

AS FILED WITH THE SECURITIES AND EXCHANGE COMMISSION ON JUNE 11, 1999

REGISTRATION NO. 333-80375

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

PRE-EFFECTIVE AMENDMENT NO. 1
TO

FORM S-4
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

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

DELAWARE
(STATE OR OTHER JURISDICTION OF
INCORPORATION OR ORGANIZATION)

3661
(PRIMARY STANDARD INDUSTRIAL
CLASSIFICATION CODE NUMBER)

23-2725311
(I.R.S. EMPLOYER
IDENTIFICATION NUMBER)

1201 WINTERSON ROAD
LINTHICUM, MD 21090
(410) 865-8500
(ADDRESS, INCLUDING ZIP CODE, AND TELEPHONE NUMBER, INCLUDING
AREA CODE, OF REGISTRANT'S PRINCIPAL EXECUTIVE OFFICES)

G. ERIC GEORGATOS
SENIOR VICE PRESIDENT, GENERAL COUNSEL AND SECRETARY
1201 WINTERSON ROAD
LINTHICUM, MD 21090
(410) 865-8500
(NAME, ADDRESS, INCLUDING ZIP CODE, AND TELEPHONE NUMBER,
INCLUDING AREA CODE, OF AGENT FOR SERVICE)

Copies to:

MICHAEL J. SILVER
AMY BOWERMAN FREED
HOGAN & HARTSON L.L.P.
111 SOUTH CALVERT STREET
BALTIMORE, MD 21202
(410) 659-2700

PETER B. TARR
HALE AND DORR LLP
60 STATE STREET
BOSTON, MA 02109
(617) 526-6000

APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC: As soon as practicable after this Registration Statement becomes effective.

If the securities being registered on this Form are being offered in connection with the formation of a holding company and there is compliance with General Instruction G, check the following box. []

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act of 1933, please check the following box and list the Securities Act of 1933 registration statement number of the earlier effective registration statement for the same offering. []

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act of 1933, check the following box and list the Securities Act of 1933 registration statement number of the earlier effective registration statement for the same offering. []

THE REGISTRANT HEREBY AMENDS THIS REGISTRATION STATEMENT ON SUCH DATE OR DATES AS MAY BE NECESSARY TO DELAY ITS EFFECTIVE DATE UNTIL THE REGISTRANT SHALL FILE A FURTHER AMENDMENT WHICH SPECIFICALLY STATES THAT THIS REGISTRATION STATEMENT SHALL THEREAFTER BECOME EFFECTIVE IN ACCORDANCE WITH SECTION 8(a) OF THE SECURITIES ACT OF 1933, OR UNTIL THE REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE COMMISSION, ACTING PURSUANT TO SAID SECTION 8(a),

MAY DETERMINE.

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OMNIA COMMUNICATIONS, INC.

400 Nickerson Road
Marlborough, Massachusetts

June 11, 1999

MERGER PROPOSED

Dear fellow stockholder,

Omnia Communications, Inc. has entered into a merger agreement with CIENA Corporation. Under that agreement, Omnia would be merged into CIENA and CIENA would be the surviving company. Your Board of Directors is giving this prospectus and proxy statement to you to solicit your proxy to vote for adoption of the merger agreement and appointment of a stockholder representative at a special meeting of stockholders to be held on July 1, 1999, and at any adjournment or postponement of that meeting.

If we complete the merger, each share of Omnia preferred stock and Omnia common stock that you own would be converted into shares of CIENA common stock, unless you exercise appraisal rights under Delaware law. We will determine the number of shares of CIENA common stock into which each share of Omnia preferred stock and common stock will be converted immediately prior to completion of the merger according to formulas specified in the merger agreement and described in the attached materials. There is no public trading market for Omnia common stock or Omnia preferred stock. CIENA common stock is quoted on the Nasdaq Stock Market under the symbol "CIEN." The closing price for CIENA common stock reported on the Nasdaq Stock Market on June 9, 1999, was \$31.375 per share.

This is CIENA's prospectus relating to its offering of shares of CIENA common stock to Omnia stockholders in the proposed merger, and Omnia's proxy statement. It contains important information concerning CIENA, Omnia, the terms of the proposed merger and the conditions which must be satisfied before the merger can occur. You should carefully consider the risk factors relating to the merger that are described starting on page 12 of this prospectus and proxy statement.

YOUR BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT YOU VOTE
FOR ADOPTION OF THE MERGER AGREEMENT AND FOR THE APPOINTMENT OF THE STOCKHOLDER
REPRESENTATIVE

Your vote is important regardless of the number of shares you own. We urge you to read the enclosed materials carefully and to complete, sign and date the enclosed proxy card and return it promptly in the enclosed prepaid envelope, whether or not you plan to attend the special meeting of stockholders. Your prompt cooperation and continued support of Omnia Communications, Inc. is greatly appreciated.

Sincerely,
[Sig for Champa]
Michael A. Champa
President and Chief Executive Officer

Neither the Securities and Exchange Commission nor any state securities regulator has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus and proxy statement. Any representation to the contrary is a criminal offense.

PROSPECTUS AND PROXY STATEMENT DATED JUNE 11, 1999

FIRST MAILED TO STOCKHOLDERS ON OR ABOUT JUNE 11, 1999

OMNIA COMMUNICATIONS, INC.
 400 Nickerson Road
 Marlborough, Massachusetts 01752

 NOTICE OF SPECIAL MEETING OF STOCKHOLDERS
 TO BE HELD ON JULY 1, 1999

NOTICE IS HEREBY GIVEN that a Special Meeting of Stockholders of Omnia Communications, Inc. will be held on July 1, 1999, at 10:00 a.m., local time, at the offices of Hale and Dorr LLP, 60 State Street, Boston, Massachusetts 02109.

Only Omnia stockholders of record as of June 9, 1999 are entitled to attend and vote at the special meeting. At the special meeting, you will be asked to consider and vote upon the following proposals:

To approve and adopt the Agreement and Plan of Merger dated as of March 15, 1999 between CIENA Corporation and Omnia providing for the merger of Omnia into CIENA, and

To appoint Robi L. Soni as Stockholder Representative to act on behalf of the stockholders in connection with the merger.

THE BOARD OF DIRECTORS OF OMNIA UNANIMOUSLY RECOMMENDS THAT YOU VOTE FOR APPROVAL AND ADOPTION OF THE MERGER AGREEMENT, APPROVAL OF THE MERGER AND APPOINTMENT OF MR. SONI AS STOCKHOLDER REPRESENTATIVE.

STOCKHOLDERS OF OMNIA HOLDING IN THE AGGREGATE APPROXIMATELY 83.9% OF THE OMNIA COMMON STOCK, 99.5% OF THE OMNIA SERIES A PREFERRED STOCK AND 98.5% OF THE OMNIA SERIES B PREFERRED STOCK HAVE AGREED TO VOTE ALL OF THEIR SHARES IN FAVOR OF THE ADOPTION OF THE MERGER AGREEMENT AND APPROVAL OF THE MERGER. CONSEQUENTLY, ADOPTION OF THE MERGER AGREEMENT AND APPROVAL OF THE MERGER BY THE OMNIA STOCKHOLDERS IS ASSURED.

Detailed information concerning the merger agreement and the merger is contained in the accompanying proxy statement and prospectus. We encourage you to read this entire document carefully.

For the Board of Directors,
 [Sig for Champa]
 Michael A. Champa
 Chief Executive Officer

Marlborough, Massachusetts
 June 10, 1999

YOUR VOTE IS IMPORTANT REGARDLESS OF THE NUMBER OF SHARES YOU OWN. WHETHER OR NOT YOU EXPECT TO ATTEND THE SPECIAL MEETING IN PERSON, PLEASE COMPLETE, SIGN AND PROMPTLY RETURN THE ENCLOSED PROXY IN THE ENCLOSED POSTAGE-PREPAID ENVELOPE. A STOCKHOLDER WHO EXECUTES A PROXY MAY REVOKE IT AT ANY TIME BEFORE IT IS EXERCISED BY GIVING WRITTEN NOTICE OF REVOCATION TO OMNIA, BY SUBSEQUENTLY DELIVERING ANOTHER PROXY OR BY ATTENDING THE SPECIAL MEETING AND VOTING IN PERSON.

YOU SHOULD NOT SEND STOCK CERTIFICATES WITH YOUR PROXIES. A TRANSMITTAL LETTER FOR YOUR STOCK WILL BE SENT TO YOU BY THE EXCHANGE AGENT AFTER THE CLOSING.

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THIS PROSPECTUS AND PROXY STATEMENT INCORPORATES BY REFERENCE CERTAIN DOCUMENTS FILED WITH THE SEC BY CIENA WHICH CONTAIN IMPORTANT BUSINESS AND FINANCIAL INFORMATION ABOUT CIENA THAT IS NOT INCLUDED IN OR DELIVERED WITH THIS PROSPECTUS AND PROXY STATEMENT. THESE DOCUMENTS ARE AVAILABLE WITHOUT CHARGE TO OMNIA STOCKHOLDERS UPON WRITTEN OR ORAL REQUEST. STOCKHOLDERS MAY REQUEST COPIES OF THESE DOCUMENTS FROM CIENA CORPORATION, 1201 WINTERSON ROAD, LINTHICUM, MARYLAND 21090, ATTN: GENERAL COUNSEL, TELEPHONE (410) 865-8500. TO OBTAIN TIMELY DELIVERY, STOCKHOLDERS MUST REQUEST THIS INFORMATION NO LATER THAN JUNE 23, 1999.

SUMMARY

This document is a prospectus of CIENA and a proxy statement of Omnia. This summary highlights selected information from the prospectus and proxy statement. It does not contain all of the information that is important to you. You should carefully read the entire prospectus and proxy statement and the other documents to which this document refers you to fully understand the merger. See "Where You Can Find More Information" on page 68.

CIENA CORPORATION
1201 Winterson Road
Linthicum, Maryland 21090
(410) 865-8500

CIENA designs, makes and sells open architecture, dense wavelength division multiplexing systems for fiberoptic communications networks, including long-distance and local exchange carriers. Our systems enable these carriers to carry greater volumes of communications traffic over existing fiber, by using multiple optical signals, or wavelengths, where prior equipment used only a single optical signal. CIENA also provides a range of engineering, furnishing and installation services for our customers.

We designed all of our MultiWave systems with open architecture that allows them to work with our customers' existing fiber optic transmission systems that have a broad range of transmission speeds and signal formats. We target our research and development efforts to broaden the product applications of our technology and to integrate the technology as part of a more comprehensive approach to optical communications solutions.

In March 1999, we acquired Lightera Networks, Inc., which is developing optical core switches for fiberoptic communications networks.

OMNIA COMMUNICATIONS, INC.
400 Nickerson Road
Marlborough, Massachusetts 01752
(508) 229-8444

Omnia is a telecommunications equipment supplier. Omnia focuses on developing solutions to allow public telephone network operators to offer services cost effectively over integrated metropolitan fiberoptic access and transport networks. Omnia's first product, the AXR 500, is a multi-service transport platform that combines the functionality of traditional transport equipment with advanced data networking capabilities. The AXR 500 uses new technology to allow public telephone network operators to deliver both traditional services and advanced high-speed data services, over an integrated optical infrastructure.

THE MERGER (PAGE 20)

The merger agreement provides that Omnia will merge with and into CIENA and CIENA will be the surviving company. CIENA and Omnia hope to complete the merger during CIENA's third fiscal quarter ending July 31, 1999.

The merger agreement is included as Appendix A to this prospectus and proxy statement. It is the legal document that governs the merger.

CONVERSION AND EXCHANGE OF SHARES
(PAGE 35)

As a result of the merger, unless you exercise appraisal rights under Delaware law, each share of Omnia common stock and preferred stock that you own would be converted into a number of shares of CIENA common stock determined as follows:

For each share of Omnia common stock, a fraction of a share of CIENA common stock equal to:

- (a) 16,000,000 minus
 - (i) \$17,981,101.50 divided by
 - (ii) the closing price of CIENA common stock on Nasdaq on the last business day before the closing date,
 divided by
- (b) the total number of the following items on the closing date:
 - all outstanding shares of Omnia common stock;

- shares issuable upon exercise of all Omnia stock options;
- shares issuable upon exercise of warrants; and
- shares issuable upon exercise of other outstanding instruments or agreements convertible into or exchangeable for or entitling the holder to acquire Omnia common stock, including shares of Series B preferred stock.

For each share of Series A preferred stock, a fraction of a share of CIENA common stock equal to:

- (a) \$5,831,100 divided by the closing price of CIENA common stock on Nasdaq on the last business day before the closing date, divided by
- (b) the total number of shares of Series A preferred stock outstanding on the closing date.

For each share of Series B preferred stock, the fraction of a share of CIENA common stock that you would receive if you had one share of Omnia common stock, plus an additional fraction of a share of CIENA common stock equal to:

- (a) \$12,150,001.50 divided by the closing price of CIENA common stock on Nasdaq on the last business day before the closing date, divided by
- (b) the total number of shares of Series B preferred stock outstanding on the closing date.

These are only examples, because we do not know what CIENA's stock price will be on the day before closing.

At the earliest practicable date after the completion of the merger, you will receive a letter of transmittal that will provide instructions on the procedure for exchanging your share certificates. For more information on how the election and exchange procedures work, see "Terms of the Merger Agreement--" on page 35 and "Terms of the Merger Agreement -- Exchange of Certificates and Fractional Shares" on page 36.

PLEASE DO NOT SEND YOUR STOCK CERTIFICATES AT THIS TIME.

APPRAISAL RIGHTS OF DISSENTING STOCKHOLDERS OF OMNIA (PAGE 32)

IF YOU OBJECT TO THE MERGER, DELAWARE LAW PERMITS YOU TO SEEK RELIEF AS A DISSENTING STOCKHOLDER AND HAVE THE "FAIR VALUE" OF YOUR SHARES OF OMNIA COMMON STOCK AND OMNIA PREFERRED STOCK DETERMINED BY A COURT AND PAID TO YOU IN CASH.

If you are an Omnia stockholder and wish to dissent, you must deliver to Omnia, prior to the vote on the merger at the special meeting, a written demand for appraisal of your shares. You also must not vote in favor of the merger agreement. To not vote in favor of the merger agreement, you can either:

- vote "no" in person at the special meeting or by proxy;
- abstain from voting;
- fail to vote; or
- revoke a duly executed proxy that contains a vote in favor or does not contain voting instructions.

Examples of Exchange Values (Excluding Cash For Fractional Shares)

IF CIENA'S CLOSING STOCK PRICE IS \$18.00 PER SHARE AND YOU OWN 100 SHARES OF OMNIA:	YOU WILL RECEIVE THIS MANY SHARES OF CIENA STOCK	WORTH THIS MUCH
-----	-----	-----
Common Stock.....	88	\$1,584
Series A Preferred.....	5	90
Series B Preferred.....	106	1,908

IF CIENA'S CLOSING STOCK PRICE IS \$26.00 PER SHARE AND YOU OWN 100 SHARES OF OMNIA:	YOU WILL RECEIVE THIS MANY SHARES OF CIENA STOCK	WORTH THIS MUCH
-----	-----	-----
Common Stock.....	90	\$2,340
Series A Preferred.....	3	78
Series B Preferred.....	103	2,678

Beneficial owners of shares of Omnia common stock or Omnia preferred stock whose shares are held of record by another person, such as a broker, bank or nominee, and who wish to seek appraisal, should instruct the record holder to follow the appraisal procedures of Delaware law. The relevant provisions of Delaware law are technical in nature and complex. If you wish to exercise appraisal rights and obtain appraisal of the fair value of your shares, you may wish to consult with legal counsel, because the failure to comply strictly with these provisions may result in waiver or forfeiture of your appraisal rights.

A copy of the relevant section of Delaware law governing this process is attached as Appendix B to this prospectus and proxy statement.

WHAT IS NEEDED TO COMPLETE THE MERGER (PAGE 43)

Several conditions must be satisfied before the merger will be completed. These include:

- adoption of the merger agreement and approval of the merger by the Omnia stockholders;
- receipt by Omnia of an opinion of its tax counsel that for U.S. federal income tax purposes, the merger is generally not taxable to Omnia or the Omnia stockholders;
- receipt by CIENA of an opinion of its tax counsel that for U.S. federal income tax purposes, the merger is generally not taxable to CIENA;
- receipt by CIENA of a pooling letter from its independent accountants stating that PricewaterhouseCoopers LLP concurs with management's conclusions that the merger may be accounted for as a "pooling of interests";
- holders of no more than 9.9% of Omnia's stock will have exercised appraisal rights;
- other customary contractual conditions specified in the merger agreement.

If the law permits, CIENA or Omnia may each waive conditions for the benefit of their company and stockholders and complete the merger even though one or more of these conditions hasn't been met. We cannot assure you that the conditions will be satisfied or waived or that the merger will occur.

INDEMNIFICATION (PAGE 42)

If the merger agreement is approved and the merger occurs, all holders of Omnia capital stock who have not perfected dissenter's rights under Delaware law, by their receipt of CIENA common stock in the merger, will be deemed to have agreed personally to indemnify CIENA, the surviving corporation of the merger and its affiliates against losses due to the breach of any of Omnia's representations, warranties or agreements in the merger agreement. This obligation to indemnify CIENA is limited to no more than 10% of the total number of shares of CIENA common stock issued in the merger. An escrow arrangement will be established at closing to hold this 10% amount. The escrow agreement is attached as Appendix C to this proxy statement. If the stockholders approve of his selection, Robi L. Soni will serve as Stockholder Representative to administer the escrow on behalf of all former Omnia stockholders. Otherwise, the escrow fund will be administered by the stockholders directly. The escrow and indemnification obligations will end one year after closing. At that time, if CIENA has not made a claim for the escrowed shares, the escrowed shares will be released to the former Omnia stockholders. See "Terms of the Merger Agreement -- Indemnification."

CONSEQUENTLY, IN SOME CIRCUMSTANCES YOU COULD BE REQUIRED TO FORFEIT TO CIENA SOME OF THE CIENA COMMON STOCK YOU WOULD OTHERWISE RECEIVE IN THE MERGER.

FEDERAL INCOME TAX CONSEQUENCES (PAGE 31)

We intend that the merger qualify as a tax-free reorganization. Omnia received an opinion of Hale and Dorr LLP that the merger will qualify as a reorganization if the merger takes place as described in the merger agreement. If the merger qualifies as a reorganization, Omnia stockholders will not recognize gain or loss as a result of the merger, except with respect to cash received instead of fractional shares and cash received in exchange for Omnia shares by

Omnia stockholders who dissent to the merger. For a further discussion of the federal income tax consequences of the merger to Omnia stockholders, see "The Merger -- Federal Income Tax Consequences." See also "Terms of the Merger Agreement -- What is Needed to Complete the Merger."

THESE MATTERS ARE VERY COMPLICATED. YOU SHOULD CONSULT YOUR TAX ADVISOR FOR A FULL EXPLANATION OF THE TAX CONSEQUENCES OF THE MERGER TO YOU.

ACCOUNTING TREATMENT (PAGE 45)

CIENA expects to account for the merger using the pooling of interests method of accounting.

TERMINATION OF THE MERGER AGREEMENT AND TERMINATION FEE (PAGE 44); EXPENSES (PAGE 45)

CIENA and Omnia may agree to terminate the merger agreement without completing the merger, even if you and the other Omnia stockholders have voted for the merger. Each party will generally pay its own expenses if that happens. However, if CIENA agrees to be acquired before this merger is completed and that event delays the merger closing date past September 30, 1999, CIENA must advance \$21 million to Omnia as a loan that will be forgiven if CIENA is thereafter unwilling to complete this merger or the merger does not occur by December 31, 1999.

WAIVER AND AMENDMENT OF THE MERGER AGREEMENT (PAGE 45)

CIENA and Omnia may agree to amend the merger agreement prior to the time the merger becomes effective, subject to applicable law. Either of us can waive our right to require the other party to adhere to the terms and conditions of the merger agreement, if the law allows, at any time prior to the time the merger becomes effective.

INTERESTS OF OMNIA'S DIRECTORS AND OFFICERS IN THE MERGER (PAGE 26)

In considering the recommendation of the Omnia board about the merger, you should be aware of the interests which executive officers and directors of Omnia have in the merger that are different from your and their interests as stockholders. These involve primarily restricted stock purchase agreements and stock options. The Omnia board recognized all those interests described above and concluded that those interests did not detract from the fairness of the merger to the stockholders of Omnia who are not executive officers or directors of Omnia.

OMNIA'S REASONS FOR THE MERGER (PAGE 29)

The Omnia board has unanimously approved the merger and recommends that you vote to approve the merger agreement. The Omnia board believes that the merger is in the best interests of Omnia and its stockholders. In reaching its decision, the Omnia board considered a number of factors, including the following:

- the strategic importance to Omnia of the proposed merger;
- the consideration to be received by Omnia stockholders in the merger;
- Omnia management's view as to the effect of the merger on the core business of Omnia, including its research and development efforts, potential synergy of CIENA's technologies with Omnia's technologies, CIENA's breadth of product offerings and sales and marketing infrastructure.

COMPARISON OF STOCKHOLDER RIGHTS (PAGE 64)

If you own Omnia common stock or Omnia preferred stock and elect to receive CIENA common stock, you will become a stockholder of CIENA upon completion of the merger. Your rights would then be governed by Delaware law and by CIENA's certificate of incorporation and bylaws, rather than Omnia's certificate of incorporation and bylaws. Your rights as a stockholder of CIENA would differ from your rights as a stockholder of Omnia. To review these differences in more detail, see "Comparison of Stockholder Rights" on page 64.

OMNIA SPECIAL MEETING (PAGE 18)

The special meeting will be held on July 1, 1999 at 10:00 a.m. at the offices of Hale and Dorr LLP, 60 State Street, Boston, Massachusetts 02109. At the special meeting, you will be asked to vote to adopt the merger agreement, approve the merger and approve the appointment of Robi L. Soni as representative of the stockholders.

You can vote, or submit a proxy to vote, at the special meeting if you were a record holder of Omnia common stock or Omnia preferred stock at the close of business on June 9, 1999. You can vote your shares by attending the meeting and voting in person or you can mark the enclosed proxy card with your vote, sign it and mail it in the enclosed return envelope. You can revoke your proxy at any time before the vote is taken.

RECORD DATE AND VOTE REQUIRED (PAGE 18)

Holders of a majority of the outstanding shares of Omnia common stock and Omnia Series B preferred stock, voting together as a class, and holders of two thirds of the Omnia Series A preferred stock and Series B preferred stock must vote in favor of adoption of the merger agreement before the merger can occur. There were 12,142,790 shares of Omnia common stock, 5,890,000 shares of Omnia Series A preferred stock and 3,738,462 shares of Omnia Series B preferred stock outstanding as of June 9, 1999. Each holder of Omnia stock is entitled to one vote per share.

