1998 Annual Report

How do you define a market leader?

CIENA®

How do you define a market leader?

CIENA

Innovative. Agile. Revolutionary. Obsessive. Supportive.

Before CIENA shipped its first MultiWave® dense wavelength division multiplexing (DWDM) system in 1996, the market for wavelength division multiplexers did not exist. We created it.

Now we're leading the way toward a next generation network… powering the Internet through light.

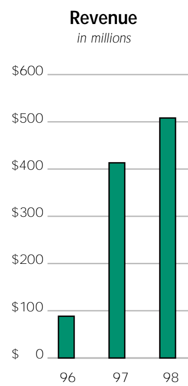
We're developing and *delivering* innovative products, moving quickly to capitalize on opportunity and gaining time-to-market advantage over our competitors;

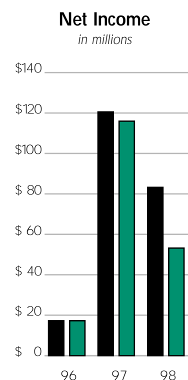
We're revolutionizing the way networks are built; enabling a simpler, more cost effective network architecture with optics at the core;

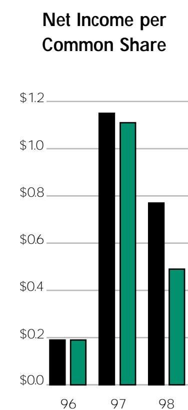
We're obsessing about product quality and reliability because our customers' networks are their business; and,

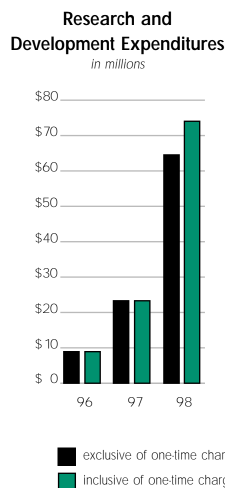
We're differentiating ourselves based on superior customer service and support.

Everyone makes promises. CIENA delivers.









How do you define a market leader?

CIENA

Fellow Shareholders: To say that 1998 was a challenging year for CIENA and our shareholders would be an understatement. During the year, we experienced first-hand the realization of a number of risks we face as a new player in a very competitive, rapidly evolving industry. News about customer wins and losses and the progression of events in our proposed, but unsuccessful, merger with Tellabs created extraordinary stock price volatility. These extremes in our business, both highs and lows, reflect the challenges of our dynamic industry, the purchasing strength of a highly concentrated customer base, as well as the impact of large potential competitors.

Despite the hurdles we faced during the year, CIENA reported 1998 revenue of $508.1 million, an increase of 20% over 1997 revenue of $413.2 million and an increase of 470% over 1996 revenue of $88.5 million. As a result of pricing pressure that emerged during 1998, our operating margin dropped from 45.7% in 1997 to 24.4% in 1998, resulting in net income per share for fiscal year 1998 of $0.77 per share, excluding one-time charges, compared to $1.15 per share for the same period a year ago.

In 1998, we made significant progress on our goal to diversify our customer base. Two customers, Sprint and MCI WorldCom (then WorldCom) were responsible for the substantial majority of CIENA's revenues in 1996 and 1997. Our dramatic revenue growth and our unusually high gross and operating margins during that timeframe reflect the benefits of industry-leading technology and first-mover advantage. While margins have fallen in the latter part of 1998, our customer base has diversified, with 14 customers contributing revenue and approximately 23% of 1998's revenue coming from international sources.

CIENA's Products

Our dense wavelength division multiplexing (DWDM) equipment enables carriers to expand the capacity of fiber optic cable by dividing the light that traverses the cable into multiple colors, or channels, of light. CIENA's products are now widely accepted for delivery of economical, scalable bandwidth. For the better part of two years, we benefited from being the only supplier

Patrick H. Nettles

capable of shipping DWDM equipment in commercial volume. By the end of January 1999, CIENA will have shipped an estimated two million channel kilometers of virtual fiber. No other competitor can claim a comparable base of real-world experience.

We've also made good progress toward a more diverse product base. A year ago, the majority of our revenues came from a single product, the MultiWave® 1600. In 1998, we recognized revenue from four different products and from our CIENA services subsidiary, Alta, acquired in February. Our MultiWave Sentry™ 4000 provided significant competitive advantage from the time we began shipping in April and quickly emerged as the leading seller in our product portfolio.

Competition

During the year, several incumbent equipment suppliers recognized that our success represented a strategic beachhead that was quickly gaining steam. However, without commercial product to ship, they had few options. In an attempt to stall customer decisions and to buy market share, several incumbent suppliers touted future products in press releases and offered low future prices, especially where they had existing relationships. In some cases, these tactics were successful. But it leads to the question, why were these incumbent suppliers so threatened by CIENA's early success?

Market Share

It appears that one reason for concern on behalf of our competitors stems from the combination of the potential market size and CIENA's early market presence. Ovum, a London-based telecommunications industry analyst, conducted the first-ever global wavelength division multiplexing (WDM) market study in 1998; asking service providers worldwide about past and anticipated WDM equipment spending. Ovum concluded that the global market for WDM equipment in 1998 was approximately $1.2 billion. Based on CIENA's revenue for fiscal year 1998, we claimed an estimated 38% share of that market—not so bad for a company launched in 1994!

Further, a portion of the total $1.2 billion market (maybe as much as 40% to 50%) is made up of four and eight channel WDM systems—systems CIENA doesn't make. Given that, it becomes apparent that CIENA's share of the global dense WDM, or DWDM market (made up of systems with a minimum of 16 channels), is much larger.

Overwhelmingly, industry analysts like Ovum expect the WDM market to grow significantly over the next several years, affording room for more than one player. More specifically, analysts expect the majority of the growth will come from the higher channel count segment of the market—the DWDM market where CIENA's presence is strongest. With our installed base and continued innovation, we expect CIENA to be one of the players.

World-Class Reputation

On the heels of all that happened during 1998, we were curious to know what our customers and potential customers thought of CIENA. Late in the year, we commissioned Yankelovich Partners to conduct a blind survey of U.S. service providers. In this survey, CIENA was selected most often from among all major equipment suppliers as the:

- Best company overall in optical networking;
- Supplier providing best service and support;
- Leading supplier for DWDM systems;
- Easiest supplier to work with;
- Most credible for promised product delivery.

It's possible this positive market perception offers the basis for further concern for our competitors.

The Internet Revolution

While turbulent for CIENA and our shareholders, 1998 was also a period during which the stage was set for dramatic change, in fact some would argue revolution, in the telecommunications industry. The catalyst behind this revolution is, of course, the Internet and the accompanying growth in traffic it brings to communications networks worldwide.

To put the magnitude of the 'Net's impact in context, consider that it's estimated that radio took more than 30 years to reach 60 million people. Television took 15 years. In just a fraction of that time, the Internet has surpassed that milestone with an

Operating Highlights

(historical results restated to include the financial position and results of operations of Alta Telecom, acquired on February 19, 1998)

(in thousands, except net income per common share and number of employees)	1998	1997	1996
Revenue	$508,087	$413,215	$88,463
Gross profit	$252,073	$246,743	$41,148
Gross margin	49.6%	59.7%	46.5%
Operating income, inclusive of one-time charges	$ 81,137	$181,485	$20,163
Operating income, exclusive of one-time charges	$123,767	$188,985	$20,163
Operating margin, inclusive of one-time charges	16.0%	43.9%	22.8%
Operating margin, exclusive of one-time charges	24.4%	45.7%	22.8%
Net income, inclusive of one-time charges	$ 53,194	$115,967	$17,263
Net income, exclusive of one-time charges	$ 83,236	$120,542	$17,263
Net income per common share, inclusive of one-time charges	$ 0.49	$ 1.11	$ 0.19
Net income per common share, exclusive of one-time charges	$ 0.77	$ 1.15	$ 0.19
Total assets	$572,424	$463,279	$79,676
Total stockholders' equity	$474,949	$372,414	$10,783
Employees (1996 and 1997 figures exclusive of Alta)	1,382	841	225

estimated 100 million people online worldwide by the end of 1998. And what's more—analysts project that number will grow to more than 300 million by 2002.

The traffic on the 'Net is not just e-mail chatter. During 1998, the Internet began to emerge as a business facilitator, connecting companies with suppliers, consumers with new retail E-stores. No longer just a network used by the scientific and educational community, the Internet economy is changing the way we do business. Analysts tell us that $22 billion worth of business, including direct sales to consumers and transactions between businesses, was done via the 'Net in 1998 with growth to $350 billion expected by 2002.

The resulting traffic growth rate far exceeds the traditional network growth rate and the demand for richer image capabilities could lead to skyrocketing traffic volumes. In addition, a growing mix of service providers is forcing lower prices, leaving CIENA's customers faced with critical challenges: runaway growth in bandwidth requirements, dropping revenue per unit of bandwidth, a substantial shift in the traffic character (from voice to data), and increasing pressure for "last mile" bandwidth solutions. And that's where CIENA can help.

Next Generation Networks

Given the shift from dominant voice or telephone traffic to data-centric traffic, we anticipate a corresponding shift in networks from circuit-oriented facilities to packet-based technologies designed to deliver data traffic via optical transport systems. Through collaboration with industry leaders like Cisco Systems, CIENA is already paving the way for this new, more efficient optical internetwork—a data-optimized network infrastructure in which switches and routers have integrated optical interfaces directly connected to a fiber transport system such as CIENA's.

To forward this vision, in April 1998, CIENA co-founded the Optical Internetworking Forum (OIF) along with industry leaders Cisco, AT&T, Bellcore, Hewlett-Packard, Qwest, Sprint and MCI WorldCom. The OIF is intended to provide a venue for equipment manufacturers, users and service providers to work together to identify and resolve issues and develop key specifications to ensure the industry-wide interoperability of optical internetworks. With more than 90 members, the OIF is focused on areas that will impact the evolution of optical internetworks such as integrated management of all layers of an optical internetwork; data-optimized interfaces between internetworking and optical equipment; and coordinated protection and restoration between network layers.

