agreement relating to such Option.

11.2. OPTION PERIOD AND LIMITATIONS ON EXERCISE

Each Option granted under the Plan shall be exercisable, in whole or in part, at any time and from time to time over a period commencing on or after the Grant Date and ending upon the expiration or termination of the Option, as the Board shall determine and set forth in the Stock Option Agreement relating to such Option. Without limiting the foregoing, the Board, subject to the terms and conditions of the Plan, may in its sole discretion provide that an Option may not be exercised in whole or in part for a stated period or periods of time during which such Option is outstanding; provided, however, that any such limitation on the exercise of an Option contained in any Stock Option Agreement may be rescinded, modified or waived by the Board, in its sole discretion, at any time and from time to time after the Grant Date of such Option, so as to accelerate the time at which the Option may be exercised.

11.3. TERMINATION OF EMPLOYMENT

Upon the termination of the employment of an Optionee with the Company, a Subsidiary or an Affiliate, other than by reason of the death or "permanent and total disability" (within the meaning of Section 22(e)(3) of the Code), any Option granted to an Optionee pursuant to the Plan shall terminate, and such Optionee shall have no further right to purchase Shares pursuant to such Option; provided further, that the Board may provide, by inclusion of appropriate language in any Stock Option Agreement, that an Optionee may (subject to the general limitations on exercise set forth in Section 11.2 above), in the event of termination of employment of the Optionee with the Company, a Subsidiary or an Affiliate, exercise an Option, in whole or in part, at any time subsequent to such termination of employment and prior to termination of the Option pursuant to Section 11.1 above, either subject to or without regard to any installment limitation on exercise imposed pursuant to Section 11.2 above, as the Board, in its sole and absolute discretion, shall determine and set forth in the Stock Option Agreement. Whether a leave of absence or leave on military or government service shall constitute a termination of employment for purposes of the Plan, shall be determined by the Board, which determination shall be final and conclusive. For purposes of the Plan, a termination of employment with the Company, a Subsidiary or an Affiliate shall not be deemed to occur if the Optionee is immediately thereafter employed with the Company, any other Subsidiary or any other Affiliate.

11.4. RIGHTS IN THE EVENT OF DEATH

If an Optionee dies while employed by the Company, a Subsidiary or an Affiliate, the executors or administrators or legatees or distributees of such Optionee's estate shall have the right (subject to the general limitations on exercise set forth in Section 11.2 above), at any time within one year after the date of such Optionee's death and prior to termination of the Option pursuant to Section 11.1 above, to exercise any Option held by such Optionee at the date of such Optionee's death, to the extent such Option was exercisable immediately prior to such Optionee's death; provided, however, that the Board may provide by inclusion of appropriate language in

any Stock Option Agreement that, in the event of the death of an Optionee, the executors or administrators or legatees or distributees of such Optionee's estate may exercise an Option (subject to the general limitations on exercise set forth in Section 11.2 above), in whole or in part, at any time subsequent to such Optionee's death and prior to termination of the Option pursuant to Section 11.1 above, either subject to or without regard to any installment limitation on exercise imposed pursuant to Section 11.2 above, as the Board, in its sole and absolute discretion, shall determine and set forth in the Stock Option Agreement.

11.5. RIGHTS IN THE EVENT OF DISABILITY

If an Optionee terminates employment with the Company, a Subsidiary or an Affiliate by reason of the "permanent and total disability" (within the meaning of Section 22(e)(3) of the Code) of such Optionee, then such Optionee shall have the right (subject to the general limitations on exercise set forth in Section 11.2 above), at any time within one year after such termination of employment and prior to termination of the Option pursuant to Section 11.1 above, to exercise, in whole or in part, any Option held by such Optionee at the date of such termination of employment, to the extent such Option was exercisable immediately prior to such termination of employment; provided, however, that the Board may provide, by inclusion of appropriate language in any Stock Option Agreement, that an Optionee may (subject to the general limitations on exercise set forth in Section 11.2 above), in the event of the termination of employment of the Optionee with the Company, a Subsidiary or an Affiliate by reason of the "permanent and total disability" (within the meaning of Section 22(e)(3) of the Code) of such Optionee, exercise an Option, in whole or in part, at any time subsequent to such termination of employment and prior to termination of the Option pursuant to Section 11.1 above, either subject to or without regard to any installment limitation on exercise imposed pursuant to Section 11.2 above, as the Board, in its sole and absolute discretion, shall determine and set forth in the Stock Option Agreement. Whether a termination of employment is to be considered by reason of "permanent and total disability" for purposes of this Plan shall be determined by the Board, which determination shall be final and conclusive.

11.6. LIMITATIONS ON EXERCISE OF OPTION

Notwithstanding the foregoing Sections, in no event may the Option be exercised, in whole or in part, or after the occurrence of an event referred to in Section 17.3 below which results in termination of the Option. In no event may the Option be exercised for a fractional Share.

11.7. METHOD OF EXERCISE

An Option that is exercisable hereunder may be exercised by the Optionee's delivery to the Company of written notice of the exercise and the number of Shares for which the Option is being exercised. Such delivery shall occur on any business day, at the Company's principal office, addressed to the attention of the Board. Such notice shall specify the number of Shares with respect to which the Option is being exercised and shall be accompanied by payment in full of the Option Price of the Shares for which the Option is being exercised. The minimum number of Shares with respect to which an Option may be exercised, in whole or in part, at any time shall be the lesser of (i) 100 shares or such lesser number set forth in the applicable Option Agreement and (ii) the maximum number of Shares available for purchase under the Option at the time of exercise. Payment of the Option Price for the Shares purchased pursuant to the

exercise of an Option shall be made (i) in cash or in cash equivalents; (ii) through the tender to the Company of Shares, which, if acquired directly or indirectly from the Company have been held for six months which Shares shall be valued, for purposes of determining the extent to which the Option Price has been paid thereby, at their Fair Market Value on the date of exercise; or (iii) by a combination of the methods described in (i) and (ii). The Board may provide, by inclusion of appropriate language in an Stock Option Agreement, that payment in full of the Option Price need not accompany the written notice of exercise provided the notice of exercise directs that the Share certificate or certificates for the Shares for which the Option is exercised be delivered to a licensed broker acceptable to the Company as the agent for the individual exercising the Option and, at the time such Share certificate or certificates are delivered, the broker tenders to the Company cash (or cash equivalents acceptable to the Company) equal to the Option Price for the Shares purchased pursuant to the exercise of the Option plus the amount (if any) of federal and/or other taxes which the Company may in its judgment, be required to withhold with respect to the exercise of the Option. An attempt to exercise any Option granted hereunder other than as set forth above shall be invalid and of no force and effect. Promptly after the exercise of an Option and the payment in full of the Option Price of the Shares covered thereby, the individual exercising the Option shall be entitled to the issuance of a Share certificate or Share certificates evidencing his or her ownership of such Shares. Unless otherwise stated in the applicable Stock Option Agreement, an individual holding or exercising an Option shall have none of the rights of a stockholder (for example, the right to receive cash or dividend payments attributable to the subject Shares or to direct the voting of the subject Shares) until the Shares covered thereby are fully paid and issued to him or her. Except as provided in Section 0 below, no adjustment shall be made for dividends or other rights for which the record date is prior to the date of such issuance.

12. TRANSFERABILITY OF SHARES AND OPTIONS

During the lifetime of an Optionee, only such Optionee or grantee (or, in the event of legal incapacity or incompetency, the guardian or legal representative of the Optionee or grantee) may exercise the Option.

13. USE OF PROCEEDS

The proceeds received by the Company from the sale of Shares pursuant to the exercise of Options granted under the Plan shall constitute general funds of the Company.

14. REQUIREMENTS OF LAW

The Company shall not be required to sell or issue any Shares under any Incentive Award if the sale or issuance of such Shares would constitute a violation by the Optionee, the individual exercising the Option, or the Company of any provisions of any law or regulation of any governmental authority, including without limitation any federal or state securities laws or regulations. If at any time the Company shall determine, in its discretion, that the listing, registration or qualification of any Shares subject to the Option upon any securities exchange or under any governmental regulatory body, is necessary or desirable as a condition of, or in connection with, the issuance or purchase of Shares hereunder, the Option may not be exercised in whole or in part unless such listing registration, qualification, consent or approval shall have been effected or obtained free of any conditions not acceptable to the Company, and any delay caused thereby shall in no way affect the date of termination of the Option. Specifically in connection with the 1933 Act, upon the exercise of any Option, unless a registration statement under such act is in effect with respect to the Shares covered by Option, the Company shall not be required to sell or issue such Shares unless the Board has received evidence satisfactory to it that the holder of such Option, may acquire such Shares pursuant to an exemption from registration under such act. Any determination in this connection by the Board shall be final, binding, and conclusive. The Company may, but shall in no event be obligated to, register any securities covered hereby pursuant to the 1933 Act. The Company shall not be obligated to take any affirmative action in order to cause the exercise of an Option to comply with any law or regulation of any governmental authority. As to any jurisdiction that expressly imposes the requirement that an Option shall not be exercisable unless and until the

Shares covered by such Option are registered or are exempt from registration, the exercise of such Option (under circumstances in which the laws of such jurisdiction apply) shall be deemed conditioned upon the effectiveness of such registration or the availability of such an exemption.

15. AMENDMENT AND TERMINATION OF THE PLAN

The Board may, at any time and from time to time, amend, suspend, or terminate the Plan as to any Shares as to which Incentive Awards have not been granted. The Company may retain the right in an Agreement to cause a forfeiture of the Shares or gain realized by a holder of an Incentive Award on account of the holder taking actions in "competition with the Company," as defined in the applicable Agreement. Furthermore, the Company may annul the grant of an Option if the holder of such grant was an employee of the Company or a Subsidiary and is terminated "for cause," as defined in the applicable Agreement. Except as permitted under this Section 15 or Section 17 hereof, no amendment, suspension, or termination of the Plan shall, without the consent of the holder of the Incentive Award, alter or impair rights or obligations under any Incentive Award theretofore granted under the Plan.

16. EXCHANGE ACT: RULE 16b-3

16.1. GENERAL

The Plan is intended to comply with Rule 16b-3 ("Rule 16b-3") under the Exchange Act. Any provision inconsistent with Rule 16b-3 shall, to the extent permitted by law and determined to be advisable by the Board (constituted in accordance with Section 16.2 hereof) or the Board (acting pursuant to Section 16.3 hereof), be inoperative and void.

16.2. COMMITTEE

The Committee appointed pursuant to Section 3.2 hereof shall consist of not fewer than two members of the Board each of whom shall qualify (at the time of appointment to the Committee and during all periods of service on the Committee) in all respects as a "non-employee director" as defined in Rule 16b-3.

16.3. ADDITIONAL RESTRICTION ON TRANSFER OF SHARES

No director, officer or other "insider" of the Corporation subject to Section 16 of the Exchange Act shall be permitted to sell Shares (which such "insider" had received upon exercise of an Option) during the six months immediately following the grant of such Option.

17. EFFECT OF CHANGES IN CAPITALIZATION

17.1. CHANGES IN SHARES

If the number of outstanding Shares is increased or decreased or the Shares are changed into or exchanged for a different number or kind of Shares or other securities of the Company on account of any recapitalization, reclassification, stock split, reverse split, combination of Shares, exchange of Shares, Share dividend or other distribution payable in capital stock, or other increase or decrease in such Shares effected without receipt of consideration by the Company, occurring after the closing of the initial public offering of Shares of the Company, the number and kinds of Shares for the acquisition of which Options may be granted under the Plan shall be adjusted proportionately and accordingly by the Company. In addition, the number and kind of Shares for which Options are outstanding shall be adjusted proportionately and accordingly so that the proportionate interest of the holder of the Option immediately following such event shall, to the extent practicable, be the same as immediately before such event. Any such adjustment in outstanding Options shall not change the aggregate Option Price payable with respect to Shares that are subject to the unexercised portion of the Option outstanding but shall include a corresponding proportionate adjustment in the Option Price per Share.

17.2. REORGANIZATION IN WHICH THE COMPANY IS THE SURVIVING ENTITY

Subject to Section 17.3 hereof, if the Company shall be the surviving Entity in any reorganization, merger, or consolidation of the Company with one or more other entities, any Option theretofore granted pursuant to the Plan shall pertain to and apply to the securities to which a holder of the number of Shares subject to such Option would have been entitled immediately following such reorganization, merger, or consolidation, with a corresponding proportionate adjustment of the Option Price per Share so that the aggregate Option Price thereafter shall be the same as the aggregate Option Price of the Shares remaining subject to the Option immediately prior to such reorganization, merger, or consolidation.

17.3. REORGANIZATION IN WHICH THE COMPANY IS NOT THE SURVIVING ENTITY OR SALE OF ASSETS OR SHARES

Upon the dissolution or liquidation of the Company, or upon a merger, consolidation, or reorganization of the Company with one or more other entities in which the Company is not the surviving entity, or upon a sale of substantially all of the assets of the Company to another entity, or upon any transaction (including, without limitation, a merger or reorganization in which the Company is the surviving entity) approved by the Board that results in any person or entity (or person or entities acting as a group or otherwise in concert) owning 80 percent or more of the combined voting power of all classes of securities of the Company, the Plan and all Options outstanding hereunder shall terminate, except to the extent provision is made in writing in connection with such transaction for the continuation of the Plan or the assumption of such Options theretofore granted, or for the substitution for such Options of new options covering the stock of a successor Company, or a parent or subsidiary thereof, with appropriate adjustments as to the number and kinds of shares and exercise prices, in which event the Plan and Options theretofore granted shall continue in the manner and under the terms so provided. In the event of any such termination of the Plan, each individual holding an Option shall have the right (subject to the general limitations on exercise set forth in Section 11.2 above), immediately before the occurrence of such termination and during such period occurring before such termination as the Board in its sole discretion shall determine and designate, to exercise such Option in whole or in part, whether or not such Option was otherwise exercisable at the time such termination occurs. The Board shall send written notice of an event that will result in such a termination to all individuals who hold Options not later than the time at which the Company gives notice thereof to its stockholders but in no event less than 30 days before the occurrence of such termination.

17.4. ADJUSTMENTS

Adjustments under this Section 17 related to Shares or securities of the Company shall be made by the Board, whose determination in that respect shall be final, binding, and conclusive. No fractional Shares or units of other securities shall be issued pursuant to any such adjustment, and any fractions resulting from any such adjustment shall be eliminated in each case by rounding downward to the nearest whole share or unit.

17.5. NO LIMITATIONS ON COMPANY

The grant of Shares and Incentive Awards pursuant to the Plan shall not affect or limit in any way the right or power of the Company to make adjustments, reclassifications, reorganizations, or changes of its capital or business structure or to merge, consolidate, dissolve, or liquidate, or to sell or transfer all or any part of its business or assets.

18. DISCLAIMER OF RIGHTS

No provision in the Plan or in any Incentive Award granted or Agreement entered into pursuant to the Plan shall be construed to confer upon any individual the right to remain in the employ or service of the Company, any Subsidiary or any Affiliate, or to interfere in any way with any contractual or other right or authority of the Company, any Subsidiary or any Affiliate either to increase or decrease the compensation or other payments to any individual at any time, or to terminate any employment or other relationship between any individual and the Company, a Subsidiary or an Affiliate. In addition, notwithstanding anything contained in the Plan to the contrary, unless otherwise stated in the applicable Agreement, no Incentive Award granted under the Plan shall be affected by any change of duties or position of the Optionee (including a transfer to or from the Company, a Subsidiary or an Affiliate), so long as such Optionee continued to be a director, officer, consultant, employee, or independent contractor (as the case may be) of the Company, a Subsidiary or an Affiliate. The obligation of the Company to pay any benefits pursuant to this Plan shall be interpreted as a contractual obligation to pay only those amounts described herein, in the manner and under the conditions prescribed herein. The Plan shall in no way be interpreted to require the Company to transfer any amounts to a third party director or otherwise hold any amounts in trust or escrow for payment to any participant or beneficiary under the terms of the Plan.