Stockholders owning 9,026,112 shares of Omnia common stock, 5,860,000 shares of Omnia Series A preferred stock and 3,682,608 shares of Omnia Series B preferred stock, representing approximately 83.9%, 99.5 and 98.5% of the respective classes, have entered into agreements with CIENA to vote their shares in favor of the merger agreement and against any competing transaction.

ADOPTION OF THE MERGER AGREEMENT AND APPROVAL OF THE MERGER BY THE OMNIA STOCKHOLDERS IS THEREFORE ASSURED. HOWEVER, BECAUSE THERE ARE OTHER CONDITIONS TO CLOSING THAT HAVE NOT YET BEEN FULFILLED, CLOSING OF THE MERGER IS NOT ASSURED. ALSO, YOUR VOTE IS IMPORTANT REGARDLESS OF THE NUMBER OF SHARES YOU OWN.

SELECTED UNAUDITED CONSOLIDATED FINANCIAL DATA OF CIENA

The information in the following selected consolidated financial data is derived from CIENA's audited consolidated financial statements. You should read this information in conjunction with the consolidated financial statements and the notes to the consolidated financial statements, included in CIENA's current report on Form 8-K filed April 1, 1999 and amended on April 5, 1999 which are incorporated by reference in this prospectus and proxy statement. The current report on Form 8-K/A reflects CIENA's recent merger with Lightera Networks, Inc. which was accounted for as a pooling of interests. See "Where You Can Find More Information" on page 68. CIENA's financial statements as of October 31, 1997 and 1998, and for each of the three years ended October 31, 1998 were audited by PricewaterhouseCoopers LLP, independent accountants. The selected financial information as of April 30, 1998 and 1999 and for the six months ended April 30, 1998 and 1999 is derived from CIENA's unaudited consolidated financial statements, which are incorporated into this prospectus and proxy statement by reference. CIENA 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. These statements, in the opinion of management, reflect all adjustments necessary for the fair presentation of this unaudited interim financial information. The results of operations for the six months ended April 30, 1999 are not necessarily indicative of the results to be expected for the entire year.

	YEAR ENDED OCTOBER 31,					SIX MONTHS ENDED APRIL 30,	
	1994	1995	1996	1997	1998	1998	1999
(IN THOUSANDS, EXCEPT PER SHARE DATA)							
CONSOLIDATED STATEMENT OF OPERATIONS DATA:							
Revenue.....	\$20,890	\$21,691	\$88,463	\$413,215	\$508,087	\$287,810	\$211,907
Gross profit.....	5,252	5,506	41,148	246,743	252,073	122,895	137,016
Income (loss) before income taxes.....	94	(5,624)	20,816	188,670(1)	90,228(2)	96,204	2,866(3)
Net income (loss).....	(848)	(6,448)	17,263	115,967(1)	51,113(2)	54,908	1,877(3)
Basic net income (loss) per common share.....	\$ (0.12)	\$ (0.51)	\$ 1.25	\$ 1.53	\$ 0.46	\$ 0.53	\$ 0.02
Diluted net income (loss) per common and dilutive potential common share.....	\$ (0.12)	\$ (0.51)	\$ 0.19	\$ 1.11	\$ 0.44	\$ 0.50	\$ 0.01

	OCTOBER 31,					APRIL 30,	
	1994	1995	1996	1997	1998	1998	1999
(IN THOUSANDS)							
CONSOLIDATED BALANCE SHEET DATA:							
Cash and cash equivalents.....	\$ 4,440	\$ 8,261	\$24,040	\$268,588	\$239,780	\$183,633	\$194,920
Working capital.....	5,485	7,221	42,240	333,452	379,257	367,557	392,452
Total assets.....	12,076	17,706	79,676	463,279	587,566	584,666	614,848
Long-term obligations, excluding current portion and deferred income taxes.....	1,901	2,074	3,465	1,885	2,257	1,779	3,703
Mandatorily redeemable preferred stock.....	3,492	14,454	40,404	--	--	--	--
Stockholders' equity (deficit)....	(300)	(6,662)	10,783	372,414	488,785	465,966	498,437

(1) In 1997, CIENA recorded a \$7.5 million charge for litigation costs incurred and estimated with the Pirelli litigation.

(2) In 1998, CIENA recorded a \$30.6 million charge for the settlement of the Pirelli litigation, a \$9.5 million charge to write-off purchased research and development associated with CIENA's acquisition of Terabit, and a \$2.5 million charge for costs incurred related to CIENA's contemplated merger with Tellabs.

(3) In the six months ended April 30, 1999, CIENA recorded a \$2.3 million charge for costs incurred related to CIENA's merger with Lightera.

SELECTED UNAUDITED HISTORICAL CONSOLIDATED FINANCIAL DATA OF OMNIA

The information in the following selected historical consolidated financial data is derived from Omnia's audited historical consolidated financial statements. You should read this information in conjunction with the historical consolidated financial statements, which are presented later in this prospectus and proxy statement. Omnia's historical consolidated financial statements as of December 31, 1997 and 1998, and for the period from June 3, 1997 (date of inception) to December 31, 1997 and for the year ended December 31, 1998 were audited by PricewaterhouseCoopers LLP, independent accountants.

	PERIOD FROM	YEAR ENDED	THREE MONTHS	
	JUNE 3, 1997		ENDED MARCH 31,	
	(DATE OF INCEPTION)	DECEMBER 31,	1998	1999
	TO DECEMBER 31,	DECEMBER 31,	-----	
	1997	1998	1998	1999
	-----	-----	-----	
	(UNAUDITED)			
	(IN THOUSANDS, EXCEPT PER SHARE DATA)			
HISTORICAL CONSOLIDATED STATEMENT OF OPERATIONS DATA:				
Revenue.....	\$ --	\$ --	\$ --	\$ --
Gross profit.....	--	--	--	--
Loss before income taxes.....	(614)	(8,328)	(1,234)	(3,226)
Net loss.....	(614)	(8,328)	(1,234)	(3,226)
Basic net loss per common share.....	\$(0.32)	\$ (1.28)	\$ (0.22)	\$ (0.41)
Diluted net loss per common and dilutive potential common share.....	\$(0.32)	\$ (1.28)	\$ (0.22)	\$ (0.41)

DECEMBER 31,		MARCH 31,	
1997	1998	1998	1999
-----	-----	-----	-----
(UNAUDITED)			
(IN THOUSANDS)			

HISTORICAL CONSOLIDATED BALANCE SHEET DATA:				
Cash and cash equivalents.....	\$4,698	\$10,934	\$ 3,917	\$ 7,382
Working capital.....	4,411	8,909	3,564	5,555
Total assets.....	4,968	12,114	4,427	8,730
Long-term obligations, excluding current portion and deferred income taxes.....	15	762	18	689
Convertible preferred stock.....	5,247	17,981	5,831	17,981
Stockholders' deficit.....	(598)	(8,859)	(1,823)	(12,016)

SELECTED UNAUDITED PRO FORMA COMBINED FINANCIAL DATA

The information in the following selected unaudited pro forma combined financial data of CIENA and Omnia are derived from the unaudited pro forma condensed combined financial statements which are presented later in this prospectus and proxy statement and give effect to the merger as a pooling of interests. You should read this information in conjunction with the unaudited pro forma statements and relevant notes. We present the selected unaudited pro forma combined financial data for illustrative purposes only. This information is not necessarily indicative of the operating results or financial position that would have occurred if the merger had been consummated. In addition, it does not necessarily represent or predict future operating results or the financial position of the combined companies.

Since the fiscal years of CIENA and Omnia differ, the periods combined for purposes of the pro forma combined financial data are as follows giving effect to the merger as it had occurred at the beginning of each period presented:

CIENA -----	OMNIA -----
Fiscal year ended October 31, 1997	For the period from June 3, 1997 (date of inception) to December 31, 1997
Fiscal year ended October 31, 1998	Fiscal year ended December 31, 1998
Six months ended April 30, 1998 and 1999	Six months ended April 30, 1998 and 1999

For the year ended October 31, 1996, the unaudited pro forma financial data is the same as the consolidated financial data of CIENA as Omnia did not commence operations until June 3, 1997.

The six months ended April 30, 1998 and 1999 include two months of Omnia's financial results, which are also recorded in the fourth quarters and for the period from June 3, 1997 (date of inception) to December 31, 1997 and the year ended December 31, 1998. Omnia's net loss for the two months ended November and December 1997 and 1998 was \$614,000 and \$2,496,000, respectively.

CIENA AND OMNIA
SELECTED UNAUDITED PRO FORMA COMBINED FINANCIAL INFORMATION

	YEAR ENDED OCTOBER 31,			SIX MONTHS ENDED APRIL 30,	
	1996	1997	1998	1998	1999
	----- (IN THOUSANDS, EXCEPT PER SHARE DATA) -----				
PRO FORMA COMBINED STATEMENT OF OPERATIONS DATA:					
Revenue.....	\$88,463	\$413,215	\$508,087	\$287,810	\$211,907
Gross profit.....	41,148	246,743	252,073	164,915	74,891
Income (loss) before income taxes.....	20,816	188,056	81,900	93,975	(4,375)
Net income (loss).....	17,263	115,568	45,700	53,457	(2,866)
Basic net income (loss) per common share.....	\$ 1.25	\$ 1.48	\$ 0.38	\$ 0.48	\$ (0.02)
Diluted net income (loss) per common and dilutive potential common share.....	\$ 0.19	\$ 1.07	\$ 0.35	\$ 0.45	\$ (0.02)

APRIL 30,
1999

(IN THOUSANDS)

PRO FORMA COMBINED BALANCE SHEET DATA:	
Cash and cash equivalents.....	\$200,653
Working capital.....	400,770
Total assets.....	626,788
Long-term obligations, excluding current portion and deferred income taxes.....	4,350
Convertible preferred stock.....	--
Stockholders' equity.....	507,701

COMPARATIVE PER SHARE DATA
(UNAUDITED)

The following table summarizes certain per share information for CIENA and Omnia on a historical pro forma combined and equivalent pro forma combined basis. You should read the information below along with the selected consolidated financial data and the unaudited pro forma combined financial data included elsewhere in this prospectus and proxy statement. The pro forma combined financial data are not necessarily indicative of the operating results of future operations or the actual results that would have occurred had the merger occurred at the beginning of the periods presented.

	YEAR ENDED OCTOBER 31,			SIX MONTHS ENDED APRIL 30,	
	1996	1997	1998	1998	1999
HISTORICAL CIENA					
Basic net income per common share.....	\$1.25	\$1.53	\$0.46	\$0.53	\$0.02
Diluted net income per common and dilutive potential common share.....	\$0.19	\$1.11	\$0.44	\$0.50	\$0.01
Book value per share at period end (1).....			\$4.08		\$4.11

	YEAR ENDED DECEMBER 31,		SIX MONTHS ENDED APRIL 30,	
	1997	1998	1998 (2)	1999 (2)
HISTORICAL OMNIA				
Basic net income (loss) per common share.....	\$(0.32)	\$(1.28)	\$(0.38)	\$(0.93)
Diluted net income (loss) per common and dilutive potential common share.....	\$(0.32)	\$(1.28)	\$(0.38)	\$(0.93)
Book value per share at period end.....		\$(0.74)		\$(1.11)

	YEAR ENDED OCTOBER 31,			SIX MONTHS ENDED APRIL 30,	
	1996	1997	1998	1998	1999
PRO FORMA COMBINED CIENA (3)					
Basic net income (loss) per common share.....	\$1.25	\$1.48	\$0.38	\$0.48	\$(0.02)
Diluted net income (loss) per common and dilutive potential common share.....	\$0.19	\$1.07	\$0.35	\$0.45	\$(0.02)
Book value per share at period end (4).....			\$3.73		\$ 3.72

	YEAR ENDED OCTOBER 31,			SIX MONTHS ENDED APRIL 30,	
	1996	1997	1998	1998	1999
EQUIVALENT PRO FORMA COMBINED OMNIA (5)					
Basic net income (loss) per common share.....	\$1.14	\$1.35	\$0.35	\$0.44	\$(0.02)
Diluted net income (loss) per common and dilutive potential common share.....	\$0.17	\$0.97	\$0.32	\$0.41	\$(0.02)
Book value per share at period end.....			\$3.39		\$ 3.39

(1) Book value per share is computed by dividing total stockholders' equity by the number of shares outstanding at the end of October 31, 1998 and April 30, 1999.

(2) Omnia's financial results for the six months ended April 30, 1998 and 1999 include two months of Omnia's financial results, which are also recorded in the fourth quarters and for the period from June 3, 1997 (date of inception) to December 31, 1997 and the year ended December 31, 1998.

(3) The pro forma combined net income (loss) for the years ended October 31, 1996, 1997 and 1998 and the six months ended April 30, 1998 and 1999 include Omnia's net income (loss) for the period from June 3, 1997 (date of inception) to December 31, 1997, the year ended December 31, 1998 and the six months ended April 30, 1998 and 1999.

(4) CIENA pro forma combined book value per share is computed by dividing pro forma stockholders' equity by the pro forma number of shares of CIENA common stock which would have been outstanding had the merger been consummated as of each balance sheet date.

(5) Omnia equivalent pro forma combined amounts are calculated by multiplying the CIENA pro forma combined per share amounts and book value by the exchange ratio assuming the exchange ratio is 0.91 of a share of CIENA common stock for each share of Omnia common stock.

DIVIDENDS CIENA has never declared or paid a cash dividend with respect to its common stock and Omnia has never declared or paid a cash dividend with respect to the Omnia common stock or the Omnia preferred stock.

COMPARATIVE MARKET DATA

CIENA. CIENA common stock is, and the shares of CIENA common stock offered to Omnia stockholders are expected to be, listed on The Nasdaq Stock Market and traded under the symbol "CIEN." CIENA common stock has been quoted on The Nasdaq Stock Market since CIENA's initial public offering on February 7, 1997. Prior to February 7, 1997, no established public trading market for CIENA common stock existed. The following table sets forth the high and low sales price per share of CIENA common stock as reported by The Nasdaq Stock Market for the CIENA fiscal periods indicated.

	HIGH -----	LOW -----
1997		
Second Quarter (beginning February 7).....	\$44.00	\$22.25
Third Quarter.....	57.25	28.50
Fourth Quarter.....	63.63	43.00
1998		
First Quarter.....	63.56	47.44
Second Quarter.....	58.25	37.25
Third Quarter.....	92.38	46.88
Fourth Quarter.....	75.88	8.13
1999		
First Quarter.....	23.00	12.44
Second Quarter.....	29.25	16.63
Third Quarter (through June 9, 1999).....	34.13	22.69

On March 12, 1999, the last full trading day prior to the public announcement of the proposed merger, the closing price of CIENA common stock was \$26.813 per share. On June 9, 1999, the closing price of CIENA common stock was \$31.375 per share.

As of June 9, 1999, there were 1,126 holders of record of CIENA common stock.

OMNIA. There is no established public trading market for Omnia common stock or Omnia preferred stock.

COMPARISON. The following table shows (1) closing prices for CIENA common stock and (2) the estimated value of the CIENA common stock into which Omnia common and preferred stock is to be exchanged in the merger, on an equivalent per share basis calculated, as if the merger had occurred on the dates shown:

DATE	CIENA COMMON STOCK PRICE	NUMBER OF SHARES OF CIENA COMMON STOCK IN EXCHANGE FOR 100 SHARES OF:					
		OMNIA COMMON STOCK	CASH FOR FRACTIONAL SHARES	OMNIA SERIES A PREFERRED STOCK	CASH FOR FRACTIONAL SHARES	OMNIA SERIES B PREFERRED STOCK	CASH FOR FRACTIONAL SHARES
March 12, 1999.....	\$26.813	90	\$24.13	3	\$18.50	103	\$ 0.54
June 9, 1999.....	\$31.375	91	\$15.06	3	\$ 5.02	101	\$26.36

RISK FACTORS

You should carefully consider the following risk factors relating to the merger before you decide whether to vote to adopt the merger agreement and approve the merger. You should also consider the other information in this prospectus and proxy statement and the additional information in CIENA's other reports on file with the SEC and in the other documents incorporated by reference in this prospectus and proxy statement. See "Where You Can Find More Information" on page 68.

CIENA'S STOCK PRICE IS VOLATILE AND THE VALUE OF THE CIENA COMMON STOCK YOU RECEIVE IN THE MERGER WILL DEPEND ON ITS MARKET PRICE AT THE TIME OF THE MERGER, AND NO ADJUSTMENT WILL BE MADE IF THAT MARKET PRICE DECLINES.

Fluctuations in the market price of CIENA common stock will affect the value of the CIENA common stock you receive in the merger. The market price of CIENA common stock is extremely volatile and has fluctuated over a wide range. For example, from February 7, 1997 to June 9, 1999, the CIENA common stock traded as high as \$92.38 per share and as low as \$8.13 per share. The market price may continue to fluctuate significantly in response to various factors, including:

- significant near-term dilutive effects on CIENA's earnings per share resulting from the Lightera merger and this proposed merger
- quarterly variations in operating results or growth rates
- changes in estimates by securities analysts
- market conditions in the industry
- announcements and actions by competitors
- regulatory and judicial actions
- general economic conditions
- adverse developments in the pending securities class action lawsuit against CIENA

CIENA MAY NOT BE ABLE SUCCESSFULLY TO INTEGRATE OMNIA INTO ITS OPERATIONS.

The integration of Omnia into CIENA's operations involves a number of risks. The recent acquisition of Lightera Networks by CIENA poses similar risks, and the nearly concurrent integration efforts for these two acquisitions will complicate and compound these risks.

Failure to overcome these risks or any other problems encountered in connection with the merger or other similar transactions could have a material adverse effect on CIENA's business, results of operations and financial condition. In connection with similar transactions, CIENA may also issue additional equity securities, incur additional debt or incur significant amortization expenses related to goodwill and other intangible assets.

SIGNIFICANT MERGER-RELATED CHARGES AGAINST EARNINGS WILL REDUCE CIENA'S EARNINGS IN THE QUARTER IN WHICH WE CONSUMMATE THE MERGER AND DURING THE POST-MERGER INTEGRATION PERIOD.

We expect to incur charges of approximately \$10.6 million in connection with the merger. Of the \$10.6 million, \$7.9 million is a non-cash charge that relates to the acceleration of warrants based upon CIENA's common stock price on March 12, 1999 and \$2.7 million relates to fees, legal and accounting services and other integration costs. Some of these nonrecurring costs will be charged to operations in the fiscal quarter in which the merger is consummated while others will be expensed as incurred during the post-merger integration period. The Unaudited Pro Forma Combined Balance Sheet reflects these estimated transaction costs, of which the \$7.9 million related to the acceleration of warrants is shown net of tax and as if those costs were incurred as of April 30, 1999, but the effects of these costs are not reflected in the Unaudited Pro Forma Combined Statements of Operations. We could also incur other additional unanticipated merger costs.

SHAREHOLDERS MAY BE LIABLE FOR MERGER EXPENSES.

If Omnia's merger expenses are greater than \$1,000,000, Omnia stockholders must pay the excess amount. As of May 21, 1999, merger expenses were estimated to be \$950,000.00. If the merger is not approved, Omnia will pay all of its merger expenses.

OUR RESULTS CAN BE UNPREDICTABLE.

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

- timing and size of orders
- satisfaction of contractual customer acceptance criteria
- shipment delays and deferrals

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

Additionally, Lightera and Omnia have ongoing development and operating expenses but are not expected to contribute materially to revenues until calendar 2000.

WE FACE INTENSE COMPETITION WHICH COULD HURT OUR SALES AND PROFITABILITY.

A small number of very large companies have historically dominated our industry including Lucent, Alcatel, Nortel, NEC, Pirelli, Siemens, Ericsson, Fujitsu, and Hitachi. These companies have substantial financial, marketing and intellectual property resources. We sell systems which displace their legacy equipment, which represents a specific threat to these companies. Our acquisitions of Lightera and Omnia may increase this perceived threat. We expect continued aggressive tactics from many of these competitors such as:

- Substantial price discounting
- Early announcements of competing products
- "One-stop shopping" appeals
- Customer financing assistance
- Intellectual property disputes

These tactics can be particularly effective in a highly concentrated customer base such as ours.

Sprint, a significant customer of ours, has long indicated that it intends to establish a second vendor for DWDM products. We don't know when Sprint will select a second vendor or what impact the selection might have on Sprint's purchases from us. Sprint could reduce its purchases from us, which could in turn have a material adverse effect on us.

New competitors may also emerge to compete with our existing products as well as our future products.

DELAYS IN THE DEPLOYMENT OF NEW PRODUCTS COULD HURT OUR NEAR TERM PROSPECTS.

If we fail to deploy new and improved products, our competitive position and financial condition would be materially and adversely affected.

The certification process for new telecommunications equipment used in RBOC networks, which is a process traditionally conducted by Telcordia Technologies, has in the past resulted in and may continue to result in unanticipated delays which may affect the deployment of our products for the RBOC market.

In order to meet our delivery commitments for our newest products, we will need to finalize component sourcing, which we have not yet completed. Any delays in deployment could result in delays in recognizing revenues and, ultimately, could adversely affect our customer relationships.

SMALLER CUSTOMERS MAY INCREASE FLUCTUATION IN OUR RESULTS.

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

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

OUR PROSPECTS DEPEND ON DEMAND FOR BANDWIDTH WHICH WE CANNOT PREDICT OR CONTROL.

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

Our products enable high capacity transmission over long distance, and certain short-haul portions, of optical communications networks. Our Core Director switching products are targeted to high capacity applications. Customers, however, determine:

- the quantity of bandwidth needed
- the timing of its deployment, and
- the equipment configurations and network architectures they want.

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

OUR SUCCESS LARGELY DEPENDS ON OUR ABILITY TO RETAIN KEY PERSONNEL.

Our success has always depended in large part on our ability to attract and retain highly-skilled technical, managerial, sales and marketing personnel, particularly those skilled and experienced with optical communications equipment. As CIENA has grown and matured, competitors' efforts to entice our employees to leave have intensified, particularly among competitive startups and other early stage companies seeking to replicate CIENA's experience. CIENA and its employees are parties to agreements that limit the employee's ability to work for a competitor following termination of employment. We expect our competitors will respect these agreements and not interfere with them. But we can make no assurances of that, or that we will be able to retain all of our key contributors or attract new personnel to add to or replace them. The loss of key personnel would likely have a material adverse effect on our business, financial condition and results of operations.