CIENA's 1999 Initiatives

So what does all this change mean for CIENA? *Opportunity.* Of course, opportunity does not come without risks and challenges, but we've identified some key strategic objectives; objectives we believe will enhance our long-term competitive positioning and improve shareholder value:

Diversify the Customer Base. Continued customer diversification will lessen our dependence on any one customer, enhance our visibility and ultimately we believe, smooth out revenue and earnings volatility. Domestically, we've increased our attention on emerging carriers in 1998, and we've already met some success with wins at Enron Communications and GST. Going

forward, we'll continue to focus much of our domestic and international sales efforts on these up-and-coming carriers. Meanwhile, efforts with the more traditional regional Bell operating companies are beginning to pay off, and we'll continue to pursue these opportunities as well. With the introduction of new products, we anticipate reaching a new class of customers, including competitive local access providers and Internet service providers.

Diversify Product Lines. Like a more diversified customer base, a broader product base will expand CIENA's opportunity. Among the announced products that we expect to begin delivering in 1999 are:

MultiWave Metro™—our ring-based metropolitan DWDM system targeted at capacity constraints in the local-loop;

Next Generation MultiWave® system—the fourth generation of our long-haul transport system that further extends the limits of fiber bandwidth by providing the platform for 96-channel configuration and beyond;

10-Gigabits/Channel—a new feature set for our MultiWave systems will enable OC-192/STM-64 transmission, scaling network bandwidth beyond a terabit per second.

But we can't stop there. We've already begun to push DWDM technology beyond bandwidth expanding applications and into true optical networking applications and we'll continue that push. From added intelligence in management systems to aid in fault diagnostics and service quality monitoring to the broader requirements emerging for bandwidth management in the new network architectures, we have challenging work and rewarding opportunities to pursue in the next few years.

Leverage Time-to-Market Advantage. CIENA's engineering efforts emphasize time-to-market as a key competitive edge. As we go forward, we will continue to invest in the best engineering talent in the industry, effective development tools and processes to maintain this advantage.

Reduce Product Costs. With strong pricing pressure emerging in the latter part of 1998, we'll pay a lot more attention to attacking product cost in the coming year. We're rapidly moving into fourth generation long-haul transport systems, while our competitors, in most cases, are rushing to complete first-generation efforts. We believe CIENA is therefore better positioned to begin to bring down product cost and we've already initiated significant efforts on that front.

First, we've turned to our suppliers for component cost reductions. In several cases, we've gained improvements by qualifying second sources for components that were previously sole-sourced, leveraging competitive forces in our favor.

Other cost reduction efforts are driven by design changes. In some cases, selecting alternative parts, eliminating components entirely or incorporating emerging component technologies that consolidate the functions of several different components into a single device can yield significant cost improvements.

We believe the combination of these proactive cost-cutting efforts, along with naturally declining component costs will help us to stabilize our gross margins, perhaps with some prospects for margin improvement, in the face of escalating price pressures.

The coming year will offer new challenges, without a doubt. The forces of consolidation are widely felt, both among carriers and equipment suppliers. It remains to be seen whether this trend results in meaningful advantage; this year should yield critical indicators. Regardless, we believe our success will persist in the face of tough competition if we continue to deliver timely value to our customers through innovation, quality products and superior service. We are deeply committed to this task.

How Do You Define a Market Leader?

Innovative. Agile. Revolutionary. Obsessive. Supportive. All describe CIENA. We believe the achievements of our brief history, the continuing commitment of our customers, the dedication of our employees to customer satisfaction, as well as the apparent concerns of our competitors, all speak to our market leadership. CIENA rose from nothing to become a major telecom player in little more than two and a half years by being willing to think big, to take risks, and to act on our vision. 1998 wasn't an easy year, but we haven't stopped thinking big. We're engaged at the core of a revolutionary change in the telecommunications industry and we have products and services that are considered "best-of-class." I firmly believe the best is yet to come—for the industry, and for CIENA.

In closing, I offer my sincere thanks to CIENA's employees. It is your indomitable spirit and unfailing commitment that are making next generation optical networks a reality. My thanks also to the shareholders, suppliers and customers who, through it all, continue to believe in CIENA, in our vision and in our people.

Patrick H. Nettles
President and Chief Executive Officer

How do you define a market leader?

INNO

By 1996 service providers were faced with a serious dilemma…the traffic on their networks was growing more quickly than they could expand their capacity to handle it. Traffic that had grown a steady 10% per year was now growing at several times that rate. Worse yet, there didn't seem to be any signs that demand would slow. It appeared the advent of the Internet and the connectivity it promised to bring to the world would surely swamp existing telecommunications networks with an overwhelming demand for bandwidth.

CIENA's MultiWave® dense wavelength division multiplexing (DWDM) equipment offered carriers a compelling solution. For significantly less than the cost of deploying new fiber optic cable a carrier could expand the capacity of existing fiber up to 16 times by using a CIENA MultiWave system.

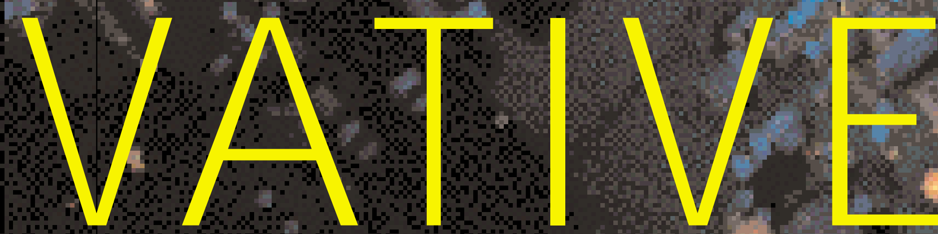
Wave division multiplexing allows carriers to separate the light that traverses the fiber into several different colors of light, thereby enabling service providers to multiply the capacity of their fiber assets by the number of colors, or channels, the equipment can deliver.

In 1996, that meant that on a single pair of fiber optic cables with CIENA's equipment a service provider could carry the usual 30,000 transmissions multiplied by 16 times—or 480,000 transmissions—capacity that had previously been unheard of. Even better, CIENA's systems required less equipment than more traditional solutions, so carriers realized operational cost savings along with overall equipment savings and a tremendous boost in capacity.

In April of 1998, CIENA broke new ground again and our customers became the first carriers to deploy long-haul systems which enable a 40-fold increase in capacity. And for 1999, our MultiWave Metro™ system promises to bring the economies and flexibility of DWDM to an entirely new market.

CIENA didn't invent the many technologies we brought together, but we did design a system that took a new approach to an old problem. Because we were willing to look at the world a little differently—to think outside the box—we were able to see and capitalize on an opportunity.

Ironically, by so efficiently solving the bandwidth problem for our customers, we created a new dilemma…for our competitors.



Thinking outside the box

How do you define a market leader?

AGILE

Agility is more than speed. It's more than flexibility. It also implies a sense of timing.

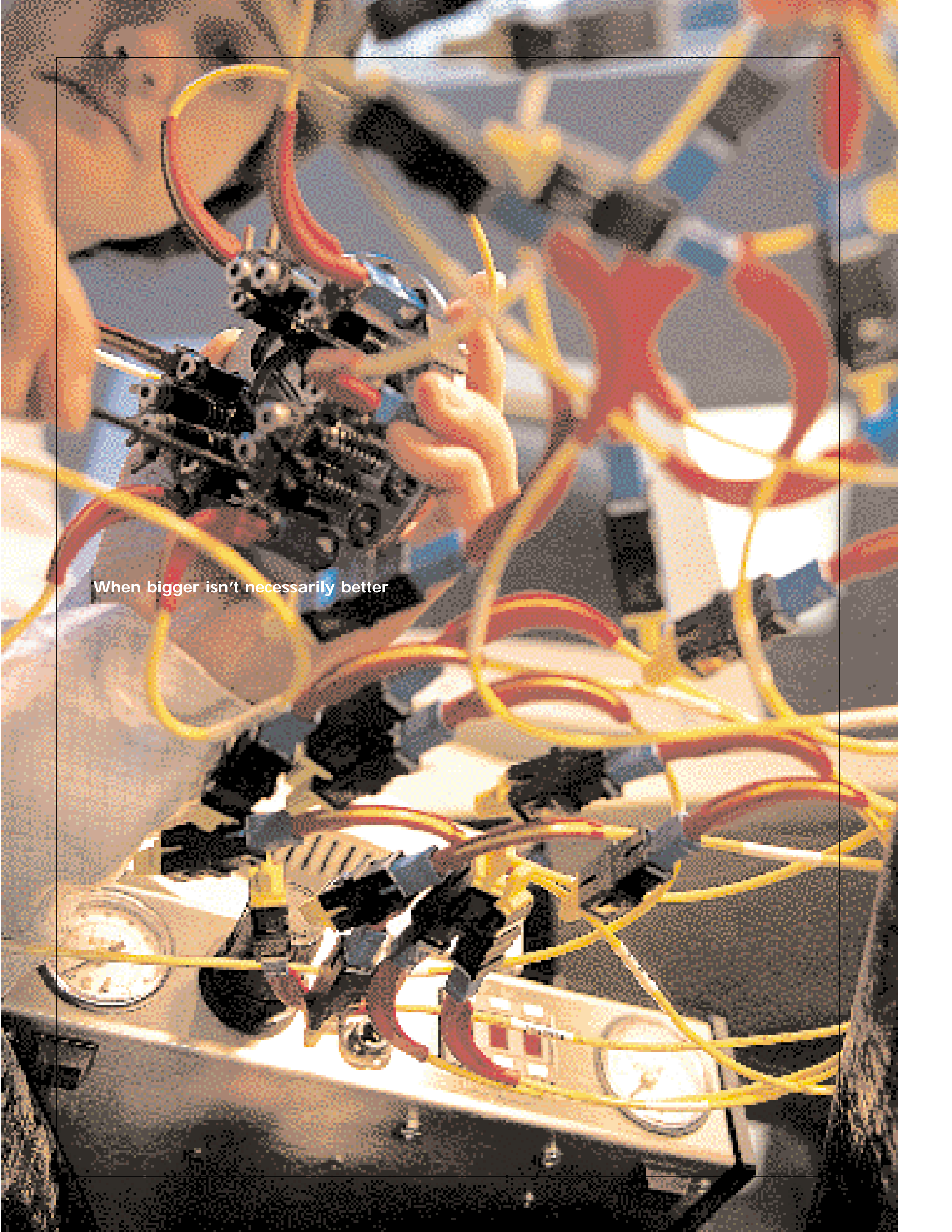
CIENA took a new approach to an old problem. One that our competitors were reluctant to pursue because they knew it had the potential to dramatically alter the way service providers build their networks, and thus—our competitors' business. We took advantage of an opportunity. And it's likely that even our competitors would agree…we surprised them. In 1996 CIENA took a bold step and created a new dense wavelength division multiplexing (DWDM) transport market.