19. NONEXCLUSIVITY OF THE PLAN

The adoption of the Plan shall not be construed as creating any limitations upon the right and authority of the Board to adopt such other incentive compensation arrangements (which arrangements may be applicable either generally to a class or classes of individuals or specifically to a particular individual or particular individuals) as the Board in its discretion determines desirable, including, without limitation, the granting of stock options otherwise than under the Plan.

20. CAPTIONS

The use of captions in this Plan or any Agreement is for the convenience of reference only and shall not affect the meaning of any provision of the Plan or such Agreement.

21. WITHHOLDING TAXES

21.1. WITHHOLDING

The Company shall have the right to deduct from payments of any kind otherwise due to an Optionee any Federal, state, or local taxes of any kind required by law to be withheld with respect to any Shares issued upon the exercise of an Option under the Plan. At the time of exercise the Optionee shall pay to the Company any amount that the Company may reasonably determine to be necessary to satisfy such withholding obligation. Subject to the prior approval of the Company, which may be withheld by the Company in its sole discretion, the Optionee may elect to satisfy such obligations, in whole or in part, (i) by causing the Company to withhold Shares otherwise issuable pursuant to the exercise of an Option or (ii) by delivering to the Company Shares already owned by the Optionee. The Shares so delivered or withheld shall have a fair market value equal to such withholding obligations. The fair market value of the Shares used to satisfy such withholding obligation shall be determined by the Company as of the date that the amount of tax to be withheld is to be determined. An Optionee who has made an election pursuant to this Section 21.1 may only satisfy his or her withholding obligation with Shares that are not subject to any repurchase, forfeiture, unfulfilled vesting, or other similar requirements.

21.2. LIMITATIONS FOR REPORTING PERSON

Notwithstanding the foregoing, in the case of a Reporting Person, no election to use Shares for the payment of withholding taxes shall be effective unless made in compliance with any applicable requirements under Rule 16b-3(e) or any successor rule under the Exchange Act.

22. OTHER PROVISIONS

Each Incentive Award granted under the Plan may contain such other terms and conditions not inconsistent with the

Plan as may be determined by the Board, in its sole discretion.

23. NUMBER AND GENDER

With respect to words used in this Plan, the singular form shall include the plural form, the masculine gender shall include the feminine gender, etc., as the context requires.

24. SEVERABILITY

If any provision of the Plan or any Agreement shall be determined to be illegal or unenforceable by any court of law in any jurisdiction, the remaining provisions hereof and thereof shall be severable and enforceable in accordance with their terms, and all provisions shall remain enforceable in any other jurisdiction.

25. GOVERNING LAW

The validity and construction of this Plan and the instruments evidencing the Incentive Awards granted hereunder shall be governed by the laws of the State of Maryland without regard to the choice of law provisions thereof. The Plan was duly adopted and approved by the Board of Directors of the Company on the 18th day of August, 1999.

Michael O. McCarthy
Secretary of the Company

CIENA CORPORATION
1999 NON-OFFICER STOCK OPTION PLAN
NON-QUALIFIED STOCK OPTIONS

GRANT DATE: ____________ NUMBER OF SHARES OF COMMON STOCK COVERED BY OPTION: ____________
EXERCISE PRICE: $____________ LAST DATE TO EXERCISE: ____________ (1)

We are pleased to inform you that the Corporation has granted you an option to purchase shares of CIENA Corporation common stock (the "Option"). Your grant has been made under the CIENA 1999 Non-Officer Stock Option Plan (the "Plan"), which, together with the terms contained in this Agreement, sets forth the terms and conditions of your grant and is incorporated herein by reference. A copy of the Plan is attached. Please review it carefully. If any provisions of the Agreement should appear to be inconsistent with the Plan, the Plan will control.

This Option Agreement has been duly executed and delivered by all parties hereto, as of the above written Grant Date.

ACCEPTED AND AGREED TO: CIENA CORPORATION:

By: ----------------------------

- --------------------------
Name of Grantee: ----------

Name: --------------------------

Title: -------------------------

THIS IS NOT A STOCK CERTIFICATE OR A NEGOTIABLE INSTRUMENT. NON-TRANSFERABLE.

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(1) Certain events can cause an earlier termination of the Option. See "Exercise" on reverse side.

VESTING:

Subject to the terms of the Plan, the Option becomes vested as to 25% of the shares purchasable pursuant to the Option on the last day of the calendar month in which occurs the date one (1) year after the Grant Date (the "Initial Vesting Date"), if you have been providing services to the Corporation or an Affiliate continuously from the Grant Date to the Initial Vesting Date. Thereafter, the Option shall become vested as to an additional 2.084% of shares purchasable pursuant to the Option for each full month you have been providing continuous services to the Corporation or an Affiliate.

EXERCISE:

You may exercise this Option, in whole or in part, to purchase a whole number of vested shares at any time of not less than 100 shares, unless the number of shares purchased is the total number available for purchase under the Option, by following the exercise procedures as set forth in the Plan. All exercises must take place before the last Date to Exercise, or such earlier date following your death, disability or your ceasing to provide services as described below under "Service Requirements." The number of shares you may purchase as of any date cannot exceed the total number of shares vested by that date, less any shares you have previously acquired by exercising this Option. Certain corporate transactions involving the Corporation may cause your Option to terminate prior to the last Date to Exercise. The Plan provides important information regarding these corporate transactions.

TRANSFER OF CONTROL:

A "Transfer of Control" shall be deemed to have occurred in the event any of the following occurs with respect to the Corporation: (a) the direct or indirect sale or exchange by the stockholders of the Corporation of all or substantially all of the stock of the Corporation where the stockholders of the Corporation before such sale or exchange do not retain, directly or indirectly, at least a majority of the beneficial interest in the voting stock of the surviving, continuing, successor, or purchasing corporation or parent corporation thereof, as the case may be, (the "Acquiring Corporation") after such sale or exchange; (b) a merger or consolidation where the stockholders of the Corporation before such merger or consolidation do not retain, directly or indirectly, at least a majority of the beneficial interest in the voting stock of the Acquiring Corporation after such merger or consolidation; (c) the sale, exchange, or transfer of all or substantially all of the assets of the Corporation (other than a sale, exchange, or transfer to one (1) or more subsidiary corporations (as defined in clause (a) above) of the Corporation); or (d) a liquidation or dissolution of the Corporation. Each Option holder shall be credited, as of the proposed effective date of a Transfer of Control, and if still employed by the Corporation on the date such Transfer of Control is consummated, with twelve (12) full months of additional vesting of the shares subject to his/her Option, or full vesting to the extent permitted under Section 17.3 of the Plan.

SERVICE REQUIREMENTS:

If you cease to provide services to the Corporation or an Affiliate, all further vesting of shares under this grant stops, and all unvested shares are canceled. You will have ninety (90) days after your provision of services ceases to exercise your vested Options (unless your services are terminated for "Cause"), and in the event of your death or permanent and total disability you or your estate will have a period of one year to exercise any Options, to the extent such Option was otherwise exercisable, at the time of your death or permanent and total disability.

FORFEITURE:

The Corporation shall have the right to cause a forfeiture of your rights under this Agreement, including, but not limited to, the right to cause you to forfeit any outstanding Option in the event that the Company finds that you have: (i) violated the terms of any confidentiality agreement or obligation between you and the Corporation or an Affiliate; (ii) accepted employment with an entity which the Corporation determines is in a business that could result in comprising any confidentiality agreement or obligation between you and the Corporation; (iii) willfully failed or refused to perform material assigned duties; or (iv) engaged in willful, deliberate or gross misconduct toward the Corporation or an Affiliate.

TAXES AND WITHHOLDING:

This Option shall not constitute an incentive stock option within the meaning of Section 422 of the Internal Revenue Code of 1986, as amended. In the event that the Corporation determines that any federal, state, local or foreign tax or withholding payment is required relating to the exercise or sale of shares arising from this grant, the Corporation shall have the right to require such payments from you, or withhold such amounts from other payments due to you from the Corporation or an Affiliate.

* * * *

EXHIBIT 10.23

10500-A RIDGE VIEW COURT, CUPERTINO, CALIFORNIA

LEASE

BETWEEN

RIDGEVIEW COURT ASSOCIATES, L.L.C.,
A DELAWARE LIMITED LIABILITY COMPANY

AND

CIENA CORPORATION,
A DELAWARE CORPORATION

LEASE

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Exhibit B - Diagram of Basement Space
Exhibit C - Diagram of Project
Exhibit D - Initial Improvement of the Premises
Exhibit E - Term Commencement Memorandum
Exhibit F - Subordination, Non-Disburbance and Attornment Agreement
Exhibit G - H-P Exclusive Parking Area

BASIC LEASE INFORMATION

DATE:	June 1, 1999
LANDLORD:	RIDGEVIEW COURT ASSOCIATES, L.L.C., a Delaware limited liability company
TENANT:	CIENA CORPORATION, a Delaware corporation
PREMISES:	See Exhibit A, Exhibit B, and Section 1
APPROXIMATE RENTABLE AREA:	One Hundred Eight Thousand Seven Hundred Fifty-One (108,751) rentable square feet of space in Building 3 (53,510 on 1st floor and 55,241 on 2nd floor), and seven thousand (7,000) rentable square feet of basement storage space in Building 2
BUILDINGS IN WHICH PREMISES LOCATED:	Building 3 and basement storage space in Building 2; See Section 1
PROJECT:	10500-A Ridge View Court (See Exhibit D)
USE:	General office use; research and development; and light manufacturing of products
TERM:	Ten (10) years
ANTICIPATED COMMENCEMENT DATE:	October 25, 1999 (See Section 3.1)
OPTION TO EXTEND:	One (1) extension option of five (5) years

BASE RENT:

Lease Year	Monthly Rate
1	$299,065
2	308,037
3	317,278
4	326,797
5	336,600
6	346,699
7	357,099
8	367,812
9	378,847
10	390,212

SECURITY DEPOSIT: Two Hundred Ninety Thousand Dollars ($290,000.00)

ADDRESS FOR NOTICES:

LANDLORD:

Ridgeview Court Associates, L.L.C.
c/o Vintage Properties
314 Lytton Avenue, Suite 200
Palo Alto, CA 94301
Attn: Joseph R. Seiger

TENANT:

Ciena Corporation
1201 Winterson Road
Linthicum, MD 21090
Attn: Joseph Chinnici, Chief Financial Officer

EXHIBITS:

Exhibit A - Diagram of Premises
Exhibit B - Diagram of Basement Space
Exhibit C - Diagram of Project
Exhibit D - Initial Improvements to Premises
Exhibit E - Term Commencement Memorandum
Exhibit F - Subordination, Non-Disturbance and Attornment Agreement
Exhibit G - H-P Exclusive Parking Area

LEASE

THIS LEASE is made and entered into as of June 1, 1999, by and between RIDGEVIEW COURT ASSOCIATES, L.L.C., a Delaware limited liability company ("Landlord"), and CIENA CORPORATION, a Delaware corporation ("Tenant").

IN CONSIDERATION of the foregoing and of the mutual covenants set forth herein, the parties agree as follows:

I. PREMISES

I.1 DESCRIPTION. Landlord leases to Tenant, and Tenant leases from Landlord, the Premises described in the Basic Lease Information, together with the right in common with the other occupants of the Project to use the Project Common Areas (as hereinafter defined). The Premises are shown on Exhibit A, attached hereto. The rentable area of the Premises shall be deemed to be that stated in the Basic Lease Information. The Premises include approximately seven thousand (7,000) square feet of storage space in the basement of Building 2 ("Basement Space"). The Basement Space is shown on Exhibit B, attached hereto. The Basement Space is not included in the definition of the "Premises" for the purposes of calculating Tenant's Project Percentage Share. Tenant shall have access to the Basement Space pursuant to the common access areas shown on Exhibit B, attached hereto, which common access areas shall be included within the Project Common Areas. For all purposes of this Lease, the Approximate Rentable Square Footage for each portion of the Premises (e.g., Building 3 and the Basement Space in Building 2) stated in the Basic Lease Information shall be deemed to be the actual rentable square footage of the applicable portion.

I.2 Condition of Premises. Subject to Landlord's obligations with respect to the initial improvement of the Premises and the structural condition of Building 3 as set forth in Exhibit D, Tenant acknowledges that by taking possession of the Premises, the Premises shall be deemed to have been delivered to Tenant with the Premises and all building systems, including, but not limited to, HVAC, plumbing and electrical, roofs, and all parking areas in good working order and repair, and in compliance with all applicable laws, codes and ordinances, including the requirements of the Americans with Disabilities Act, 42 U.S.C. Section 12101 et seq. ("ADA"), in effect on the Commencement Date. TENANT ACKNOWLEDGES THAT NEITHER LANDLORD NOR ANY AGENT OF LANDLORD HAS MADE ANY REPRESENTATION OR WARRANTY (EXPRESS OR IMPLIED) WITH RESPECT TO THE PREMISES, THE BUILDINGS, THE PROJECT, OR ANY PORTION THEREOF OR WITH RESPECT TO THE SUITABILITY OF ANY OF THEM FOR THE CONDUCT OF TENANT'S BUSINESS, AND TENANT SHALL RELY SOLELY ON TENANT'S OWN INSPECTION AND EXAMINATION OF THE PREMISES, THE BUILDINGS AND THE PROJECT. Subject to the performance by Landlord of its obligations under Exhibit D relating to the initial improvement of the Premises, Tenant shall accept the Premises in its "as-is" condition as of the Commencement Date.

II. DEFINITIONS

The following definitions, which are in addition to the definitions which appear in other locations within this Lease, shall be applicable to this Lease.

II.1 BUILDINGS/BUILDING. The term "Buildings" shall mean the buildings within the Project, consisting of three (3) inter-connected, two-story buildings (including a two-story link between two (2) of the buildings). The Buildings, which are shown on Exhibit C to this Lease, are referred to as: (i) Building 1; (ii) Building 2; and (iii) Building 3. The term "Building" shall mean any one (1) of the Buildings.

II.2 CC&R'S. The term "CC&Rs" shall mean the Declaration of Covenants, Conditions and Restrictions for Ridgeview Court Business Park dated August 12, 1981, recorded in Book 6271 OR, Page 662 of Official Records of the County of Santa Clara, as amended from time to time.

II.3 EFFECTIVE DATE. The term "Effective Date" shall mean the date of this Lease.

II.4 INTEREST RATE. The term "Interest Rate" shall mean the rate which is the lesser of (a) the prime or reference rate reported from time to time by The Wall Street Journal or its successor as a national business daily newspaper, as the prevailing rate for short term commercial loans, plus four percent (4%) per annum, or (b) the maximum rate permitted by law.

II.5 LAND. The term "Land" shall mean the real property more particularly described in the exhibit to the form of Subordination, Non-Disturbance and Attornment Agreement attached hereto as Exhibit F, which consists of approximately twelve and 54/100 (12.54) acres and upon which the Project and the Buildings are located.

II.6 LEASE YEAR. The term "Lease Year" shall mean the twelve (12) month period commencing on the Commencement Date, if such day is the first day of the month, otherwise commencing on the first day of the calendar month following the Commencement Date, and ending on the last day of the calendar month twelve (12) months thereafter.

II.7 PERMITTED TRANSFEREE. The term "Permitted Transferee" shall mean (i) a subsidiary, affiliate, division or corporation controlling, controlled by or under common control with Tenant, (ii) a successor corporation related to Tenant by merger, consolidation, nonbankruptcy reorganization or government action, which has a net worth at least equal to the net worth of Tenant prior to the merger, consolidation, nonbankruptcy reorganization or government action, or (iii) a purchaser of all or substantially all of Tenant's assets as a going concern.

II.8 PROJECT. The term "Project" shall mean the project, presently known as "10500 Ridgeview Court", consisting of the Land, Buildings and the Project Common Areas. Tenant acknowledges that Landlord shall have the right, in its sole discretion, from time to time during the Term (including any extensions) to reconfigure the Project in any way including expanding or reducing the area of any Building and transferring one or more of the Buildings such that the transferred Building or Buildings is or are no longer part of the Project. Notwithstanding the foregoing, Landlord shall not make any change in the configuration of the improvements consisting of the project which permanently obstruct Tenant's access to the Premises or the visibility of Tenant's signage at the Project entrance or from the I-280 freeway.