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

We depend on a small number of suppliers for key components of our products, as well as equipment used to manufacture our products. Our highest capacity product currently being shipped, the MultiWave Sentry which is capable of 96-channel configurations, includes several higher performance components for which reliable, high volume suppliers are particularly limited. On occasion, we have experienced delays in receipt of key components. Any future difficulty in obtaining sufficient and timely delivery of them could result in delays or reductions in product shipments which, in turn, could have a material adverse effect on our business, financial condition and results of operations. Uniphase Corporation and JDS FITEL, Inc., both of which are significant suppliers to CIENA, recently announced a planned merger. If this merger and related integration activities result in

delayed deliveries of key components from either of these sources, those delays could have a material adverse effect on CIENA's near-term results of operations.

PRODUCT PERFORMANCE PROBLEMS COULD LIMIT OUR SALES PROSPECTS.

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

- manufacturing rework costs
- high service and warranty expense
- high levels of product returns
- delays in collecting accounts receivable
- reduced orders from existing customers, and
- declining interest from potential customers

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

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

INVESTMENT IN NEW COMPANIES AND CHANGES IN TECHNOLOGY COULD RESULT IN MORE COMPETITION.

We may not be able to successfully anticipate changes in technology, industry standards, customer requirements and product offerings, yet our ability to develop and introduce new and enhanced products will impact our position as a leader in the deployment of high-capacity solutions. The accelerating pace of deregulation in the telecommunications industry will likely intensify the competition for improved technology. Many of our competitors have substantially greater financial, technical and marketing resources and manufacturing capacity with which to develop or acquire new technologies. There has been an increase in the funding of new companies intending to develop new products for the rapidly evolving telecom industry. These companies have time-to-market advantages due to the narrow and exclusive focus of their efforts. New companies may provide additional competition for our existing product lines as well as potential future products. The introduction of new products embodying new technologies or the emergence of new industry standards could render our existing products uncompetitive from a pricing standpoint, obsolete or unmarketable. Any of these outcomes would have a material adverse effect on our business, financial condition and results of operations.

LEGAL PROCEEDINGS COULD HAVE AN ADVERSE EFFECT ON OUR BUSINESS.

In August 1998, shareholder class action lawsuits were filed against us and certain of our officers and directors. We believe the lawsuits, now consolidated into one, are without merit and are defending vigorously against them. However, because the consolidated lawsuit is at an early stage, it is not possible to predict the outcome at this time. If decided adversely to CIENA, however, it could have a material adverse effect on our financial condition and results of operations.

SOME OF OUR SUPPLIERS ARE ALSO OUR COMPETITORS.

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

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

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

WE MAY NOT BE ABLE TO SUCCESSFULLY COMPLETE DEVELOPMENT AND ACHIEVE COMMERCIAL ACCEPTANCE OF LIGHTERA AND OMNIA PRODUCTS.

Both Lightera and Omnia's products are in the laboratory testing phase but the products have not matured into commercially manufacturable units suitable for field deployment. We expect that field deployable units of Omnia's products will be available in the second half of calendar 1999, and Lightera's products by the end of the first quarter of calendar 2000. The maturing process from laboratory prototype to commercial acceptance involves a number of steps, including:

- successful completion of product development
- the qualification and multiple sourcing of critical components, including application-specific integrated circuits ("ASIC's") which are not yet finalized
- validation of manufacturing methods
- extensive quality assurance and reliability testing, and staffing of testing infrastructure
- software validation
- establishment of systems integration and burn in requirements, and
- identification and qualification of component suppliers

Each of these steps in turn presents serious risks of failure, rework or delay, any one of which could materially and adversely affect the speed and scope of product introduction and marketplace acceptance of the products. Specialized ASIC's, in particular, are key to the timely introduction of Lightera's and Omnia's products, and schedule delays are common in the final testing and manufacture of such components. In addition, unexpected intellectual property disputes, failure of critical design elements, and a host of other execution risks may delay or even prevent the introduction of these products. Commercial acceptance of the products is also not established, and there is no assurance that the substantial sales and marketing efforts necessary to achieve commercial acceptance in traditionally long sales cycles will be successful.

WE MAY NOT BE ABLE TO RETAIN KEY EMPLOYEES OF LIGHTERA AND OMNIA.

Because of the high valuation we placed on Lightera and Omnia, their key founders and employees have received or will receive a substantial number of CIENA shares and can sell these shares at substantial gains. In many cases, these individuals could become financially independent through these sales, before the products of either company have fully matured into commercially deliverable products commanding reasonable market share. Additionally, startup and other companies will seek out these individuals due to the financial result they have achieved for their investors. Under the circumstances, we face a difficult and significant task of retaining and motivating the key personnel of both companies to stay committed to us. We do not have employment contracts with these personnel. We may not be successful in retaining them.

WE EXPECT THAT OUR ACQUISITIONS OF LIGHTERA AND OMNIA WILL MAKE OUR STOCK PRICE MORE VOLATILE.

Both Lightera and Omnia are still completing their respective development stages, and we do not expect either of them to generate any revenue or earnings for at least several months. As a result, we expect to report approximately breakeven results of operations, and may report operating losses, for the balance of the fiscal year. Under these circumstances, we can expect significant volatility over the next

several quarters as investors make judgments as to our relative progress in:

- bringing the Lightera and Omnia products to market
- integrating the two companies
- managing retention issues, and
- generally executing on the strategic vision.

Additionally, the shares issued to Lightera shareholders are likely to become eligible for sale without restriction in June 1999 and the vast majority of shares issued in this transaction are likely to become eligible for sale without restriction in late August 1999. Together, these shares will account for approximately 25% of the outstanding shares of CIENA. If a large portion of these shares are sold immediately or soon after they are eligible for sale, the stock price may experience further volatility and may decline.

FORWARD-LOOKING STATEMENTS

Some of the statements contained, or incorporated by reference, in this prospectus and proxy statement discuss future expectations, contain projections of results of operations or financial condition or state other "forward-looking" information. Those statements are subject to known and unknown risks, uncertainties and other factors that could cause the actual results to differ materially from those contemplated by the statements. The "forward-looking" information is based on various factors and was derived using numerous assumptions. In some cases, you can identify these so-called "forward-looking statements" by words like "may," "will," "should," "expects," "plans," "anticipates," "believes," "estimates," "predicts," "potential," or "continue" or the negative of those words and other comparable words. You should be aware that those statements only reflect our predictions. Actual events or results may differ substantially. Important factors that could cause our actual results to be materially different from the forward-looking statements are disclosed under the heading "Risk Factors" and throughout this prospectus and proxy statement.

OMNIA SPECIAL MEETING

GENERAL

This proxy statement and prospectus is being furnished to holders of Omnia stock in connection with the solicitation of proxies by the Omnia board for use at the Omnia special meeting to be held on July 1, 1999 at the offices of Hale and Dorr LLP, 60 State Street, Boston, Massachusetts 02109 commencing at 10:00 a.m., local time, and at any adjournment or postponement of the meeting.

This proxy statement and prospectus and the accompanying forms of proxy are first being mailed to stockholders of Omnia on or about June 10, 1999.

MATTERS TO BE CONSIDERED

At the Omnia special meeting, Omnia stockholders will be asked to adopt the merger agreement, approve the merger and appoint Robi L. Soni as Stockholder Representative under the escrow agreement referred to in the merger agreement, and to approve such other matters as may properly be brought before the meeting.

BOARD OF DIRECTORS' RECOMMENDATION

The Omnia board has unanimously approved the merger agreement and recommends a vote FOR approval and adoption of the merger agreement and the related appointment of Robi L. Soni as Stockholder Representative.

RECORD DATE AND VOTE REQUIRED

The Omnia board has fixed June 9, 1999 as the record date for determining the holders of Omnia stock who are entitled to notice of and to vote at the special meeting. As of the close of business on the record date, there were 12,142,790 shares of common stock, 5,890,000 shares of Series A preferred stock and 3,738,462 shares of Series B preferred stock outstanding and entitled to vote. The holders of common stock are entitled to cast one vote for each share of common stock they hold on each matter submitted to a vote at the special meeting. Except as described below, the holders of Series A preferred stock are not entitled to vote. The holders of Series B preferred stock are entitled to cast one vote for each share of common stock into which their Series B preferred stock could then be converted on each matter submitted to a vote at the special meeting. The presence in person or by proxy of the holders of a majority of the shares of Omnia stock entitled to vote is necessary to constitute a quorum for the transaction of business at the special meeting. Under the Delaware corporation statute, the affirmative vote of at least a majority of the outstanding shares of Omnia stock is required for the adoption of the merger agreement. In addition, the affirmative vote of

the holders of at least two-thirds of the outstanding shares of Series A preferred stock and Series B preferred stock is required for adoption of the merger agreement pursuant to Omnia's certificate of incorporation. If a stockholder abstains from voting, that abstention will have the practical effect of voting against the adoption of the merger agreement.

As of the record date, 9,026,112 (approximately 74.3%) of the outstanding shares of common stock, 4,696,000 (approximately 79.7%) of the outstanding shares of Series A preferred stock and 3,317,257 (approximately 88.7%) of the outstanding shares of Series B preferred stock were beneficially owned by directors and executive officers of Omnia and their affiliates. All of the directors and executive officers have signed voting agreements requiring them to vote all of their shares in favor of the adoption of the merger agreement. Consequently, adoption of the merger agreement and approval of the merger is assured.

PROXIES

This proxy statement and prospectus is being furnished to Omnia stockholders in connection with the solicitation of proxies by the Omnia board for use at the Omnia special meeting, and is accompanied by a form of proxy.

All shares of Omnia stock that are entitled to vote and are represented at the Omnia special meeting by properly executed proxies received prior to or at the meeting, and not revoked, will be voted at the meeting in accordance with the instructions indicated on the proxies. If no instructions are so indicated, the proxies will be voted for approval and adoption of the merger agreement, except for proxies submitted by record holders of shares of Omnia stock who indicate that they have not received voting instructions from the beneficial holders of those shares.

If any other matters are properly presented for consideration at the Omnia special meeting, the persons named in the enclosed form of proxy will have the discretion to vote on those matters using their best judgment. Additional matters which may come before the meeting include consideration of a motion to adjourn the meeting to another time and/or place, which may be necessary for the purpose of soliciting additional proxies from Omnia stockholders. The proxy holders will not adjourn the meeting if there are insufficient votes to approve the proposals at the date of the meeting.

Any person who gives a proxy may revoke it at any time before it is voted. To revoke a proxy, you must (1) submit a later dated proxy with respect to the same shares at any time prior to the vote on the adoption of the merger agreement, (2) deliver written notice of revocation to the Secretary of Omnia at any time prior to the vote or (3) attend the special meeting and vote in person. Your attendance at the special meeting alone is not sufficient to revoke a proxy.

Omnia will bear all expenses of its solicitation of proxies, including the cost of mailing this proxy statement and prospectus. In addition to solicitation by mail, directors, officers and employees of Omnia may solicit proxies in person or by telephone, fax or other means of communication. These directors, officers and employees will not receive additional compensation. However, they may be reimbursed for reasonable out-of-pocket expenses that they incur in connection with this solicitation.

OMNIA STOCKHOLDERS SHOULD NOT SEND ANY STOCK CERTIFICATES WITH THEIR PROXY CARDS.

THE MERGER

GENERAL

The Boards of Directors of CIENA and Omnia have each approved the merger agreement, which provides for the merger of Omnia with and into CIENA, with CIENA being the surviving corporation of the merger. Each share of Omnia common stock, Omnia Series A preferred stock and Omnia Series B preferred stock outstanding immediately prior to the merger will be converted into the right to receive shares of CIENA common stock. The shares of Omnia common stock and Omnia preferred stock will be converted into a number of shares of CIENA common stock using formulas specified in the merger agreement, as described under "Terms of the Merger Agreement -- Conversion and Exchange of Shares." Fractional shares of CIENA common stock will not be issued in connection with the merger, and Omnia stockholders otherwise entitled to a fractional share will be paid in cash for each fractional share, in the manner described under "Terms of the Merger Agreement -- Exchange of Certificates and Fractional Shares."

BACKGROUND OF THE MERGER

CHRONOLOGY OF THE NEGOTIATIONS

CIENA is regularly involved in the review of private companies developing products that are generally relevant to ongoing changes in telecommunications networks, including increasing requirements for new, high-bandwidth capabilities and the shift from circuit-oriented technologies to cell and packet technologies.

In October 1997, CIENA was made aware of Omnia by Michael Zak, a CIENA director who was then an Omnia director and who is affiliated with Charles River Partnerships, an investor in Omnia. CIENA corporate development officials met with Omnia's founders to discuss possible joint product development activities, but CIENA determined that Omnia's development was too early for CIENA to pursue a further relationship at that time.

On January 8, 1999, the board of directors of CIENA met with its management to discuss corporate strategy. This was the first board session devoted exclusively to corporate strategy following the termination of CIENA's planned merger with Tellabs, Inc., which was terminated in September 1998. They assessed a variety of strategic alternatives. The board recommended further refinement of CIENA's foundational strategy for continuing stand alone operations; and also approved management's review and investigation of complementary technologies for further development of CIENA in order to broaden its product and customer base.

On January 18, 1999, management of CIENA met in an off-site meeting to review a number of early stage companies that CIENA's corporate development group had identified as working on products or technologies believed to be complementary to CIENA's. Omnia and Lightera Networks, Inc. were among the identified companies. After discussion, management agreed that Omnia and Lightera appeared to offer the most potential for synergistic fit.

On February 9, 1999, representatives of CIENA's strategy and corporate development team met with representatives of Omnia. The meeting included an overview of Omnia and its planned products. They also discussed the applicability of the Omnia product as a complementary "front end" to CIENA's MultiWave Metro product.

On February 15, 1999, CIENA management met at an off-site meeting and reviewed the preliminary impressions of the strategy and corporate development team which had met with Omnia. Management agreed that further discussions with Omnia and Lightera would be worth pursuing. CIENA noted that both companies intended or appeared likely to undertake initial public offerings within the next 12 to 18 months, and that CIENA's acquisition proposals would be compared against possible future IPO valuations, as well as possible alternative acquisition proposals.

On February 15, 1999, CIENA's President and Chief Executive Officer Patrick Nettles spoke with Omnia's President and Chief Executive Officer, Michael Champa, by telephone and invited Mr. Champa to meet with him on February 17, 1999 at CIENA. The outline of possible terms of an acquisition offer were discussed.

On the morning of February 17, 1999, at a regularly scheduled meeting of CIENA's board of directors, the board approved the formation of a Special Independent Committee to evaluate and make recommendations with respect to any specific proposals for the acquisition of either Omnia or Lightera. The Committee was formed in recognition that Michael Zak, a director of CIENA, was a former director of Omnia and is a general partner in the Charles River partnerships, which had invested in Omnia; and H. Berry Cash, a director of CIENA, is a general partner in the InterWest venture capital funds, which had invested in Lightera. The Special Independent Committee consisted of Patrick Nettles, Stephen Bradley and Billy Oliver.

In the afternoon of February 17, 1999, Mr. Champa and Omnia's Chief Financial Officer, Lawrence Harding, met at CIENA's offices with Mr. Nettles, CIENA's Chief Financial Officer, Joe Chinnici, and other CIENA officials and discussed the possibility of combining the two companies.

On February 18, 1999, G. Eric Georgatos, CIENA's Senior Vice President, Secretary, and General Counsel provided a proposed term sheet to Omnia.

On February 19, 1999, Mr. Champa telephoned Mr. Nettles to indicate that the Omnia management had reviewed the term sheet, and requested a teleconference for the next day with others from the management teams of CIENA and Omnia.

On February 20, 1999, a teleconference took place between various representatives of Omnia and CIENA, who agreed that CIENA would submit a modified term sheet to Omnia which could be discussed at Omnia's regularly scheduled Board Meeting on February 24, 1999. Later that afternoon, Mr. Georgatos provided the modified term sheet to Omnia.

On February 24, 1999, Omnia's Board of Directors met at a regularly scheduled meeting, and the Board authorized management to initiate due diligence discussions with members of CIENA's management. No term sheet was signed by either party.

On February 22 and 24, 1999, Mr. Nettles and Mr. Champa spoke further by telephone.

During the week of March 1, 1999, CIENA representatives met for two days with representatives of Omnia at Omnia's offices. The CIENA representatives focused on an in-depth analysis of the technical and development status of Omnia's products, and plans for product rollout.

On March 2, 1999, Mr. Nettles met jointly with Mr. Champa and the chief executive officer of Lightera at a financial conference in Santa Barbara, California. Discussion topics included issues relating to the "fit" of culture, organization, and vision among the three companies.

On March 4, 1999, a due diligence team from Omnia visited CIENA's offices. The team focused on current financial results and examined the prospects for future growth.

On March 5, 1999, the Special Independent Committee of the CIENA board of directors met to receive due diligence reports from management and preliminary assessments of the proposed Omnia and Lightera transactions.

On March 6, 1999, Mr. Champa met with Mr. Nettles to discuss issues relating to the proposed transaction.

During the week of March 8, due diligence and negotiation of definitive merger agreements took place through multiple telephone conference calls between CIENA and Omnia, and between their respective counsels. At the same time, CIENA conducted similar negotiations with Lightera.

On March 10, 1999, the Special Independent Committee of the CIENA board of directors met to receive further results of due diligence efforts from management and information from CIENA's representatives regarding the Lightera and Omnia acquisition proposals. The Committee unanimously voted to recommend approval of both acquisitions to the full board.

On March 11, 1999, the board of directors of CIENA met to discuss the proposed acquisitions. Management presented detailed information regarding the perceived strategic fit of the two companies, the due diligence assessments, and remaining issues to be negotiated or addressed prior to execution of definitive merger agreements. Outside counsel to CIENA advised the CIENA board with respect to the structure and material terms of the proposed acquisitions, as well as legal requirements with respect to considering and voting upon interested director transactions. The Special Independent Committee reported on its unanimous recommendation that CIENA proceed with the two acquisitions. The board informally endorsed continuing with the negotiations.

The board of directors of Omnia met on February 24, 1999, March 5, 1999, March 6, 1999, March 11, 1999, March 13, 1999 and March 14, 1999 to discuss the proposed merger. At each meeting, the Omnia board reviewed with Omnia management information regarding the perceived strategic fit of the two companies, the consideration to be received by Omnia stockholders in the merger, and remaining issues to be negotiated or addressed prior to execution of the merger agreement. The Omnia board also considered Omnia management's belief that CIENA would meet publicly available consensus securities analyst expectations for fiscal 1999. Outside counsel to Omnia advised the Omnia board with respect to the structure and material terms of the proposed merger. At each meeting, the Omnia board informally endorsed continuing with the negotiations. The Omnia board unanimously approved the merger on March 14, 1999.

On March 14, 1999, the CIENA board of directors met to receive final due diligence reports from management. The Board of Directors unanimously approved each transaction, with Mr. Zak abstaining on the vote with respect to the Omnia transaction, and Mr. Cash abstaining on the vote with respect to the Lightera transaction. On March 15, 1999, the definitive agreements were executed on both transactions, and they were publicly announced early in the morning of March 15, 1999.

On March 31, 1999, CIENA's acquisition of Lightera was completed.

CIENA'S REASONS FOR THE MERGER

IN THE CONTEXT OF PRODUCT STRATEGY

CIENA has experienced very rapid growth during its three year operating history. CIENA's growth was driven by the fact that CIENA was first to market with high capacity, open architecture DWDM systems at a time when telecommunications traffic was just starting to experience substantial and accelerating demand for capacity over the long distance backbone of fiberoptic networks. The long distance backbone appeared to be the first and most significant chokepoint in the networks that resulted from the surging demand for capacity, which was primarily the result of increasing data/ Internet traffic. CIENA, along with many other industry observers, believed that the chokepoints of fiberoptic networks would logically next be experienced farther out toward the edges of the network, in local exchange markets, access markets, and, ultimately, through "the last mile" to the end user.

Apart from efforts to enhance and refine its long distance DWDM product line, CIENA primarily focused its product development efforts through fiscal 1998 on adapting its DWDM technology beyond the long distance transport market. CIENA's introduction of MultiWave Firefly(TM), for point-to-point short haul applications and MultiWave Metro, for metropolitan and local access applications, were the outgrowth of these efforts. CIENA has long recognized, however, that providing substantial amounts of bandwidth over various transport distances represented only a partial solution to customer needs. The larger need, unaddressed by DWDM transport systems alone, is to manage that bandwidth efficiently within the network, and ultimately deliver it cost-effectively

throughout the network and to end users. In short, there is a need to achieve more of the potential of "intelligent optical networking".

CIENA believes the completed acquisition of Lightera and the proposed acquisition of Omnia will enable it to address this larger customer need with state-of-the-art, innovative solutions which are significantly more cost-effective for customers than existing equipment.

IN THE CONTEXT OF CORPORATE HISTORY AND STRATEGY

Approximately a year ago, senior management of CIENA met to address CIENA's strategic direction and alternatives. They examined and discussed in detail industry trends, customer feedback and data, and selected competitor activities. Some of the important conclusions they reached were:

- Cost-effective solutions for transporting and managing the bandwidth in customer networks are increasingly critical, particularly as data traffic begins to dominate voice traffic;
- Solutions will not necessarily be dependent on the existing telecommunications infrastructure that was built and optimized for voice traffic;
- Depending on the customer, both "evolutionary" and "revolutionary" approaches will be taken to meet the network bandwidth requirements -- for example, among traditional industry participants, movement toward innovative data services will likely be more evolutionary, building on the existing "CLASS V" infrastructure that is the foundation for the existing voice network, while new, emerging carriers, such as Competitive Local Exchange Carriers (CLECs), will quickly build innovative, revolutionary new data networks, which have cost-efficiencies and flexibility that will serve as a catalyst to more traditional players to move their networks toward a more data-centric model; and
- CIENA's optical networking expertise and market position should have sustained value under either evolutionary or revolutionary scenarios, and could shape the industry. However, it would be difficult to sustain the value and achieve the ability to influence the industry as a stand alone company with a single product line.

In the face of these conclusions, and the trend of the intensely competitive telecommunications equipment provider industry toward rapid consolidation, CIENA's senior management discussed a number of potential business combinations. Although the management team endorsed no single combination at these early meetings, the team uniformly concluded that a combination could enable CIENA to position itself better to compete in such an environment.

Subsequently, CIENA was approached by Tellabs, Inc., a major provider of telecommunications equipment, to consider a possible merger. CIENA's Board determined that this proposal was consistent with CIENA's strategic assessment.

A proposed merger with Tellabs, Inc. was announced on June 3, 1998, but was later terminated for reasons and under circumstances disclosed in CIENA's prior public reports.

Following termination of the merger with Tellabs, CIENA's operating plan was to:

- accelerate efforts to drive cost out of the existing and planned products;
- aggressively manage inventories; and
- focus sales efforts on the entrepreneurial new carriers.

CIENA was not then seeking acquisitions nor was it seeking to be acquired.