Based on results of market research conducted by Ovum, a leading international telecommunications research firm, in 1998 CIENA claimed an estimated 38% share of the approximately $1.2 billion WDM market. Considering that a portion of that market is lower channel count systems (4 and 8 channel equipment) that CIENA doesn't make, it is likely that CIENA's share of the DWDM market (16 channels and more) is significantly higher.

The telecommunications industry is changing fast. And we're part of the reason. Equipment providers have to keep up or risk being left behind. In fact, keeping up is no longer enough. We have to stay ahead. In two years CIENA has delivered three generations of our long-distance systems—a previously unheard of product cycle time. And we've already demonstrated our fourth generation 96-channel MultiWave system and our systems' capability to work at OC-192/STM-64 rates or 10 gigabits per second. We've also delivered a short-distance product, MultiWave Firefly and have begun trials on our MultiWave Metro ring-based system.

CIENA's in a market with a host of larger, and, some would argue, more powerful competitors. In periods of revolution however, it is not always the largest player who wins. Look at Cisco Systems; look at Sun; look at Compaq. When they started, all of these companies had larger, more powerful competitors. They also had something else…vision and agility. All were able to see a dramatic shift coming in their respective industries and all were able to act on that opportunity more quickly than their competition.

CIENA may or may not be the next Cisco or Sun or Compaq. But there's no doubt the time was right for a new company to break onto the telecommunications landscape—and CIENA did it.



When bigger isn’t necessarily better

How do you define a market leader?

REVOLU

The Internet is changing our lives. Changing the way we communicate. Changing the way we do business. It is also the catalyst for the beginnings of a revolutionary change in the way telecommunications networks are built.

The Internet brought traffic from computers onto networks designed to handle telephone calls. Of course it works…but then again, so do the railroads, although in most cases air travel is more timely and more efficient. Service providers soon realized that there were better ways to handle and deliver this new sort of traffic—data—ways that enabled them to build their networks more simply and therefore more cost efficiently.

CIENA's bandwidth expanding DWDM systems offer the first step toward this network revolution. MultiWave systems made it possible to scale bandwidth economically. The next step came with implementation of our DirectConnect technology. CIENA made it possible for service providers to connect the new equipment designed to handle data traffic—IP routers and ATM switches—directly to CIENA's DWDM transport equipment. Big deal, you say…but to service providers it is! It means the potential for tremendous capital equipment and operational savings.

In the past, the connection between the IP routers and the ATM switches (also called data communications equipment) and DWDM equipment like CIENA's was only possible through very large, very expensive middlemen—called SONET equipment. The combination of CIENA's DirectConnect technology, advances in the speed of data communications equipment and the emergence of data-centric traffic as the predominant traffic type set the stage for a revolution in the way service providers build their networks. In data-centric applications, some carriers estimate they can save as much as 30% in capital costs and 60% in operating costs by building next generation networks connecting ATM or IP directly to DWDM—without the additional SONET equipment layer.

CIENA's MultiWave Metro is one of the first ring-based DWDM applications in the industry and one of the first real steps toward the promise of optical networking. Think of it like this…DWDM brought bandwidth to the network, and bandwidth is good. But managed bandwidth, bandwidth that can be directed and redirected, switched and controlled, is better. That's where we're headed.

DWDM is the first step toward optical networking. And optical networking brings flexibility. Together, they will make it possible for service providers to build a more efficient, more robust network. One that is capable of handling the virtual tsunami of information that will flow into our homes and businesses via the Internet.

Innovation enables revolution

How do you define a market leader?

OBSES

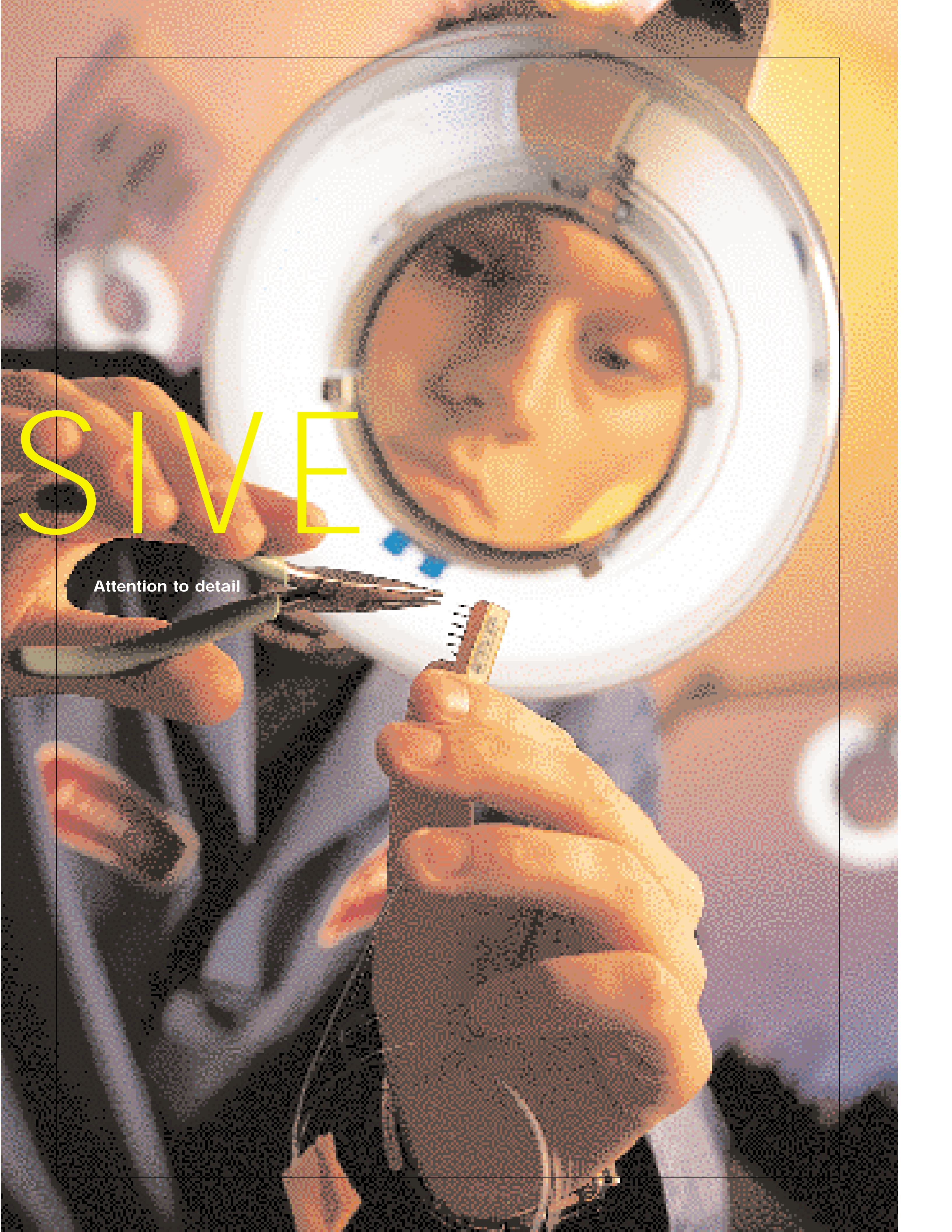
From day one, CIENA has been obsessive about product quality and reliability. We have to be. Our customers demand it.

CIENA's equipment sits at the heart of a service provider's network. The systems must operate 24 hours a day, seven days a week—that's the only way our customers can run their business.

As carriers shift network traffic to a data-centric network architecture, the reliability and performance of DWDM equipment like CIENA's is likely to become even more critical. Several years ago, few would have noticed if the Internet went down. Now not only would a failure be noticed, it would have an impact on real business. It's estimated that $22 billion of business was conducted on-line in 1998, including direct sales to consumers and transactions between businesses. That number is projected to grow to $350 billion by 2002. Data networks, once just overlay networks, are now carrying mission-critical traffic.

In addition to having what are probably the strictest component performance specifications in the industry, CIENA constructed the world's most advanced ISO 9001 certified optical networking manufacturing facility. We demand the best from our suppliers, but that's just the start. From the time it enters our inventory to the time it leaves as part of a MultiWave system, we track and monitor the performance of every component used in every product we make…and in a MultiWave 4000 there are over 1,400 components!

Obsessive? Well maybe. But we're dealing with optics here. Light. Consider for a moment that the core of the fiber optic cable, the part through which the light actually passes, is smaller in diameter than a human hair. Consider also, that any fraction of loss at any point in the system could be enough to disrupt tens of thousands of transmissions. Yes, we're obsessive. That's how we achieved an average mean time between failures of 1,350,000 hours, or more than 150 years, in the circuit packs used in our MutliWave



Attention to detail

How do you define a market leader?

SUPPO

Ultimately, it's what the customers think that counts. For CIENA, shipping our customers industry-leading products in record-breaking time isn't enough, we want our customers to like us. No, strike that. We want them to love us! We believed from the start that superior customer service and support could separate us from our competition…and it has.

With the network changing so quickly carriers often need assistance with things like equipment test and turn-up in addition to on-going product support. CIENA's purchase of Alta Telecom, Inc. in February of 1998 gave us a leg up in our efforts to build the critical customer service and support component of our business.

Through the combination of our in-house efforts and the addition of Alta, CIENA has built a portfolio of service capabilities. We're able to offer full turnkey system deployment and maintenance for our customers. Not just for CIENA's products, but for a whole host of equipment such as wireless, data communications and traditional telecommunications gear.