II.9 PROJECT COMMON AREAS. The term "Project Common Areas" shall mean the areas and facilities within the Project provided and designated by Landlord from time to time for the general use, convenience or benefit of Tenant and other tenants and occupants of the Project, subject to the exclusive parking rights over those portions of the Project identified with shading on Exhibit G to Hewlett-Packard Company under its lease dated April 30, 1996 for Buildings 1 and 2. The Project Common Areas shall include the common access areas within a Building, landscape areas, and similar areas and facilities designated as Project Common Areas by Landlord.

II.10 PROPERTY. The term "Property" shall mean the legal parcel or parcels upon which the Buildings are located. As of the date of this Lease, the Property consists of the Land. Landlord shall have the right, at any time and in its sole discretion, to subdivide the Land into two (2) or more new and separate parcels. After the subdivision, the "Property" shall be the parcel(s) upon which the Buildings which are then subject to this Lease are located.

II.11 TENANT'S PROJECT PERCENTAGE SHARE. The term "Tenant's Project Percentage Share" initially shall be determined by dividing the rentable square footage of the Premises by the rentable square footage of the Project.

The rentable square footage of the Project is two hundred forty-six thousand seven hundred fifty-one (246,751) rentable square feet (i.e., the sum of the rentable square footage of all three (3) of the Buildings). The rentable square footages of the Buildings as of the date of this Lease are (i) Building 1: seventy-four thousand one hundred thirty-five (74,135) rentable square feet; (ii) Building 2: sixty-three thousand eight hundred sixty-five (63,865) rentable square feet; and (iii) Building 3: one hundred eight thousand seven hundred fifty-one (108,751) rentable square feet. Tenant's Project Percentage Share as of the date of this Lease is forty-four percent (44%). Tenant's Project Percentage Share shall be revised if Tenant leases additional space within the Project or if the rentable square footage of any Building changes.

III. TERM

III.1 LEASE TERM AND COMMENCEMENT. The Term of this Lease shall commence on the "Commencement Date" which shall be one hundred twelve (112) days following the date that Landlord delivers possession of the Premises to Tenant with a sufficient portion of Landlord's Work under Exhibit D completed so that Tenant may commence and thereafter continue construction of the Tenant Improvements without material delay or impediment due to the incompletion of Landlord's Work or the activities of Landlord's contractor, or (ii) the date Tenant commences business operations within the Premises and, unless terminated on an earlier date in accordance with the terms of this Lease, shall extend for ten (10) years (the "Term"). The date upon which this Lease is to expire is hereinafter referred to as the "Expiration Date." Within ten (10) days following the Commencement Date Tenant shall execute and deliver to Landlord a Term Commencement Memorandum in the form of Exhibit E.

III.2 OPTION TO EXTEND TERM. Subject to the terms of this Article III, Tenant shall have an option (the "Extension Option") to extend the Term of this Lease for an extension term (the "Extension Term") of five (5) years.

III.3 CONDITIONS TO EXERCISE. Tenant's option to exercise the Extension Option shall be conditioned upon (i) there not being an uncured Event of Default as of the date Tenant (or the Permitted Transferee exercising the Extension Option) desires to exercise the Extension Option and on the date the Extension Term is to commence; (ii) Tenant not having subleased for substantially all of the remainder of the Term more than fifty percent (50%) of the Premises at any time during the initial Term; and (iii) Tenant not having caused or permitted by those under its control the release or discharge of any Hazardous Materials in violation of applicable laws and regulations, which violation continues to exist as of the date of exercise.

III.4 TERM OF EXTENSION OPTION. Subject to the provisions of Section 3.3, Tenant shall have the right to extend the term of this Lease as to all (but not less than all) of the Premises subject to this Lease as of the expiration of the initial term for one (1) period of five (5) years, commencing on the Expiration Date. If Tenant elects to extend this Lease for the Extension Term, Tenant shall give unequivocal written notice ("Extension Term Exercise Notice") of its exercise to Landlord not less than twelve (12) months prior to the Expiration Date. Tenant's failure to give the Extension Term Exercise Notice in a timely manner shall be deemed a waiver of all of Tenant's rights to extend. The terms, covenants and conditions applicable to the Extension Term shall be all of the terms, covenants and conditions of this Lease, except that (i) Tenant shall not be entitled to any further option to extend; (ii) the Base Rent for the Premises shall be the greater of (A) the Base Rent in effect as of the First Extension Option Expiration Date, or (B) ninety-five percent (95%) of the fair market rent as of the commencement of the Extension Term.

III.5 FAIR MARKET RENT. Regardless of how long before the scheduled expiration of the Term Tenant gives an Extension Term Exercise Notice to Landlord, Landlord shall not be obligated to commence the process of determining fair market rental value until eighteen (18) months prior to the Expiration Date. Landlord and Tenant shall have thirty (30) days after Landlord receives an Exercise Notice in which to agree on the fair market rental value of the Premises during the Extension Term. In determining the fair market rental value of the Premises during

an Extension Term, consideration shall be given to (A) the uses of the Premises permitted under this Lease; (B) the quality, size, design and location of the Premises (including the Basement Space and the Tenant Equipment Pad Area); (C) the rental value of comparable, improved space located in the geographical area of the Project used for general office use, research and development and manufacturing of products; (D) any scheduled or indexed increases in base rent and any free rent and other concessions then being given which are then prevalent in the market. If Landlord and Tenant agree on the fair market rental value of the Premises for the Extension Term during the thirty (30) day period, they shall immediately execute an amendment to this Lease stating the Base Rent. If Landlord and Tenant are not able to agree on the fair market rental value for the Premises during the Extension Term during the thirty (30) day period, the matter shall be determined by the appraisal procedure set forth in Section 3.6.

III.6 APPRAISAL PROCESS

(a) Selection of Appraisers. If Landlord and Tenant are unable to agree on the fair market rental value of the Premises for the Extension Term within the thirty (30) day period specified in Section 3.5; then, within ten (10) days after the expiration of the thirty (30) day period, Landlord and Tenant each, at its cost and by giving notice to the other party, shall appoint a competent and disinterested real estate appraiser with at least ten (10) years full-time commercial appraisal experience in the geographical area of the Project (i.e., within a twenty-five (25) mile radius of the Project) to appraise and set the fair market rental value of the Premises during the Extension Term. If either Landlord or Tenant does not appoint an appraiser within ten (10) days after the other party has given notice of the name of its appraiser, the single appraiser appointed shall be the sole appraiser and shall set the fair market rental value of the Premises during the Extension Term. If two (2) appraisers are appointed by Landlord and Tenant as stated in this Section, they shall meet promptly and attempt to set the fair market rental value of the Premises for the Extension Term. If the two (2) appraisers are unable to agree within thirty (30) days after the second appraiser has been appointed, they shall attempt to select a third appraiser meeting the qualifications stated in this Section within ten (10) days after the last day the two (2) appraisers are given to set the fair market rental value of the Premises. If they are unable to agree on the third appraiser, either Landlord or Tenant, by giving ten (10) days' notice to the other party, can apply to the then President of the Real Estate Board of Santa Clara County or to the Presiding Judge of Santa Clara Superior Court, for the selection of a third appraiser (the "Independent Appraiser") who meets the qualifications stated in this Section. Landlord and Tenant each shall bear one-half (1/2) of the cost of appointing the third appraiser and of paying the Independent Appraiser's fee. The Independent Appraiser, however selected, shall be a person who has not previously acted in any capacity for either Landlord or Tenant.

(b) Value Determined by Independent Appraiser. Within thirty (30) days after the selection of the Independent Appraiser, each of Tenant's appraiser and Landlord's appraiser shall deliver to the Independent Appraiser its determination of fair market rental value. Within ten (10) days after its receipt of the determinations of Landlord's appraiser and Tenant's appraiser, the Independent Appraiser shall determine which of either the determination of Landlord's appraiser of Tenant's appraiser most closely approximates the Independent Appraiser's determination of the fair market rental value. If within the time required, either Landlord's appraiser or Tenant's appraiser does not deliver its determination to the Independent Appraiser, the fair market rental value shall be deemed to be that set forth in the determination which is timely delivered.

(c) Notice to Landlord and Tenant. After the fair market rental value of the Premises for the Extension Term has been set, the appraisers immediately shall notify Landlord and Tenant. Landlord and Tenant then immediately shall execute an amendment to this Lease stating the Base Rent during the Extension Term.

III.7 CANCELLATION OF EXERCISE. At any time following its exercise of an Extension Option but no later than nine (9) months prior to the then-scheduled expiration of the term, and provided that Tenant has received from

Landlord an estimate of the fair market rental value prior to such date, Tenant may cancel its exercise of an Extension Option by notice to Landlord. Thereafter and within thirty (30) days of Landlord's request, Tenant shall reimburse Landlord for all of its out-of-pocket expenses incurred in connection with the appraisal process.

IV. RENT

IV.1 RENT. As used in this Lease, the term "Rent" shall include: (i) the Base Rent (as stated in the Basic Lease Information); (ii) Tenant's Project Percentage Share of Project Operating Expenses paid or incurred by Landlord during the Term (including all extensions) of this Lease; (iii) Tenant's Project Percentage Share of Taxes paid or incurred during the Term (including all extensions) of this Lease; and (iv) all other amounts which Tenant is obligated to pay under the terms of this Lease. All amounts of money payable by Tenant to Landlord shall be paid without prior notice or demand, deduction or offset. Any amount which is not paid when due shall bear interest from the date due until the date paid at the Interest Rate. If any installment of Rent is not received by Landlord when due, and then is not received within five (5) days following the giving of notice by Landlord to Tenant, Tenant shall pay to Landlord a late charge as liquidated damages equal to five percent (5%) of the overdue amount; provided that such late charge shall be payable, without any notice to Tenant, upon Tenant's failure to pay Rent when due, when notice previously has been given, more than one time in any twelve (12) month period.

IV.2 BASE RENT. Tenant shall pay Base Rent to Landlord (or other entity designated by Landlord), in advance, on the first day of each calendar month of the Term, at Landlord's address for notices (as set forth in the Basic Lease Information) or at such other address as Landlord may designate. The Base Rent shall be the amount set forth in the Basic Lease Information. Notwithstanding the foregoing, from the period from the Commencement Date and continuing until January 1, 2000, Tenant shall be obligated only to pay Base Rent and its Project Percentage Share of Project Operating Expenses and Taxes which are attributable to the rentable area of the first floor of the Premises, i.e., Base Rent of $147,152.50 per month and a Project Percentage Share of 21.69%. In addition, if and to the extent that Landlord's delivery of the Premises as required under Section 3.1 is delayed beyond July 5, 1999 and such delay causes a delay in the completion of Tenant's Work as described in Exhibit D and as documented by Tenant, there shall be an abatement of Tenant's obligation to commence payment of Base Rent and Tenant's Project Percentage Share of Project Operating Expenses and Taxes during the period of such delay and a delay in Tenant's obligation of two (2) additional days for each one (1) day of such delay.

IV.3 ADDITIONAL RENT--ANNUAL RENT ADJUSTMENTS/OPERATING EXPENSES

(a) Project Operating Expenses. The term "Project Operating Expenses" shall mean the costs and expenses of the Project which Landlord determines should be charged to the Project (in general). The Project Operating Expenses shall include (i) Landlord's direct costs and expenses of operation, management, repair and maintenance of the Project and supporting facilities, consisting of those portions of the Project and supporting facilities which are not Tenant's responsibility under this Lease, as determined by Landlord in accordance with generally accepted accounting principles or other recognized accounting principles, consistently applied; (ii) management fees or a management cost recovery in an amount not to exceed two percent (2%) of gross revenues from the Project; (iii) costs properly allocable to the Project of any capital improvements made to the Project by Landlord (whether structural or non-structural) for upgrading services, for replacing worn-out equipment, paving and other portions of the Project which are not required to be maintained by tenants, or that are required under any governmental law or regulation (including Americans with Disabilities Act), the costs, or allocable portion thereof, to be amortized over such reasonable period as Landlord shall reasonably determine based upon the useful life of such improvements, together with interest upon the unamortized balance at the rate as may be paid by Landlord on funds borrowed for the purpose of constructing such capital improvements or, if not borrowed, at ten percent (10%) per annum (provided, however, that Tenant shall be responsible for and shall pay in the year incurred by Landlord, one hundred percent (100%) of the costs, without amortization of any capital improvements made to the Project by Landlord, that are required under any governmental law or regulation to the extent that the capital improvements are required as a result of use of the Premises by Tenant for any purpose other than general office use

or as a result of any alterations of or improvements to the Premises or any other portion of the Project made by Tenant); and (iv) the cost of insurance carried by Landlord with respect to the Project, including any rental interruption insurance carried by Landlord. At Landlord's election, the insurance for the Project may include earthquake and environmental impairment coverage (with the premium for the earthquake and environmental impairment coverage to be included in the Project Operating Expenses). If Landlord includes the Project under blanket insurance polices covering multiple properties, the term "Project Operating Expenses" shall include the portion of costs of such blanket insurance allocable by Landlord to the Project. If less than ninety-five percent (95%) of the rentable area of the Project is occupied, Project Operating Expenses shall be adjusted to equal Landlord's reasonable estimate of Project Operating Expenses if ninety-five percent (95%) of the total rentable area of the Project were occupied.

(b) Exclusion from Operating Expenses. "Project Operating Expenses" shall not include, and Tenant shall in no event have any obligation to perform or to pay directly to, or reimburse Landlord for, the following: (i) costs for items which Landlord reasonably determines should be capitalized under standard accounting practices, except as provided in clauses 4.3(a)(ii) and (iv), to the extent amortized over the cost recovery period of the capital item in question; (ii) costs of any renovations, improvement, painting or redecorating of any portion of the interiors of the Buildings not made available for Tenant's use; (iii) costs incurred in connection with negotiation of disputes with any other occupant of the Project and costs arising from the violation by Landlord or any other occupant of the Project of the terms and conditions of any lease or other agreement; (iv) any repair or other work necessitated by condemnation, fire or other casualty; (v) any costs, fines and the like due to Landlord's violation of any governmental rule or authority (except to the extent caused by Tenant's violations); (vi) costs regarding the presence of Hazardous Substances or Hazardous Wastes within the Project, except that Tenant shall be responsible, in accordance with the terms of Section 10, for one hundred percent (100%) of such costs to the extent resulting from releases, spills or discharges of Tenant or its employees, agents, contractors or invitees; and (vii) services, benefits or both provided to some tenants of the Project but not to Tenant; (viii) the costs of capital improvements made to the Project by Landlord that are required as the result of the use of any other portion of the Project by another tenant for any purpose other than general office use or as a result of any alterations of or improvements to any other portion of the Project made by or for another tenant; (ix) interest or rent paid to any lender or a ground lessor; (x) brokerage commissions, advertising costs or other related expenses received by Landlord in connection with the leasing of space to individual tenants of the Building; (xi) alterations, additions, improvements or replacements required to correct any physical defects in the Building or the Project Common Areas; (xii) damage and repairs necessitated by the gross negligence or willful misconduct of Landlord, its employees, contractors or agents; (xiii) executive salaries or salaries of service personnel of Landlord or its property manager to the extent that such personnel perform services not in connection with the management, operation, repair or maintenance of the Building; (xiv) Landlord's general overhead expenses not related to the Building; (xv) legal fees, accountants' fees and other expenses incurred in the defense of Landlord's title to or interest in the Building or any part thereof; (xvi) costs incurred due to a violation by Landlord or any other tenant of the Building of the terms and conditions of a lease; (xvii) costs of any service provided to Tenant or other occupants of the Building for which Landlord is reimbursed; (xviii) premiums for earthquake insurance to the extent such premiums for the Project exceed One Hundred Fifty-Six Thousand Dollars ($156,000) per year (as increased as of each anniversary of the Commencement Date in proportion with increases in the San Francisco Bay Area, all consumers, all items, Consumer Price Index as published by the U.S. Department of Labor) unless Landlord is required to maintain such insurance under the terms of any documents securing a loan which is secured by the Project; and (xix) costs and fees for professional services incurred in reviewing alterations proposed by other tenants of the Project.