By December 1998, CIENA had further broadened its customer base, and had shown modest sequential revenue growth from the fourth fiscal quarter of 1998 to the first fiscal quarter of 1999. Visibility beyond the second fiscal quarter of 1999 was, consistent with past experience, more limited, but the overall sense of worldwide demand for additional bandwidth was also encouraging.

CIENA's first quarter results, recent customer contracts in Europe and Japan, as well as rumors of design and operating problems with competing DWDM products, were restoring CIENA's competitive profile, and appeared to be restoring investor confidence in CIENA, as reflected in a partial recovery of CIENA's stock price.

Further strategy sessions of CIENA management and its board in January and February 1999 focused on growing CIENA through targeted acquisitions which would broaden its technology base and product offerings. Reinforcing this strategy was a concern within CIENA's product development organization that the volume of projects was jeopardizing CIENA's commitment to maintain its reputation as a leader in time-to-market execution on new products.

CIENA investigated a number of other target companies in January and February, focusing on smaller companies with engineering teams and/or products, in various stages of development, that would complement and thereby strengthen its engineering resources and existing product line. Lightera Networks and Omnia Communications emerged as the two best strategic "fits". CIENA completed the acquisition of Lightera on March 31, 1999.

THE STRATEGIC FIT

Omnia has an access concentrator product, the AXR 500, in laboratory test which CIENA believes is valuable, not only as a "best of breed" product for the local exchange market applications for which it was designed, but also as a "front end" to CIENA's MultiWave Metro interoffice ring-based transport product. Omnia also has a complementary product to the AXR 500, called the AXR 300, in the design phase of development.

Omnia has devoted approximately \$10.05 million to the development of the AXR 500. CIENA does not expect that expenses necessary to bring the initial version of the AXR 500 to commercial introduction will be material to CIENA. To date, expenses incurred in the development of the AXR 300 have not been material. CIENA does not expect to recognize significant revenues from sales of either the AXR 500 or AXR 300 during fiscal 1999. Omnia expects to introduce commercially the AXR 500 in June 1999. There is no assurance that either the AXR 500 or AXR 300 will be commercially introduced, or generate significant revenues.

Omnia's planned products are intended to replace a number of distinct devices in current use, including SONET add/drop multiplexers, channel bank equipment and edge routers, with an integrated solution for delivering metropolitan business services. These service applications range from traditional telephone service to high-bandwidth private line connections to fully routed internet connections. Omnia's planned product line incorporates capabilities for grooming these services to use the network resources effectively. The result can be a substantial reduction in the cost of provisioning, as well as a reduction in operational costs for, a wide variety of business services for either incumbent or emerging local exchange carriers. Omnia's planned product line offers flexibility to change service provisioning from time to time remotely. By employing an ATM fabric in the metropolitan ring, Omnia's product line utilizes statistical multiplexing to reduce further the cost of delivering these services. This results in a significant economic advantage for carriers, especially valuable in handling the growing range of high-bandwidth applications for business applications.

Early market reactions to MultiWave Metro have been positive for interoffice and collector ring applications for the RBOCs and CLECS, but the larger market opportunity is believed to exist nearer the network edge, i.e., in feeder ring applications. However, the initial release of Metro requires feeds at line rates that are often higher than the predominant feeds in use today. Because of this limitation, the initial release of MultiWave Metro appears optimized for the high-end, narrower portion of the potential market.

The Omnia product offers an opportunity to broaden significantly the applications of CIENA's MultiWave Metro. Omnia's access concentrator product is equipped to accept feeds of DS-3, T-1,

down to DS-0, to provide routing for wide-area networking and internet connections, and can statistically multiplex these inputs up to speeds Metro can accept. CIENA believes that combining the Omnia access concentrator at the front end of Metro will enhance the commercial attractiveness of both products and differentiate them from competitive offerings which, to CIENA's knowledge, do not deliver these capabilities.

CIENA believes the combination of Omnia with CIENA, including the potential optical switching capability from the recent Lightera acquisition, will create a powerful and immediate new player in the telecom equipment supply industry, with the capability of offering intelligent optical networking, i.e., transporting, managing and delivering substantial and flexible bandwidth throughout most of the network, to customers worldwide, utilizing "best of breed" products designed for the high capacity network of the future.

ADDITIONAL REASONS FOR THE MERGER

The strategic fit described above represents the principal rationale for the acquisition. However, the following factors, each of which CIENA took into account in evaluating the proposed merger, also support this rationale and enhance the likelihood of achieving the full potential of the combination:

- CUSTOMER INTEREST. Due diligence indicated that prospective customers of Omnia, who were also customers or target customers of CIENA, were likely to be very interested in the products of Omnia. Further, CIENA's sales and marketing efforts had indicated significant potential to acquire customers interested in the more comprehensive "intelligent optical networking" solution that would be made possible by the combination.
- CULTURAL SIMILARITY. CIENA and Omnia share a common heritage as entrepreneurial startups. As such, the personnel at these companies appear to share a common appreciation for decisive action, minimal bureaucracy and red tape, and a willingness to take on difficult problems from a fresh perspective. CIENA believes that this could result in fewer integration challenges than would be expected for organizations with dissimilar cultural values.
- SHARED VISION. Though the Lightera/CIENA and Omnia/CIENA transactions were independent of one another, they were negotiated simultaneously, with each party having knowledge that both were possible. This factor ultimately did not deter but encouraged the final outcome of each negotiation, as the management teams of all three companies recognized and subscribed to the larger strategic vision enabled by the two transactions. CIENA believes this shared vision, and the commitment to bring it to fruition, will be helpful to the retention of key employees of the combined companies.
- EXECUTION SYNERGIES. As a development stage company which CIENA believes is rapidly approaching completion of "beta" level products, the critical challenge facing Omnia is execution: the task of bringing new products to design completion, commercial manufacturability, with timely delivery, superior reliability, and effective customer support for installation and technical service. CIENA believes it has been successful in handling similar execution risk with its DWDM product line, and this recent experience is adaptable and relevant to the execution risks facing Omnia.
- WORLD CLASS ENGINEERING TEAMS. Due diligence efforts convinced CIENA's management team that the engineering team at Omnia was world class in quality, and would add significantly to the resources of CIENA and its ability to continue to innovate and rapidly bring new products to market.

In reaching its decision to approve the acquisition of Omnia, the CIENA board also considered, in addition to other matters, the following factors that may be relevant to Omnia stockholders:

- The effect on CIENA stockholder value of the recent Lightera and pending Omnia acquisitions, in light of the financial condition and prospects of CIENA and the current economic and industry environment. In particular, the CIENA board discussed the near-term significant earnings dilution represented by the prices being paid for the two development stage companies, and contrasted that dilution with the substantial expansion of the addressable markets enabled by the acquisitions. The board concluded the renewed growth potential for the combined companies justified the near term dilution, and further concluded that the risks to CIENA stockholder value of taking no action were greater than proceeding with the two acquisitions;
- The execution risks facing both Lightera and Omnia in bringing new products to market in an increasingly competitive industry, and the possibility that if the integration of the businesses and management teams of CIENA, Lightera and Omnia did not proceed as planned, the desired synergies would not be achieved, and the execution risk would not be overcome. The Board recognized this risk as significant, but believed that the management teams of each company would respond well to the challenge;
- The impact of the merger on CIENA's employees, and on the employees of Lightera and Omnia. The board discussed the risks of retaining the key technical, marketing and management personnel of Lightera, Omnia and CIENA in view of the prices being paid for the two companies, the partial acceleration of stock vesting, and the liquidity potentially available to the two companies' employees, and contrasted those risks with the efforts planned for integrating the two companies. The board concluded that the risks were significant but acceptable; and the exciting potential of the combined company, as well as the remaining vesting requirements applicable to the equity participation of the two companies' employees, would likely create meaningful incentive for retention;
- The business risks associated with increased competition in the telecommunications equipment supply industry, and the likelihood of vigorous competitive response to the two acquisitions. While challenging, the CIENA board concluded that these factors would not be likely to blunt the significant economic advantages offered by the combined enterprise; and
- The terms and conditions of the Omnia merger agreement, including the limited conditions to closing. The CIENA board felt that the limited conditions were in CIENA's best interest because they enhanced the likelihood of accomplishing the acquisitions, thereby providing CIENA with the strategic benefits outlined above.

RECOMMENDATION OF THE OMNIA BOARD OF DIRECTORS

The Omnia board has unanimously determined that the terms of the merger agreement and the merger are fair to, and in the best interests of, Omnia and the Omnia stockholders. Accordingly, the Omnia board has unanimously approved the merger agreement and unanimously recommends that the Omnia stockholders vote for the approval and adoption of the merger agreement and the approval of the merger. Some members of the Omnia board may be deemed to have a conflict of interest in recommending stockholder approval of the merger.

INTERESTS OF OMNIA'S DIRECTORS AND OFFICERS IN THE MERGER

In considering the recommendation of the Omnia board with respect to the approval and adoption of the merger agreement and the approval of the merger, the Omnia stockholders should be aware that certain members of the management of Omnia and the Omnia Board may have certain interests in the merger that are different from, or in addition to, the interests of Omnia stockholders generally.

STOCK OWNERSHIP. As of June 9, 1999, the directors and executive officers of Omnia beneficially owned approximately 9,026,112 shares of Omnia Common Stock, 4,696,000 shares of Omnia Series A preferred stock and 3,317,257 shares of Omnia Series B preferred stock, for which they will receive the same consideration in connection with the merger as other holders of Omnia common stock, Series A preferred stock and Series B preferred stock, respectively.

Michael Zak, a former member of the Omnia board and a member of the CIENA board and Richard Burnes, a current member of the Omnia board, are each a general partner of the general partner of Charles River Partnership VIII, a Limited Partnership and Charles River VIII-A LLC, investors in Omnia which together own 2,228,000 shares of Omnia common stock, 2,228,000 shares of Omnia Series A preferred stock and 698,370 shares of Omnia Series B preferred stock.

PROPRIETARY INFORMATION AGREEMENTS. As a condition to closing the merger the following individuals must enter into proprietary information agreements with CIENA:

- Jeffrey Black
- Michael Champa
- Jay Damiano
- Walter Dray
- Douglas Faber
- Lawrence Harding
- James O'Bray
- William Regan
- Mitchell Rosich
- Jeffrey Weiss

Under the terms of these agreements, these individuals would agree that:

- they will keep confidential commercially valuable information of CIENA;
- any inventions which they develop or conceive of during the course of their employment with CIENA will become the property of CIENA;
- during the time they are employed by CIENA and for a period of twelve months thereafter they will not directly or indirectly solicit employees of CIENA to leave the employ of CIENA, hire any former employee of CIENA within twelve months of the end of their employment with CIENA, solicit business from customers of CIENA, interfere with CIENA's relationship with any other person or disparage CIENA, its affiliates or employees; and
- for the later of a twelve month period after the end of their employment by CIENA or eighteen months after the closing of the merger they will not directly or indirectly participate in a business or activity that competes with the business of CIENA, including the development of DWDM products, access concentrator products or switching products.

These individuals will not receive any consideration for entering into the proprietary information agreements other than the CIENA stock issued to them in the merger.

1997 STOCK PLAN. As of June 9, 1999, the directors and executive officers of Omnia held stock options to purchase 469,346 shares of Omnia common stock. At the effective time of the merger, all stock options (including the stock options held by Omnia executive officers and directors) will convert into the right to receive the number of shares of CIENA common stock that the holder would have received in the merger if the holder had exercised the option in full immediately prior to the closing of the merger and the exercise price will be adjusted appropriately. At the effective time of the merger, the vesting of the stock options will be accelerated according to the terms of the agreements covering the stock options. Stockholders should be aware that Omnia and CIENA believe that the merger constitutes a change of control of Omnia for purposes of those agreements, but that

these agreements and their vesting provisions will otherwise continue in effect following closing. Accordingly, a consequence of a vote to approve the merger is that the vesting will be accelerated to the extent provided for in the agreements.

RESTRICTED STOCK AGREEMENTS. Omnia has entered into restricted stock purchase agreements with the following directors and officers of Omnia:

- Jeffrey Black
- Michael A. Champa
- James M. Dow
- Walter Dray
- Lawrence M. Harding
- James O'Bray
- William Regan
- Jeffrey Weiss

Under the terms of their restricted stock purchase agreements, some or all of the shares of Omnia common stock held by these individuals are subject to repurchase by Omnia, with limited exceptions, in the event that the individual's employment with Omnia is terminated for cause or voluntarily. Under the terms of the restricted stock purchase agreements, the number of shares of Omnia common stock then subject to repurchase by Omnia will be reduced by 50% at the time of the merger and the number of shares remaining subject to the purchase option will be reduced in equal increments over the following twelve months. On June 9, 1999, the above listed persons held a total of 4,570,112 shares of Omnia common stock.

OWNERSHIP AND VOTING OF STOCK. As of June 9, 1999, directors and officers of Omnia and their affiliates may be deemed to have beneficial ownership of approximately 74.3% of the outstanding shares of Omnia common stock, approximately 79.7% of the shares of outstanding Series A preferred stock and approximately 88.7% of the outstanding shares of Series B preferred stock. These directors and executive officers may be deemed to have beneficial ownership either by themselves or with others. Each of the directors and executive officers of Omnia and/or their affiliates has agreed to vote all of the outstanding shares of Omnia stock over which he has or shares voting control to be voted in favor of the merger agreement. See "Information Concerning Omnia -- Security Ownership of Directors, Executive Officers and Principal Stockholders of Omnia; Terms of the Merger Agreement -- Voting Agreements."

In connection with the execution of the merger agreement, CIENA entered into voting agreements with the following stockholders of Omnia:

- Atlas Venture Entrepreneurs Fund III, L.P.
- Atlas Venture Fund III, L.P.
- Bessec Ventures IV L.P.
- Bessemer Venture Partners IV L.P.
- BVP IV Special Situations L.P.
- Bessemer Venture Investors L.P.
- Jeffrey Black
- Michael A. Champa
- Charles River Partnership VIII
- Charles River Partnership VIII, a Limited Partnership
- Charles River VIII-A LLC
- Jay Damiano
- James M. Dow

- Walter Dray
- Lawrence M. Harding
- James O'Bray
- William Regan
- Mitchell Rosich
- SVE STAR Ventures Enterprises No. VIII
- SVM Star Ventures Managementgesellschaft mbH Nr. 3 & Co., Beteiligungs KG No. 2
- SVE Star Ventures Enterprises No V
- SVM Star Ventures Management GmbH No. 3
- Jeffrey Weiss

As of June 9, 1999, these stockholders beneficially owned approximately 83.9% of all of the outstanding shares of Omnia common stock, approximately 99.5% of all outstanding shares of Series A preferred stock of Omnia and approximately 98.5% of all outstanding shares of Series B preferred stock of Omnia. Under the terms of the voting agreements, each of these stockholders has agreed to vote in favor of the merger.

ACCOUNTING TREATMENT. The merger is intended to qualify as a pooling of interests for financial reporting purposes in accordance with generally accepted accounting principles. Consummation of the merger is conditioned upon receipt at the closing of the merger by CIENA and Omnia of letters from PricewaterhouseCoopers LLP, CIENA's and Omnia's independent accountants, affirming the firm's concurrence with CIENA management and Omnia management conclusions as to the appropriateness of pooling of interests accounting for the merger under APB No. 16, if consummated according to the agreement.

OMNIA'S REASONS FOR THE MERGER

The Omnia Board believes that the following are reasons the merger will be beneficial to Omnia and for its stockholders to vote FOR the merger:

- The merger may permit Omnia to utilize CIENA's research and development capabilities and resources in developing its products, and may thereby enhance Omnia's ability to compete more effectively against larger competitors in the metropolitan fiber optic access and transport network market.
- Strategically, packet and cell technology combined with an integrated transport and access platform means carriers can more effectively deliver multi-megabit internet services, while continuing to support existing voice services over their current fiber optic infrastructures. By merging with CIENA, Omnia extends the reach of both its recently developed AXR 500 and CIENA's MultiWave Metro product on a common optical infrastructure.
- The addition of CIENA's sales and marketing resources, including its geographically more expansive distribution channel, and its established relationships with potential customers may increase Omnia's ability to market and sell its products.
- The consideration to be paid to Omnia stockholders in the merger will be shares of CIENA common stock, which are securities that are publicly traded on the Nasdaq National Market and are more readily marketable than shares of Omnia stock.

In the course of its deliberations during meetings held on February 24, 1999, March 5, 1999, March 6, 1999, March 11, 1999, March 13, 1999 and March 14, 1999, the Omnia Board reviewed

with Omnia management and Omnia's legal advisor a number of additional factors that the Omnia Board deemed relevant to the merger, including, but not limited to:

- the strategic importance to Omnia of the proposed merger;
- the consideration to be received by Omnia stockholders in the merger;
- information concerning Omnia's and CIENA's respective businesses, prospects, strategic business plans, financial performance and condition, results of operations, technology positions, management and competitive positions;
- Omnia management's view as to the financial condition, results of operations and business of Omnia before and after giving effect to the merger;
- Omnia management's view as to the prospects of Omnia's continuing as an independent company;
- Omnia management's view as to Omnia's ability to gain access to the necessary capital to meet its strategic business goals in both the near-term and long-term and the relative costs associated with obtaining the capital;
- current financial conditions and historical market prices, volatility and trading information with respect to CIENA common stock;
- Omnia management's view as to the effect of the merger on the core business of Omnia, including its research and development efforts, potential synergy of CIENA's technologies with Omnia's technologies, the breadth of CIENA's product offerings and sales and marketing infrastructure;
- the impact of the merger on Omnia's strategic marketing partners and employees; and
- the compatibility of the management of Omnia and CIENA.

During the course of its deliberations concerning the merger, the Omnia Board also identified and considered a variety of potentially negative factors that could materialize as a result of the merger, including, but not limited to:

- the risk that the potential benefits sought in the merger might not be fully realized;
- the possibility that the merger might not be consummated and the effect of the public announcement of the merger on Omnia's distributors, customers and employees;
- the risks associated with obtaining the necessary approvals required to complete the merger;
- the effects of the diversion of management resources necessary to respond to due diligence inquiries and the negotiation and consummation of the merger; and
- the other risks described under "Risk Factors."

The Omnia Board concluded that the risks associated with the merger were outweighed by the potential benefits of the merger and unanimously determined that the merger is fair to, and in the best interests of, Omnia and its stockholders. Some directors of the Omnia Board may be deemed to have a conflict of interest in the Board's approval of the merger and recommending stockholder approval of the merger. See "-- Interests of Omnia's Directors and Officers in the Merger."

In view of the wide variety of factors considered by the Omnia Board, the directors did not find it practical to, and did not, quantify or otherwise assign relative weights to the specific factors discussed above.

LISTING ON THE NASDAQ STOCK MARKET

CIENA has agreed to cause the shares of CIENA common stock issued in the merger to be approved for listing on The Nasdaq Stock Market.

GOVERNMENTAL AND REGULATORY APPROVALS

While no further antitrust approvals are required to consummate the merger, at any time before the effective time of the merger, the Antitrust Division of the Department of Justice, the Federal Trade Commission or a private person or entity could seek under antitrust laws, among other things, to enjoin the merger and any time after the effective time of the merger, to cause CIENA to divest itself, in whole or in part, of certain businesses conducted by the surviving corporation of the merger. There can be no assurance that a challenge to the merger will not be made or that, if such a challenge is made, CIENA will prevail.

FEDERAL INCOME TAX CONSEQUENCES

The following summary, which was prepared by Hale and Dorr LLP, discusses the material federal income tax consequences of the merger to holders of Omnia stock and is based upon the opinion of Hale and Dorr LLP as to the federal tax consequences of the merger provided to Omnia. The summary is based upon the Internal Revenue Code, Treasury Regulations, administrative rulings and judicial authority as of the date of this proxy statement and prospectus. All of the federal income tax consequences are subject to change, possibly with a retroactive effect. The discussion assumes that holders of shares of Omnia stock hold such shares as capital assets within the meaning of Section 1221 of the Internal Revenue Code. In general, under Section 1221 property held for investment is considered a capital asset. This discussion does not address any consequences of the merger arising under the laws of any state, locality or foreign jurisdiction or the consequences of any transactions effectuated prior or subsequent to, or concurrently with, the merger regardless of whether or not any of these transactions are undertaken in connection with the merger.

Neither Omnia nor CIENA has requested a ruling from the Internal Revenue Service with regard to any of the federal income tax consequences of the merger. The opinion of counsel as to the federal income tax consequences discussed below will not be binding on the IRS, and the IRS is therefore not precluded from successfully asserting a contrary opinion.

GENERAL. Hale and Dorr LLP has acted as counsel to Omnia in connection with the merger. In the opinion of Hale and Dorr LLP, as of the date hereof, the merger will constitute a "reorganization" within the meaning of Section 368(a) of the Internal Revenue Code. This opinion is based on factual representations which have been made by Omnia and CIENA and which are customarily given in transactions of this type.

CONSEQUENCES TO OMNIA STOCKHOLDERS. Based on the conditions and assumptions referred to above, as a result of the merger qualifying as a reorganization, no gain or loss will be recognized by holders of Omnia stock solely as a result of the surrender of their shares of Omnia stock in exchange for shares of CIENA common stock under the terms of the merger or upon the distribution of shares of CIENA common stock from the escrow established according to the escrow agreement. The aggregate tax basis of the shares of CIENA common stock received in the merger, which includes the shares of CIENA common stock which are subject to the escrow agreement, will be the same as the aggregate tax basis of the shares of Omnia stock surrendered in exchange therefor in the merger. The holding period of the shares of CIENA common stock received in the merger, including any shares of CIENA common stock that are subject to the escrow agreement, will include the holding period of the shares of Omnia stock surrendered in exchange for CIENA common stock.

A successful IRS challenge to the reorganization status of the merger would result in stockholders of Omnia recognizing taxable gain or loss with respect to each share of Omnia stock surrendered equal to the difference between (i) the fair market value, as of the time of the merger, of the CIENA common stock received in the merger; and (ii) the stockholder's basis in the share of Omnia stock surrendered in the merger. In that event, a stockholder's aggregate basis in the CIENA common stock received in the merger would equal its fair market value as of the time of the merger, and the stockholder's holding period for that stock would begin on the day after the merger.

Holders of Omnia stock will recognize capital gain or loss equal to the difference between the cash received in lieu of fractional shares of CIENA common stock and their tax basis allocated to the fractional shares. The capital gain or loss will be a long-term capital gain or loss if the holder's holding period for the Omnia stock is more than one year.