So far, it looks like our efforts are paying off. In November, the Company commissioned Yankelovich Partners to do a blind survey of service providers. The survey included multiple types of carriers, some of which are current customers of CIENA, some of which weren't. In the survey, CIENA was rated best among competing equipment suppliers for overall service and support. CIENA was also rated the easiest supplier to work with. Needless to say we're pleased, but don't worry, we won't let it go to our heads. It's only the start!

Since 1996, CIENA has shipped equipment representing an estimated *2 million* virtual fiber kilometers to our customers. This kind of installed base offers CIENA an advantage over our competitors—experience. Because we've installed more DWDM equipment than any of our competitors, we have a knowledge base of how it works, not in the lab, but in real networks, running real traffic.

RTIVE
It's all about the customer

EXECUTIVE OFFICERS

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and Director

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Senior Vice President, Strategy and
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Joseph R. Chinnici
Senior Vice President, Finance and
Chief Financial Officer

Mark Cummings
Senior Vice President, Operations

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Stephen B. Alexander
Vice President, Systems and Technology,
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Michael J. Zak
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The Charles River Partnerships

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SELECTED CONSOLIDATED FINANCIAL DATA

The following selected consolidated financial data should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the consolidated financial statements and the notes thereto included in "Financial Statements and Supplementary Data."

	Year Ended October 31,[1]				
	1994	1995	1996	1997	1998
(in thousands except share and per share data)					
Statement of Operations Data:					
Revenue	$20,890	$21,691	$88,463	$413,215	$508,087
Cost of goods sold	15,638	16,185	47,315	166,472	256,014
Gross profit	5,252	5,506	41,148	246,743	252,073
Operating expenses:					
Research and development	1,287	6,361	8,922	23,308	64,536
Selling and marketing	1,339	1,907	5,641	22,627	45,945
General and administrative	2,352	3,034	6,422	11,823	17,825
Purchased research and development	—	—	—	—	9,503
Pirelli litigation	—	—	—	7,500	30,579
Costs of proposed merger	—	—	—	—	2,548
Total operating expenses	4,978	11,302	20,985	65,258	170,936
Income (loss) from operations	274	(5,796)	20,163	181,485	81,137
Other income (expense), net	(180)	172	653	7,185	12,292
Income (loss) before income taxes	94	(5,624)	20,816	188,670	93,429
Provision for income taxes	942	824	3,553	72,703	40,235
Net income (loss)	$ (848)	$ (6,448)	$17,263	$115,967	$ 53,194
Basic net income (loss) per common share	$ (0.12)	$ (0.51)	$ 1.25	$ 1.53	$ 0.52
Diluted net income (loss) per common and dilutive potential common share	$ (0.12)	$ (0.51)	$ 0.19	$ 1.11	$ 0.49
Weighted average basic common shares outstanding	7,317	12,717	13,817	75,802	101,751
Weighted average basic common and dilutive potential common shares outstanding	7,317	12,717	92,407	104,664	107,895

	October 31,[1]				
	1994	1995	1996	1997	1998
(in thousands)					
Balance Sheet Data:					
Cash and cash equivalents	$ 4,440	$ 8,261	$24,040	$268,588	$227,397
Working capital	5,485	7,221	42,240	333,452	366,108
Total assets	12,076	17,706	79,676	463,279	572,424
Long-term obligations, excluding current portion	1,901	2,074	3,465	1,885	1,414
Mandatorily redeemable preferred stock	3,492	14,454	40,404	—	—
Stockholders' equity (deficit)	(300)	(6,662)	10,783	372,414	474,949

[1] The Company has a 52 or 53 week fiscal year which ends on the Saturday nearest to the last day of October in each year. For purposes of financial statement presentation, each fiscal year is described as having ended on October 31. Fiscal 1994, 1995, 1997, and 1998 comprised 52 weeks and fiscal 1996 comprised 53 weeks.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis should be read in conjunction with the consolidated financial statements and related notes included elsewhere in this report. The information in this annual report contains certain forward-looking statements that involve risks and uncertainties. The Company's actual results may differ materially from the results discussed in the forward-looking statements due to risk factors discussed briefly in the "Risk Factors" section of this annual report and in detail in the Company's Form 10-K filed with the Securities and Exchange Commission (SEC) on December 10, 1998.

OVERVIEW

CIENA Corporation designs, manufactures and sells open architecture, dense wavelength division multiplexing (DWDM) systems for fiberoptic communications networks, including long-distance and local exchange carriers. CIENA also provides a range of engineering, furnishing and installation services for telecommunications service providers.

Fiscal 1998 was a year of dramatic events affecting the Company. Soon after the close of the first fiscal quarter, MCI WorldCom, the Company's largest customer of fiscal 1997, surprised the Company with an announcement of a major change in purchasing practices—a change that meant materially reduced revenue for the Company. This adverse event was followed in the second quarter by the Company's successful, large scale commercial introduction of the Company's industry leading 40-channel MultiWave Sentry 4000. The third quarter included resolution of the Company's longstanding Pirelli SpA ("Pirelli") litigation, which was followed on June 3, 1998 with the announcement of a planned merger with Tellabs, Inc. In the fourth quarter, just prior to consummation of the merger, AT&T advised the Company that it would no longer consider CIENA's long distance DWDM products for deployment in AT&T's network. The planned merger with Tellabs was later terminated on September 14, 1998.

The Company's final results for fiscal 1998, its second full year in the DWDM marketplace, show total revenues in excess of $500 million. The Company believes this represents a considerable achievement, particularly given the substantial portion of revenues derived from the sale of its now third-generation DWDM product, the MultiWave Sentry 4000. Nevertheless, the termination of the Tellabs merger represented a setback for the Company.

The outlook for fiscal 1999 is challenging. The price discounting offered by competitors striving to catch up to the Company and acquire market share has placed pressure on gross margins and operating profitability. But market demand for high-bandwidth solutions still appears robust, and the Company believes that its product and service quality, manufacturing experience, and proven track record of delivery will enable it to endure the gross margin pressure 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 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 limit the Company's operating profitability over at least the first half of fiscal 1999, and may result in near term operating losses.

HIGHLIGHTS OF THE FISCAL YEAR 1998

The Company recognizes product revenue in accordance with the shipping terms specified. For transactions where the Company 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 costs incurred to date compared to estimated total costs for each contract. Amounts received in excess of revenue recognized are recorded as deferred revenue. For distributor sales where risks

of ownership have not transferred, the Company recognizes revenue when the product is shipped to the end user.

For the fiscal year ended October 31, 1998, the Company recorded $508.1 million in revenue of which $266.9 million was from sales to Sprint. The Company increased the total number of customers for DWDM systems from five customers in fiscal 1997 to fourteen customers in fiscal 1998. Revenue from sales to MCI WorldCom declined from approximately $184.5 million in fiscal 1997 to an amount less than 10% of the Company's total fiscal 1998 revenue. Substantially all of the revenue recognized from the sales to MCI WorldCom occurred in the Company's first quarter ended January 31, 1998. In addition to Sprint and MCI WorldCom, during the fiscal year ended October 31, 1998 the Company recognized revenue from Cable and Wireless; Hermes; Enron; Racal; Telia of Sweden; TD of France; DTI; GST; and, through the Company's distributor, NISSHO Electronics Corporation ("NISSHO"), sales to Teleway, Japan Telecom and to DDI. The Company also recognized an immaterial amount of revenue from one undisclosed customer.

During December 1997 the Company acquired Astracom, an early stage telecommunications company located in Atlanta, Georgia. The employees of Astracom were immediately deployed to assist with the Company's development efforts from its MultiWave Metro product. 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.

In February 1998 the Company acquired 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 acquired all of the outstanding shares of Alta in exchange for 1,000,000 shares of CIENA common stock. The transaction constituted a tax-free reorganization and has been accounted for as a pooling of interest 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 always been a part of CIENA.

In March 1998 the Company announced an agreement to supply Bell Atlantic with DWDM optical transmission systems. The supply agreement has no minimum purchase commitments and includes the Company's MultiWave 1600, Sentry and Firefly systems. Deployment and revenue recognition is expected in the first half of calendar 1999, subject to successful completion of ongoing testing. The Bell Atlantic DWDM deployment is expected to mark the first time a regional Bell operating company (RBOC) has committed to deployment of DWDM equipment.

During April 1998 the Company acquired Terabit, a developer of optical components known as photodetectors or optical receivers. The Company believes the technology currently under development at Terabit may give it a strategic advantage over its competitors. 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.

From December 1996 until June 1998, the Company was involved in litigation with Pirelli. On June 1, 1998, the Company announced the resolution of all pending litigation with Pirelli. The terms of the settlement involved the dismissal of Pirelli's three lawsuits against the Company that were pending in Delaware, dismissal of the Company's legal proceedings against Pirelli in the United States International Trade Commission, payment to Pirelli of $30.0 million and certain running royalties, a worldwide, non-exclusive cross-license to each party's patent portfolios, and a 5-year moratorium on future litigation between the parties. The Company recorded a charge of approximately $30.6 million for the year ended October 31, 1998, relating to legal fees and the ultimate settlement to Pirelli. The payment of future royalties due to Pirelli is based upon future revenues derived from the licensed technology. The Company does not expect the future royalty payments to have a material impact on the Company's business, financial condition or results of operations.

On June 3, 1998 the Company announced an agreement to merge with Tellabs, Inc. ("Tellabs"), a Delaware corporation headquartered in Lisle, Illinois. Tellabs designs, manufactures, markets and services voice and data transport network access systems. Under the terms of the original agreement, all outstanding shares of CIENA stock were to have been exchanged at the ratio of one share of Tellabs common stock for each share of CIENA common stock. On August 21, 1998 the Company was informed by AT&T that AT&T had decided not to pursue further evaluation of CIENA's DWDM systems. Following the impact of the AT&T announcement on the market prices of the common stock of the respective companies, the Company and Tellabs management renegotiated the terms of the merger agreement, and on August 28, 1998 announced an amendment to the original merger agreement which was approved by the respective companys' boards of directors. Under the terms of the agreement as amended, all outstanding shares of CIENA stock were to have been exchanged at the ratio of 0.8 share of Tellabs common stock for each share of CIENA common stock. Subsequent to August 28, 1998, further adverse investor reaction raised serious questions about the ultimate ability to obtain shareholder approval for the merger. An agreement to terminate the merger was announced on September 14, 1998.