(c) Annual Operating Expenses Estimate. During December of each calendar year during the Term (and any extensions), or as soon thereafter as practicable, Landlord shall give Tenant written notice of Landlord's reasonable estimate ("Annual Operating Expenses Estimate") of the amount of Project Operating Expenses which will be payable by Tenant for the ensuing calendar year. On or before the first day of each month during the ensuing calendar year, Tenant shall pay to Landlord one-twelfth (1/12th) of the Annual Operating Expenses

Estimate; provided, however, that if notice is not given in December, Tenant shall continue to pay on the basis of the then applicable Annual Operating Expenses Estimate until the month after the notice is given. If at any time it reasonably appears to Landlord that the amount payable for the current calendar year will vary from Landlord's Annual Operating Expenses Estimate by more than five percent (5%), Landlord may give notice to Tenant of Landlord's revised Annual Operating Expenses Estimate for the year, and subsequent payments by Tenant for the year shall be based on the revised Annual Operating Expenses Estimate.

(d) Annual Operating Expenses Reconciliation. Within sixty (60) days after the close of each calendar year of the Term (and any extensions), or as soon after the sixty (60) day period as practicable, Landlord shall deliver to Tenant a statement ("Annual Operating Expenses Statement") of the reconciliation of the Project Operating Expenses for the prior calendar year. If, on the basis of the Annual Operating Expenses Statement, Tenant owes an amount that is less than the Annual Operating Expenses Estimate payments for the calendar year previously made by Tenant, Landlord shall apply the excess to the next payment(s) of Annual Operating Expenses Estimate due or, if the Lease has expired, promptly refund such overpayment to Tenant. If, on the basis of the Annual Operating Expenses Statement, Tenant owes an amount that is more than the Annual Operating Expenses Estimate payments for the calendar year previously made by the Tenant, Tenant shall pay the deficiency to Landlord within thirty (30) days after delivery of the Annual Operating Expenses Statement. An Annual Operating Expenses Statement shall be presumed correct and shall be deemed final and binding upon Tenant unless Tenant in good faith objects in writing thereto within two (2) years and three (3) months after delivery of the Annual Operating Expenses Statement to Tenant (which writing shall state, in reasonable detail, all of the reasons for the objection).

(e) Audit of Project Operating Expenses and Taxes.

(i) Tenant and its authorized representatives may, upon at least fifteen (15) days prior notice to Landlord, examine, inspect, audit and copy the records of Landlord regarding each such statement of Annual Operating Expenses and Annual Taxes Statement at Landlord's or its agent's or accountant's office during normal business hours within two (2) years after the furnishing of a particular statement. Unless Tenant takes written exception to any item on such statement within sixty (60) days after the commencement of any such audit, the statement shall be considered as final and accepted by Tenant except that Landlord may, at any time during that 60-day period, submit a corrected statement to Tenant if Annual Operating Expenses or Taxes on the original statement were overstated or understated.

(ii) The payment by Tenant of the amounts shown on any statement of Total Operating Expenses or Taxes shall not preclude Tenant from questioning the correctness of any item of the statement subject to the rights in this Article. There shall be no more than one (1) audit of Total Operating Expenses or Taxes for any twelve (12) month period. Landlord may defer the audit for up to thirty (30) days while Landlord is closing its books, is preparing financial statements or tax returns, or for other reasons is anticipating unusual demands on its accounting office and personnel. Upon completion of the audit, Tenant shall forward to Landlord a copy of the audit report and all accompanying data and work papers available to Tenant relating thereto.

(iii) To facilitate an audit by Tenant, Landlord shall keep its books and records applicable to Total Operating Expenses and Taxes for any particular fiscal year for two (2) years after the statement for such fiscal year is delivered to Tenant. Notwithstanding the foregoing, if a dispute arises as to any item of Operating Expenses or Taxes after an audit conducted by Tenant in accordance with the terms and conditions of this Section 4.3(f), then Landlord shall keep its books and records applicable to such item or items in dispute until one (1) year after the resolution of any such dispute.

(iv) Tenant shall diligently complete (or to abandon) any audit begun by Tenant. Tenant shall pay all costs of the audit, unless the audit reveals that Project Operating Expenses taken as a whole for any fiscal year were overstated by three percent (3%) or more. In that event, Landlord shall pay for the reasonable costs of

that audit. Pending resolution of any disputes regarding Project Operating Expenses or Taxes, Tenant shall pay to Landlord any Project Operating Expenses and Taxes alleged to be due from Tenant as reflected on Landlord's statement or any invoice issued on the basis of Landlord's statement. Landlord shall promptly refund to Tenant any amounts overpaid by Tenant as determined by an audit.

(v) Tenant's right of audit is subject to the following conditions: (1) the audit shall be done by an independent certified accountant experienced in auditing such records, and in no event shall the auditor or any other person directly or indirectly involved in the audit (collectively with the auditor, an "Auditor-Related Person") be compensated pursuant to a commission or other arrangement pursuant to which the nature or extent of fees or other compensation is dependent upon the results of the audit; (2) in no event shall any Auditor-Related Person solicit or otherwise communicate to any other tenant or occupant of Landlord in any manner which discloses that Tenant has a right to audit the records of Landlord, or that Tenant or the Auditor-Related Person is planning to or has audited Landlord's records; (3) Tenant and each Auditor-Related Person shall keep confidential and shall not disclose that any audit hereunder is to be or has been conducted or the results thereof, except to the extent that disclosure in confidence to its accountants is necessary in connection with the performance of an audit, and except as may be required by law; (4) at Landlord's request, prior to commencement of the audit, Tenant and each Auditor-Related Person shall sign and deliver to Landlord written assurances of compliance with the matters set forth in clauses (1) through (3) above; and (5) Tenant's right to audit as provided above shall be available to Tenant only on condition that an Event of Default shall not then exist.

(vi) Tenant's audit rights under this paragraph 4.3(e) may not be exercised by any subtenant.

IV.4 ADDITIONAL RENT--ANNUAL RENT ADJUSTMENTS/TAXES.

(a) Taxes. Tenant shall pay as Rent, Tenant's Project Percentage Share of Taxes paid or incurred by Landlord during the Term.

(b) Real Property Taxes. The term "Real Property Taxes" shall mean any ordinary or extraordinary form of tax, special tax, assessment or special assessment, license fee, rent tax, business license tax, gross receipts tax, levy, penalty (if a result of Tenant's delinquency) imposed by any authority having the direct or indirect power to tax, or by any city, county, state or federal government for any maintenance or improvement or other district or division thereof against or related to the Premises, Buildings, Property and/or Project. Notwithstanding anything to the contrary, "Real Property Taxes" shall not include net income, premium, estate, succession, inheritance, transfer or franchise taxes. The term shall include all transit charges, housing fund assessments, real estate taxes and all other taxes relating to the Premises, Buildings, Property and/or Project, all other taxes which may be levied in lieu of real estate taxes, all assessments, assessment bonds, levies, fees, and other governmental charges (including charges for traffic facilities, improvements, child care, water services studies and improvements, and fire services studies and improvements) or amounts necessary to be expended because of governmental orders, whether general or special, ordinary or extraordinary, unforeseen as well as foreseen, of any kind and nature for public improvements, services, benefits or any other purposes which are assessed, levied, confirmed, imposed or become a lien upon the Premises, Building, Property or Project or become payable during the Term (including any extensions) in connection with the ownership, operation, use or rental of the Project, including the revenues received by Landlord therefrom. "Taxes" shall also include any fees and other out-of-pocket expenses reasonably incurred by Landlord in appealing and contesting the assessed value upon which Real Property Taxes are calculated. The term "Taxes" shall not include any tax or assessment expense or any increase therein (i) in excess of the amount which would be payable if such tax or assessment were paid in installments over the longest possible term or (ii) imposed on land and improvements other than the Project.

(c) Annual Taxes Estimate. During December of each calendar year during the Term (and any extensions), or as soon thereafter as practicable, Landlord shall give Tenant written notice of Landlord's reasonable

estimate ("Annual Taxes Estimate") of the amount of Real Property Taxes which will be payable by Tenant for the ensuing calendar year. On or before the first day of each month during the ensuing calendar year, Tenant shall pay to Landlord one-twelfth (1/12th) of the Annual Taxes Estimate; provided, however, that if notice is not given in December, Tenant shall continue to pay on the basis of the then applicable Annual Real Property Taxes Estimate until the month after the notice is given. If at any time it reasonably appears to Landlord that the increased amount payable for the current calendar year will vary from Landlord's Annual Taxes Estimate by more than five percent (5%), Landlord may give notice to Tenant of Landlord's revised Annual Taxes Estimate for the year, and subsequent payments by Tenant for the year shall be based on the revised Annual Taxes Estimate.

(d) Annual Taxes Reconciliation. Within sixty (60) days after the close of each calendar year of the Term (and any extensions), or as soon after the sixty (60) day period as practicable, Landlord shall deliver to Tenant a statement ("Annual Taxes Statement") of the Taxes for the prior calendar year. The Annual Taxes Statement shall be final and binding upon Landlord and Tenant. If, on the basis of the Annual Taxes Statement, Tenant owes an amount that is less than the Annual Taxes Estimate payments for the calendar year previously made by Tenant, Landlord shall apply the excess to the next Annual Taxes Estimate payment(s) due or pay such excess to Tenant, if the Lease has expired. If, on the basis of the Annual Taxes Statement, Tenant owes an amount that is more than the Annual Taxes Estimate payments for the calendar year previously made by Tenant, Tenant shall pay the deficiency to Landlord within thirty (30) days after delivery of the Annual Taxes Statement.

(e) Taxes on Tenant Improvements and Personal Property. Notwithstanding any other provision hereof, Tenant shall pay the full amount of any increase in Taxes during the Term resulting from any and all alterations and improvements, furnishings, equipment and fixtures of any kind whatsoever placed in, on or about the Premises for the benefit of, at the request of, or by Tenant. Tenant shall not be liable for any increase in Taxes which results from alterations, improvements, furnishings, fixtures and equipment placed or installed by other tenants of the Project. Tenant shall pay, prior to delinquency, all taxes assessed or levied against Tenant's personal property in, on or about the Premises. When possible, Tenant shall cause its personal property to be assessed and billed separately from the real or personal property of Landlord.

(f) Tenant's Right to Contest. Upon Tenant's request, Landlord shall pay Taxes under protest and, at its expense, Tenant may cause the assessed values upon which Taxes are calculated to be contested, subject to the following terms and conditions: (i) no Event of Default shall then exist with respect to Tenant's obligation to pay its Project Percentage Share of Taxes; (ii) Landlord shall cooperate with Tenant in executing such documents and taking such other actions as reasonably may be required to prosecute such contest provided that Tenant shall advance any reasonable out-of-pocket costs required and Landlord shall not incur any liability as a result; (iii) any information which Landlord shall disclose to Tenant or its consultants regarding the Project, including the terms of other leases, shall be held in strict confidence and only disclosed as previously approved by Landlord; and (iv) Landlord shall reimburse Tenant for its costs incurred in such contest but only if and when Landlord realizes savings in Taxes otherwise payable by Landlord in comparison with the amount of Taxes which otherwise would have been payable by Landlord.

IV.5 REVISIONS IN BUILDING OR PROJECT. To the extent there are revisions in the Building (e.g., the rentable square footage of the Building) or the Project (e.g., the rentable square footage of the Project), Landlord shall make reasonable revisions in (i) the Project Operating Expenses paid or incurred by Landlord during the calendar year; (ii) Tenant's Project Percentage Share; (iii) the Taxes paid or incurred by Landlord in the calendar year; and (iv) all other amounts which Tenant is obligated to pay under the terms of this Lease.

IV.6 PRORATION OF RENT. If the Commencement Date is not the first day of the month, or if the end of the Term is not the last day of the month, Rent shall be prorated on a monthly basis (based upon a thirty (30) day month) for the fractional month during which this Lease commences or terminates. The termination of this Lease

shall not affect the obligations of Landlord and Tenant pursuant to paragraphs 4.3(d) and 4.4(d) which are to be performed after the termination.

V. USE

V.1 USE PERMITTED. Tenant shall use the Premises (exclusive of the Basement Space) solely for general office use, research and development and light manufacturing of products, and the Basement Space shall be used solely for storage purposes, and Tenant shall not use the Premises for any other purpose without obtaining the prior written consent of Landlord, which consent Landlord may withhold in its sole and absolute discretion. Tenant shall use the Basement Space only for the storage of office supplies, equipment, furniture, files and other materials used in connection with the permitted use of the Premises, but not for storage of Hazardous Materials. Tenant, at its own expense, shall comply with all laws, rules, regulations, orders, permits, licenses and ordinances issued by any governmental authority which relate to Tenant's use of the Premises during the Term of this Lease and any extensions, provided that Tenant's compliance obligations regarding Hazardous Substances and Hazardous Wastes shall be determined pursuant to Section 5.2 through Section 5.14, and provided that Tenant shall not bring on, store or produce on the Premises, Hazardous Materials in any quantity which would require Tenant to prepare a business plan relating to the storage of hazardous or toxic materials under Health & Safety Code Section 25501, as amended, or any similar law. Tenant shall not use the Premises in any manner that will constitute waste or nuisance, or which will interfere with or unreasonably annoy other tenants in the Buildings or the Project (including using loudspeakers or sound or light apparatus that can be heard or seen outside the Premises). Additionally, Tenant shall comply with any Rules and Regulations adopted by Landlord pursuant to Section 32.1 of this Lease, the requirements of the Board of Fire Underwriters or any insurance carrier providing insurance with respect to the Premises or the Project Common Areas, and the CC&R's.

V.2 DEFINITION OF HAZARDOUS SUBSTANCE. The term "Hazardous Substance" shall mean any toxic or hazardous substance or material or any pollutant or contaminant including, but not limited to, petroleum and petroleum products, any and all of those substances included within the definitions of "pollutant," "contaminant," "hazardous substances," "hazardous materials," "hazardous chemical substance or mixture," "imminently hazardous chemical substance or mixture," "toxic substances," "hazardous air pollutant," "toxic pollutant," "chemicals known to cause cancer or reproductive toxicity," or any and all other similar terms defined in other federal, state and local laws, statutes, regulations, orders or rules, including, but not limited to, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, 42 U.S.C. Section 9601 et seq., and the California Carpenter-Presley-Tanner Hazardous Substance Account Act, California Health & Safety Code Section 25300 et seq., and regulations promulgated thereunder, as amended, and materials which are, or in the future become, regulated under applicable local, state or federal law for the protection of health (including industrial hygiene), safety or the environment, or which are classified as hazardous or toxic substances or materials, pollutants or contaminants, as defined, listed or regulated by any federal, state or local law, regulation or order or by common law decision. The term "Hazardous Waste" shall mean (i) any waste listed as or meeting the identified characteristics of a "Hazardous Waste" under the Resource Conservation and Recovery Act of 1976, 42 U.S.C. Section 6901 et seq., and regulations promulgated pursuant thereto, (ii) any waste meeting the identified characteristics of "Hazardous Waste" under California Hazardous Waste Control Law, California Health and Safety Code Section 25100 et seq., and regulations promulgated pursuant thereto (collectively, "CHWCL"), and (iii) any wastes which are, or in the future become, regulated under applicable local, state or federal law for the protection of health (including industrial hygiene), safety or the environment, or which are classified as hazardous, toxic or infectious wastes, as defined, listed or regulated by any federal, state or local law, regulation or order or by common law decision. The term "Hazardous Waste Facility" shall mean a hazardous waste facility as defined under CHWCL.