CONSEQUENCES TO DISSENTING STOCKHOLDERS. Holders of Omnia stock who exercise dissenters' rights with respect to the merger and receive a cash payment for his or her shares of Omnia stock will recognize capital gain or loss measured by the difference between the amount of cash received and the stockholder's basis in those shares, provided that the payment is not treated as a dividend under Section 302 of the Internal Revenue Code. A sale of shares based on an exercise of dissenters' rights generally will not be treated as a dividend if, as a result of the exercise, the stockholder exercising dissenters' rights owns no shares of common stock of CIENA, immediately after the merger, after giving effect to the constructive ownership rules of the Internal Revenue Code. The capital gain or loss will be long-term capital gain or loss if the holder's holding period in the shares is more than one year. Any payment in respect of an exercise of dissenters' rights may be subject to backup withholding.

CONSEQUENCES TO OMNIA AND CIENA. Provided that the merger qualifies as a reorganization, neither Omnia nor CIENA will recognize gain or loss as a result of the merger.

THE PRECEDING DISCUSSION IS NOT PURPORTED TO BE A COMPLETE ANALYSIS OR DISCUSSION OF ALL POTENTIAL TAX EFFECTS OF THE MERGER WHICH MAY BE RELEVANT TO A PARTICULAR OMNIA STOCKHOLDER. EACH OMNIA STOCKHOLDER IS URGED TO CONSULT ITS OWN TAX ADVISOR AS TO THE SPECIFIC TAX CONSEQUENCES TO IT OF THE MERGER, INCLUDING TAX RETURN REPORTING REQUIREMENTS, THE APPLICABILITY AND EFFECT OF FEDERAL, STATE, LOCAL, AND OTHER APPLICABLE TAX LAWS AND THE EFFECT OF ANY PROPOSED CHANGES IN THE TAX LAWS.

Omnia has received an opinion of Hale and Dorr LLP, counsel to Omnia in connection with the merger, to the effect that the discussion under this section "-- Federal Income Tax Consequences," accurately describes the material federal income tax considerations relevant to Omnia stockholders receiving CIENA common stock in the merger.

APPRAISAL RIGHTS OF DISSENTING STOCKHOLDERS OF OMNIA

If the merger is consummated, a holder of record of Omnia stock on the date of making a demand for appraisal, as described below, will be entitled to have those shares appraised by the Delaware Court of Chancery under Section 262 of the Delaware corporation statute and to receive payment for the "fair value" of those shares instead of the consideration provided for in the merger agreement. In order to be eligible to receive this payment, however, a stockholder must (1) continue to hold his or her shares through the time of the merger; (2) strictly comply with the procedures discussed under Section 262; and (3) not vote in favor of the merger. This proxy statement and prospectus is being sent to all holders of record of Omnia stock on the record date for the Omnia special meeting and constitutes notice of the appraisal rights available to those holders under Section 262. THE STATUTORY RIGHT OF APPRAISAL GRANTED BY SECTION 262 REQUIRES STRICT COMPLIANCE WITH THE PROCEDURES IN SECTION 262. FAILURE TO FOLLOW ANY OF THESE PROCEDURES MAY RESULT IN A TERMINATION OR WAIVER OF DISSENTERS' RIGHTS UNDER SECTION 262. THE FOLLOWING IS A SUMMARY OF THE PRINCIPAL PROVISIONS OF SECTION 262. The following summary is not a complete statement of Section 262 of the Delaware corporation statute, and is qualified in its entirety by reference to Section 262 which is incorporated herein by reference, together with any amendments to the laws that may be adopted after the date of this proxy statement and prospectus. A copy of Section 262 is attached as Appendix B to this proxy statement and prospectus.

A holder of Omnia stock who elects to exercise appraisal rights under Section 262 must deliver a written demand for appraisal of its shares of Omnia prior to the vote on the merger. The written demand must identify the stockholder of record and state the stockholder's intention to demand

appraisal of his or her shares. All demands should be delivered to Omnia, Attention: Lawrence M. Harding, 400 Nickerson Road, Marlborough, Massachusetts 01752, telephone (508) 229-8444.

Only a holder of shares of Omnia stock on the date of making a written demand for appraisal who continuously holds those shares through the time of the merger is entitled to seek appraisal. Demand for appraisal must be executed by or for the holder of record, fully and correctly, as that holder's name appears on the holder's stock certificates representing shares of Omnia stock. If Omnia stock is owned of record in a fiduciary capacity by a trustee, guardian or custodian, the demand should be made in that capacity. If Omnia stock is owned of record by more than one person, as in a joint tenancy or tenancy in common, the demand should be made by or for all owners of record. An authorized agent, including one or more joint owners, may execute the demand for appraisal for a holder of record; that agent, however, must identify the record owner or owners and expressly disclose in the demand that the agent is acting as agent for the record owner or owners of the shares.

A record holder such as a broker who holds shares of Omnia stock as a nominee for beneficial owners, some of whom desire to demand appraisal, must exercise appraisal rights on behalf of those beneficial owners with respect to the shares of Omnia stock, held for those beneficial owners. In that case, the written demand for appraisal should state the number of shares of Omnia stock covered by it. Unless a demand for appraisal specifies a number of shares, the demand will be presumed to cover all shares of Omnia stock held in the name of the record owner.

BENEFICIAL OWNERS WHO ARE NOT RECORD OWNERS AND WHO INTEND TO EXERCISE APPRAISAL RIGHTS SHOULD INSTRUCT THE RECORD OWNER TO COMPLY WITH THE STATUTORY REQUIREMENTS WITH RESPECT TO THE EXERCISE OF APPRAISAL RIGHTS BEFORE THE DATE OF THE OMNIA SPECIAL MEETING.

Within 10 days after the merger, CIENA is required to send notice of the effectiveness of the merger to each stockholder who prior to the time of the merger complies with the requirements of Section 262.

Within 120 days after the merger, the surviving corporation or any stockholder who has complied with the requirement of Section 262 may file a petition in the Delaware Court of Chancery demanding a determination of the fair value of the shares of Omnia stock held by all stockholders seeking appraisal. A dissenting stockholder must serve a copy of the petition on CIENA. If no petition is filed by either CIENA or any dissenting shareholder within the 120-day period, the rights of all dissenting stockholders to appraisal will cease. Stockholders seeking to exercise appraisal rights should not assume that the surviving corporation will file a petition with respect to the appraisal of the fair value of their shares or that the surviving corporation will initiate any negotiations with respect to the fair value of those shares. The surviving corporation is under no obligation to and has no present intention to take any action in this regard. Accordingly, stockholders who wish to seek appraisal of their shares should initiate all necessary action with respect to the perfection of their appraisal rights within the time periods and in the manner prescribed in Section 262. FAILURE TO FILE THE PETITION ON A TIMELY BASIS WILL CAUSE THE STOCKHOLDER'S RIGHT TO AN APPRAISAL TO CEASE.

Within 120 days after the time of the merger, any stockholder who has complied with subsections (a) and (d) of Section 262 is entitled, upon written request, to receive from CIENA a statement setting forth the total number of shares of Omnia stock not voted in favor of the merger with respect to which demands for appraisal have been received by Omnia and the number of holders of those shares. The statement must be mailed within 10 days after Omnia has received the written request or within 10 days after the time for delivery of demands for appraisal under subsection (d) of Section 262 has expired, whichever is later.

If a petition for an appraisal is filed in a timely manner, at the hearing on the petition, the Delaware Court of Chancery will determine which shareholders are entitled to appraisal rights and will appraise the shares of Omnia stock owned by those stockholders. The court will determine the

fair value of those shares, exclusive of any element of value arising from the accomplishment or expectation of the merger, together with a fair rate of interest, to be paid, if any, upon the fair value.

Stockholders who consider seeking appraisal should consider that the fair value of their shares under Section 262 could be more than, the same as, or less than, the value of the consideration provided for in the merger agreement without the exercise of appraisal rights. The Court of Chancery may determine the cost of the appraisal proceeding and assess it against the parties as the Court deems equitable. Upon application of a dissenting stockholder, the Court may order that all or a portion of the expenses incurred by any dissenting stockholder in connection with the appraisal proceeding (including, without limitation, reasonable attorney's fees and the fees and expenses of experts) be charged pro rata against the value of all shares of Omnia stock entitled to appraisal. In the absence of a court determination or assessment, each party bears its own expenses.

Any stockholder who has demanded appraisal in compliance with Section 262 will not, after the merger, be entitled to vote such stock for any purpose or receive payment of dividends or other distributions, if any, on the Omnia stock, except of dividends or distributions, if any, payable to stockholders of record at a date prior to the merger.

A stockholder may withdraw a demand for appraisal and accept the CIENA common stock at any time within 60 days after the merger, or thereafter may withdraw a demand for appraisal with the written approval of CIENA. If an appraisal proceeding is properly instituted, it may not be dismissed as to any stockholder without the approval of the Delaware Court of Chancery, and any such approval may be conditioned on the Court of Chancery's deeming the terms to be just. If, after the merger, a holder of Omnia stock who had demanded appraisal for his shares fails to perfect or loses his right to appraisal, those shares will be treated under the merger agreement as if they were converted into CIENA common stock at the time of the merger.

IN VIEW OF THE COMPLEXITY OF THESE PROVISIONS OF THE DELAWARE CORPORATE LAW, ANY OMNIA STOCKHOLDER WHO IS CONSIDERING EXERCISING APPRAISAL RIGHTS SHOULD CONSULT A LEGAL ADVISOR.

TERMS OF THE MERGER AGREEMENT

The following summary of the material terms and provisions of the merger agreement is qualified in its entirety by reference to the merger agreement. The merger agreement is attached as Appendix A to this prospectus and proxy statement and is incorporated herein by reference.

GENERAL

The merger agreement provides that Omnia will be merged with and into CIENA at the effective time of the merger. Pursuant to the merger agreement, CIENA will be the surviving corporation. The Omnia board has unanimously approved the merger agreement and the merger. At the effective time of the merger, each outstanding share of Omnia preferred stock and common stock held by persons not exercising appraisal rights will be converted into CIENA common stock, all as more fully described below.

This section of the prospectus and proxy statement describes aspects of the merger, including the material provisions of the merger agreement. Capitalized terms used but not defined herein shall have the meanings ascribed to them in the merger agreement.

STRUCTURE OF THE MERGER

According to the terms and conditions of the merger agreement and the Delaware General Corporation Law, at the effective time of the merger Omnia will merge with and into CIENA. CIENA will continue to exist as a corporation under the laws of the State of Delaware. At the effective time of the merger, Omnia will no longer exist as a separate corporation. The certificate of incorporation of CIENA will become the certificate of incorporation of the surviving corporation of the merger. The bylaws of CIENA will become the bylaws of the surviving corporation of the merger.

MANAGEMENT AFTER THE MERGER

All of the officers and directors of CIENA before the merger will be the officers and directors of CIENA after the merger.

CONVERSION AND EXCHANGE OF SHARES

At the effective time of the merger, each issued and outstanding share of Omnia preferred stock and common stock, other than shares held in the treasury of Omnia, held by CIENA or held by any direct or indirect wholly owned subsidiary of CIENA or Omnia, will be converted into shares of CIENA common stock according to the formulas described below.

(a) in the case of each share of Omnia common stock, a fraction of a share of CIENA common stock equal to

(i) 16,000,000 less the Preferred Redemption Retirement Amount (as defined below), divided by

(ii) the Fully-Diluted Omnia Capital Stock (as defined below).

- The Preferred Redemption Retirement Amount is equal to \$17,981,101.50 divided by the closing price per share of CIENA common stock as reported on Nasdaq on the last business day preceding the Closing Date (the "Stock Price"). The fraction determined under this subparagraph is called the "common stock exchange ratio"
- The Fully-Diluted Omnia Capital Stock is equal to the total number of the following items:
 - outstanding shares of Omnia common stock

- Omnia stock options and restricted stock awards granted and unexercised (whether vested or unvested)
- shares issuable upon exercise of outstanding Omnia warrants
- shares issuable upon exercise of other instruments or agreements convertible into or exchangeable for or entitling the holder to acquire Omnia common stock, including shares of Omnia Series B preferred stock outstanding (in each case expressed on a common share equivalent basis)

(b) in the case of each share of Omnia Series A preferred stock a fraction of a share of CIENA common stock equal to:

- (i) \$5,831,100 divided by the Stock Price, divided by
- (ii) the total number of shares of Omnia Series A preferred stock; and

(c) in the case of each share of Omnia Series B preferred stock a fraction of a share of CIENA common stock equal to:

- (i) the common stock exchange ratio plus
- (ii) an additional fraction of a share of CIENA common stock equal to
 - \$12,150,001.50 divided by the Stock Price, divided by
 - the total number of shares of Omnia Series B preferred stock

In addition, each share of CIENA common stock issued in the merger shall include the corresponding fraction of a right to purchase shares of CIENA junior preferred stock, under the Rights Agreement dated as of December 27, 1997 between CIENA and Boston EquiServe as Rights Agent. If there is a change in the number of shares of CIENA common stock, under limited circumstances the exchange ratio will be adjusted.

Each share of Omnia preferred stock and each share of Omnia common stock held in the treasury of Omnia, held by CIENA or held by any direct or indirect wholly owned subsidiary of CIENA or of Omnia will be canceled and extinguished at the effective time of the merger without the payment of any consideration. Each share of common stock of CIENA issued and outstanding immediately prior to the effective time of the merger will continue to be one share of common stock of the surviving corporation of the merger.

CIENA will assume each option or warrant to acquire Omnia common stock granted under Omnia's 1997 Stock Plan or otherwise issued by Omnia and that is outstanding and unexercised immediately prior to the effective time of the merger, and at the effective time of the merger CIENA will replace them with an option or warrant to purchase CIENA common stock. In each case, the number of shares of CIENA common stock subject to the new CIENA option or warrant will be equal to the number of shares of Omnia common stock subject to the Omnia stock option or warrant, assuming full vesting, multiplied by the common stock exchange ratio (and rounding any fractional share up to the nearest whole share) and the exercise price per share of CIENA common stock will be equal to the exercise price for the shares of Omnia common stock subject to the Omnia stock option or warrant divided by the common stock exchange ratio. The duration and other terms of each CIENA option or warrant, including the vesting terms, will be the same as the prior Omnia stock option or warrant.

EXCHANGE OF CERTIFICATES AND FRACTIONAL SHARES

CIENA has agreed to deposit with Boston EquiServe as exchange agent in the merger for the benefit of the holders of issued and outstanding shares of Omnia preferred stock and Omnia common stock, certificates representing the shares of CIENA common stock to be issued under the terms of the merger agreement.

At the earliest practicable date after the effective time of the merger, the exchange agent will mail a letter of transmittal to each holder of Omnia preferred and common stock. The letter of transmittal will contain instructions with respect to the surrender of stock certificates to the exchange agent.

YOU SHOULD NOT RETURN YOUR STOCK CERTIFICATES WITH THE ENCLOSED PROXY NOR SHOULD YOU FORWARD THEM TO THE EXCHANGE AGENT UNLESS AND UNTIL YOU RECEIVE THE LETTER OF TRANSMITTAL, AT WHICH TIME YOU SHOULD FORWARD THEM ONLY IN ACCORDANCE WITH THE INSTRUCTIONS SPECIFIED IN THE LETTER OF TRANSMITTAL.

Until the holders of certificates representing Omnia common stock to be converted into CIENA common stock in the merger surrender them for exchange at or after the effective time of the merger, they will accrue but will not receive dividends or other distributions declared after the effective time of the merger with respect to CIENA common stock into which their Omnia stock has been converted. When they surrender their stock certificates, any unpaid dividends or other distributions will be paid, without interest. All stock certificates presented after the effective time of the merger will be canceled and exchanged for the a certificate representing the applicable number of shares of CIENA common stock.

CIENA will not issue any fractional shares. Instead, each Omnia stockholder who would otherwise have been entitled to receive a fractional share of CIENA common stock will receive cash (without interest) in an amount rounded to the nearest whole cent, determined by multiplying (i) the per share closing price on the Nasdaq Stock Market of CIENA common stock on the date on the closing date (or, if the CIENA common stock does not trade on Nasdaq on that date, the first day of trading in CIENA common stock on Nasdaq thereafter) by (ii) the fractional share of CIENA common stock to which the holder would otherwise be entitled.

Any shares of CIENA common stock and cash that the exchange agent has not distributed six months after the effective time of the merger will be delivered to CIENA upon demand. Certificates representing Omnia preferred or common stock must thereafter be surrendered for exchange to CIENA. Neither CIENA, Omnia, nor the exchange agent will be liable for any shares of CIENA common stock, dividends or distributions with respect thereto, or cash delivered to a public official pursuant to any abandoned property, escheat or similar laws.

If a stockholder's certificate representing Omnia preferred stock or Omnia common stock is lost, stolen or destroyed, the exchange agent will issue the CIENA common stock in exchange for that certificate only after the stockholder makes an affidavit of loss, theft or destruction by, and, if required by CIENA, posts a bond as indemnity against any claim that may be made against CIENA, the surviving corporation of the merger or the exchange agent with respect to the certificate.

For a description of the CIENA common stock and a description of the differences between the rights of the holders of Omnia common stock and holders of CIENA common stock, see "CIENA Capital Stock and Comparison of Stockholder Rights."

EFFECTIVE TIME

The merger will occur after all of the conditions in Article VII of the merger agreement have been satisfied or waived. On the second business day after the satisfaction or waiver of the conditions in Article VII of the merger agreement, the parties will hold a scheduled closing. On the day the merger occurs, CIENA will file a certificate of merger with the Secretary of State of the State of Delaware. The effective time of the merger will be the date and time of the filing. Omnia and CIENA each anticipate that, if the merger is approved at the special meeting, it will be consummated during the summer of 1999. However, a delay in obtaining governmental consents required prior to consummation of the transactions contemplated in the merger agreement could delay the merger. There can be no assurances as to if or when the governmental consents will be obtained or that the merger will be consummated.

REPRESENTATIONS AND WARRANTIES

The merger agreement contains various representations of Omnia and CIENA. Omnia makes representations and warranties regarding the following:

- the corporate organization and existence of Omnia and its subsidiary, including that each is duly organized, validly existing and in good standing with the corporate power and authority to own, operate and lease its properties and to carry on its business as currently conducted
- the certificate or articles of incorporation and bylaws or other organizational documents of Omnia and its subsidiary
- the capitalization of Omnia, including the number of shares of capital stock authorized, the number of shares and rights to acquire shares outstanding and the number of shares reserved for issuance
- the corporate power and authority of Omnia to execute and deliver the merger agreement and related documents and to consummate the transactions contemplated thereby
- the compliance of the merger agreement and related documents with (1) Omnia's certificate of incorporation and bylaws and the certificate or articles of incorporation and bylaws of Omnia's subsidiary, (2) applicable laws, and (3) some material agreements of Omnia and its subsidiary, including the absence of events of default or acceleration thereunder
- the required governmental and third-party consents
- the possession and validity of all required licenses, timely filing of required regulatory reports and compliance with applicable laws by Omnia and its subsidiaries
- Omnia's financial statements, including that the information in the financial statements is a fair presentation of the financial condition and results of operations of Omnia and its subsidiaries and is in compliance with GAAP
- the absence of material undisclosed liabilities
- the absence of certain changes in Omnia's business since February 28, 1999
- the absence of material legal proceedings, injunctions and disputes
- the validity of and absence of defaults under debt instruments, leases and other important agreements of Omnia and its subsidiaries
- the absence of conditions that would prevent CIENA from accounting for the merger as a "pooling of interests"
- compliance with laws relating to employees or the workplace, and the absence of material disputes with employees
- Omnia's employee benefit plans and related matters, including that such plans have been operated and administered in accordance with applicable law
- the filing and accuracy of Omnia's tax returns
- the absence of certain business practices of Omnia and its subsidiaries
- insurance
- the absence of certain potential conflicts of interests with employees, directors, officers and significant stockholders
- the collectability of accounts receivable of Omnia and its subsidiaries
- the ownership and condition of the assets owned by Omnia or any of its subsidiaries
- complete and correct books and records
- the absence of intellectual property infringement or contests

- the adoption by the Omnia Board of a resolution approving the merger agreement and the merger and recommending adoption of the merger agreement and approval of the merger by the stockholders of Omnia
- the vote required to approve the merger
- compliance with environmental laws and the absence of environmental liabilities
- the absence of material misstatements or omissions in the information furnished by Omnia
- compensation and benefits of all directors and officers of Omnia and its subsidiaries

CIENA, its officers, directors and affiliates may make a claim for indemnification for breach of any of these representations and warranties until the end of the twelfth month after the effective time of the merger.

Omnia's representations and warranties will survive until the end of the twelfth month after the effective time of the merger. After the effective time of the merger, the maximum liability of Omnia for any breach of representation, warranty, covenant or agreement will be limited to 10% of the shares issued in the merger transaction other than restricted shares and shares issuable upon exercise of outstanding options and warrants. See "-- Indemnification."