In June 1998 at the SUPERCOMM trade show in Atlanta, Georgia, the Company demonstrated its MultiWave Metro™ (Metro) DWDM system for metropolitan and local access applications. Metro enables carriers to offer multi-protocol high-bandwidth services economically using their existing network infrastructure. The Metro product is expected to be commercially available in the first or early second quarter of calendar 1999. The Company also demonstrated at the SUPERCOM trade show a 96 channel DWDM system. The 96 channel DWDM system is expected to be commercially available during the first half of calendar 1999. See "Risk Factors."

The Company had previously announced that AT&T was evaluating a customized version of its MultiWave Sentry 1600 system. In July 1998 AT&T indicated to the Company that capacity requirements of its network had grown to such extent that the delays in final certification and approval for deployment of the Company's customized 16 channel system would make actual deployment of that system inadvisable, and that AT&T would accordingly shift to an accelerated evaluation of commercially available, higher channel count systems. The Company believed AT&T would evaluate the Company's MultiWave® 4000 system positively in this context, particularly because the Company believes it is the only manufacturer in the world with operational 40 channel systems ready for prompt delivery on an "off-the-shelf" basis in substantial manufacturing volumes. However, on August 21, 1998 the Company was informed by AT&T that AT&T had decided not to pursue further evaluation of CIENA's DWDM systems.

During the first quarter of 1998 the Company continued its effort to expand its manufacturing capabilities by leasing an additional facility of approximately 35,000 square feet located in the Linthicum, Maryland area. This facility is used for manufacturing and customer service activities. In April 1998 the

Company leased an additional manufacturing facility in the Linthicum area of approximately 57,000 square feet. With the addition of this new facility the Company has a total of four facilities with approximately 210,000 square feet that can be used for manufacturing operations. In April 1998 the Company completed the transfer of its principal executive, sales, and marketing functions located in Linthicum in a portion of its 96,000 square foot facility to an approximately 68,000 square foot facility also located in Linthicum. During the third quarter of 1998, the Company completed the process of renovating the vacated portions of the 96,000 square foot facility for the purpose of accommodating expanding research and development functions.

As of October 31, 1998 the Company and its subsidiaries employed approximately 1,382 persons, which was an increase of 541 persons over the approximate 841 employed on October 31, 1997.

RESULTS OF OPERATIONS

Fiscal Years Ended 1996, 1997 and 1998

Revenue. The Company recognized $508.1 million, $413.2 million and $88.5 million in revenue for the years ended October 31, 1998, 1997 and 1996, respectively. Sales to Sprint accounted for $266.9 million (52.5%), $179.4 million (43.4%) and $54.8 million (62.0%), of the Company's revenue during fiscal 1998, 1997 and 1996, respectively. While MCI WorldCom accounted for $184.5 million (44.7%) of the Company's revenue during fiscal 1997, it was not a significant contributor to fiscal 1998 revenues. There were no other customers who accounted for 10% or more of the Company's revenues during fiscal 1998, 1997 and 1996. Revenue derived from foreign sales accounted for approximately 23.0%, 2.8%, and 4.0% of the Company's revenues during fiscal 1998, 1997 and 1996, respectively.

The Company expects Sprint's purchases in fiscal 1999 to be focused primarily on filling out installed systems with additional channel cards and therefore substantially below the purchasing volume in either of the last two years. The Company also expects the percentage of fiscal 1999 revenue derived from foreign sales to increase relative to fiscal 1998. Based on overall new bid activity as well as expected deployment plans of existing customers, the Company believes revenue growth in fiscal 1999 over fiscal 1998 is possible, but will be highly dependent on winning new bids for shipments from new and existing customers during the year. Competition for 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."

The Company began shipping MultiWave 1600 systems for field testing in May 1996 with customer acceptance by Sprint occurring in July 1996. For fiscal years 1996 and 1997 all of the Company's DWDM system revenues were derived from the MultiWave 1600 product. During fiscal 1998 the Company began shipments of and recognized revenues from sales of MultiWave Sentry 1600, MultiWave Firefly, and MultiWave Sentry 4000 systems. The amount of revenue recognized from MultiWave 1600 sales declined in fiscal 1998 as compared to fiscal 1997. This decline in MultiWave 1600 sales in fiscal 1998 was offset by revenue recognized from sales of MultiWave Sentry 1600, MultiWave Firefly, and MultiWave Sentry 4000 systems.

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 $252.1 million, $246.7 million and $41.1 million for fiscal years 1998, 1997, and 1996, respectively. Gross margin was 49.6%, 59.7%, and 46.5% for fiscal 1998, 1997, and 1996, respectively. The increase in gross profit from fiscal 1997 to fiscal 1998 was attributable to increased revenues. The decrease in gross margin percentage from fiscal 1997 to fiscal 1998 was largely attributable to lower selling

prices. The increase in gross margin percentage from fiscal 1996 to fiscal 1997 was primarily the result of a change in product mix from revenues largely derived from lower margin engineering, furnishing and installation sales to higher margin MultiWave product sales. This year to year increase was also attributable to fixed overhead costs being allocated over a larger revenue base, an improvement in manufacturing efficiencies, and reductions in component costs.

The Company'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 1999, the Company expects to face continued pressure on gross margins, primarily as a result of substantial price discounting by competitors seeking to acquire market share.

Research and Development Expenses. Research and development expenses were $64.5 million, $23.3 million, and $8.9 million for fiscal 1998, 1997, and 1996, respectively. The approximate $41.2 million or 177% increase from fiscal 1997 to 1998 and the approximate $14.4 million or 161% increase from fiscal 1996 to fiscal 1997 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 1998, 1997, and 1996 research and development expenses were 12.7%, 5.6%, and 10.1% of revenue, respectively. The Company expects that its research and development expenditures will continue to increase moderately in absolute dollars and perhaps as a percentage of revenue during fiscal 1999 to support the continued development of the various DWDM products, the exploration of new or complementary technologies, and the pursuit of various cost reduction strategies. The Company has expensed research and development costs as incurred.

Selling and Marketing Expenses. Selling and marketing expenses were $45.9 million, $22.6 million, and $5.6 million for fiscal 1998, 1997, and 1996, respectively. The approximate $23.3 million or 103% increase from fiscal 1997 to 1998 and the approximate $17.0 million or 301% increase from fiscal 1996 to fiscal 1997 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 1998, 1997, and 1996 selling and marketing expenses were 9.0%, 5.5%, and 6.4% 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 1999 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 $17.8 million, $11.8 million, and $6.4 million for fiscal 1998, 1997, and 1996, respectively. The approximate $6.0 million or 50.8% increase from fiscal 1997 to 1998 and the approximate $5.4 million or 84.1% increase from fiscal 1996 to fiscal 1997 in general and administrative expenses was primarily the result of increased staffing levels and outside consulting services. During fiscal 1998, 1997 and 1996, general and administrative expenses were 3.5%, 2.9%, and 7.3% of revenue, respectively. The Company believes that its general and administrative expenses will moderately increase in absolute dollars and perhaps as a percentage of revenue during fiscal 1999 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.

Costs of Proposed Merger. The costs of the proposed merger for fiscal 1998 were costs related to the contemplated merger between the Company 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.

Operating Profit. The Company's operating profit for fiscal 1998, 1997 and 1996 was $81.1 million or 16.0% of revenue, $181.5 million or 43.9% and $20.2 million or 22.8%, respectively. Excluding charges for purchased research and development, Pirelli litigation and costs from the proposed Tellabs merger, fiscal 1998 operating profit was $123.8 million or 24.4% of revenue and excluding Pirelli litigation costs in fiscal 1997 operating profit was $189.0 million or 45.7%. The decrease in operating profit and operating margin from fiscal 1997 to fiscal 1998 was due to increased competitive pricing pressures causing a reduction in gross profit margin and increased operating expenses from investments in operating infrastructure. The year to year increases in operating profits from fiscal 1996 to fiscal 1997 was primarily due to the comparable increases in revenues and gross profits derived from the Company's MultiWave systems. If the Company is unable to convert fiscal 1998 investments in operating infrastructure into significant revenue generating relationships, the Company's business, financial condition and results of operations could be materially and adversely affected. See "Risk Factors."

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 $12.3 million, $7.2 million, and $0.7 million for fiscal 1998, 1997, and 1996, 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 For Income Taxes. During fiscal 1996, the Company received product acceptance from its initial customer and commenced profitable operations, at which time the Company reversed its previously established deferred tax valuation allowance. The provision for income taxes for fiscal 1996 of $3.6 million is net of a tax benefit of approximately $4.6 million related to the reversal of the deferred tax valuation allowance. The Company's provision for income taxes was 38.5% of pre-tax earnings, or $72.7 million for fiscal 1997 and was 43.1% of pre-tax earnings, or $40.2 million for fiscal 1998. 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 38.4% of income before income taxes in fiscal 1998. The decrease in tax rate, exclusive of the above charges, for fiscal 1998 compared to fiscal 1997 was the result of a lower combined effective state income tax expense, a larger benefit from the Company's Foreign Sales Corporation and an increase in expected credits derived from research and development activities offset by an increase in non-deductible goodwill amortization expense.