V.3 COMPLIANCE WITH APPLICABLE LAWS. Tenant, at its sole cost and expense, shall comply with all applicable laws, rules, regulations, orders, permits, licenses and operating plans of any governmental authority with

respect to the use, handling, generation, transportation, storage, treatment and/or disposal of Hazardous Substances or Hazardous Wastes by Tenant as occupant of the Premises, or its employees, agents, contractors or invitees. Tenant shall provide Landlord with copies of all permits, registrations or other similar documents that authorize Tenant to conduct any such activities in connection with its authorized use of the Premises.

V.4 NO HAZARDOUS WASTE FACILITIES. Tenant shall not operate on the Premises any facility required to be permitted or licensed as a Hazardous Waste Facility or for which interim status as such is required. Tenant shall not perform treatment of Hazardous Substances or Hazardous Wastes on the Premises which treatment is subject to a conditional exemption, conditional authorization or permit-by-rule under the CHWCL.

V.5 UNDERGROUND STORAGE TANKS. Tenant shall not construct or install any underground storage tank within the Project.

V.6 INFORMATION TO BE PROVIDED BY TENANT. Within thirty (30) days after each anniversary of the Commencement Date, Tenant shall deliver to Landlord a written report, in a form acceptable to Landlord and prepared at Tenant's sole cost and expense by an environmental consultant acceptable to Landlord, certifying that Tenant is in compliance with (i) all applicable laws, rules, regulations, orders, permits, licenses and operating plans of any governmental authority with respect to the use, handling, generation, transportation, storage, treatment and/or disposal of Hazardous Wastes and (ii) Sections 5.2 through 5.8 of this Lease. In addition, to the extent applicable, Tenant shall provide to Landlord in writing the following information and/or documentation prior to or on the Commencement Date and within sixty (60) days after any change in the required information and/or documentation:

(a) List of Hazardous Substances. A list of all Hazardous Substances and/or Hazardous Wastes that Tenant uses, handles, generates, transports, stores, treats or disposes in connection with its operations on the Premises.

(b) Material Safety Data Sheets. Copies of all Material Safety Data Sheets ("MSDSs") required to be maintained with respect to operations of Tenant at the Premises in accordance with Title 8, California Code of Regulations Section 5194 or 42 U.S.C. Section 11021, or any amendments thereto. In lieu of this requirement, Tenant may provide a Hazardous Materials Inventory Sheet that details the MSDSs.

(c) Hazardous Materials Manifest. Copies of all Hazardous Waste Manifests, as defined in Title 22, California Code of Regulations Section 66481, that Tenant is required to complete in connection with its operations at the Premises.

(d) Hazardous Materials Management Plans. A copy of any Hazardous Materials Management Plans required with respect to Tenant's operations.

(e) Contingency Plans and Emergency Procedures. Copies of any Contingency Plans and Emergency Procedures required of Tenant due to its operations in accordance with Title 22, Chapter 30, Article 20, of the California Code of Regulations, and any amendments thereto.

(f) Reports to DTSC. Copies of any biennial reports to be furnished to California Department of Toxic Substances Control or a local agency relating to Hazardous Substances or Hazardous Wastes.

(g) Wastewater Permits. Copies of all industrial wastewater discharge permits.

(h) Notices. Copies of (A) any reports, notices or other communications made to or received from any governmental agency arising out of or in connection with any Hazardous Substances or Hazardous Wastes in, on, under or about the Premises or (B) any claim made or threatened by any person against Tenant, Landlord or the

Premises relating to damage, contribution, cleanup, removal, cost recovery, compensation, loss or injury resulting from or claimed to result from any Hazardous Substance or Hazardous Wastes.

V.7 RADIOACTIVE MATERIALS/RADIATION. Tenant shall not receive, store, possess, use, transfer or dispose of "Radioactive Materials" or "Radiation," as such materials are defined in Title 17, California Code of Regulations Sections 30100(w), or materials possessing the characteristics of the materials so defined.

V.8 ENVIRONMENTAL CONDITION. The generation, presence, use, handling, storage, treatment, disposal or release of any Hazardous Substance, Hazardous Waste, Radiation or Radioactive Materials by Tenant or its employees, agents, contractors or invitees in violation of this Lease or any applicable federal, state or local law or regulation shall constitute an "Environmental Condition." In the event an Environmental Condition exists on or about the Premises, Tenant shall promptly undertake and diligently complete, at its sole cost, and in strict compliance with all applicable laws, rules, regulations and orders, all investigative, corrective and remedial measures required to respond to the Environmental Condition. Such measures shall include, but shall not be limited to, removal and proper disposal of the Hazardous Substance, Hazardous Waste, Radiation or Radioactive Material, and restoration of the Premises, land, improvements and other affected areas so that upon completion of the investigative, corrective, or remedial measures, the Premises and any other affected areas shall be in the same or better character and condition as before the Environmental Condition occurred. Tenant shall notify Landlord in writing of any Environmental Condition within twenty-four (24) hours after Tenant becomes aware of such Environmental Condition.

V.9 TENANT'S INDEMNITY. Tenant shall indemnify, defend, and hold harmless Landlord from any and all claims, losses (including loss of rental income and loss due to business interruption), damages (including diminution in value or loss of value of the Premises, liabilities, costs, legal fees, fines, and expenses of any sort arising out of or relating to any release into the environment of Hazardous Substances, Hazardous Wastes, Radiation or Radioactive Materials by Tenant or any of Tenant's employees, agents, contractors or invitees, or Tenant's failure to comply with Sections 5.1 through 5.8.

V.10 COOPERATION OF TENANT. Tenant shall cooperate with Landlord in furnishing Landlord with complete information regarding Tenant's receipt, handling, use, storage, transportation, generation, treatment and/or disposal of Hazardous Substances, Hazardous Wastes, Radiation or Radioactive Materials. Upon request, Tenant agrees to grant Landlord access at all times to the Premises to inspect Tenant's receipt, handling, use, storage, transportation, generation, treatment and/or disposal of Hazardous Substances, Hazardous Wastes, Radiation or Radioactive Materials, or to conduct environmental tests including, without limitation, tests of the soil, surface water and the groundwater in, on or about the Premises. In exercising its rights under this Section, Landlord shall make reasonable efforts to minimize interference with Tenant's business.

V.11 LANDLORD'S APPROVAL. Unless an emergency situation exists that requires immediate action, Tenant shall obtain Landlord's prior written approval of all contemplated investigative, corrective or remedial measures relating to Hazardous Substances at or under the Premises which Tenant may cause to be undertaken. Such approval shall not be unreasonably withheld. Examples of measures subject to Landlord's prior approval include the selection of any environmental consultant or contractor, determination of the scope of work and sampling activities to be performed by the consultant or any contractor and the form and substance of all draft reports prepared by any consultant (before such reports are finalized). Tenant shall provide Landlord with at least three (3) business days' advance notice of any proposed sampling and, if Landlord requests, Tenant shall split samples with Landlord. Tenant shall also promptly provide Landlord with the results of any test, investigation or inquiry conducted by or on behalf of Tenant in connection with the presence or suspected presence of Hazardous Substances on or about the Premises. Tenant shall provide Landlord with reasonable advance notice, and Landlord shall have the right, but not the obligation, to participate in all oral or written communications with government entities concerning Environmental Conditions on or about the Premises. In this connection, Landlord shall have the

right to retain an environmental engineer or consultant, and Tenant shall cooperate and provide access to Tenant's operations in the Premises for such purpose, to monitor any and all of the foregoing activities, including activities conducted by Tenant on lands which Tenant owns, occupies, uses or controls other than the Premises, which Environmental Condition subjects or may subject the Premises to environmental contamination. In addition, if Tenant has brought on to the Premises, stored thereon or released therefrom Hazardous Substances in quantities requiring preparation of a business plan or similar reporting as described in Section 5.1, or if any other investigation of Tenant's activities by Landlord reveals a violation by Tenant or those under its control of laws or regulations pertaining to Hazardous Substances, which violation remains uncorrected, the reasonable cost of any periodic audit of Tenant's activities shall be reimbursed by Tenant to Landlord within thirty (30) days of Landlord's request. Landlord's rights under this paragraph shall be solely for the purpose of protecting Landlord's interest in the Project.

V.12 NO OBLIGATION OF LANDLORD. Notwithstanding Landlord's rights of inspection and review under this Section, Landlord shall have no obligation or duty to so inspect or review, and no third party shall be entitled to rely on Landlord to conduct any sort of inspection or review by reason of the provisions of this Section.

V.13 ACKNOWLEDGEMENT BY TENANT. Landlord has delivered to Tenant copies of the following reports prepared for Landlord regarding the presence of Hazardous Substances in, on or under the Project, but Landlord makes no representation regarding the accuracy of such reports: (a) Facility Closure Plan dated April 13, 1999 regarding the Premises as previously occupied by MicroModule Systems,Inc., and (b) Preliminary Environmental Assessment for the Project dated April 9, 1998, both prepared by Erler & Kalinowski, Inc. To the best of knowledge of Landlord, which shall be deemed to be the knowledge of Joseph R. Seiger, the managing member of the general partner of the managing member of Landlord, and of Steven R. Meckfessel, president of Landlord's development consultant, there is no additional information indicating the presence of hazardous Substances on or under the Premises or the Project which is not contained in the documents described above. Landlord shall deliver to Tenant copies of reports obtained by Landlord describing the removal of facilities previously located in the Premises which contained Hazardous Substances.

V.14 SURVIVAL. This Article V shall survive expiration or termination of this Lease.

V.15 LANDLORD'S INDEMNITY. Landlord shall indemnify and hold harmless Tenant from and against all suits, orders, fines, liabilities, loss, damages, costs and expenses (including reasonable attorneys' fees) arising out of or resulting from the presence on or under the Premises or the Project of Hazardous Substances as of the Effective Date.

VI0 ALTERATIONS.

VI.1. ALTERATIONS. Tenant shall give Landlord not less than thirty (30) days' notice of any alteration Tenant desires to make to the Premises which requires Landlord's consent hereunder and at least ten (10) days' prior notice of any alteration which does not require Landlord's consent. Tenant shall not make any alteration in, on or about a Building or the Premises without the prior written consent of Landlord unless (i) the alteration does not affect the Building structure, the exterior appearance of the Building or the Project, the roof or the Building systems (e.g., electrical systems, HVAC, fire and life safety); (ii) the cost of the alteration is not in excess of Twenty-Five Thousand Dollars ($25,000.00); (iii) Tenant delivers to Landlord notice and a copy of any final specifications and drawings for any such alteration at least ten (10) days prior to the date set forth above prior to commencement of the work thereof; and (iv) the other conditions of this Section are satisfied (including conforming to Landlord's rules, regulations and insurance requirements described below). Provided Landlord gives notice to Tenant at the time it consents to any alteration, prior to the expiration or earlier termination of this Lease, Tenant shall remove such proposed alterations and restore the Premises to its condition as of the Commencement Date, ordinary wear and tear and the effects of casualty or condemnation excepted. Landlord's approval of specifications and/or drawings for alterations shall not create any responsibility or liability on the part of Landlord for their completeness, design

sufficiency or compliance with applicable laws. Landlord will not unreasonably withhold its consent to a proposed alteration provided that Tenant complies with all terms of this Article VI. Tenant shall comply with all rules, laws, ordinances and requirements at the time Tenant makes any alteration, including, without limitation, Americans with Disabilities Act, shall complete all alterations in accordance with drawings and specifications previously approved by Landlord, and shall reimburse Landlord within thirty (30) days of its demand for all alterations and improvements to the Building and to the remainder of the Project which may be required as a result of Tenant's alterations (for example, under the Americans with Disabilities Act), whether or not such alterations and improvements correct conditions which existed prior to the Effective Date. Tenant shall deliver to Landlord a complete set of "as built" drawings and specifications for each alteration. In addition, Tenant shall obtain, or cause to be obtained, and shall maintain in effect, as necessary, all building permits, licenses, temporary and permanent certificates of occupancy and other governmental approvals which may be necessary or required in connection with the making of the alterations. Tenant shall be solely responsible for maintenance and repair of all alterations made by Tenant. As used in this Section, the term "alteration" shall include any alteration, addition or improvement, as well as carpeting, painting and other "aesthetic" modifications.

VI.2 CONTRACTORS. All alterations shall be made or installed only by licensed contractors and subcontractors which have been approved by Landlord, which approval Landlord shall not unreasonably withhold or delay. Landlord shall be deemed reasonable in withholding its approval if Landlord determines that a proposed contractor or subcontractor (i) is not reputable and bondable by reputable bonding companies; (ii) does not carry the kinds of insurance, and in the amounts, set forth herein; (iii) is not licensed by the State of California; or (iv) does not work in harmony with Landlord's contractors and laborers in the Buildings and the Project.

VI.3 BONDS. At Landlord's request, prior to the commencement of any alteration which requires Landlord's consent, a payment and performance bond shall be obtained by Tenant's contractor. Any such bonds shall be issued by an insurance company qualified to do business in the State of California, be in a sum equal to the cost of the alterations (as determined by the construction contract between Tenant and its contractor), and name Landlord as a dual obligee, guaranteeing the completion of the alterations free and clear of all liens and other charges, and in accordance with the drawings and specifications.

VI.4 INSURANCE REQUIREMENTS. Tenant shall have its general contractor procure and maintain in effect during the course of construction of any alterations the following insurance coverages with an insurance company or companies authorized to do business in the State of California and with a Best's rating of at least A-XIII. Such insurance, other than the Worker's Compensation and Employer's Liability, shall be endorsed to name Landlord, its members and property manager as additional insureds and to provide at least thirty (30) days' prior written notice to Landlord of cancellation, material reduction in coverage or expiration.

(a) Builder's All-Risk. Builder's All-Risk Insurance in an amount equal to the full replacement cost of the Building including all fixtures and equipment;

(b) Worker's Compensation. Worker's Compensation and Occupational Disease Insurance in accordance with the laws of the State of California, along with "All States," "Voluntary Compensation" and "Foreign Compensation" coverage endorsements;

(c) Employer's Liability. Employer's Liability Insurance in the amount of One Million Dollars ($1,000,000);

(d) Commercial General Liability. Commercial General Liability Insurance, including Personal Injury and Property Damage coverage in the amount of a combined single limit of Five Million Dollars ($5,000,000) for each occurrence. Such coverage shall include the following: (A) premises - operations; (B) elevators and hoists;

(C) independent contractor; (D) completed operations - products; (E) explosion, underground and collapse (XCU) coverage; and (F) blanket contractual obligations; and

(e) Comprehensive Auto Liability. Comprehensive Auto Liability Insurance including Personal Injury and Property Damage coverage in the amount of a combined single limit of Three Million Dollars ($3,000,000) for each occurrence. Such coverage shall include the following: (A) owned vehicles; (B) leased vehicles; (C) hired vehicle; and (D) non-owned vehicles.

(f) Property Insurance. Property Insurance on a Special Form Policy ("all-risk") basis in the amount of the full replacement cost of Tenant's tangible and intangible property within and about the Premises.

VI.5 PROFESSIONAL SERVICES. Tenant shall pay Landlord, as additional rent, the reasonable cost of any professional services and costs for general conditions of Landlord and any reasonable fees of third party consultants used by Landlord for review of any specifications and drawings for any alterations or for review of the construction of the alterations. Payment shall be made within ten (10) business days after Tenant's receipt of invoices either from Landlord or the consultants.

VI.6 LIENS. If, because of any act or omission of Tenant or anyone claiming by, through, or under Tenant, any mechanics' lien or other lien is filed against the Premises, a Building, or any other portion of the Project or against other property of Landlord or any member of Landlord or subsidiary or related companies of members of Landlord (whether or not the lien is valid or enforceable), Tenant shall, at its own expense, cause it to be discharged of record within a reasonable time, not to exceed thirty (30) days, after the date of the filing. If Tenant fails to do so, then in addition to its other remedies, Landlord may cause a bond to be posted as security for such lien and Tenant shall reimburse Landlord for the cost of such bond and provide substitute security within ten (10) days of Landlord's demand. In addition, Tenant shall defend and indemnify Landlord and hold it harmless from any and all claims, losses, damages, judgments, settlements, costs and expenses, including attorneys' fees, resulting from the lien.