The merger agreement contains representations and warranties of CIENA as to, among other things:

- the corporate organization and existence of CIENA
- the corporate power and authority of CIENA to execute and deliver the merger agreement and related documents and to consummate the transactions contemplated thereby
- the compliance of the merger agreement and related documents with (1) CIENA's certificate of incorporation and bylaws and the certificate of incorporation and bylaws of CIENA, (2) applicable laws, and (3) material agreements of CIENA
- the required governmental and third-party consents
- CIENA's filings with the SEC
- the capitalization of CIENA
- the qualification of the merger as a reorganization under Section 368(a) of the Code

BUSINESS OF OMNIA PENDING THE MERGER AND OTHER AGREEMENTS

Under the terms of the merger agreement, Omnia has agreed to maintain its business in the ordinary course consistent with past practice. From the date of signing of the merger agreement until Closing, Omnia shall:

- maintain its existence in good standing
- maintain the general character of its business and properties and conduct its business in the ordinary and usual manner consistent with past practices, except as expressly permitted by the merger agreement
- maintain business and accounting records consistent with past practices
- use its best efforts (i) to preserve its business intact, (ii) to keep available to Omnia the services of its present officers and employees, and (iii) to preserve for Omnia the goodwill of its suppliers, customers and others having business relations with Omnia

Unless CIENA otherwise approves, Omnia may not

- amend or otherwise change its Certificate of Incorporation or By-Laws
- issue any stock or grant any options with certain exceptions in the ordinary course, including under its option program

- declare, set aside, make or pay any dividend or other distribution, payable in cash, stock, property or otherwise with respect to any of its capital stock
- reclassify, combine, split, subdivide or redeem, purchase or otherwise acquire, directly or indirectly, any of its capital stock
- incur any indebtedness for borrowed money or issue any debt securities or assume, guarantee or endorse, or otherwise become responsible for, the obligations of any person, or make any loans or advances, with certain exceptions
- acquire (including, without limitation, by merger, consolidation, or acquisition of stock or assets) any corporation, partnership, other business organization or any division thereof or any material amount of assets
- enter into any contract or agreement other than in the ordinary course of business, consistent with past practice
- authorize any capital commitment or capital lease which is in excess of \$250,000 or capital expenditures which are, in the aggregate, in excess of \$1,500,000
- mortgage, pledge or subject to encumbrance any of its assets or properties or agree to do so
- assume, guarantee or otherwise become responsible for the obligations of any other person or agree to do so
- enter into or agree to enter into any employment agreement
- increase the compensation of its officers or employees, or grant any severance or termination pay to, or enter into any severance agreement with any director, officer or other employee of Omnia, or establish, adopt, enter into or amend any collective bargaining, bonus, profit sharing, thrift, compensation, stock option, restricted stock, pension, retirement, deferred compensation, employment, termination, severance or other plan, agreement, trust, fund, policy or arrangement for the benefit of any director, officer or employee except for annual salary raises (on the anniversary date of employment) to employees who are not officers (not to exceed 10%) and severance payments consistent with past practices and in the ordinary course of business
- change in any respect its accounting policies or procedures (including, without limitation, procedures with respect to the payment of accounts payable and collection of accounts receivables) unless required by generally accepted accounting principles
- make any tax election or settle or compromise any federal, state, local or foreign income material tax liability in excess of \$50,000
- settle or compromise any pending or threatened suit, action or claim
- pay, discharge or satisfy any claim, liability or obligation, other than the payment, discharge or satisfaction, in the ordinary course of business and consistent with past practice, of liabilities reflected or reserved against in the latest balance sheet included in the last audited financial statement provided to CIENA or subsequently incurred in the ordinary course of business and consistent with past practice
- sell, assign, transfer, license or sublicense, other than in the ordinary course of business and consistent with past practice, pledge or otherwise encumber any of the intellectual property rights
- knowingly take or omit any other action that could disqualify the merger as a "pooling of interests" for financial reporting purposes
- announce an intention, commit or agree to do any of the foregoing

NO SOLICITATION BY OMNIA

Under the terms of the merger agreement, Omnia may not, nor may it authorize or permit any of its affiliates or any officer, director, employee, investment banker, attorney or other adviser or representative of Omnia or any of its affiliates to:

- solicit, initiate, or encourage the submission of, any acquisition proposal;
- enter into any agreement with respect to any acquisition proposal; or
- participate in any discussions or negotiations regarding, or furnish to any individual any information for the purpose of facilitating the making of, or take any other action to facilitate any inquiries or the making of, any proposal that constitutes, or may reasonably be expected to lead to, any acquisition proposal.

Omnia must promptly advise CIENA of any acquisition proposal and inquiries with respect to any acquisition proposal. Acquisition proposal means any proposal for a merger or other business combination involving Omnia or any proposal or offer to acquire in any manner, directly or indirectly, an equity interest in Omnia, any voting securities of Omnia or a substantial portion of the assets of Omnia (except in connection with employee stock option grants or warrant exercises).

ADDITIONAL AGREEMENTS OF CIENA AND OMNIA

Under the terms of the merger agreement, Omnia and CIENA have also agreed to use their reasonable best efforts to take all necessary, proper or appropriate actions to consummate the transactions contemplated by the merger agreement.

If CIENA agrees to be acquired prior to the merger closing date or September 30, 1999, and in the event the merger closing date does not occur prior to September 30, 1999 as a result of that acquisition, CIENA must advance Omnia a \$21 million loan on commercially reasonable terms by wire transfer on September 30, 1999. If CIENA provides Omnia a legally binding written agreement executed by an authorized representative of CIENA and all other parties to the CIENA acquisition agreement confirming CIENA's intention and the intention of those parties that all transactions contemplated by the merger agreement will be consummated on the terms in the agreement on or before December 31, 1999, Omnia will extend the September 30, 1999 termination date of the merger agreement to December 31, 1999. If CIENA does not deliver that commitment to Omnia on September 30, 1999, or if the merger closing date does not occur prior to December 31, 1999, and Omnia elects to terminate the merger agreement under the termination provisions contained in Section 9.5(b) of the merger agreement, CIENA will forgive the \$21 million advance and any accrued and unpaid interest.

In accordance with its certificate of incorporation and bylaws, Omnia will take all action necessary to either

- convene a meeting of the holders of Omnia capital stock as promptly as practicable after the S-4 Registration Statement is declared effective, or
- solicit written consents from its stockholders, in either case to consider and vote upon the approval of the merger.

Omnia's board of directors

- will recommend approval by its stockholders;
- will not withdraw or modify its recommendation; and
- shall take all lawful action to solicit approval as promptly as possible.

Omnia has agreed to use its reasonable best efforts to deliver to CIENA a "comfort" letter of PricewaterhouseCoopers LLP, Omnia's independent public accountants, dated as of the effective date of the S-4 registration statement, and addressed to CIENA and Omnia. The form and substance of

the letter must be reasonably satisfactory to CIENA and reasonably customary in scope and substance for letters delivered by independent public accounts in connection with transactions like those contemplated by the merger agreement.

INDEMNIFICATION

Under the merger agreement, the stockholders, other than dissenting stockholders who exercise rights of appraisal under Section 262 of the Delaware General Corporation Law who do not receive CIENA common stock in the merger, will indemnify CIENA and its officers, directors and affiliates against all claims, losses, and liabilities, incurred as a result of:

- any inaccuracy or breach of a representation or warranty of Omnia contained in a certificate of any officer of Omnia delivered pursuant to the merger agreement;
- any failure by Omnia to perform or comply with any covenant contained in the merger agreement.

The total amount available for indemnification may not exceed the amount deposited in the escrow fund (referred to below) and no stockholder is required to indemnify the indemnified parties for an amount greater than his pro rata share of the CIENA stock deposited in the escrow fund. The escrow fund is available to compensate the indemnified parties for any losses. The stockholders will have no right of contribution from Omnia with respect to any loss claimed by CIENA after the closing date. Nothing in the merger agreement limits the liability of Omnia for any breach of any representation, warranty or covenant if the merger is not consummated.

ESCROW FUND. As security for the indemnity referred to above and to provide security to satisfy any contingencies arising from the representations and warranties of Omnia, each of the stockholders who received CIENA common stock in the merger will be deemed to have received and deposited with State Street Bank and Trust, N.A., who is escrow agent, 10% of their CIENA shares (plus any additional shares as may be issued upon any stock split, stock dividend or recapitalization effected by CIENA after the closing date with respect to those shares). The escrow amount will be deposited with the original escrow agent or another institution acceptable to CIENA and the stockholder representative appointed under the escrow agreement to act on behalf of the former Omnia stockholders. The deposit with the escrow agent constitutes an escrow fund to be governed by the terms in the escrow agreement. The portion of the escrow amount contributed on behalf of each stockholder must be proportional to the total number of shares of CIENA common stock to which that individual would otherwise be entitled. The form of escrow agreement is attached to this prospectus and proxy statement as Appendix C. Under the escrow agreement, the stockholder representative may sell CIENA shares under certain circumstances, but the proceeds of the sale must be maintained in the escrow until it expires.

The vote being taken at the upcoming meeting includes a vote to formally approve Robi L. Soni as stockholder representative under the escrow agreement. Mr. Soni is a member of the Board of Directors of Omnia and a member of Deer IV & Co. LLC, the general partner of Bessemer Venture Partners IV, L.P., Bessemer Ventures IV, L.P., BVP IV Special Situations L.P. and Bessemer Venture Investors L.P. which together own 2,228,000 shares of Omnia common stock, 2,228,000 shares of Omnia Series A preferred stock, and 698,370 shares of Omnia Series B preferred stock.

MAXIMUM PAYMENTS AND REMEDIES

The escrow amount held under the escrow agreement provides the sole and exclusive remedy for any and all damages CIENA suffers as the result of any breach of the merger agreement or any

claim of negligent misrepresentation against Omnia or the stockholders in connection with the merger agreement or the merger. The merger agreement does not, however, limit any:

- equitable remedies; or
- any type of statutory or common law remedy with respect to any actually known or intentional breaches of the representations and warranties or covenants of Omnia or the Omnia stockholders in the event of fraud, provided the remedy may only be pursued against the person who committed or authorized the breaches of the representations, warranties or covenants.

DIRECTORS' AND OFFICERS' INSURANCE AND INDEMNIFICATION

For a period of four years after the closing, CIENA must fulfill and honor in all respects the obligations of Omnia to indemnify each person who is or was a director or officer of Omnia pursuant to any indemnification provision of Omnia's certificate of incorporation or by-laws.

WHAT IS NEEDED TO COMPLETE THE MERGER

CONDITIONS PRECEDENT TO EACH PARTY'S OBLIGATION TO EFFECT THE MERGER

The following conditions must be satisfied before the merger can become effective:

- CIENA and Omnia must obtain or make all authorizations, consents, orders, declarations or approvals of, or filings with, or terminations or expirations of waiting periods imposed by any governmental or regulatory authority, domestic or foreign, including expiration of any Hart-Scott-Rodino Act waiting period, which the failure to obtain, make or occur would have the effect of making the merger or any of the transactions contemplated by it illegal or would have a material adverse effect on CIENA or a material adverse effect on Omnia, assuming the merger had taken place;
- No temporary restraining order, preliminary or permanent injunction or other order from any court or other governmental or regulatory authority may prohibit or prevent the consummation of the merger or any of the transactions contemplated by the merger agreement;
- The S-4 registration statement must have become effective under the Securities Act, and there must be no stop order or threat of proceedings by the SEC to suspend the effectiveness of the S-4;
- Holders of Omnia stock must approve of the merger, as required by Omnia's certificate of incorporation;
- The CIENA common stock to be issued in the merger must be approved for listing on Nasdaq.

CONDITIONS PRECEDENT TO OBLIGATIONS OF CIENA

CIENA's obligations to effect the merger depend upon the fulfillment or satisfaction, prior to or on the closing date, of each of the following conditions:

- Omnia must have performed and complied in all material respects with all agreements and conditions to be performed prior to or at the closing;
- Each of Omnia's representations and warranties contained in the merger agreement must be true and correct in all material respects;
- Holders of no more than 9.9% of the issued and outstanding Omnia capital stock immediately prior to the Closing Date shall be entitled to exercise appraisal rights under Section 262 of the Delaware General Corporation Law;
- CIENA must have received the favorable written opinion of Hale and Dorr LLP, counsel to Omnia, in form satisfactory to CIENA, as to certain customary matters;

- Omnia must have delivered to CIENA the written resignation of all trustees of the benefit plans of Omnia as shall be requested in writing by CIENA;
- Omnia must have received all necessary consents or waivers, in form and substance satisfactory to CIENA, from the other parties to all contracts, leases or agreements to which Omnia is a party, except where the failure to receive those consents would not reasonably be expected to have a material adverse effect on CIENA;
- Certain individuals must have entered into non-competition agreements with CIENA, as described above;
- CIENA must have received the opinion of Hogan & Hartson L.L.P., counsel to CIENA, dated the closing date, to the effect that the merger will not result in taxation to CIENA or Omnia under the Code except to the extent of any reimbursement of expenses to CIENA;
- CIENA must have received letters acknowledging transfer restrictions from all persons identified by Omnia as affiliates and any other person who CIENA reasonably believes to be an affiliate of Omnia, and CIENA must have received, in form and substance reasonably satisfactory to CIENA, a pooling letter from PricewaterhouseCoopers LLP stating that they concur with management's conclusion that the merger be accounted for as a "pooling of interests".

CONDITIONS PRECEDENT TO OMNIA'S OBLIGATIONS

Omnia's obligations to effect the merger depend upon the satisfaction of the following conditions prior to the closing date:

- CIENA must have performed and complied in all material respects with all agreements and conditions of the merger agreement prior to or at the closing. Each of CIENA's representations and warranties in the merger agreement must be true and correct in all material respects;
- Omnia must have received the favorable written opinion of Hogan & Hartson L.L.P., counsel to CIENA, as to certain customary matters;
- Omnia must have received the opinion of Hale and Dorr LLP, counsel to Omnia, to the effect that the merger will constitute a reorganization within the meaning of Section 368(a) of the Code.

TERMINATION OF THE MERGER AGREEMENT AND TERMINATION FEE

The merger agreement may be terminated, and the merger may be abandoned at any time prior to the closing date:

- by the mutual agreement of the boards of directors of Omnia and CIENA; or
- by CIENA or Omnia if
 - the closing date has not occurred by September 30, 1999, or a later date under limited circumstances, but the right to terminate the merger agreement is not available to any party whose failure to fulfill any obligation under the agreement has caused the failure of the closing to occur on or before that date; or
 - any court of competent jurisdiction in the United States or other United States governmental authority issues an order or takes any other action restraining, enjoining or otherwise prohibiting the merger.

WAIVER AND AMENDMENT OF THE MERGER AGREEMENT

At any time prior to the effective time of the merger, the parties to the merger agreement may agree to:

- extend the time for the performance of any obligation or other act required to be performed under the merger agreement;
- waive any inaccuracies in the representations and warranties contained in the merger agreement or in any document delivered under the terms of the merger agreement;
- waive compliance with any of the agreements or conditions contained in the merger agreement;
- amend the merger agreement.

EXPENSES

Omnia and CIENA will pay their own expenses incidental to the preparation of the merger agreement, the carrying out of the provisions of the merger agreement and the consummation of the transactions contemplated by the merger agreement. Notwithstanding the foregoing, the stockholders of Omnia must promptly reimburse Omnia following closing for any expenses Omnia incurs in excess of \$1,000,000. Omnia does not expect to incur expenses significantly in excess of \$1,000,000.

VOTING AGREEMENTS

Stockholders of Omnia, owning 83.9% of the common stock, 99.5% of the Series A preferred stock, and 98.5% of the Series B preferred stock, have signed agreements in which they have agreed to do the following:

- vote in favor of adopting and approving the terms of the merger agreement;
- vote against any amendment of Omnia's certificate of incorporation or by-laws, which would in any manner impede, frustrate, prevent or nullify the merger or the merger agreement or change in any manner the voting rights of any class of capital stock of Omnia.

These stockholders have also agreed not to:

- sell, transfer, pledge, assign or otherwise dispose of, or enter into any contract, option or other arrangement (including any profit-sharing arrangement) with respect to the transfer of their Omnia shares to any person;
- enter into any voting arrangement, whether by proxy, voting agreement or otherwise, in relation to their Omnia shares;
- permit any affiliate, director, officer, employee, investment banker, attorney or other advisor or representative of the stockholder to, (i) directly or indirectly solicit, initiate or knowingly encourage the submission of, any alternative acquisition proposal or (ii) directly or indirectly participate in any discussions or negotiations regarding, or furnish to any person any information with respect to, or facilitate any inquiries or the making of any proposal that constitutes or may lead to, any alternative acquisition proposal.

The stockholders are directors and officers of Omnia and holders of more than 5% of its capital stock. Their voting agreements assure approval of the merger at the upcoming Omnia special meeting.

ACCOUNTING TREATMENT

The merger is expected to qualify as a pooling of interests for accounting and financial reporting purposes as set forth in Opinion No. 16, Business Combinations of the Accounting Principles Board of the American Institute of Certified Public Accountants as amended by Statements of the Financial

Accounting Standards Board, and the rules and regulations of the U.S. Securities and Exchange Commission. Accordingly, the recorded assets, liabilities and stockholders' equity of Omnia will be combined with the corresponding balance sheet categories of CIENA and carried forward to the combined company, subject to any adjustments required to conform the accounting policies and financial statement classifications of the two companies. In future financial statements, the results of operations of the combined company will include the results of both CIENA and Omnia for the entire fiscal year in which the merger occurs and all prior fiscal periods presented therein. Some of the expenses incurred to effect the merger must be treated by the combined company as current charges against income rather than adjustments to its balance sheet.

RESTRICTIONS ON REALES BY AFFILIATES

AFFILIATES OF OMNIA. The shares of CIENA stock to be issued to Omnia stockholders in the merger have been registered under the Securities Act. These shares may be traded freely and without restriction by those stockholders not deemed to be "affiliates" of Omnia as that term is defined under the Securities Act. An affiliate of a corporation, as defined by the rules promulgated under the Securities Act, is a person who directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, that corporation. Any transfer by an affiliate of Omnia must be one permitted by the resale provisions of Rule 145 promulgated under the Securities Act. If an Omnia affiliate becomes an affiliate of CIENA, any transfer must be permitted by the resale provisions of Rule 144 promulgated under the Securities Act or otherwise permitted under the Securities Act. These restrictions are expected to apply to the executive officers and directors of Omnia.

CIENA has agreed following the closing to file a post-effective amendment to its Form S-4 registration statement to permit resales by former Omnia affiliates.

AFFILIATES OF EITHER OMNIA OR CIENA. SEC guidelines regarding qualifying for the pooling-of-interests method of accounting also generally require that affiliates of the acquiring company and the acquired company may not take action to reduce the risk in their shares, including through sales, during the period surrounding the merger. These guidelines indicate that the pooling-of-interests method of accounting will generally not be challenged on the basis of sales by the affiliates if these persons do not dispose of any of the shares of the corporation they own or any shares of the corporation they receive in connection with a merger during the period beginning 30 days prior to the effective time of the merger and ending when financial results covering at least 30 days of post-merger operations of the combined entity have been published.

AFFILIATE AGREEMENTS. Each of Omnia's affiliates has delivered to CIENA an agreement that the person will not dispose of any CIENA common stock or Omnia stock during the pooling restricted period described above.

INFORMATION ABOUT CIENA

GENERAL

CIENA designs, manufactures and sells open architecture, dense wavelength division multiplexing systems for fiberoptic communications networks, including long-distance and local exchange carries. CIENA also provides a range of engineering, furnishing and installation services for telecommunications service providers. CIENA's long-distance DWDM solutions, the MultiWave 1600 system, the MultiWave Sentry 1600, the MultiWave Sentry 4000 and the MultiWave Sentry 9600 were designed to alleviate capacity, or bandwidth, constraints in high traffic, long-distance fiberoptic routes without requiring the installation of new fiber. CIENA's long-distance MultiWave systems include optical transmission terminals, optical amplifiers, optical add/drop multiplexers and network management software. CIENA's short-distance DWDM solution, the MultiWave Firefly, is designed for point-to-point short-haul applications (distances of 65 km or less). The product contains no optical amplifiers, and allows simultaneous transmission of up to 24 optical channels per fiber at transmission speeds of up to 2.5 Gb/s per channel. We designed our DWDM access transport system, MultiWave Metro, for use in metropolitan ring applications. The MultiWave Metro enables carriers to offer multi-protocol high-bandwidth services using their existing network infrastructure by providing up to 24 duplex channels over a single fiber pair, enabling up to 120 Gb/s of traffic. CIENA's MultiWave systems are designed with an open architecture that allows them to interoperate with carriers' existing fiber optic transmission systems having a broad range of transmission speeds and signal formats.

ADDITIONAL INFORMATION

A detailed description of CIENA's business, executive compensation, various benefit plans, including stock option plans, voting securities and the principal holders thereof, certain relationships and related transactions, financial statements, certain pending shareholder class action litigation and other matters related to CIENA is incorporated by reference in this prospectus and proxy statement or set forth in CIENA's Annual Report on Form 10-K for the year ended October 31, 1998 as amended on April 5, 1999, its Form 10-Q for the quarter ended January 31, 1999, its Form 10-Q for the quarter ended April 30, 1999, a Report on Form 8-K filed on April 1, 1999 and amended on April 5, 1999 and a Report on Form 8-K filed on April 5, 1999. Stockholders desiring copies of these documents may contact CIENA at its address or telephone number indicated under the caption "Where You Can Find More Information."

UNAUDITED PRO FORMA COMBINED FINANCIAL DATA

The following unaudited pro forma combined financial statements have been prepared to give effect to the merger, using the pooling of interests method of accounting.

The unaudited pro forma combined financial data has been presented for illustrative purposes only and is not necessarily indicative of the financial position or results of operations that would have actually been reported had the merger occurred at the beginning of the periods presented, nor is it necessarily indicative of future financial position or results of operations. These unaudited pro forma combined financial statements including the notes thereto are qualified in their entirety by reference to and should be read in conjunction with, the consolidated financial statements and notes thereto of CIENA incorporated by reference in this prospectus and proxy statement and the historical consolidated financial statements and notes thereto of Omnia included later in this prospectus and proxy statement. The unaudited pro forma financial data neither includes nor assumes any benefits from cost or operational savings resulting from the merger.

The unaudited pro forma combined balance sheet as of April 30, 1999 gives effect to the merger as if it had occurred on April 30, 1999 and combines the unaudited consolidated balance sheet of CIENA and Omnia as of April 30, 1999.

The unaudited pro forma combined statement of operations for all periods presented gives effect to the merger as if it had occurred on November 1, 1996. The fiscal years of CIENA and Omnia are different. CIENA expects that upon consummation of the merger, Omnia will change its fiscal year end to coincide with that of CIENA. For the purpose of the unaudited pro forma combined statements of operations for the fiscal years ended October 31, 1997 and 1998 and for the six months ended April 30, 1998 and 1999, Omnia's consolidated statements of operations for the period from June 3, 1997 (date of inception) to December 31, 1997, the fiscal year ended December 31, 1998 and for the six months ended April 30, 1998 and 1999 have been combined with CIENA's consolidated statements of operations for the fiscal years ended October 31, 1997 and 1998 and for the six months ended April 30, 1998 and 1999. A pro forma combined statement of operations is not presented for the fiscal year ended October 31, 1996, as Omnia did not commence operations until June 3, 1997. The six months ended April 30, 1998 and 1999 include two months of Omnia's financial results, which are also recorded in the fourth quarters and for the period from June 3, 1997 (date of inception) to December 31, 1997 and the year ended December 31, 1998.