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, 1998. 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, 1997	April 30, 1997	Jul. 31, 1997	Oct. 31, 1997	Jan. 31, 1998	April 30, 1998	Jul. 31, 1998	Oct. 31, 1998
Revenue	$63,673	$97,603	$121,845	$130,094	$145,092	$142,718	$129,116	$91,161
Cost of goods sold	28,253	40,400	47,569	50,250	58,980	63,915	70,431	62,688
Gross profit	35,420	57,203	74,276	79,844	86,112	78,803	58,685	28,473
Operating expenses:								
Research and development	3,050	4,699	7,245	8,314	10,203	16,648	18,805	18,880
Selling and marketing	3,070	4,946	6,722	7,889	9,968	11,044	12,526	12,407
General and administrative	2,003	2,797	3,241	3,782	3,792	4,448	3,908	5,677
Purchased research & development	—	—	—	—	—	9,503	—	—
Pirelli litigation	5,000	—	—	2,500	—	10,000	20,579	—
Cost of proposed merger	—	—	—	—	—	—	2,017	531
Total operating expenses	13,123	12,442	17,208	22,485	23,963	51,643	57,835	37,495
Income (loss) from operations	22,297	44,761	57,068	57,359	62,149	27,160	850	(9,022)
Other income (expense), net	302	1,846	1,426	3,611	3,691	3,350	2,519	2,732
Income (loss) before income taxes	22,599	46,607	58,494	60,970	65,840	30,510	3,369	(6,290)
Provision (benefit) for income taxes	8,744	18,127	22,770	23,062	26,142	15,205	1,280	(2,392)
Net income (loss)	$13,855	$28,480	$ 35,724	$ 37,908	$ 39,698	$ 15,305	$ 2,089	$ (3,898)
Basic net income (loss) per common share	$ 0.97	$ 0.31	$ 0.36	$ 0.38	$ 0.39	$ 0.15	$ 0.02	$ (0.04)
Diluted net income (loss) per common share and dilutive potential common share	$ 0.14	$ 0.27	$ 0.34	$ 0.35	$ 0.37	$ 0.14	$ 0.02	$ (0.04)
Weighted average basic common share[(1)]	14,216	92,644	98,021	99,786	100,641	101,350	102,089	102,914
Weighted average basic common and dilutive potential common share[(1)]	100,425	105,456	106,296	107,308	107,552	107,560	108,215	102,914

	Jan. 31, 1997	April 30, 1997	Jul. 31, 1997	Oct. 31, 1997	Jan. 31, 1998	April 30, 1998	Jul. 31, 1998	Oct. 31, 1998
Revenue	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Cost of goods sold	44.4	41.4	39.0	38.6	40.7	44.8	54.5	68.8
Gross profit	55.6	58.6	61.0	61.4	59.3	55.2	45.5	31.2
Operating expenses:								
Research and development	4.8	4.8	5.9	6.4	7.0	11.7	14.6	20.7
Selling and marketing	4.8	5.1	5.5	6.1	6.9	7.7	9.7	13.6
General and administrative	3.1	2.9	2.7	2.9	2.6	3.1	3.0	6.2
Purchased research & development	—	—	—	—	—	6.7	—	—
Pirelli litigation	7.9	—	—	1.9	—	7.0	15.9	—
Cost of proposed merger	—	—	—	—	—	—	1.6	0.6
Total operating expenses	20.6	12.8	14.1	17.3	16.5	36.2	44.8	41.1
Income (loss) from operations	35.0	45.8	46.9	44.1	42.8	19.0	0.7	(9.9)
Other income (expense), net	0.5	1.9	1.2	2.8	2.6	2.4	1.9	3.0
Income (loss) before income taxes	35.5	47.7	48.1	46.9	45.4	21.4	2.6	(6.9)
Provision (benefit) for income taxes	13.7	18.6	18.7	17.7	18.0	10.7	1.0	(2.6)
Net income (loss)	21.8%	29.1%	29.4%	29.2%	27.4%	10.7%	1.6%	(4.3)%

[(1)] The sum of the quarterly earnings per share for fiscal 1997 does not equal the reported annual earnings per share for fiscal 1997 due to the effect of the Company's stock issuances during the year.

The Company'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 the Company's operations in the third and fourth quarter. But apart from the distraction factor, the Company believes the single most significant trend affecting the Company's financial performance is the material effect of very aggressive price discounting by competitors seeking to acquire market share in the increasingly important market for high-capacity solutions. The Company chose in the face of this pressure to continue to build market share in fiscal 1998 at the cost of declining margins. 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 limit the Company's operating profitability over at least the first half of fiscal 1999, and may result in near term operating losses.

Liquidity and Capital Resources

The Company financed its operations and capital expenditures from inception through fiscal 1996 principally through the sale of Convertible Preferred Stock for proceeds totaling $40.6 million and capital lease financing totaling $4.1 million. The Company 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, the Company completed a public offering of Common Stock and realized net proceeds of approximately $52.2 million. During fiscal 1997 and fiscal 1998 the Company also realized approximately $53.1 million and $22.6 million in tax benefits from the exercise of stock options and certain stock warrants, respectively. As of October 31, 1998, the Company had $227.4 million in cash and cash equivalents and $16.0 million in corporate debt securities with contractual maturities of six months or less.

The Company's operating activities used cash of $1.2 million in fiscal 1996, and provided cash of $85.0 million and $35.5 million for fiscal 1997 and 1998, respectively. The cash used in operations in fiscal 1996 was accounted for primarily by the Company's research and development activities relating to its early development of the MultiWave system. 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, accrued expenses and income tax payable; offset by increases in accounts receivable and inventories due to increased revenue and to the general increase in business activity.

Cash used in investing activities in fiscal 1996, 1997 and 1998 was $11.6 million, $66.8 million and $104.5 million, respectively. Included in investment activities were capital equipment expenditures in fiscal 1996, 1997 and 1998 of $9.9 million, $51.9 million and $75.4 million, respectively. These capital equipment expenditures were primarily for test, manufacturing and computer equipment. The Company expects additional capital equipment expenditures of approximately $50.0 million to be made during fiscal 1999 to support selling and marketing, manufacturing and product development activities. In addition, since its inception the Company's investing activities have included the use of $28.3 million for the construction of leasehold improvements and the Company expects to use an additional $3.0 million of capital during fiscal 1999 in 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 1997, the Financial Accounting Standards Board issued Statement of Financial Accounting Standards No. 130 (SFAS No. 130), "Comprehensive Income." SFAS No. 130 becomes effective for the Company's fiscal year 1999 and requires reclassification of earlier financial statements for comparative purposes. 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. SFAS No. 130 does not require a specific format for the financial statement in which comprehensive income is reported, but does require that an amount representing total comprehensive income be reported in that statement. The Company believes the adoption of SFAS No. 130 will not have a material effect on the consolidated financial statements.

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." This Statement will change the way public companies report information about segments of their business in annual financial statements and requires them to report selected segment information in their quarterly reports issued to stockholders. 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 Statement is effective for the Company's fiscal year 1999. The Company believes the adoption of SFAS No. 131 will not have a material effect on the consolidated financial statements.

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. The Company's operations make use of a variety of computer equipment and software. If the computer equipment and software used in the operation of the Company do not correctly recognize data information when the year changes to 2000, there could be an adverse impact on the Company's operations.

The Company 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 the Company, the Company 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 the Company's products with third party products, the Company may see an increase in 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 the Company's results of operations or financial condition.

The Company is currently in the process of conducting 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 the Company's Non-IT systems include certain equipment used for production, research, testing and measurement processes and calibration. As of December 1998 the Company had assessed approximately 80% of the IT and non-IT systems used in its operations with an insignificant amount of those systems having been identified as Year 2000 non-compliant. The Company has begun the process of upgrading or replacing those identified non-compliant systems with completion expected during fiscal 1999. For the Year 2000 non-compliance systems identified to date, the cost of remediation is not considered to be material to the Company's financial condition or operating results. However, if implementation of replacement systems is delayed, or if significant new non-compliance issues are identified, the Company's results of operations or financial condition may be materially adversely affected.

The Company 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. The Company estimates that it has spent approximately $4.0 million on its ERP implementation and estimates that it will likely spend $50,000 to $100,000 to address identified Year 2000 issues. The Company expects that it will use cash from operations for Year 2000 remediation and replacement costs. Approximately less than 2% of the information technology budget is expected to be used for remediation. No other information technology projects have been deferred due to the Year 2000 efforts. To date, the Company has not yet employed an independent verification and validation process to assure the reliability of its risk and cost estimates.

The Company is also in the process of contacting its critical suppliers to determine that suppliers' operations and the products and services they provide are Year 2000 compliant. To date, the Company's optical suppliers have represented that they are year 2000 compliant or are in the process of becoming compliant by December 31, 1999. If these suppliers fail to adequately address the Year 2000 issue for the products they provide to the Company, this could have a material adverse impact on the Company's operations and financial results.

Contingency plans will be developed if it appears the Company or its key suppliers will not be Year 2000 compliant, and such non-compliance is expected to have a material adverse impact on the Company's operations.

RISK FACTORS

Investors are reminded that this document contains forward-looking statements that should be considered in the context of the risks described in the Company's Form 10-K on file with the SEC as of December 10, 1998. Risk factors that may cause the Company's results to differ materially from those discussed in forward-looking statements include, but are not limited to: intense and increasing competition, much of which comes from companies substantially larger than the Company; the concentration of potential customers in the industry; the impact of changing sales focus from a very small number of very large opportunities to a greater number of smaller opportunities; new product development delays; and the relative newness of the products.