VI.7 OWNERSHIP OF ALTERATIONS. Except as provided in Section 6.8, any alteration made by Tenant shall immediately become Landlord's property. Landlord may require Tenant, at Tenant's sole expense and by the end of the Term (or any extensions), to remove any alterations made by Tenant and to restore the Premises to its condition prior to the alteration.

VI.8 OWNERSHIP OF EQUIPMENT, TRADE FIXTURES AND NON-STRUCTURAL ALTERATIONS. Tenant shall retain ownership of, and shall have the right to remove at any time, its equipment, trade fixtures, provided that Tenant repairs any damage caused in removing such items.

VII0 REPAIRS

VII.1 TENANTS REPAIR OBLIGATIONS. (a) Tenant, at all times during the Term (and any extensions) and at Tenant's sole cost and expense (except as herein expressly provided to the contrary), shall repair, replace and maintain in first class condition the Premises, except for ordinary wear and tear and the effects of casualty or condemnation, including, but not limited to, all non-structural interior walls, the roof membrane and flashing (but not the roof structure), Building-mounted exterior lighting, plate glass, loading dock, and the mechanical, electrical, elevator and plumbing systems (including HVAC, chillers and neutralization system) serving the Premises; provided, however, that Tenant shall not be required to perform any maintenance, repair, or replacement of such items to the extent the maintenance, repair or replacement (i) is required because of fire or other casualty which is (or would be) covered by insurance Landlord maintains or is required to maintain under this Lease, (ii) results from the acts or omission of any other occupant of the Project or their agents, employees or contractors and/or (iii) results from the active negligence or willful misconduct of Landlord or its agents, employees or contractors.

(b) Except as expressly provided in this Lease, Tenant hereby waives all rights to make repairs at the expense of Landlord or in lieu thereof to vacate the Premises as provided in California Civil Code Section 1942 or any other law, statute or ordinance now or hereafter in effect.

VII.2 LANDLORD'S REPAIR OBLIGATION. Subject to damage by fire or other casualty or damage caused by Tenant or those under its control, Landlord, without expense to Tenant, shall maintain those portions of the Building and of the Premises which Tenant is not required to maintain in the condition and repair which would result from customary maintenance and repair for comparable buildings in Santa Clara County. As a Project Operating Expense, Landlord shall perform or construct any repair, maintenance or improvement required by any governmental law or regulation (including ADA) but only to the extent such improvements are not required because of Tenant's use of the Premises or because of alterations or other works of improvement undertaken by Tenant. As a Project Operating Expense, Landlord shall also maintain building systems not exclusively serving the Premises and the exterior portion of the Premises, including landscaping, exterior lighting, the exterior portions of the Building, parking lots (to the extent not the responsibility of a tenant under its lease), drives, curbs, exterior walkways and utilities in the Project Common Areas including telecommunications conduit but not cabling, but not any utilities or equipment installed by Tenant or by a public utility. Notwithstanding the foregoing sentence, (A) Tenant shall pay one hundred percent (100%) of the costs, to the extent not covered by insurance, of repairs, maintenance or improvements to the structural portions of the Project occasioned by fire or other casualty caused by Tenant or its employees, agents, contractors or invitees that are not (or would not be) covered by insurance Landlord is required to maintain under this Lease, and (B) Tenant shall pay its Project Percentage Share of the deductibles under Landlord's insurance policies and the costs described above to the extent such costs are properly included in the Project Operating Expenses.

VIII0 DAMAGE OR DESTRUCTION

VIII.1 LANDLORD'S OBLIGATION TO REBUILD. If a Building in which a portion of the Premises is located is damaged or destroyed, Landlord shall promptly and diligently repair the Premises (which shall include all of the office area improvements, as such may have been altered in compliance with this Lease, which are part of the Premises) unless (i) there are insufficient insurance proceeds (together with such funds as Landlord, in its sole discretion, elects to provide) and deductibles payable by Tenant or which Tenant elects in its sole discretion, to provide) to pay for the total costs of the repair; or (ii) either Landlord or Tenant exercises its option to terminate this Lease, as provided herein.

VIII.2 RIGHT TO TERMINATE. If a Building in which a portion of the Premises is located is destroyed or damaged by fire or other casualty, regardless of whether the casualty is insured against under this Lease, Landlord or Tenant shall have the option to terminate this Lease if Landlord reasonably determines that the repair of the Building cannot be completed within three hundred sixty (360) days after the casualty. If Landlord denies to exercise the right to terminate this Lease as a result of a casualty, it shall do so by notice to Tenant as soon as it determines that the estimated period to complete the repair exceeds three hundred sixty (360) days. If Tenant desires to exercise the right to terminate this Lease as a result of a casualty, Tenant shall exercise the right by giving Landlord notice of its election to terminate within thirty (30) days after Landlord's notice to Tenant of the estimated time to repair, in which event this Lease shall terminate fifteen (15) days after the date of the notice. If Landlord or Tenant does not exercise the right to terminate this Lease as to the destroyed or damaged Building, Landlord shall promptly commence the process of obtaining necessary permits and approvals, and shall commence repair of the destroyed and damaged Building as soon as practicable and thereafter prosecute the repair diligently to completion, in which event this Lease shall continue in full force and effect.

VIII.3 ABATEMENT OF RENT. In the event of any damage or destruction to a Building in which any portion of the Premises is located, the Base Rent and any Additional Rent shall be abated proportionately to the degree the Premises are untenantable as a result of the damage or destruction, commencing from the date of the damage or destruction and continuing until the earlier of (a) the termination of the Lease, or (b) completion of Landlord's repair

and restoration of the Premises. In this regard, the parties expressly acknowledge that Landlord has the obligation to carry, and Tenant has the obligation to reimburse Landlord for, insurance covering loss of rents for only a twelve-month period following damage and destruction of the Premises. Accordingly, notwithstanding the foregoing, Landlord and Tenant expressly agree that Tenant shall have no right to abatement of rent after the lapse of the twelve (12) month period to be covered by insurance, except to the extent that Landlord fails diligently to undertake and complete the restoration of the Premises as required of Landlord under this Lease.

VIII.4 DAMAGE NEAR END OF TERM AND EXTENSIVE DAMAGE

(a) In addition to the rights to termination under Section 8.2, Landlord or Tenant shall have the right to terminate this Lease as of the date of the occurrence of destruction or damage if (i) either (A) Building 3 is substantially destroyed or damaged (i.e., there is damage or destruction which Landlord reasonably determines would require more than six (6) months to repair) and made substantially untenantable during the last twelve (12) months of the Term (or any extension) or (B) Building 3 is materially destroyed or damaged (i.e., there is damage or destruction which Landlord reasonably determines would require more than two hundred seventy (270) days to repair) and made untenantable during the last two (2) years of the Term (or any extension). Any notice of its election to terminate this Lease under this Section shall be given, if at all, by Landlord or Tenant to the other party within fifteen (15) days after Landlord's determination of the period that the damage or destruction would require to repair is given to Tenant.

(b) Notwithstanding Landlord's election to terminate this Lease, if at the time of Landlord's election Tenant has not yet exercised its Extension Option, Tenant may cause the parties' obligations to be governed by Sections 8.1, 8.2 and 8.3 if within thirty (30) days following Landlord's notice to Tenant, Tenant validly exercises its Extension Option. In such event, Base Rent as of the commencement of the Option Period shall not be determined until six (6) months prior to the Commencement of the Extension Term. If Landlord or Tenant does not elect to terminate this Lease, the repair of the damage shall be governed by Section 8.1 or 8.2, as the case may be.

VIII.5 LANDLORD'S INSURANCE. Landlord shall maintain at all times during the term of this Lease, a standard form of "all risk extended coverage" property insurance in the amount of full replacement value of the Project and insurance for loss of rentals as a result of casualty (including, at Landlord's option, earthquake) for a period of up to one year. If available and if Tenant pays the premiums for such coverage, Landlord shall also carry earthquake insurance in such additional amounts as may be requested by Tenant.

VIII.6 INSURANCE PROCEEDS. If this Lease is terminated, (i) Landlord may keep all the insurance proceeds resulting from the damage, except for those proceeds from insurance policies obtained by Tenant which specifically insure Tenant's personal property and trade fixtures, and (ii) Tenant shall deliver to Landlord any insurance proceeds from its policies insuring its alterations or improvements.

IX0 EMINENT DOMAIN

IX.1 EMINENT DOMAIN. If all or any part of the Premises is taken for public or quasi-public use by a governmental authority under the power of eminent domain or is conveyed to a governmental authority in lieu of such taking, and if the taking or conveyance causes the remaining part of the Premises to be untenantable or inadequate for use by Tenant for the purpose for which it was leased, then Tenant, at its option and by giving notice within fifteen (15) days after the taking, may terminate this Lease as of the date Tenant is required to surrender possession of the Premises. If a part of the Premises is taken or conveyed and the remaining part is tenantable and adequate for Tenant's use, then this Lease shall be terminated as to the part taken or conveyed as of the date Tenant surrenders possession; Landlord shall make such repairs, alterations and improvements to the Building as may be necessary to render the part of the Premises not taken or conveyed tenantable or usable; and the Rent shall be reduced in proportion to the part of the Premises taken or conveyed. All compensation awarded for the taking or conveyance shall be the property of Landlord without any deduction therefrom for any estate of Tenant, and Tenant hereby

assigns to Landlord all its right, title and interest in and to the award. Tenant shall have the right, however, to recover from the governmental authority, but not from Landlord, such compensation as may be awarded to Tenant on account of the interruption of Tenant's business, moving and relocation expenses and removal of Tenant's trade fixtures and personal property.

X0 INDEMNITY AND INSURANCE

X.1 INDEMNITY. Tenant shall be responsible for, shall insure against, and shall indemnify Landlord and its members, subsidiary and related companies, and their respective managers, members, officers, directors, shareholders, agents and employees (collectively, "Landlord's Parties"), and hold them harmless from, any and all liability for any loss, damage or injury to person or property occurring in, on or about the Premises, but not to the extent arising out of the negligence or willful misconduct of Landlord or Landlord's agents, employees, or contractors, and Tenant hereby releases Landlord's Parties from any and all liability for the same. Tenant's obligation to indemnify Landlord's Parties hereunder shall include the duty to defend against any claims asserted by reason of any loss, damage or injury, and to pay any judgments, settlements, costs, fees and expenses, including attorneys' fees, incurred in connection therewith. Notwithstanding the terms of this Section, Tenant's indemnity regarding Hazardous Substances and Hazardous Waste shall be as provided in Section 5.9 of this Lease. Tenant's indemnity shall survive the expiration or termination of this Lease.

X.2 WAIVER. As insurance is available to Tenant to protect it against such risks, Landlord shall not be liable to Tenant for, and Tenant hereby waives all claims against Landlord for, any injury or damage to any person or property in, on or about the Premises by or from any cause whatsoever, and, without limiting the generality of the foregoing, whether caused by water leakage of any character from the roof, walls, basement or other portion of the Premises, or caused by gas, fire, oil, electricity, vibration or any cause whatsoever in, on or about the Premises.

X.3 TENANT'S INSURANCE. At all times during the Term (and any extensions), Tenant shall carry, at its own expense, for the protection of Tenant, Landlord, Landlord's members and their subsidiary and related companies and Landlord's management agents (the "Additional Insureds"), as their interests may appear, one or more policies of commercial general liability insurance, including a contractual liability endorsement, and property damage insurance, issued by one or more insurance companies acceptable to Landlord, with minimum combined single limit coverage of Five Million Dollars ($5,000,000.00) per occurrence for injury or property damage and insuring against any and all liability for which Tenant is responsible under this Lease. The insurance policy or policies shall (a) name the Additional Insureds and such other entities as Landlord may designate from time to time as additional insureds, (b) shall provide that the policy or policies may not be canceled on less than thirty (30) days prior written notice to such parties, (c) shall provide that it is primary and that any insurance maintained by Landlord shall be non-contributory with that maintained by Tenant. If Tenant's insurance is provided under a blanket policy, it shall be endorsed to provide that the full policy limit shall be available for claims arising from a single location. At least annually and otherwise within fifteen (15) days following Landlord's request, Tenant shall furnish Landlord with certificates evidencing the insurance. If Tenant fails to carry the insurance or to furnish Landlord with copies of all the policies after a request to do so, Landlord shall have the right to obtain the insurance and collect the cost thereof from Tenant as additional Rent.

X.4 INCREASES IN INSURANCE. During the Term (and any extensions), but not more frequently than once every three (3) years, Landlord shall have the right to reasonably require that the amount of the insurance coverage maintained by Tenant be increased and that insurance for additional risks be obtained to the extent coverage for such risk in the increased amount is available in the insurance market at commercially acceptable rates.

X.5 LANDLORD'S INSURANCE. During the Term Landlord shall maintain one or more policies of commercial general liability insurance with minimum combined single limit coverage of Five Million Dollars ($5,000,000) per occurrence for bodily injury or property damage.

XI0 ASSIGNMENT AND SUBLETTING

XI.1 LANDLORD'S CONSENT. Except as provided in Section 11.2, Tenant shall not assign, sublet or otherwise transfer all or any portion of Tenant's interest in this Lease (collectively, "sublet") without Landlord's prior written consent, which consent shall not be unreasonably withheld. Landlord's withholding its consent to a proposed sublet shall be deemed reasonable if (i) the proposed sublet could result in all or any portion of the Premises being occupied by one or more governmental agencies (foreign or domestic); (ii) the sublet would result in significant and inappropriate increase in the use of any Project Common Areas by the sublessee's employees or visitors; (iii) the proposed sublessee is, in Landlord's reasonable opinion, not of similar quality as Tenant (i.e., previously has had numerous, material disputes with its prior landlords); or (iv) the proposed sublessee's or assignee's financial condition is insufficient to perform its obligations under the terms of the sublet, as determined in Landlord's reasonable discretion. Consent by Landlord to one sublet shall not be deemed to be a consent to any subsequent sublet.

XI.2 PERMITTED TRANSFEREE. Consent of Landlord shall not be required for a sublet of all of the Premises to a Permitted Transferee.

XI.3 EFFECT OF SUBLET. Each sublet to which Landlord has consented shall be by an instrument in writing, in a form satisfactory to Landlord as evidenced by Landlord's written approval. Each sublessee or assignee shall agree in writing, for the benefit of Landlord, to assume, to be bound by and to perform for the benefit of Landlord the terms, conditions and covenants of this Lease to be performed by Tenant, to the extent applicable to the sublease. Tenant shall not be released from personal liability for the performance of each term, condition and covenant of this Lease, and Landlord shall have the right to proceed against Tenant without proceeding against the subtenant.

XI.4 INFORMATION TO BE FURNISHED. If Tenant desires at any time to sublet the Premises, Tenant shall first notify Landlord of its desire to do so and shall submit in writing to Landlord: (i) the name of the proposed subtenant or assignee; (ii) the nature of the proposed subtenant's or assignee's business to be carried on in the Premises; (iii) the terms and provisions of the proposed sublease or assignment and a copy of the proposed sublease or assignment form; and (iv) such financial information, including financial statements, as Landlord may reasonably request concerning the proposed subtenant.

XI.5 LANDLORD'S ELECTION. At any time within fifteen (15) days after Landlord's receipt of the information specified in Section 11.4, Landlord may, by written notice to Tenant, elect to (i) consent to the sublet by Tenant; or (ii) refuse its consent to the sublet. If Landlord fails to elect one of the alternatives within the fifteen (15) day period, it shall be deemed that Landlord has refused its consent to the sublet. If Landlord refuses its consent, Landlord shall deliver to Tenant a statement of the basis for its refusal. Any attempted sublet without Landlord's consent shall be void.