UNAUDITED PRO FORMA COMBINED BALANCE SHEET
APRIL 30, 1999

	HISTORICAL		PRO FORMA	
	CIENA	OMNIA	ADJUSTMENTS	COMBINED
	(IN THOUSANDS)			
ASSETS				
Current Assets:				
Cash and cash equivalents.....	\$194,920	\$ 5,733	\$ --	\$200,653
Marketable debt securities.....	100,021	--	--	100,021
Accounts receivable, net.....	96,448	--	--	96,448
Inventories.....	54,062	123	--	54,185
Deferred income taxes.....	13,514	--	4,108(2)(4)	17,622
Prepaid expenses and other.....	9,615	383	--	9,998
	-----	-----	-----	-----
Total current assets.....	468,580	6,239	4,108	478,927
Equipment, furniture and fixtures, net.....	127,085	1,593	--	128,678
Goodwill and other intangible assets, net.....	14,446	--	--	14,446
Other assets.....	4,737	--	--	4,737
	-----	-----	-----	-----
Total assets.....	\$614,848	\$ 7,832	\$ 4,108	\$626,788
	=====	=====	=====	=====
LIABILITIES AND STOCKHOLDERS' EQUITY				
Current liabilities:				
Accounts payable.....	\$ 24,144	\$ 2,399	\$ --	\$ 26,543
Accrued liabilities.....	40,773	--	2,700(3)	43,473
Income taxes payable.....	9,216	--	(3,416)(2)(4)	5,800
Deferred revenue.....	719	--	--	719
Other current liabilities.....	1,276	346	--	1,622
	-----	-----	-----	-----
Total current liabilities.....	76,128	2,745	(716)	78,157
Deferred income taxes.....	36,580	--	--	36,580
Other long-term obligations.....	3,703	647	--	4,350
	-----	-----	-----	-----
Total liabilities.....	116,411	3,392	(716)	119,087
	-----	-----	-----	-----
Commitments and contingencies:				
Preferred stock.....	--	17,981	(17,981)(1)	--
Stockholders' equity:				
Common stock.....	1,213	12	139(1)	1,364
Additional paid-in capital.....	319,268	199	25,742(1)(4)	345,209
Notes receivable from stockholders'.....	(629)	--	--	(629)
Unearned compensation.....	(687)	(59)	--	(746)
Cumulative translation adjustment.....	21	--	--	21
Retained earnings (loss).....	179,251	(13,693)	(3,076)(2)(3)(4)	162,482
	-----	-----	-----	-----
Total stockholders' equity (deficit).....	498,437	(13,541)	22,805	507,701
	-----	-----	-----	-----
Total liabilities and stockholders' equity.....	\$614,848	\$ 7,832	\$ 4,108	\$626,788
	=====	=====	=====	=====

(1) Reflects the conversion of Omnia preferred and common stock based on the exchange rates per the merger agreement. The CIENA stock price used in the calculation was based on the close of business March 12, 1999 at a price of \$26.813.

(2) Reflects an adjustment to recognize the deferred tax asset and reverse the valuation allowance of \$4.1 million related to Omnia's prior net losses as CIENA is able to realize Omnia's net operating loss carryforwards in future periods.

(3) Reflects expenses of \$2.7 million in connection with the merger: mainly advisor fees, legal and accounting services and other integration costs.

(4) Reflects the estimated non-cash charge of \$7.9 million associated with the exercise of certain warrants based on the CIENA stock price on March 12, 1999 exercisable upon the completion of the proposed merger. The non-cash charge will be based upon the CIENA stock price on the date the merger is consummated.

UNAUDITED PRO FORMA COMBINED
STATEMENT OF OPERATIONS
YEAR ENDED OCTOBER 31, 1997

	HISTORICAL		ADJUSTMENTS (1)	COMBINED
	CIENA	OMNIA		
	(IN THOUSANDS, EXCEPT PER SHARE DATA)			
Revenue.....	\$413,215	\$ --	\$ --	\$413,215
Cost of goods sold.....	166,472	--	--	166,472
Gross profit.....	246,743	--	--	246,743
Operating expenses:				
Research and development.....	23,308	465	--	23,773
Selling and marketing.....	22,627	--	--	22,627
General and administrative.....	11,823	142	--	11,965
Pirelli litigation.....	7,500	--	--	7,500
Total operating expenses.....	65,258	607	--	65,865
Income (loss) from operations.....	181,485	(607)	--	180,878
Interest and other income (expense), net.....	7,593	36	--	7,629
Interest expense.....	(408)	(43)	--	(451)
Income (loss) before income taxes.....	188,670	(614)	--	188,056
Provision (benefit) for income taxes.....	72,703	--	(215)	72,488
Net income (loss).....	\$115,967	\$ (614)	\$ 215	\$115,568
Basic net income (loss) per common share.....	\$ 1.53	\$(0.32)		\$ 1.48
Diluted net income (loss) per common and dilutive potential common share.....	\$ 1.11	\$(0.32)		\$ 1.07
Weighted average basic common shares outstanding.....	75,802	1,942		78,135
Weighted average basic common and dilutive potential common shares outstanding.....	104,664	1,942		107,524

(1) Reflects an adjustment to recognize the deferred tax asset and reverse the valuation allowance related to Omnia's prior net losses as CIENA is able to realize Omnia's net operating loss carryforwards in future periods.

UNAUDITED PRO FORMA COMBINED
STATEMENT OF OPERATIONS
YEAR ENDED OCTOBER 31, 1998

	HISTORICAL			COMBINED
	CIENA	OMNIA	ADJUSTMENTS (1)	
(IN THOUSANDS, EXCEPT PER SHARE DATA)				
Revenue.....	\$508,087	\$ --	\$ --	\$508,087
Cost of goods sold.....	256,014	--	--	256,014
Gross profit.....	252,073	--	--	252,073
Operating expenses:				
Research and development.....	67,090	6,666	--	73,756
Selling and marketing.....	46,220	1,123	--	47,343
General and administrative.....	18,515	759	--	19,274
Purchased research and development.....	9,503	--	--	9,503
Pirelli litigation.....	30,579	--	--	30,579
Cost of proposed merger.....	2,548	--	--	2,548
Total operating expenses.....	174,455	8,548	--	183,003
Income (loss) from operations.....	77,618	(8,548)	--	69,070
Interest and other income (expense), net.....	12,886	259	--	13,145
Interest expense.....	(276)	(39)	--	(315)
Income (loss) before income taxes.....	90,228	(8,328)	--	81,900
Provision (benefit) for income taxes.....	39,115	--	(2,915)	36,200
Net income (loss).....	\$ 51,113	\$(8,328)	\$ 2,915	\$ 45,700
Basic net income (loss) per common share.....	\$ 0.46	\$ (1.28)		\$ 0.38
Diluted net income (loss) per common and dilutive potential common share.....	\$ 0.44	\$ (1.28)		\$ 0.35
Weighted average basic common shares outstanding.....	110,593	6,484		119,864
Weighted average basic common and dilutive potential common shares outstanding.....	117,150	6,484		129,170

(1) Reflects an adjustment to recognize the deferred tax asset and reverse the valuation allowance related to Omnia's prior net losses as CIENA is able to realize Omnia's net operating loss carryforwards in future periods.

UNAUDITED PRO FORMA COMBINED
STATEMENT OF OPERATIONS
SIX MONTHS ENDED APRIL 30, 1998

	HISTORICAL		ADJUSTMENTS(1)	COMBINED
	CIENA	OMNIA		
	(IN THOUSANDS, EXCEPT PER SHARE DATA)			
Revenue.....	\$287,810	\$ --	\$ --	\$287,810
Cost of goods sold.....	122,895	--	--	122,895
Gross profit.....	164,915	--	--	164,915
Operating expenses:				
Research and development.....	26,909	1,811	--	28,720
Selling and marketing.....	21,031	13	--	21,044
General and administrative.....	8,311	406	--	8,717
Purchased research and development.....	9,503	--	--	9,503
Pirelli litigation.....	10,000	--	--	10,000
Total operating expenses.....	75,754	2,230	--	77,984
Income (loss) from operations.....	89,161	(2,230)	--	86,931
Interest and other income (expense), net.....	7,208	44	--	7,252
Interest expense.....	(165)	(43)	--	(208)
Income (loss) before income taxes.....	96,204	(2,229)	--	93,975
Provision (benefit) for income taxes.....	41,296	1	(779)	40,518
Net income (loss).....	\$ 54,908	\$(2,230)	\$ 779	\$ 53,457
Basic net income (loss) per common share.....	\$ 0.53	\$ (0.38)		\$ 0.48
Diluted net income (loss) per common and dilutive potential common share.....	\$ 0.50	\$ (0.38)		\$ 0.45
Weighted average basic common shares outstanding.....	103,443	5,861		110,887
Weighted average basic common and dilutive potential common shares outstanding.....	110,045	5,861		119,405

(1) Reflects an adjustment to recognize the deferred tax asset and reverse the valuation allowance related to Omnia's prior net losses as CIENA is able to realize Omnia's net operating loss carryforwards in future periods.

UNAUDITED PRO FORMA COMBINED
STATEMENT OF OPERATIONS
SIX MONTHS ENDED APRIL 30, 1999

	HISTORICAL		ADJUSTMENTS(1)	COMBINED
	CIENA	OMNIA		
(IN THOUSANDS, EXCEPT PER SHARE DATA)				
Revenue.....	\$211,907	\$ --	\$ --	\$211,907
Cost of goods sold.....	137,016	--	--	137,016
Gross profit.....	74,891	--	--	74,891
Operating expenses:				
Research and development.....	40,950	5,362	--	46,312
Selling and marketing.....	25,301	1,399	--	26,700
General and administrative.....	10,229	656	--	10,885
Merger costs.....	2,253	--	--	2,253
Total operating expenses.....	78,733	7,417	--	86,150
Income (loss) from operations.....	(3,842)	(7,417)	--	(11,259)
Interest and other income (expense), net.....	6,876	218	--	7,094
Interest expense.....	(168)	(42)	--	(210)
Income (loss) before income taxes.....	2,866	(7,241)	--	(4,375)
Provision (benefit) for income taxes.....	989	5	(2,503)	(1,509)
Net income (loss).....	\$ 1,877	\$(7,246)	\$ 2,503	\$ (2,866)
Basic net income (loss) per common share.....	\$ 0.02	\$ (0.93)		\$ (0.02)
Diluted net income (loss) per common and dilutive potential common share.....	\$ 0.01	\$ (0.93)		\$ (0.02)
Weighted average basic common shares outstanding.....	120,646	7,804		133,139
Weighted average basic common and dilutive potential common shares outstanding.....	127,824	7,804		133,139

(1) Reflects an adjustment to recognize the deferred tax asset and reverse the valuation allowance related to Omnia's prior net losses as CIENA is able to realize Omnia's net operating loss carryforwards in future periods.

NOTES TO UNAUDITED PRO FORMA COMBINED FINANCIAL STATEMENTS

1. PERIODS PRESENTED

CIENA's fiscal year ends on October 31. Omnia's fiscal year ends on December 31. The unaudited pro forma combined balance sheet as of April 30, 1999 combines the unaudited balance sheet of CIENA and Omnia as of April 30, 1999. The unaudited pro forma combined statements of operations combines the results of operations of CIENA for the years ended October 31, 1997 and 1998 and for the six months ended April 30, 1998 and 1999 with the results of operations of Omnia for the period from June 3, 1997 (date of inception) to December 31, 1997, the year ended December 31, 1997 and for the six months ended April 30, 1998 and 1999. Unaudited pro forma combined statements of operations are not presented for the year ended October 31, 1996, as Omnia did not commence operations until June 3, 1997.

The six months ended April 30, 1998 and 1999 include two months of Omnia's financial results, which are also recorded in the fourth quarters and for the period from June 3, 1997 (date of inception) to December 31, 1997 and the year ended December 31, 1998. Omnia's net loss for the two months ended November and December 1997 and 1998 was \$614,000 and \$2,496,000, respectively.

2. PRO FORMA NET INCOME(LOSS) PER SHARE

The unaudited basic net income(loss) per common share is based upon the weighted average number of CIENA and Omnia common shares outstanding for each period using an exchange ratio of 0.91 of CIENA common stock for each share of Omnia common stock. The unaudited diluted net income (loss) per common and dilutive potential common share is based upon the weighted average number of CIENA and Omnia common and potential dilutive common shares outstanding for each period using an exchange ratio of 0.91 of CIENA common stock for each share of Omnia common stock.

3. CONFORMING ADJUSTMENTS AND INTERCOMPANY TRANSACTIONS

There are no material intercompany transactions included in the unaudited pro forma combined condensed financial statements. There were no material adjustments required to conform the accounting policies of CIENA and Omnia.

4. TRANSACTION COSTS

CIENA and Omnia estimate they will incur direct transaction costs of approximately \$10.6 million associated with the merger. The \$10.6 million consists of \$7.9 million estimated non-cash charge for the acceleration of warrants based upon CIENA's common stock price on March 12, 1999 and \$2.7 million for fees, legal and accounting services and other integration costs. The \$7.9 million warrant cost is shown net of tax. The warrants were issued to one of Omnia's customers and are exercisable upon the consummation of this merger. The actual non-cash charge for the acceleration of the warrants will be determined based upon the CIENA stock price on the date the merger is consummated. These nonrecurring transaction costs will be charged to operations as incurred. These charges have been reflected in the unaudited pro forma combined balance sheet but have not been included in the unaudited pro forma combined statement of operations.

INFORMATION CONCERNING OMNIA

BUSINESS

Omnia was incorporated in Delaware in June 1997. Omnia is a telecommunications equipment supplier, focusing on the development of solutions that enable companies that operate public telephone networks to offer new and existing services cost-effectively over integrated metropolitan fiber optic access and transport networks. Omnia's first product, the AXR 500, is a multi-service transport platform that combines the functionality of traditional transport equipment with advanced data networking capabilities. The AXR 500 utilizes packet and cell technology to enable service providers to deliver both legacy services, and advanced high-speed data services, over an integrated optical infrastructure.

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

RESULTS OF OPERATIONS

THREE MONTH PERIOD ENDED MARCH 31, 1999 COMPARED TO THE THREE MONTH PERIOD ENDED MARCH 31, 1998

RESEARCH AND DEVELOPMENT. Research and development expenses consist principally of compensation costs for engineers, materials used in the design and development of Omnia's AXR 500 product, depreciation expense, supplies and testing. Research and development expenses increased by \$1,345,000 to \$2,394,000 in the three month period ended March 31, 1999, from \$1,049,000 for the three month period ended March 31, 1998. The increase in spending was primarily due to increased engineering staffing, and the material costs for the prototype development of the AXR 500 included in the 1999 period.

SALES AND MARKETING. Sales and marketing expenses consist principally of the hiring costs for sales and marketing personnel, compensation costs, travel expenses, trade shows, costs related to the introduction of the AXR 500, and other marketing programs. Sales and marketing expenses were \$606,000 in the three month period ended March 31, 1999. Omnia had no sales and marketing expenses in the three month period ended March 31, 1998.

GENERAL AND ADMINISTRATIVE. General and administrative expenses consist principally of expenses for finance, administration and general management activities, including legal, accounting and other professional fees. General and administrative expenses increased by \$112,000 to \$305,000 in the three month period ended March 31, 1999, from \$193,000 for the three month period ended March 31, 1998. The increase in spending was primarily due to the addition of finance and administrative personnel to support overall company growth.

INTEREST INCOME, NET. Net interest income consists of interest on cash and cash equivalents, less interest expense on long-term debt and capital lease obligations. Net interest income increased by \$71,000 to \$79,000 in the three month period ended March 31, 1999, from \$8,000 for the three month period ended March 31, 1998. The 1999 increase in interest income was primarily related to the higher average cash balance available for investment as compared with the same period in 1998. The higher cash balance in 1999 is the result of the balance remaining from the Series B venture capital equity financing which closed in September, 1998. Total interest expense in 1999 was also higher, as a result of the \$1,000,000 long-term debt balance that was outstanding in the period. There was no long-term debt balance outstanding during the same period in 1998.

INCOME TAXES. Omnia has generated taxable losses from operations since inception and, accordingly, has not had taxable income available to offset the carryback of net operating losses. Omnia has provided a full valuation allowance for its deferred tax assets, since the ultimate realization of these future benefits is not sufficiently assured.

YEAR ENDED DECEMBER 31, 1998 COMPARED TO PERIOD FROM INCEPTION (JUNE 3, 1997) THROUGH DECEMBER 31, 1997

RESEARCH AND DEVELOPMENT. Research and development expenses consist principally of compensation costs for engineers, materials used in the design and development of Omnia's AXR 500 product, depreciation expense, supplies and testing. Research and development expenses increased by \$6,201,000 to \$6,666,000 in the year ended December 31, 1998, from \$465,000 for the period from June 3, 1997, the date of incorporation of Omnia, through December 31, 1997. The increase in spending was primarily due to increased engineering staffing, the material costs for the prototype development of the AXR 500, and because the period ended December 31, 1997 included only seven months of operations.

SALES AND MARKETING. Sales and marketing expenses consist principally of the hiring costs for sales and marketing personnel, compensation costs, travel expenses, trade shows, costs related to the introduction of the AXR 500, and other marketing programs. Sales and marketing expenses were \$1,123,000 for the year ended December 31, 1998. Omnia had no sales and marketing expenses in the period from June 3, 1997 through December 31, 1997.

GENERAL AND ADMINISTRATIVE. General and administrative expenses consist principally of expenses for finance, administration and general management activities, including legal, accounting and other professional fees. General and administrative expenses increased by \$617,000 to \$759,000 in the year ended December 31, 1998, from \$142,000 for the period from June 3, 1997 through December 31, 1997. The increase in spending was primarily due to the addition of finance and administrative personnel to support overall company growth, and because the period ended December 31, 1997 included only seven months of operations.

INTEREST INCOME (EXPENSE). Interest income (expense) consists of interest on cash and cash equivalents, less interest expense on long-term debt and capital lease obligations. Net interest income (expense) increased by \$227,000 in the year ended December 31, 1998, from (\$7,000) for the period from June 3, 1997 through December 31, 1997 to \$220,000 for the year ended December 31, 1998. The 1998 increase in interest income was primarily related to the increase in cash available for investment which resulted from the two venture capital equity financings which closed during the year, while for a substantial part of 1997 Omnia was financed by a convertible note payable prior to the closing of its initial equity financing in October 1997.

INCOME TAXES. Omnia has generated taxable losses from operations since inception and, accordingly, has not had taxable income available to offset the carryback of net operating losses. Omnia has provided a full valuation allowance for its deferred tax assets, since the ultimate realization of these future benefits is not sufficiently assured.

LIQUIDITY AND CAPITAL RESOURCES

At March 31, 1999, Omnia had cash and cash equivalents of \$7,382,000, an increase of \$3,465,000 from March 31, 1998. Omnia's net working capital position at March 31, 1999 was \$5,555,000. Omnia's principal sources of cash have been sales of equity securities, a line of credit facility with a bank, and capital equipment leasing. In March 1998, Omnia sold shares of Series A Redeemable Preferred Stock for approximately \$590,000, and in September 1998, Omnia sold shares of Series B Convertible Preferred Stock for approximately \$12,150,000. During 1998, Omnia also borrowed \$1,000,000 under an equipment line of credit from a bank. The equipment line of credit bears interest at the prime rate, and is payable in 36 equal monthly installments beginning in April 1999, plus interest. Cash used in operations for the three month period ended March 31, 1999 was the result of Omnia's operating loss for the period, and the build up of materials needed to complete Omnia's prototype phase, and to begin field trials of the AXR 500 with customers.

Investing activities in the three month period ended March 31, 1999 included \$275,000 for equipment and improvements. Capital expenditures included computers and equipment for research and development, sales, marketing and general administration to support Omnia's growth.

At December 31, 1998, Omnia had cash and cash equivalents of \$10,934,000, an increase of \$6,236,000 from December 31, 1997. Omnia's net working capital position at December 31, 1998 was \$8,909,000. Omnia's principal sources of cash have been private sales of equity securities, a line of credit facility with a bank, and capital equipment leasing. In October 1997 and March 1998, Omnia sold shares of Series A Redeemable Preferred Stock for approximately \$5,831,000 in the aggregate, and in September 1998, Omnia sold shares of Series B Participating Convertible Preferred Stock for approximately \$12,150,000. During 1998, Omnia also borrowed \$1,000,000 under an equipment line of credit from a bank. The equipment line of credit bears interest at the prime rate, and is payable in 36 equal monthly installments beginning in April 1999, plus interest. Cash used in operations for 1998 was the result of Omnia's operating loss for the year, and the build up of materials needed to complete Omnia's prototype phase and to begin field trials of the AXR 500 with customers.

Investing activities in 1998 included \$1,036,000 for equipment and improvements. Capital expenditures included computers and equipment for research and development, sales, marketing and general administration to support Omnia's growth.

Omnia expects to incur significant cash outlays for the balance of fiscal 1999 related to the continued funding of operating losses, the build-up of inventory and other working capital requirements as it commences with initial product shipments to customers, and additional capital equipment investments, including expenditures related to the relocation to a new primary facility in which occurred in May 1999. Omnia intends to finance these investments and working capital requirements through proceeds received from additional debt and equity financings during the balance of fiscal 1999.

OMNIA'S CHIEF EXECUTIVE OFFICER

MICHAEL A. CHAMPA, 47, a co-founder of Omnia, has served as President, Chief Executive Officer and a Director of Omnia since October 1997. Mr. Champa served as an unpaid advisor to Omnia from its inception in June 1997 to October 1997. Prior to co-founding Omnia, Mr. Champa was Vice President, Worldwide Sales and Service at Cascade Communications, a manufacturer of Frame Relay and ATM switches targeted at the Telco/ISP market. From March 1990 to March 1992, he was Vice President of International Sales at Microcom, Inc.

EXECUTIVE COMPENSATION

The following table sets forth the total compensation received in the fiscal year ended December 31, 1998 by Omnia's Chief Executive Officer.

SUMMARY COMPENSATION TABLE

NAME AND PRINCIPAL POSITION -----	YEAR ----	ANNUAL COMPENSATION SALARY(\$) -----
Michael A. Champa President and Chief Executive Officer	1998	\$120,000

Mr. Champa holds no options to acquire Omnia shares and did not receive or exercise any options during the fiscal year ended December 31, 1998.

RELATED TRANSACTIONS

In December 1998, the compensation committee of Omnia's board of directors submitted their recommendations to the board concerning overall 1999 compensation for Omnia's officers, founders and employees. On January 27, 1999, at their regularly scheduled meeting, the board accepted the recommendations of the committee. Included in the committee's recommendations was the grant, to only those founders and officers who had been employees of Omnia for greater than one year as of January 1, 1999, of the opportunity to purchase additional restricted shares of Omnia's common stock. The purchase price for the restricted shares was \$0.33 per share, representing the fair market value of Omnia's common stock at the grant date. Under the terms of this grant, and the standard terms and conditions of the Company's restricted stock purchase agreements, Omnia shall have the right to repurchase a certain percentage of the shares if the officer or founder ceases to be employed by Omnia for any reason, with or without cause, prior to January 2003. In addition, upon a change in control (which the merger would qualify as), the number of shares then subject to the repurchase option shall be reduced by 50%, and the number of shares remaining subject to the purchase option thereafter will be reduced in equal increments over the following twelve months. In January 1999, Mr. Champa purchased 20,000 shares of Omnia common stock under this grant.

The table below sets forth, for each director, executive officer and affiliates of Omnia, the increase in value to be realized on each of their purchases as a result of the merger. There is no increase in value of Series A Preferred Stock but the individual stockholder receives the redemption value of the shares (equal to the price paid). The increase in value of Series B Preferred Stock also does not reflect the redemption value which is also paid on the Series B Preferred Stock. The value of the CIENA stock is assumed, based on the closing price of CIENA's common stock of \$31.375 on June 9, 1999.