CIENA Corporation

CONSOLIDATED BALANCE SHEETS

(in thousands, except share data)	October 31, 1997	1998
ASSETS		
Current assets:		
Cash and cash equivalents	$268,588	$227,397
Marketable debt securities	—	15,993
Accounts receivable (net of allowance of $722 and $1,528)	72,336	85,472
Inventories, net	41,109	70,908
Deferred income taxes	9,139	15,301
Prepaid income taxes	—	8,558
Prepaid expenses and other	3,093	4,415
Total current assets	394,265	428,044
Equipment, furniture and fixtures, net	67,618	123,405
Goodwill and other intangible assets, net	5	16,270
Other assets	1,391	4,705
Total assets	$463,279	$572,424
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 24,760	$ 25,686
Accrued liabilities	32,022	34,328
Income taxes payable	261	—
Deferred revenue	2,591	1,084
Other current obligations	1,179	838
Total current liabilities	60,813	61,936
Deferred income taxes	28,167	34,125
Other long-term obligations	1,885	1,414
Total liabilities	90,865	97,475
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; 180,000,000 shares authorized; 100,287,653 and 103,239,704 shares issued and outstanding	1,003	1,032
Additional paid-in capital	245,219	294,926
Notes receivable from stockholders	(64)	(357)
Cumulative translation adjustment	(5)	(107)
Retained earnings	126,261	179,455
Total stockholders' equity	372,414	474,949
Total liabilities and stockholders' equity	$463,279	$572,424

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

CONSOLIDATED STATEMENTS OF OPERATIONS

	Year Ended October 31,		
	1996	1997	1998
(in thousands, except per share data)			
Revenue	$88,463	$413,215	$508,087
Cost of goods sold	47,315	166,472	256,014
Gross profit	41,148	246,743	252,073
Operating expenses:			
Research and development	8,922	23,308	64,536
Selling and marketing	5,641	22,627	45,945
General and administrative	6,422	11,823	17,825
Purchased research and development	—	—	9,503
Pirelli litigation	—	7,500	30,579
Cost of proposed merger	—	—	2,548
Total operating expenses	20,985	65,258	170,936
Income from operations	20,163	181,485	81,137
Interest and other income (expense), net	1,096	7,593	12,551
Interest expense	(443)	(408)	(259)
Income before income taxes	20,816	188,670	93,429
Provision for income taxes	3,553	72,703	40,235
Net income	$17,263	$115,967	$ 53,194
Basic net income per common share	$ 1.25	$ 1.53	$ 0.52
Diluted net income per common share and dilutive potential common share	$ 0.19	$ 1.11	$ 0.49
Weighted average basic common shares outstanding	13,817	75,802	101,751
Weighted average basic common and dilutive potential common shares outstanding	92,407	104,664	107,895

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

CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIT)

	Common Stock		Additional Paid-in-Capital	Notes Receivable From Stockholders	Cumulative Translation Adjustment	Retained Earnings (Deficit)	Total Stockholders' Equity (Deficit)
	Shares	Amount					
(dollars in thousands)							
Balance at October 31, 1995	12,935,415	$ 129	$ 178	$ —	$ —	$ (6,969)	$ (6,662)
Exercise of warrants	676,425	7	—	—	—	—	7
Exercise of stock options	579,745	6	71	(60)	—	—	17
Compensation cost of stock options	—	—	2	—	—	—	2
Issuance of warrant for settlement of certain equity rights	—	—	156	—	—	—	156
Net income	—	—	—	—	—	17,263	17,263
Balance of October 31, 1996	14,191,585	142	407	(60)	—	10,294	10,783
Issuance of common stock, net of issuance costs	7,002,060	70	173,947	—	—	—	174,017
Conversion of Preferred Stock	74,815,740	748	40,256	—	—	—	41,004
Exercise of warrants	666,086	7	—	—	—	—	7
Exercise of stock options	3,612,182	36	859	(73)	—	—	822
Tax benefit from the exercise of stock options	—	—	29,709	—	—	—	29,709
Repayment of receivables from stockholders	—	—	—	69	—	—	69
Translation adjustment	—	—	—	—	(5)	—	(5)
Compensation cost of stock options	—	—	41	—	—	—	41
Net income	—	—	—	—	—	115,967	115,967
Balance at October 31, 1997	100,287,653	1,003	245,219	(64)	(5)	126,261	372,414
Purchase acquisitions, net of transaction costs	304,144	3	20,817	—	—	—	20,820
Exercise of stock options	2,647,907	26	6,215	(392)	—	—	5,849
Tax benefit from the exercise of stock options	—	—	22,634	—	—	—	22,634
Repayment of receivables from stockholders	—	—	—	99	—	—	99
Translation adjustment	—	—	—	—	(102)	—	(102)
Compensation cost of stock options	—	—	41	—	—	—	41
Net income	—	—	—	—	—	53,194	53,194
Balance at October 31, 1998	103,239,704	$1,032	$294,926	$(357)	$(107)	$179,455	$474,949

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

CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended October 31,		
	1996	1997	1998
(in thousands)			
Cash flows from operating activities:			
Net income	$ 17,263	$115,967	$ 53,194
Adjustments to reconcile net income to net cash (used in) provided by operating activities:			
Non-cash charges from equity transactions	158	41	41
Amortization of premiums on marketable debt securities	—	—	464
Effect of translation adjustment	—	(5)	(102)
Purchased research and development	—	—	9,503
Write down of leasehold improvements and equipment	883	923	1,605
Depreciation and amortization	1,082	10,251	33,266
Provision for doubtful accounts	76	489	806
Provision for inventory excess and obsolescence	1,937	7,585	9,617
Provision for warranty and other contractual obligations	1,584	11,866	10,523
Changes in assets and liabilities:			
Increase in accounts receivable	(20,601)	(46,309)	(13,707)
Increase in inventories	(15,165)	(35,466)	(39,416)
Increase in deferred income tax assets	(1,834)	(7,305)	(6,162)
Increase in prepaid income taxes	—	—	(8,558)
Increase in prepaid expenses and other assets	(1,009)	(2,403)	(11,456)
Increase (decrease) in accounts payable and accrued expenses accruals	7,259	30,311	(8,307)
Increase (decrease) in income taxes payable	3,801	(3,701)	(261)
Increase in deferred income tax liabilities	—	4,793	5,958
Increase (decrease) in deferred revenue and other obligations	3,386	(2,007)	(1,507)
Net cash (used in) provided by operating activities	(1,180)	85,030	35,501
Cash flows from investing activities:			
Additions to equipment, furniture and fixtures	(11,558)	(66,820)	(86,399)
Purchase of marketable debt securities	—	—	(93,869)
Maturities of marketable debt securities	—	—	77,876
Net cash paid for business combinations	—	—	(2,070)
Net cash used in investing activities	(11,558)	(66,820)	(104,462)
Cash flows from financing activities:			
Net proceeds from (repayment of) other obligations	2,543	(2,260)	(812)
Net proceeds from issuance of or subscription to mandatorily redeemable preferred stock	25,950	—	—
Net proceeds from issuance of common stock	24	175,446	5,849
Tax benefit related to exercise of stock options and warrants	—	53,083	22,634
Repayment of notes receivable from stockholders	—	69	99
Net cash provided by financing activities	28,517	226,338	27,770
Net increase (decrease) in cash and cash equivalents	15,779	244,548	(41,191)
Cash and cash equivalents at beginning of period	8,261	24,040	268,588
Cash and cash equivalents at end of period	$ 24,040	$268,588	$ 227,397
Supplemental disclosure of cash flow information:			
Cash paid during the period for:			
Interest	$ 419	$ 405	$ 249
Income taxes	$ 1,830	$ 26,999	$ 30,203
Supplemental disclosure of non-cash financing activities:			
Issuance of common stock for notes receivable from stockholders	$ 60	$ 73	392

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

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(1) THE COMPANY AND SIGNIFICANT ACCOUNTING POLICIES

Description of Business

CIENA Corporation (the "Company" or "CIENA") designs, manufactures and sells open architecture, dense wavelength division multiplexing ("DWDM") systems for fiberoptic communications networks, including long-distance and local exchange carriers. CIENA also provides a range of engineering, furnishing and installation services for telecommunications service providers.

Principles of Consolidation

The Company has ten wholly owned U.S. and international subsidiaries which have been consolidated in the accompanying financial statements. During the fiscal year ended October 31, 1998, the Company completed a merger with ATI Telecom International Ltd., ("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. 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. See Note 2.

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 31, 1998; November 1, 1997; and November 2, 1996). For purposes of financial statement presentation, each fiscal year is described as having ended on October 31. Fiscal 1998 and 1997 comprised 52 weeks and fiscal 1996 comprised 53 weeks.

Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires the Company to make estimates, 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 $9,000 of unrealized gain and unrealized loss, respectively, as of October 31, 1998.

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. In terms of total revenue, the Company's largest two customers have been Sprint and MCI WorldCom. While there were no revenues derived from MCI WorldCom in fiscal 1996, Sprint accounted for 62% of the Company's fiscal 1996 revenues and both Sprint and MCI WorldCom combined accounted for greater than 88% of the Company's 1997 fiscal revenues. MCI WorldCom accounted for less than 10% and Sprint accounted for approximately 53% of the Company's fiscal 1998 revenues. 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 and has not incurred any significant losses to date. As of October 31, 1997, Sprint and MCI WorldCom accounted for 84% of the trade accounts receivable. Sprint and three other customers comprise 10%, 11%, 25% and 26% of the trade accounts receivable respectively as of October 31, 1998.

Revenue Recognition

The Company recognizes product revenue in accordance with the shipping terms specified. For transactions where the Company has yet to obtain customer acceptance, 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 costs incurred to date compared to estimated total costs for each contract. Amounts received in excess of revenue recognized are recorded as deferred revenue. For distributor sales where risks of ownership have not transferred, the Company recognizes revenue when the product is shipped through to the end user.

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 8.

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 shareholders' 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 1996, 1997, and 1998 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

In February 1997, the Financial Accounting Standards Board issued 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. The Company has implemented SFAS No. 128 in fiscal 1998, as required. Accordingly, all prior period EPS data has been restated. See Note 6.

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 1996, 1997, and 1998. 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 7.

Newly Issued Accounting Standards

In June 1997, the Financial Accounting Standards Board issued Statement of Financial Accounting Standards No. 130 (SFAS No. 130), "Comprehensive Income." SFAS No. 130 becomes effective for the Company's fiscal year 1999 and requires reclassification of earlier financial statements for comparative purposes. 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. SFAS No. 130 does not require a specific format for the financial statement in which comprehensive income is reported, but does require that an amount representing total comprehensive income be reported in that statement. The Company believes the adoption of SFAS No. 130 will not have a material effect on the consolidated financial statements.

Also 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." This Statement will change the way public companies report information about segments of their business in annual financial statements and requires them to report selected segment information in their quarterly reports issued to stockholders. 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 Statement is effective for the Company's fiscal year 1999. The Company believes the adoption of SFAS No. 131 will not have a material effect on the consolidated financial statements.

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.

Reclassification

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

(2) BUSINESS COMBINATIONS

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.

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:

	Year Ended October 31,	
	1996	1997
(in thousands)		
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

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% rate was used to effect the risk associated with Terabit's 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.