XI.6 PAYMENT UPON SUBLET. If Landlord consents to the sublet, Tenant may thereafter enter into a valid sublet of the Premises or portion thereof, upon the terms and conditions set forth in the information furnished by Tenant to Landlord pursuant to Section 11.4, subject to the condition that Tenant shall pay to Landlord fifty percent (50%) of any excess of (a) the consideration received by Tenant under the sublet for the sublet transaction and/or the right to occupy the Premises ("subrent") over (b) the Rent required to be paid by Tenant hereunder plus Tenant's reasonable out-of-pocket costs to effectuate the sublet, including, without limitation, attorneys' fees, real estate brokers' commissions and the cost of tenant improvements or allowances incurred by Tenant in connection with such sublease. Any subrent to be paid to Landlord pursuant hereto shall be payable to Landlord as and with the Base Rent payable to Landlord hereunder pursuant to the terms of Article IV. The term "subrent" as used herein shall include any consideration of any kind received by Tenant from the subtenant in consideration of Tenant's interest in this Lease or in the Premises.

XI.7 FEES FOR REVIEW. Tenant also shall pay to Landlord, as additional rent, the reasonable, documented legal fees (including the allocated costs for services of in-house counsel) for reviewing the documents in connection with any proposed sublet, but not in excess of Twenty Five Hundred Dollars ($2,500) for each request. The payment shall be made within ten (10) business days after Tenant's receipt of invoices either from Landlord or Landlord's attorneys.

XI.8 EXECUTED COUNTERPARTS. No sublet shall be valid nor shall any subtenant or assignee take possession of the Premises until an executed counterpart of the sublease or assignment has been delivered to Landlord in the form previously approved by Landlord.

XI.9 TRANSFERS COMPRISING SUBLETS. A sale or other transfer of all or a substantial portion of Tenant's assets or, if Tenant is a corporation, partnership or other entity, any transfer, assignment, encumbrance or hypothecation of fifty percent (50%) or more (in one or more related transactions) of the stock or other ownership interest in such entity, or any transfer, assignment, hypothecation or encumbrance of any controlling ownership or voting interest in such entity, shall be deemed a sublet and shall be subject to all the restrictions and provisions contained in this Article; provided, however, that the provisions regarding transfer of stock shall not be applicable (A) to Tenant if Tenant is a publicly-held corporation and its stock is transferred publicly over a recognized securities exchange or over-the-counter market, or (B) to the initial public offering of stock of Tenant pursuant to trading over a recognized securities exchange or over-the-counter market.

XII0 DEFAULT

XII.1 TENANT'S DEFAULT. At the option of Landlord, a material breach of this Lease by Tenant shall exist if any of the following events (severally, "Event of Default"; collectively, "Events of Default") shall occur: (i) if Tenant shall have failed to pay when due Rent, including Tenant's Project Percentage Share of Project Operating Expenses, Tenant's Project Percentage Share of Real Property Taxes, or any other sum required to be paid under this Lease; provided that one (1) time in any twelve (12)-month period there shall not be an Event of Default if any such failure to pay Base Rent when due does not continue for more than ten (10) days following notice from Landlord; (ii) if Tenant shall have failed to perform any term, covenant or condition of this Lease except those requiring the payment of money, and Tenant shall have failed to cure the breach within fifteen (15) days after written notice from Landlord if the breach could reasonably be cured within the fifteen (15) day period; provided, however, if the failure could not reasonably be cured within the fifteen (15) day period, then Tenant shall not be in default unless it has failed to promptly commence and thereafter continue to make diligent and reasonable efforts to cure the failure as soon as practicable as reasonably determined by Landlord; (iii) if Tenant shall have assigned its assets for the benefit of its creditors; (iv) if the sequestration of, attachment of, or execution on, any material part of the property of Tenant or on any property essential to the conduct of Tenant's business shall have occurred, and Tenant shall have failed to obtain a return or release of the property within sixty(60) days thereafter, or prior to sale pursuant to any sequestration, attachment or levy, whichever is earlier; (v) if Tenant shall have failed to continuously and uninterruptedly conduct its business in the Premises, or shall have abandoned or vacated the Premises, while in default of payment of Rent; (vi) if a court shall have made or entered any decree or order adjudging Tenant to be insolvent, or approving as properly filed a petition seeking reorganization of Tenant, or directing the winding up or liquidation of Tenant, and the decree or order shall have continued for a period of sixty (60) days; (vii) if Tenant shall have made or suffered any transfer which constitutes a fraudulent or otherwise avoidable transfer under any provision of the federal Bankruptcy Laws or any applicable state law; or (viii) if Tenant shall have failed to comply with the provisions of Articles XIX, XXI or XXII. An Event of Default shall constitute a default under this Lease.

XII.2 REMEDIES UPON TENANT'S DEFAULT. Upon an Event of Default, Landlord shall have the following remedies, in addition to all other rights and remedies provided by law, equity, statute or otherwise provided in this Lease, to which Landlord may resort cumulatively or in the alternative:

(a) Continue Lease. Landlord shall have the remedy described in California Civil Code Section 1951.4 and may continue this Lease in full force and effect, and this Lease shall continue in full force and effect as long as Landlord does not terminate Tenant's right to possession, and Landlord shall have the right to collect Rent when due.

(b) Terminate Possession. Landlord may terminate Tenant's right to possession of the Premises at any time by giving written notice to that effect. No act by Landlord other than giving written notice to Tenant shall terminate this Lease. Acts of maintenance, efforts to relet the Premises or the appointment of a receiver on Landlord's initiative to protect Landlord's interest under this Lease shall not constitute a termination of Tenant's right to possession. On termination, Landlord shall have the right to remove all personal property of Tenant and store it at Tenant's cost and to recover from Tenant as damages: (i) the worth at the time of award of unpaid Rent and other sums due and payable which had been earned at the time of termination; plus (ii) the worth at the time of award of the amount by which the unpaid Rent and other sums due and payable which would have been payable after termination until the time of award exceeds the amount of the Rent loss that Tenant proves could have been reasonably avoided; plus (iii) the worth at the time of award of the amount by which the unpaid Rent and other sums due and payable for the balance of the Term after the time of award exceeds the amount of the Rent loss that Tenant proves could be reasonably avoided; plus (iv) any other amount necessary to compensate Landlord for all the detriment proximately caused by Tenant's failure to perform Tenant's obligations under this Lease, or which, in the ordinary course of things, would be likely to result therefrom, including, without limitation, any costs or expenses incurred by Landlord: (1) in retaking possession of the Premises, including attorneys' fees and costs therefor; (2) maintaining or preserving the Premises for reletting to a new tenant, including repairs or alterations to the Premises for the reletting; (3) leasing commissions; (4) any other costs necessary or appropriate to relet the Premises; and (5) at Landlord's election, such other amounts in addition to or in lieu of the foregoing as may be permitted from time to time by the laws of the State of California.

The "worth at the time of award" of the amounts referred to in clauses (i) and (ii) and is computed by allowing interest at the lesser of the Interest Rate on the unpaid Rent and other sums due and payable from the termination date through the date of award. The "worth at the time of award" of the amount referred to in clause (iii) is computed by discounting the amount at the discount rate of the Federal Reserve Bank of San Francisco at the time of award, plus one percent (1%). Tenant waives redemption or relief from forfeiture under California Code of Civil Procedure Sections 1174 and 1179, or under any other present or future law, if Tenant is evicted or Landlord takes possession of the Premises by reason of any default of Tenant hereunder.

XII.3 LANDLORD'S RIGHT TO PERFORM TENANT'S COVENANTS. If Tenant shall at any time fail to make any payment or perform any other act on its part to be made or performed under this Lease within the cure periods set forth in Section 12.1, Landlord may, but shall not be obligated to, make the payment or perform the act to the extent Landlord may deem desirable and, in connection therewith, pay expenses and employ counsel. Any payment or performance by Landlord shall not waive or release Tenant from any obligations of Tenant under this Lease. All sums so paid by Landlord, and all penalties, interest and costs in connection therewith, shall be due and payable by Tenant on the next day after any payment by Landlord, together with interest thereon at the Interest Rate, from that date to the date of payment thereof by Tenant to Landlord, plus collection costs and attorneys' fees. Landlord shall have the same rights and remedies for the nonpayment thereof as in the case of default in the payment of Rent.

XIII. SECURITY DEPOSIT

XIII.1 SECURITY DEPOSIT. Upon its execution of this Lease, Tenant shall have deposited with Landlord the Security Deposit, in the amount of Two Hundred Ninety Thousand Dollars ($290,000.00), as security for the full and faithful performance of every provision of this Lease to be performed by Tenant. If Tenant defaults with respect to any provision of this Lease, Landlord may use, apply or retain all or any part of the Security Deposit for the payment of any Rent or other sum in default, for the payment of any amount which Landlord may expend or become obligated

to expend by reason of Tenant's default, or to compensate Landlord for any loss or damage which Landlord may suffer by reason of Tenant's default. If any portion of the Security Deposit is used or applied, Tenant shall deposit with Landlord, within ten (10) days after demand therefor, cash in an amount sufficient to restore the Security Deposit to its original amount. Landlord shall not be required to keep the Security Deposit separate from its general funds, and Tenant shall not be entitled to interest on the Security Deposit. Upon the expiration or earlier termination of this Lease, Landlord shall promptly refund to Tenant any portion of the Security Deposit not previously applied by Landlord.

XIV. SURRENDER OF PREMISES

XIV.1. SURRENDER. Subject to the terms of Articles VIII and IX, on the expiration or early termination of this Lease (including any extensions), Tenant shall surrender the Premises to Landlord in a cosmetically and environmentally clean condition equivalent to that existing on the Effective Date (i.e., with no additional Hazardous Substances or levels of Hazardous Substances in excess of those in, on or under the Premises as of the Commencement Date not stored or released by Tenant or those under its control), with all of Tenant's personal property, data and communications cabling, process piping, process and production-related ducts and machinery removed, and with only such alterations as may have been consented to remain by Landlord or which shall not have required Landlord's consent. Within thirty (30) days prior to the date Tenant delivers possession of the Premises to Landlord, Tenant shall deliver to Landlord a report prepared within thirty (30) days prior to such delivery which includes the documents and information described in Section 5.6 and which also includes the results of tests of samples of any potential locations of Hazardous Materials stored, used or released by Tenant or those under its control on or about the Premises including, if indicated by the nature of activities within or adjacent to the Premises, groundwater and soil gas samples as well as samples of materials in representative samples of any process piping, waste traps and air handling equipment used by Tenant. The scope of the investigation performed for such report shall be subject to Landlord's prior approval, which approval shall not unreasonably be withheld but may be subject to reasonable conditions.

XV. HOLDING OVER

XV.1 HOLDING OVER. If Tenant remains in possession of all or any part of the Premises after the expiration or termination of this Lease, the tenancy shall be month-to-month only and shall not constitute a renewal or extension for any further term. In such event, Base Rent shall be increased to an amount equal to one hundred twenty-five percent (125%) of the Base Rent during the last month of the Term (including any extensions), and any other sums due under this Lease shall be payable in the amount, and at the times, specified in this Lease. The month-to-month tenancy shall be subject to every other term, condition, covenant and agreement contained in this Lease and Tenant shall vacate the Premises (and, if appropriate, the remainder of the Project) immediately upon Landlord's request. If this Lease terminates prior to the Expiration Date (including termination during an Extension Term) and the termination is not a result of one or more Events of Default by Tenant, Tenant shall have a reasonable period of time to hold over (without the increase in the Base Rent provided above) in order to complete its restoration obligations in accordance with the terms of this Lease.

XVI. ACCESS TO PREMISES

XVI.1 ACCESS TO PREMISES. Tenant shall permit Landlord and its agents to enter the Premises at all reasonable times upon at least twenty-four (24) hours' notice, except in the case of an emergency (in which event no notice shall be necessary), and to make use of any Project Common Areas to (i) inspect the Premises; (ii) post Notices of Nonresponsibility and similar notices and to show the Premises to interested parties such as prospective mortgagors, purchasers and tenants; (iii) make necessary alterations, additions, improvements or repairs to the Premises, the Buildings or the Project; (iv) discharge Tenant's obligations hereunder when Tenant has failed to do so within a reasonable time after written notice from Landlord; (v) install, use, maintain, repair, replace and relocate

pipes, ducts, conduits, wires and meters and equipment above the ceiling surfaces, below the floor surfaces, within the walls and in the central core areas of the Buildings; and (vi) make changes to the design and layout of the Project, including changes to the Buildings, driveways, entrances, loading and unloading areas, direction of traffic, landscape areas, walkways and parking areas. Landlord also shall have the right to use or close temporarily any Project Common Areas and any other portion of the Project while engaging in making improvements, repairs or alterations to the Building, the Project, or any portion thereof. Landlord's right of access to the Premises shall be subject to reasonable security regulations of Tenant, and to the requirement that Landlord shall at all times act in a manner to minimize interference with Tenant's operations. Landlord shall not be liable to Tenant for any damages or losses resulting from Landlord's entry except and to the extent caused by Landlord's violation of its obligations under the Section 16. Access to the Premises by third parties except in emergencies shall be subject to such parties executing non-disclosure agreements acceptable to Tenant and a representative of Tenant shall have the right to accompany such parties.

XVII. SIGNS

XVII.1 RESTRICTIONS AND COSTS. Tenant may only install signs identifying Tenant on the Building in compliance with applicable law. At its expense, Tenant may also install a monument sign identifying tenant at the entry to the Project in the location designated by Landlord. The costs of any permitted sign, and the costs of its installation, maintenance and removal, shall be at Tenant's sole expense and shall be paid within ten (10) days of Tenant's receipt of a bill from Landlord for the costs. The payment shall be made within ten (10) business days after Tenant's receipt of invoices either from Landlord or Landlord's attorneys.

XVIII. WAIVER OF SUBROGATION

XVIII.1 WAIVER OF SUBROGATION. Anything in this Lease to the contrary notwithstanding, Landlord and Tenant each hereby waives and releases the other of and from any and all rights of recovery, claim, action or cause of action against the other, its subsidiary and related companies, directors, agents, officers and employees, for any loss or damage that may occur in the Premises, the Buildings, or the Project; to improvements to the Buildings and Project or personal property (building contents) within the Buildings or Project; or to any furniture, equipment, machinery, goods and supplies not covered by this Lease which Tenant may bring to the Premises or any additional improvements which Tenant may construct on the Premises by reason of fire, the elements or any other cause which is required to be insured against

under this Lease, regardless of the cause or origin, including negligence of Landlord or Tenant and their agents, subsidiaries, directors, officers and employees, to the extent insured against under the terms of any insurance policies carried by Landlord or Tenant or required to be insured against by Landlord or Tenant under this Lease. Notwithstanding anything to the contrary contained herein, the waiver of subrogation and release under this Section shall extend to damage that would be covered by insurance required to be carried under this Lease, even if the insurance proceeds are not paid to the insured.

XIX. SUBORDINATION

XIX.1 SUBORDINATE NATURE. Except as provided in Section 19.2 and subject to Section 19.3, this Lease is subject and subordinate to the CC&Rs and all ground or underlying leases, mortgages and deeds of trust which now or may hereafter affect the Project, the Property, the Buildings or the Premises, and to all renewals, modifications, consolidations, replacements and extensions thereof. Within ten (10) days after Landlord's request therefor, Tenant shall execute any and all documents reasonably required by Landlord, the lessor under any ground or underlying lease ("Lessor"), or the holder or holders of any mortgage or deed of trust ("Holder") to make this Lease subordinate to the lien of any lease, mortgage or deed of trust, as the case may be. Tenant hereby waives its rights under any law (including judicial decisions) which gives or purports to give Tenant any right to terminate or otherwise adversely affect this Lease and the obligations of Tenant hereunder in the event of any foreclosure proceeding or sale. Notwithstanding anything to the contrary herein, prior to the Commencement Date, and from time to time thereafter

upon any refinancing or additional financing of the Property, Landlord shall obtain from any lenders holding security interests in, present or future ground lessors of the Project, and such lenders and ground leases and Tenant shall execute, acknowledge and deliver a Subordination, Non-Disturbance and Attornment Agreement in the form of Exhibit F. If any such Agreement so provides, then no termination of this Lease by Landlord shall be effective unless consented to by any such lenders and ground lessors.