(3) INVENTORIES

Inventories are comprised of the following (in thousands):

	October 31, 1997	October 31, 1998
Raw materials	$27,716	$ 43,268
Work-in-process	5,679	8,592
Finished goods	15,180	30,202
	48,575	82,062
Reserve for excess and obsolescence	(7,466)	$(11,154)
	$41,109	$ 70,908

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

	October 31, 1997	October 31, 1998
Beginning balance	$ 1,937	$ 7,466
Provision charged to operations	7,585	9,617
Amounts written off to reserve	(2,056)	(5,929)
Ending balance	$ 7,466	$11,154

(4) EQUIPMENT, FURNITURE AND FIXTURES

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

	October 31, 1997	October 31, 1998
Equipment, furniture and fixtures	$ 65,444	$139,142
Leasehold improvements	13,953	24,055
	79,397	163,197
Accumulated depreciation and amortization	(12,279)	(41,144)
Construction-in-progress	500	1,352
	$ 67,618	$123,405

(5) ACCRUED LIABILITIES

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

	October 31, 1997	October 31, 1998
Warranty and other contractual obligations	$12,205	$17,256
Accrued compensation	8,284	9,128
Legal and related costs	4,577	534
Consulting and outside services	3,219	2,837
Unbilled construction-in-process and leasehold improvements	1,427	—
Other	2,310	4,573
	$32,022	$34,328

(6) EARNINGS PER SHARE CALCULATION

The following is a reconciliation of the numerators and denominators of the basic net income per common share ("basic EPS") and diluted net income 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, 1996	October 31, 1997	October 31, 1998
Net Income	$17,263	$115,967	$ 53,194
Weighted average shares—basic	13,817	75,802	101,751
Effect of dilutive securities:			
Employee stock options and warrants	8,533	8,774	6,144
Conversion of preferred stock	70,057	20,088	—
Weighted average shares—diluted	92,407	104,664	107,895
Basic EPS	$ 1.25	$ 1.53	$ 0.52
Diluted EPS	$ 0.19	$ 1.11	$ 0.49

(7) 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.

Stock Incentive Plans

The Company has an Amended and Restated 1994 Stock Option Plan (the "1994 Plan"). Under the 1994 Plan, 20,050,000 shares of the Company's authorized but unissued Common Stock are reserved for options issuable to employees. 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.

Following is a summary of the Company's stock option activity:

(in thousands)	Shares	Weighted Average Exercise Price
Balance at October 31, 1995	6,941	$ 0.03
Granted	5,901	1.85
Exercised	(579)	0.14
Canceled	(1,180)	0.18
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	4,654	26.12
Exercised	(2,648)	2.40
Canceled	(3,280)	40.85
Balance at October 31, 1998	7,836	5.83

During September 1998, the Company cancelled 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, 1998 approximately 292,000 shares of Common Stock subject to repurchase by the Company had been issued upon the exercise of options and approximately 2.2 million of the total outstanding options were vested and not subject to repurchase by the Company upon exercise.

The following table summarizes information with respect to stock options outstanding at October 31, 1998:

	Options Outstanding			Options Not Subject to Repurchase Upon Exercise	
Range of Exercise Price	Number Outstanding at Oct. 31, 1998	Weighted Average Remaining Contractual Life (Years)	Weighted Average Exercise Price	Number at Oct. 31, 1998	Weighted Average Exercise Price
$0.02-$0.03	1,048,678	6.23	$ 0.03	878,524	$ 0.03
$0.06-$1.66	1,102,096	7.41	$ 0.80	363,080	$ 0.80
$2.25-$4.34	2,648,482	7.66	$ 2.48	450,455	$ 2.54
$4.40-$11.56	189,216	8.56	$ 6.55	47,818	$ 6.15
$12.38-$12.38	2,761,977	8.93	$12.38	419,150	$12.38
$12.56-$43.25	85,675	9.57	$32.40	—	$ —
$0.02-$43.25	7,836,124	7.92	$ 5.83	2,159,027	$ 3.21

Pro Forma Stock-Based Compensation

The Company has elected to continue to follow the provisions of APB No. 25 for financial reporting purposes and has adopted the disclosure-only provisions of SFAS No. 123. Had compensation cost for the Company's stock option plans been determined based on the fair value at the grant date for awards in fiscal years 1996, 1997, and 1998 consistent with the provisions of SFAS No. 123, the Company's net income and net income per share for fiscal years 1996, 1997, and 1998 would have been decreased to the pro forma amounts indicated below (in thousands, except per share amounts):

	October 31, 1996	1997	1998
Net income applicable to common stockholders—as reported	$17,263	$115,967	$53,194
Net income applicable to common stockholders—pro forma	$16,770	$110,404	$28,327
Basic net income per share—as reported	$ 1.25	$ 1.53	$ 0.52
Basic net income per share—pro forma	$ 1.21	$ 1.46	$ 0.28
Diluted net income per share—as reported	$ 0.19	$ 1.11	$ 0.49
Diluted net income per share—pro forma	$ 0.18	$ 1.05	$ 0.26

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 in fiscal years 1996, 1997 and 1998 were approximately $6.7 million, $33.6 million, $73.0 million and $1.14, $19.33, and $20.90 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 1996, 1997, and 1998:

	October 31, 1996	1997	1998
Expected volatility	60%	60%	109%
Risk-free interest rate	6.1%	5.8%	4.4%
Expected life	3 yrs	3 yrs	3 yrs.
Expected dividend yield	0%	0%	0%

(8) INCOME TAXES

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

	October 31, 1996	1997	1998
Income before income taxes	$20,816	$188,670	$93,429
Provision for income taxes:			
Current:			
Federal	$ 4,483	$ 67,744	39,780
State	694	7,373	4,444
Foreign	210	98	40
Total current	5,387	75,215	44,264
Deferred:			
Federal	(1,690)	(2,015)	(3,376)
State	(144)	(497)	(653)
Foreign	—	—	—
Total deferred	(1,834)	(2,512)	(4,029)
Provision for income taxes	$ 3,553	$ 72,703	$40,235

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,		
	1996	1997	1998
Provision at statutory rate	35.0%	35.0%	35.0%
Reversal of valuation allowance	(20.0)	—	—
Non-deductible purchased research and development	—	—	3.8
State taxes, net of federal benefit	2.7	2.6	3.8
Research and development credit	—	—	(3.6)
Other	(0.6)	0.9	4.1
	17.1%	38.5%	43.1%

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

	October 31,	
	1997	1998
Deferred tax assets:		
Reserves and accrued liabilities	$ 9,281	$14,611
Other	—	690
Net operating loss and credit carryforward	1,555	1,562
Gross deferred tax assets	10,836	16,863
Valuation allowance	(1,697)	(1,562)
Net current deferred tax asset	$ 9,139	$15,301
Deferred tax liabilities:		
Equipment leases	$ 3,985	$ 7,978
Services	19,389	21,594
Depreciation and other	4,793	4,553
Deferred long term tax liabilities	$28,167	$34,125

As of October 31, 1997 the Company assumed net operating loss carryforwards of approximately $4.5 million through its acquisition of Alta. The net operating loss carryforwards begin expiring in fiscal 2002.

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 $29.7 million and $23.4 million in fiscal 1997, and $22.6 million and $3.6 million in fiscal 1998, 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.

(9) 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 and 1998 the Company made matching contributions of approximately $0.3 million and $1.1 million, respectively.

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, the first of which occurs in March 1999. As of October 31, 1998 no shares had been issued from the Purchase Plan.

(10) COMMITMENTS AND CONTINGENCIES

Operating Lease Commitments

The Company has certain minimum obligations under noncancelable operating leases expiring on various dates through 2006 for equipment and facilities. Future annual minimum rental commitments under noncancelable

operating leases at October 31, 1998 are as follows (in thousands):

Fiscal year ending October 31,	
1999	$ 5,729
2000	5,510
2001	5,070
2002	4,282
2003	3,050
Thereafter	10,358
	$33,999

Rental expense for fiscal 1996, 1997 and 1998 was approximately $717,000, $2,652,000 and $5,616,000, respectively.

Litigation

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, have been filed. These cases were consolidated by court order on November 30, 1998. The complaint alleges 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 seek designation 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 be determined at trial and attorneys' fees. The proceedings are at an early stage. No discovery has been taken, and no prediction can be made as to its outcome. The Company believes the suit is without merit and intends to defend itself vigorously.

Kimberlin Litigation. On September 9, 1998 the U.S. District Court for the Southern District of New York granted summary judgment with respect to federal securities law claims brought against the Company and certain of its individual directors by investor Kevin Kimberlin and related parties, finding "no violations" of federal securities laws in the Company's or directors' conduct. The Court also dismissed all related state law claims without prejudice, declining to exercise jurisdiction over these claims. The remaining state law claims, as well as the Company's counterclaim against the Kimberlin-related parties, were fully and finally resolved in October 1998 by agreement of the parties.

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.

(11) FOREIGN SALES

The Company has sales and marketing operations outside the United States in Canada, The United Kingdom, Belgium, France, Japan, China and the Philippines. The Company has distributor or marketing representative arrangements covering Austria, Germany, Italy and Switzerland in Europe, and the Republic of Korea and Japan in Asia. The Company also has representatives in Mexico and Brazil. Included in revenues are export sales of approximately $3.5 million, $11.7 million, and $117.1 million in fiscal years 1996, 1997 and 1998, respectively.

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, of cash flows and of changes in stockholders' equity (deficit) present fairly, in all material respects, the financial position of CIENA Corporation and subsidiaries at October 31, 1998 and 1997, and the results of their operations and their cash flows for each of the three years in the period ended October 31, 1998, 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 25, 1998

HISTORIC STOCK PERFORMANCE

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 1997		
Period of February 7, 1997 to April 30, 1997	$44.00	$22.25
Third Quarter ended July 31, 1997	$57.25	$28.50
Fourth Quarter ended October 31, 1997	$63.62	$43.00
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

The closing sale price for the Common Stock on October 30, 1998 was $17.56.

The market price of the Company's Common Stock has fluctuated significantly and may be subject to significant fluctuation in the future. Much of the fluctuation during the third and fourth quarters of fiscal 1998 was related to the Company's planned and then terminated merger with Tellabs, Inc.

As of October 31, 1998, there were approximately 784 holders of record of the Company's Common Stock and 103,239,704 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.

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