XIX.2 POSSIBLE PRIORITY OF LEASE. If a Lessor or a Holder advises Landlord that it desires or requires this Lease to be prior and superior to a lease, mortgage or deed of trust, Landlord may notify Tenant. Within seven (7) days of Landlord's notice, Tenant shall execute, have acknowledged and deliver to Landlord any and all documents or instruments, in the form presented to Tenant, which Landlord, Lessor or Holder deems necessary or desirable to make this Lease prior and superior to the lease, mortgage or deed of trust.

XIX.3 RECOGNITION AND ATTORNMENT AGREEMENT. Upon the foreclosure of any mortgage or deed of trust encumbering Landlord's interest in the Project, Property, Buildings or the Premises, or a sale or transfer in connection therewith, Tenant shall attorn to the Holder and its successors, and shall, upon its request, execute and deliver a new lease with the Holder as landlord, in the form of this Lease. The obligations of Tenant under this Section shall survive termination of this Lease.

XX. TRANSFER OF LANDLORD'S INTEREST

XX.1 TRANSFER OF THE PROJECT. Upon transfer of Landlord's interest in the Project and assignment of this Lease, Landlord shall be entirely freed and relieved of all liability under any and all of its covenants and obligations contained in or derived from this Lease occurring after the consummation of the transfer and assignment. Tenant shall attorn to any entity purchasing or otherwise acquiring Landlord's interest in the Premises at any sale or other proceeding.

XXI. ESTOPPEL CERTIFICATES

XXI.1 ESTOPPEL CERTIFICATES. Within ten (10) days following request by either Tenant or Landlord, the other party shall execute and deliver an estoppel certificate which shall: (i) certify that this Lease is unmodified and in full force and effect or, if modified, state the nature of the modification and certify that this Lease, as so modified, is in full force and effect, and the date to which the Rent and other charges are paid in advance, if any; (ii) acknowledge that there are not, to Tenant's knowledge, any uncured defaults on the part of Landlord hereunder, or if there are uncured defaults on the part of Landlord, state the nature of the uncured defaults; (iii) evidence the status of the Lease as may be required either by a lender making a loan to Landlord to be secured by a deed of trust or mortgage covering the Premises or a purchaser of all or any portion of Landlord's interest in the Project; and (iv) acknowledge any other matters concerning this Lease, as reasonably requested by Landlord.

XXII. MODIFICATION FOR LENDERS

XXII.1 MODIFICATION FOR LENDERS. If, in connection with Landlord obtaining any financing for all or any portion of Landlord's interest in the Project, a lender requests modifications to this Lease, Tenant shall execute an amendment to this Lease incorporating the modifications within ten (10) days after Landlord's request. The modifications shall not increase Tenant's obligations under this Lease.

XXIII. ATTORNEY'S FEES

XXIII.1 ATTORNEYS' FEES. If either party shall bring any action or legal proceeding for damages for an alleged breach of any provision of this Lease, to recover Rent or other sums due, to terminate the tenancy of the Premises or to enforce, protect or establish any term, condition or covenant of this Lease or right of either party, the prevailing party shall be entitled to recover, as a part of the action or proceedings, or in a separate action brought for

that purpose, reasonable attorneys' fees and court costs as may be fixed by the court or jury. The prevailing party shall be the party which secures a final judgment in its favor. Any such attorneys' fees and other expenses incurred by any party in enforcing a judgment in its favor under this Lease shall be recoverable separately from and in addition to any other amount included in such judgment, and such attorneys' fees obligation is intended to be severable from the other provisions of this Lease and to survive and not be merged into any such judgment.

XXIV. BROKERS

XXIV.1 TENANT'S WARRANTY. Tenant and Landlord each warrant and represent that it has had no dealings with any real estate broker or agent in connection with the negotiation of this Lease except for BT Commercial and Cornish & Carey, and that it knows of no other real estate broker or agent who is or might be entitled to a commission in connection with this Lease. Landlord acknowledges that it shall be solely responsible for any commission or fee which may be payable to BT Commercial and Cornish & Carey in connection with this Lease.

XXIV.2 INDEMNITY. Tenant and Landlord shall indemnify and hold harmless the other from and against any and all liabilities and expenses arising out of claims made by any broker or individual other than BT Commercial or Cornish & Carey for commissions or fees resulting from this Lease claiming a right through the indemnifying party. The indemnity in this Section shall survive expiration or termination of this Lease.

XXV. PARKING

XXV.1 PARKING. Tenant shall have the exclusive right to park in the Project's parking facilities shown on Exhibit G hereto as un-shaded areas and agrees to cooperate with Landlord and other tenants of the Project in the use of the parking facilities. At Tenant's request and at its expense, Landlord shall designate, including providing appropriate signs, parking spaces adjacent to the main entry to the Premises for Tenant's exclusive use in the area generally shown on Exhibit C, but Landlord shall not be obligated to enforce such restrictions. Landlord shall have the right to charge Tenant the portion which Landlord deems allocable to Tenant of any charges (e.g., fees or taxes) imposed by the Regional Air Quality Control Board or other governmental or quasi-governmental agency in connection with operation or use of the parking facilities by Tenant). Landlord shall not be liable to Tenant, nor shall this Lease be affected, if any parking is impaired by moratorium, initiative, referendum, law, ordinance, regulation or order passed, issued or made by any governmental or quasi-governmental body.

XXVI. UTILITIES AND SERVICES

XXVI.1 TENANT'S RESPONSIBILITY. Tenant shall be responsible for arranging for and obtaining the utilities and services necessary to service the Buildings in which any portion of the Premises is located. Tenant shall pay directly, before the same become delinquent, all charges, duties, rates and other charges of every description to which the Premises or any part thereof or any improvements thereon, or Landlord or Tenant in respect thereof, may during the Term (and any extensions) be assessed or become liable for consumption by Tenant of electricity, gas, refuse collection, telephone, sewage disposal, water, cable television or any other utilities or services or any connections or meters therefor, whether assessed to or payable by Landlord or Tenant. If Tenant fails to pay any such utility or service charges, the Landlord may at any time after the same become due pay the same together with any interest, penalties, fines and costs accrued or imposed and Tenant shall reimburse Landlord, upon demand, the full amount paid by Landlord, together with interest at the Interest Rate. Landlord shall not be liable for, Tenant shall not be entitled to any abatement or reduction of Rent by reason of, no eviction of Tenant shall result from, and Tenant shall not be relieved from the performance of any covenant or agreement in this Lease because of, any interruption of such utilities and services.

XXXVI.2 TELECOMMUNICATIONS, RISERS AND CABLING. Tenant may install satellite dishes and telecommunications equipment on the roof of the Building in a manner which is subject to Landlord's prior approval, which shall not unreasonably be withheld. Landlord shall have no responsibility for the installation, operation and

maintenance of the telecommunications conduit, risers and cabling in the Buildings. In addition, Landlord shall have no liability to Tenant if, for whatever reason, telecommunication service to the Building fails. Upon the expiration or earlier termination of the Term, Tenant shall remove all antennae, conduit, switches and cable installed by Tenant and repair and patch all damage and penetrations.

XXVII. NAMES OF PROJECT AND BUILDING

XXVII.1 REVISION OF NAMES. Landlord shall have the right, in its sole discretion and without Tenant's consent or any liability to Tenant, at any time during the Term (including all extensions) to revise (i) the name of the Project; or (ii) the name of any of the Buildings.

XXVII.2 USE OF NAMES. Tenant shall not employ the name of any Building or the Project in the name or title of its business or occupation without Landlord's prior written consent, which consent Landlord may withhold in its sole discretion.

XXVIII. MEMORANDUM OF LEASE

XXVIII.1 RECORDING. At Tenant's request, the parties shall execute, acknowledge and cause to be recorded a short form memorandum of this Lease.

XXVIII.2 QUITCLAIM. Upon any termination of this Lease pursuant to its terms, Tenant, at Landlord's request, shall execute, have acknowledged and deliver to Landlord a quitclaim deed of all Tenant's interest in the Premises, Buildings, Property and Project created by this Lease.

XXIX. NOTICES

XXIX.1 NOTICES. Any notice or demand required or desired to be given under this Lease shall be in writing and shall be given by hand delivery, electronic mail (e.g., facsimile), courier service or the United States mail. Notices which are sent by electronic mail or courier service shall be deemed to have been given upon receipt. Notices which are mailed shall be deemed to have been given when seventy-two (72) hours have elapsed after the notice is deposited in the United States mail, certified, the postage prepaid, addressed to the party to be served. As of the date of execution of this Lease, the addresses of Landlord and Tenant are as specified in the Basic Lease Information. Either party may change its address by giving notice of the change in accordance with this Section.

XXX. LIABILITY OF LANDLORD

XXX.1 LANDLORD'S EXCULPATION. In the event of breach by Landlord (which term includes Landlord's partners, co-venturers and co-tenants, subsidiary and related companies and members, managers, officers, directors, employees, agents and representatives of Landlord and Landlord's partners, co-venturers, co-tenants, and subsidiary and related companies) of any of Landlord's obligations under this Lease, Landlord's liability to Tenant shall be limited to its then ownership interest in the Buildings and Property or the proceeds of a public sale of the then ownership interest pursuant to the foreclosure of a judgment against Landlord plus the proceeds of commercial general liability insurance as maintained by Landlord. Landlord shall not be personally liable, or liable in any event, for any deficiency beyond its then ownership interest in the Buildings and Property.

XXXI. LIGHT, AIR AND VIEW

XXXI.1 ADDITIONAL STRUCTURES. Subject to the restrictions in Section 2.8 regarding the visibility of Tenant's signs, any diminution or interference with light, air or view by any structure which may be erected on land

adjacent to the Buildings (whether or not within the Project) shall in no way alter this Lease or impose any liability on Landlord.

XXXII. RULES AND REGULATIONS

XXXII.1 RULES AND REGULATIONS. Landlord reserves the right from time to time to adopt and promulgate, amend and supplement reasonable rules and regulations applicable to the Buildings and the Project. Notice of such rules and regulations, and reasonable amendments thereto, shall be given to Tenant; and Tenant hereby agrees thereupon to comply with and observe all such rules and regulations, amendments and supplements.

XXXIII. RIGHT OF FIRST OFFER

XXXIII.1 RIGHT OF FIRST OFFER. Tenant shall have a right of first offer to lease any of all of the space in Building 1 or Building 2 (the "Offer Space") which is presently leased to Hewlett-Packard Corporation ("H-P") if and when the Offer Space becomes available for lease to prospective tenants which are not H-P, its successors, assigns or sublessees (collectively, the "Existing Occupants"). If and when Landlord desires to make the Offer Space available for lease to prospective tenants other than the Existing Occupants, Landlord shall first give notice of such intent to Tenant. Tenant may, by notice given to Landlord within thirty (30) days following Landlord's notice, enter into negotiations with Landlord to lease the Offer Space on such terms as the parties may agree and for thirty (30) days following Tenant's notice, the parties shall negotiate in good faith towards reaching an agreement for Tenant to lease the Offer Space. Notwithstanding the foregoing, Landlord shall not be obligated to enter into such negotiations unless Tenant's notice of exercise is accompanied by evidence reasonably acceptable to Landlord, that the tangible net worth of Tenant determined in accordance with generally acceptable accounting practices as of the date of such exercise, is not less than that of Tenant as of the Effective Date. Unless Tenant and Landlord shall have otherwise agreed, Landlord shall not be obligated to negotiate with Tenant with respect to the Offer Space for more than thirty (30) days and Tenant's right under this Section 33 shall apply to the Offer Space only the first time it becomes available for lease to prospective tenants other than Existing Occupants.

XXXIV. GENERAL

XXXIV.1 CAPTIONS. The captions and headings used in this Lease are for the purpose of convenience only and shall not be construed to limit or extend the meaning of any part of this Lease.

XXXIV.2 TIME. Time is of the essence for the performance of each term, condition and covenant of this Lease.

XXXIV.3 SEVERABILITY. If any provision of this Lease is held to be invalid, illegal or unenforceable, the invalidity, illegality, or unenforceability shall not affect any other provision of this Lease, but this Lease shall be construed as if the invalid, illegal or unenforceable provision had not been contained herein.

XXXIV.4 CHOICE OF LAW; CONSTRUCTION. This Lease shall be construed and enforced in accordance with the laws of the State of California. The language in all parts of this Lease shall in all cases be construed as a whole according to its fair meaning and not strictly for or against either Landlord or Tenant.

XXXIV.5 GENDER; SINGULAR, PLURAL. When the context of this Lease requires, the neuter gender includes the masculine, the feminine, a partnership or corporation or joint venture, and the singular includes the plural.

XXXIV.6 BINDING EFFECT. The covenants and agreements contained in this Lease shall be binding on the parties hereto and on their respective successors and assigns (to the extent this Lease is assignable).

XXXIV.7 WAIVER. The waiver of Landlord of any breach of any term, condition or covenant of this Lease shall not be deemed to be a waiver of the provision or any subsequent breach of the same or any other term, condition or covenant of this Lease. The subsequent acceptance of Rent hereunder by Landlord shall not be deemed to be a waiver of any preceding breach at the time of acceptance of the payment. No covenant, term or condition of this Lease shall be deemed to have been waived by Landlord unless the waiver is in writing signed by Landlord.

XXXIV.8 ENTIRE AGREEMENT. This Lease is the entire agreement between the parties with respect to the subject matter of this Lease, and there are no agreements or representations between the parties except as expressed herein. Except as otherwise provided herein, no subsequent change or addition to this Lease shall be binding unless in writing and signed by the parties hereto.

XXXIV.9 WAIVER OF JURY TRIAL. To the extent permitted by law, Tenant hereby waives any right it may have to a jury trial in the event of litigation between Tenant and Landlord pertaining to this Lease.

XXXIV.10 COUNTERPARTS. This Lease may be executed in counterparts, each of which shall be an original, but all counterparts shall constitute one (1) instrument.

XXXIV.11 EXHIBITS. The Basic Lease Information and all exhibits attached hereto are hereby incorporated herein and made an integral part hereof.

XXXIV.12 THIRD PARTY BENEFICIARIES. The terms and conditions of this Lease shall be for the benefit of Landlord and Tenant only and their respective successors and assigns, to the extent permitted under this Lease. Landlord and Tenant intend that no person or entity shall be deemed to be a third party beneficiary of this Lease.

IN WITNESS WHEREOF, the parties have executed this Lease, on the date(s) stated below, effective as of the date first above written.

"Tenant"

CIENA CORPORATION,
a Delaware corporation

By: ------------------------------------
Its: --------------------------
Date: ----------------------------------

By: ------------------------------------
Its: --------------------------
Date: ----------------------------------

"Landlord"

RIDGEVIEW COURT ASSOCIATES, L.L.C.,
a Delaware limited liability company

By: RIDGEVIEW COURT MANAGEMENT, L.P.,
a California limited partnership,
Its Managing Member

By: Old Trace Properties, LLC, a California limited liability company, General Partner

By: --
Its Managing Member

EXHIBIT A

DIAGRAM OF PREMISES

EXHIBIT B

DIAGRAM OF BASEMENT SPACE

EXHIBIT C

DIAGRAM OF PROJECT

EXHIBIT D

INITIAL IMPROVEMENT OF THE PREMISES

EXHIBIT E

TERM COMMENCEMENT MEMORANDUM

EXHIBIT F

SUBORDINATION, NON-DISTURBANCE AND ATTORNMENT AGREEMENT

EXHIBIT 23.1

CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (No. 333-76915, No. 333-83581) of CIENA Corporation of our report dated November 24, 1999 appearing on page 34 of this Annual Report on Form 10-K.

PRICEWATERHOUSECOOPERS LLP //S

McLean, VA
December 9, 1999

THIS SCHEDULE CONTAINS SUMMARY FINANCIAL INFORMATION EXTRACTED FROM THE
CONSOLIDATED BALANCE SHEET, CONSOLIDATED STATEMENT OF OPERATION AND CONSOLIDATED
STATEMENT OF CASH FLOWS INCLUDED IN THE COMPANY'S FORM 10-K FOR THE PERIOD
ENDING OCTOBER 31, 1999, AND IS QUALIFIED IN ITS ENTIRETY BY REFERENCE TO SUCH
FINANCIAL STATEMENTS.

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