STOCKHOLDER -----	OMNIA SHARES -----	OMNIA PURCHASE PRICE -----	INCREASE IN VALUE -----
Michael A. Champa.....			\$32,287,275.88
Common Stock	1,107,000	\$0.001	
	20,000	.33	
Series B Preferred Stock	--	--	
Bessemer Venture Partners.....			79,385,371.56
Common Stock	2,228,000	.01	
Series B Preferred Stock	698,370	3.25	
Robi L. Soni.....			79,385,371.56
Common Stock	2,228,000	.01	
Series B Preferred Stock	698,370	3.25	
Charles River Partners.....			79,385,371.56
Common Stock	2,228,000	.01	
Series B Preferred Stock	698,370	3.25	
Richard Burnes.....			79,385,371.56
Common Stock	2,228,000	.01	
Series B Preferred Stock	698,370	3.25	
Atlas Ventures.....			46,919,169.91
Common Stock	--	--	
Series B Preferred Stock	1,846,154	3.25	
Barry Fidelman.....			46,919,169.91
Common Stock	--	--	
Series B Preferred Stock	1,846,154	3.25	
SVM Star Ventures.....			41,486,764.78
Common Stock	1,164,000	0.01	
Series B Preferred Stock	365,351	3.25	

STOCKHOLDER	OMNIA SHARES	OMNIA PURCHASE PRICE	INCREASE IN VALUE
Jeffrey Weiss.....			29,360,548.32
Common Stock	10,000	0.33	
Series B Preferred Stock	1,014,750	0.001	--
Jeffrey Black.....			29,077,202.83
Common Stock	1,014,750	0.001	
Series B Preferred Stock	--		--
James M. Dow.....			11,394,848.46
Common Stock	340,000	0.01/.001	
Series B Preferred Stock	74,363.00	3.25	
Walter Dray.....			10,856,873.79
Common Stock	379,000		
Series B Preferred Stock	10,000	0.33	
Options	369,000	0.001	
William Regan.....			10,856,873.79
Common Stock	379,000		
Series B Preferred Stock	10,000	0.33	
Options	369,000	0.001	
Lawrence M. Harding.....			5,237,795.52
Common Stock	183,367	0.10	
Series B Preferred Stock	--		
James O'Bray.....			3,491,873.20
Common Stock	122,245	0.10	
Series B Preferred Stock	--		
Jay Damiano.....			2,537,182.24
Common Stock	--		
Series B Preferred Stock	--		
Options	150,000	11.75	
Mitchell Rosich.....			5,401,593.32
Common Stock	--		
Series B Preferred Stock	--		
Options	319,346	11.75	

SECURITY OWNERSHIP OF DIRECTORS, EXECUTIVE OFFICERS AND PRINCIPAL STOCKHOLDERS OF OMNIA

The following table sets forth, as of June 9, 1999, the security ownership of the directors, executive officers and more than 5% stockholders of Omnia. Unless otherwise indicated, each person's address is in care of Omnia Communications, Inc., 400 Nickerson Road, Marlborough, Massachusetts 01752. To the knowledge of Omnia, the persons named in the table have sole voting and investment power with respect to all shares of Omnia stock shown as beneficially owned by them, subject to the information contained in the footnotes to the table. Beneficial ownership is determined according to the rules of the SEC. Shares of Omnia common stock subject to options currently exercisable or

exercisable within sixty days from the date of this table are deemed outstanding when determining the number of shares and percentage ownership by the person holding these options.

NAME OF BENEFICIAL OWNER	NUMBER OF SHARES OF COMMON STOCK BENEFICIALLY OWNED	PERCENT OF COMMON STOCK (1)	NUMBER OF SHARES OF SERIES A PREFERRED STOCK BENEFICIALLY OWNED	PERCENT OF SERIES A PREFERRED STOCK (2)	NUMBER OF SHARES OF SERIES B PREFERRED STOCK BENEFICIALLY OWNED	PERCENT OF SERIES B PREFERRED STOCK (3)
Bessemer Venture Partners (4) 1400 Old Country Road, Suite 407 Westbury, NY 11590.....	2,228,000	18.3%	2,228,000	37.8%	698,370	18.7%
Robi L. Soni (5) c/o Bessemer Venture Partners 83 Walnut Street Wellesley, MA 02481.....	2,228,000	18.3%	2,228,000	37.8%	698,370	18.7%
Charles River Partners (6) Bay Colony Corporate Center 1000 Winter Street, Suite 3300 Waltham, MA 02154.....	2,228,000	18.3%	2,228,000	37.8%	698,370	18.7%
Richard Burnes (7) c/o Charles River Partners Bay Colony Corporate Center 1000 Winter Street, Suite 3300 Waltham, MA 02154.....	2,228,000	18.3%	2,228,000	37.8%	698,370	18.7%
Atlas Ventures (8) 222 Berkeley Street Boston, MA 02116.....	0	0%	0	0%	1,846,154	49.4%
Barry Fidelman (9) c/o Atlas Ventures 222 Berkeley Street Boston, MA 02116.....	0	0%	0	0%	1,846,154	49.4%
SVM STAR Ventures Management (10) Possartstrasse 9 D-81679 Munich, Germany.....	1,164,000	9.6%	1,164,000	19.8%	365,351	9.8%
Michael A. Champa.....	1,127,000	9.3%	0	0%	0	0%
Jeffrey Weiss.....	1,024,750	8.4%	0	0%	0	0%
Jeffrey Black.....	1,014,750	8.4%	0	0%	0	0%
James M. Dow.....	340,000	2.8%	240,000	4.1%	74,363	2%
Walter Dray.....	379,000	3.1%	0	0%	0	0%
William Regan.....	379,000	3.1%	0	0%	0	0%
Lawrence M. Harding.....	183,367	1.5%	0	0%	0	0%
James O'Bray.....	122,245	1.0%	0	0%	0	0%
Jay Damiano (11).....	0	0%	0	0%	0	0%
Mitchell Rosich (11).....	0	0%	0	0%	0	0%
All executive officers and directors as a group (13 persons).....	9,026,112	74.3%	4,696,000	79.7%	3,317,257	88.7%

NAME OF BENEFICIAL OWNER	PERCENTAGE AGGREGATE VOTING POWER
Bessemer Venture Partners (4) 1400 Old Country Road, Suite 407 Westbury, NY 11590.....	18.4%
Robi L. Soni (5) c/o Bessemer Venture Partners 83 Walnut Street Wellesley, MA 02481.....	18.4%
Charles River Partners (6) Bay Colony Corporate Center 1000 Winter Street, Suite 3300 Waltham, MA 02154.....	18.4%
Richard Burnes (7) c/o Charles River Partners Bay Colony Corporate Center 1000 Winter Street, Suite 3300 Waltham, MA 02154.....	18.4%
Atlas Ventures (8) 222 Berkeley Street Boston, MA 02116.....	11.6%

Barry Fidelman (9) c/o Atlas Ventures 222 Berkeley Street Boston, MA 02116.....	11.6%
SVM STAR Ventures Management (10) Possartstrasse 9 D-81679 Munich, Germany.....	9.6%
Michael A. Champa.....	7.1%
Jeffrey Weiss.....	6.5%
Jeffrey Black.....	6.4%
James M. Dow.....	2.6%
Walter Dray.....	2.4%
William Regan.....	2.4%
Lawrence M. Harding.....	1.2%
James O'Bray.....	.8%
Jay Damiano (11).....	1.0%
Mitchell Rosich (11).....	2.0%
All executive officers and directors as a group (13 persons).....	77.7%

(1) Based on 12,142,790 shares outstanding as of March 15, 1999.

(2) Based on 5,890,000 shares outstanding as of March 15, 1999.

(3) Based on 3,738,462 shares outstanding as of March 15, 1999.

(4) Includes shares held by Bessemer Venture Partners IV L.P., Bessec Ventures IV L.P., BVP IV Special Situations L.P. and Bessemer Venture Investors L.P. Also includes shares held by

members, employees and former employees, or family partnerships of those persons, of the limited partner or general partner of the foregoing limited partnerships.

- (5) Mr. Soni, a member of Deer IV & Co. LLC, the general partner of Bessemer Venture Partners IV, L.P., Bessec Ventures IV L.P., BVP IV Special Situations L.P. and Bessemer Venture Investors L.P., is a director of Omnia. Mr. Soni shares voting power with respect to the shares listed and investment power with respect to the shares held by the foregoing limited partnerships. Mr. Soni owns directly 15,914 shares of Omnia common stock, 15,914 shares of Omnia Series A preferred stock and 14,532 shares of Omnia Series B preferred stock. Mr. Soni disclaims beneficial ownership of all other shares listed except to the extent of his pecuniary interest in the shares held by the foregoing limited partnerships.
- (6) Includes shares held by Charles River Partnership VIII, a Limited Partnership, Charles River VIII-A LLC and Charles River Partnership VIII.
- (7) Mr. Burnes, a general partner of Charles River VIII GP Limited Partnership, the general partner of Charles River Partnership VIII, a Limited Partnership, an officer of Charles River Friends VII, Inc., the manager of Charles River VIII-A LLC and a general partner of Charles River Partnership VIII, is a director of Omnia. Mr. Burnes shares voting and investment power with respect to the shares listed. Mr. Burnes does not own any shares of Omnia in his individual capacity and disclaims beneficial ownership of the shares listed except to the extent of his pecuniary interest therein.
- (8) Includes shares held by Atlas Venture Fund III, L.P. and Atlas Venture Entrepreneurs' Fund III, L.P.
- (9) Mr. Fidelman, a member manager of Atlas Venture Associates III, LLC, the general partner of Atlas Venture Fund III, L.P. and Atlas Venture Entrepreneurs' Fund III, L.P., is a director of Omnia. Mr. Fidelman shares voting and investment power with respect to the shares listed. Mr. Fidelman does not own any shares of Omnia in his individual capacity and disclaims beneficial ownership of the shares listed except to the extent of his pecuniary interest therein.
- (10) Includes shares held by SVE STAR Ventures Enterprises No. VII, SVM Star Ventures Managementgesellschaft mbH Nr. 3 & Co. Beteiligungs KG No. 2, SVE STAR Ventures Enterprises No. V and SVM STAR Ventures Management GmbH No. 3.
- (11) In the event that these option holders exercise all of their options, they will have the percentage voting power designated.

CIENA CAPITAL STOCK

If the merger is completed, shares of Omnia common stock and preferred stock will be converted into shares of CIENA common stock. As a result, Omnia stockholders, whose rights are currently governed by the Delaware General Corporation Law, Omnia's certificate of incorporation and bylaws, will become CIENA stockholders, whose rights are governed by the same Delaware law, CIENA's certificate of incorporation and bylaws.

The following is a description of the capital stock of CIENA, including the CIENA common stock to be issued in the merger, and a summary of the material differences between the rights of Omnia stockholders and CIENA stockholders. These differences arise from the differences between CIENA's certificate of incorporation and bylaws relative to Omnia's certificate of incorporation and bylaws. Although it is impractical to compare all of the aspects in which the companies' governing instruments differ with respect to stockholders' rights, the following discussion summarizes the significant differences between them.

DESCRIPTION OF CIENA CAPITAL STOCK

The following summary description of the capital stock of CIENA does not purport to be complete and is qualified in its entirety by the provisions of CIENA's certificate of incorporation and bylaws and by the applicable provisions of the DGCL. For information on how to obtain copies of CIENA's certificate of incorporation and bylaws, see "Where You Can Find More Information."

AUTHORIZED AND OUTSTANDING CAPITAL STOCK OF CIENA

Under the provisions of CIENA's certificate of incorporation, CIENA has authority to issue 380,000,000 shares of capital stock, consisting of 360,000,000 shares of CIENA common stock, par value \$.01 per share, and 20,000,000 shares of preferred stock, par value \$.01 per share. As of June 9, 1999, 121,502,327 shares of CIENA common stock, and no shares of CIENA preferred stock were issued and outstanding.

The rights of the holders of CIENA common stock discussed below are subject to those rights as the CIENA board may confer on holders of CIENA preferred stock that may be issued in the future. The rights may adversely affect the rights of holders of CIENA common stock.

CIENA COMMON STOCK

VOTING RIGHTS. Each holder of CIENA common stock is entitled to attend all special and annual meetings of the stockholders of CIENA and to vote upon any matter, including, without limitation, the election of directors, properly considered and acted upon by the stockholders of CIENA. Holders of CIENA common stock are entitled to one vote per share.

LIQUIDATION RIGHTS. In the event of any dissolution, liquidation or winding up of CIENA, whether voluntary or involuntary, the holders of CIENA common stock and holders of any class or series of stock entitled to participate with them, will be entitled to participate in the distribution of any assets of CIENA remaining after CIENA has paid all of its debts and liabilities after CIENA has paid, or set aside for payment, to the holders of any class of stock having preference over the CIENA common stock in the event of dissolution, liquidation or winding up the full preferential amounts, if any, to which they are entitled.

DIVIDENDS. Dividends may be paid on the CIENA common stock and on any class or series of stock entitled to participate therewith when and as declared by the CIENA board.

NO PREEMPTIVE OR CONVERSION RIGHTS. The holders of CIENA common stock have no preemptive or subscription rights to purchase additional securities issued by CIENA nor any rights to convert their CIENA common stock into other securities of CIENA or to have their shares redeemed by CIENA.

CIENA PREFERRED STOCK

CIENA has no preferred stock outstanding. However, CIENA has classified shares of Series A Junior Participating Preferred Stock in connection with the establishment of its Stockholder Rights Plan, as described further below.

LIMITATION OF LIABILITY AND INDEMNIFICATION

LIMITATIONS OF DIRECTOR LIABILITY. Delaware law authorizes corporations to limit or eliminate the personal liability of directors to corporations and their stockholders for monetary damages for breach of directors' fiduciary duty of care. Although Delaware law does not change directors' duty of care, it enables corporations to limit available relief to equitable remedies as injunction or rescission. CIENA's certificate of incorporation limits the liability of directors to CIENA or its stockholders to the full extent permitted by Delaware law. Specifically, directors of CIENA are not personally liable

for monetary damages to CIENA or its stockholders for breach of the director's fiduciary duty as a director, except for liability for:

- any breach of the director's duty of loyalty to CIENA or its stockholders
- acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law
- unlawful payments of dividends or unlawful stock repurchases or redemptions
- any transaction from which the director derived an improper personal benefit

INDEMNIFICATION. To the maximum extent permitted by law, CIENA's bylaws provide for mandatory indemnification of directors and officers of CIENA against any expense, liability or loss to which they may become subject, or which they may incur as a result of being or having been a director or officer of CIENA. In addition, CIENA must advance or reimburse directors and officers for expenses they incur in connection with indemnifiable claims.

CIENA also maintains directors' and officers' liability insurance.

IMPORTANT CHARTER AND STATUTORY PROVISIONS

CLASSIFIED BOARD. CIENA's certificate of incorporation provides for the division of the CIENA Board into three classes of directors, serving staggered three-year terms. CIENA's certificate of incorporation further provides that the approval of the holders of at least two-thirds of the shares entitled to vote thereon and the approval of a majority of the entire CIENA Board are necessary for the alteration, amendment or repeal of certain sections of CIENA's certificate of incorporation relating to the election and classification of the CIENA Board, action by written consent, limitation of director liability, indemnification and the vote requirements for amendments to CIENA's certificate of incorporation. These provisions may deter hostile takeovers or delay changes in control or management of CIENA.

ACTION BY WRITTEN CONSENTS. CIENA's certificate of incorporation eliminates action by written consent of stockholders. This provision, which makes it difficult for stockholders to act outside of a special meeting, may also deter hostile takeovers or delay changes in control or management of CIENA.

IMPORTANT STATUTORY PROVISIONS. CIENA is subject to the provisions of Section 203 of the Delaware General Corporation Law. In general, this statute prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years after the date of the transaction in which the person became an interested stockholder, unless

- prior to that date, the corporation's board of directors approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder,
- upon consummation of the transaction that resulted in the person becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding, for purposes of determining the number of shares outstanding, shares owned by directors or employee stock plans, or
- on or after the date the stockholder became an interested stockholder, the business combination is approved by the corporation's board of directors and authorized by the affirmative vote, and not by written consent, of at least two-thirds of the outstanding voting stock of the corporation excluding that stock owned by the interested stockholder.

A "business combination" includes a merger, asset sale or other transaction resulting in a financial benefit to the interested stockholder. An "interested stockholder" is a person, other than the corporation and any direct or indirect wholly owned subsidiary of the corporation, who together with affiliates and associates, owns or, as an affiliate or associate, within three years prior, did own 15% or more of the corporation's outstanding voting stock.

Section 203 expressly exempts from the requirements described above any business combination by a corporation with an interested stockholder who becomes an interested stockholder in a transaction approved by that corporation's board of directors.

STOCKHOLDER RIGHTS PLAN. In December 1997, CIENA's board of directors adopted a Stockholders 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 CIENA 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 one one-thousandth of a share of junior preferred stock of CIENA. 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 CIENA's common stock or if CIENA enters into 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 CIENA or 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 CIENA's board of directors. All of the CIENA shares to be issued to Omnia shareholders will be issued with rights attached.

TRANSFER AGENT AND REGISTRAR

The transfer agent and registrar for the CIENA common stock is Boston EquiServe.

COMPARISON OF STOCKHOLDER RIGHTS

GENERAL

Both Omnia and CIENA are corporations organized under the laws of Delaware and are therefore subject to the Delaware corporation statute. However, there are differences in the charters and by-laws of Omnia and CIENA that affect the rights of their respective stockholders.

CAPITALIZATION

CIENA. CIENA is authorized to issue 360,000,000 shares of common stock and 20,000,000 shares of preferred stock. On June 9, 1999, 119,734,251 shares of CIENA common stock were outstanding and no shares of CIENA preferred stock were outstanding. CIENA's board has the authority, without stockholder approval, to issue shares of authorized preferred stock from time to time in one or more series and to fix the rights and preferences, including voting rights, of each series of preferred stock, which rights and preferences may be superior to that of CIENA's common stock.

OMNIA. Omnia is authorized to issue 18,000,000 shares of common stock, 5,890,000 shares of Series A preferred stock and 3,738,462 shares of Series B preferred stock. On the record date, 12,142,790 shares of common stock and all of the authorized shares of Series A preferred stock and Series B preferred stock were outstanding. In the event of a merger or acquisition of Omnia, the holders of Series A preferred stock and Series B preferred stock have the right to have their shares of Omnia preferred stock redeemed by Omnia.

VOTING RIGHTS

CIENA. Each holder of CIENA common stock is entitled to one vote for each share and may not cumulate votes for the election of directors.

OMNIA. Each holder of Omnia common stock is entitled to one vote for each share and may not cumulate votes for the election of directors. Each holder of Omnia Series B preferred stock is entitled to one vote for each share of Omnia common stock into which the shares of Series B preferred stock are convertible and may not cumulate votes for the election of directors. Holders of Omnia Series A preferred stock are not entitled to vote on the election of directors or on any other matter, except with respect to some of the matters specifically set forth in Omnia's charter, including mergers.

NUMBER AND CLASSIFICATION OF DIRECTORS

CIENA. CIENA's charter provides that its board of directors will be comprised of three classes of two directors each, with each class elected for a term of three years, so that a different class of directors stands for election each year. CIENA's by-laws provide that the number of directors may not be less than five nor more than seven.

OMNIA. Omnia's charter does not specify the number of directors Omnia must have. Like CIENA's by-laws, Omnia's by-laws provide that the number of directors may not be less than five nor more than seven. Omnia's by-laws provide for a single class of directors who are elected at the annual meeting of stockholders and hold office until their successors are elected and qualified.

REMOVAL OF DIRECTORS

CIENA. CIENA's charter provides that a director may only be removed from office by the affirmative vote of a majority of the shares of capital stock of CIENA outstanding and entitled to vote on the election of directors. CIENA's by-laws provide that a director may only be removed from office by the stockholders at a special meeting called for that purpose.

OMNIA. Omnia's charter does not contain any provisions regarding the removal of directors. Omnia's by-laws provide that a director may be removed from office by the affirmative vote of a majority of the shares of capital stock of Omnia outstanding and entitled to vote on the election of directors at any annual meeting or special meeting, or by the affirmative vote of a majority of the directors then in office.

FILLING VACANCIES ON THE BOARD OF DIRECTORS

CIENA. CIENA's charter provides that, subject to the rights of any then-existing series of preferred stock, if a vacancy occurs on the CIENA board (other than a vacancy resulting from the removal of a director by the stockholders but including a vacancy resulting from an increase in the size of the board), the vacancy may be filled only by a majority vote of the directors then in office, even if they constitute less than a quorum. However, if a vacancy results from the removal of a director by the stockholders at a meeting called for that purpose, then the stockholders may fill the vacancy at that meeting.

OMNIA. Omnia's charter does not contain any provisions regarding the filling of vacancies. Omnia's by-laws provide that vacancies may be filled by the stockholders or by the directors then in office.

CHARTER AMENDMENTS

CIENA. CIENA's charter provides that the affirmative vote of the holders of at least 66 2/3% of the voting power of all outstanding shares of the capital stock of CIENA entitled to vote on the election of directors is required to amend some provisions of CIENA's charter relating to the board

of directors, stockholder action, amendment of the charter and indemnification of officers and directors of CIENA.

OMNIA. Omnia's charter may be amended in any manner provided for by law, except that any amendment that would adversely affect the rights, preferences or privileges of the holders of Series A preferred stock or Series B preferred stock requires the vote of the holders of two-thirds of the outstanding shares of Series A preferred stock and Series B preferred stock.

AMENDMENTS TO BY-LAWS

CIENA. CIENA's charter provides that the affirmative vote of the holders of at least 66 2/3% of the voting power of all outstanding shares of the capital stock of CIENA entitled to vote on the election of directors is required to amend CIENA's by-laws.

OMNIA. Omnia's by-laws provide that they may be amended by the stockholders at any annual or special meeting by the vote of a majority of all shares outstanding and entitled to vote, except that where any amendment would reduce a voting requirement required by law, the charter or the by-laws, such amendment will require the affirmative vote designated in the provision being amended. In addition, Omnia's by-laws provide that the by-laws may be amended by the board at a meeting called for that purpose by a majority vote of the directors, except that the directors may not amend the by-laws in a way that:

- changes the stockholder voting requirements for any action,
- alters or abolishes any preferential right or right of redemption of a class or series of stock with shares already outstanding,
- alters the provisions of the by-laws relating to indemnification of officers and directors, or
- permits the board to take any action which the law, the charter or the by-laws requires the stockholders to take.

Furthermore, Omnia's charter provides that the by-laws may not be amended in any manner that would adversely affect the rights, preferences or privileges of the holders of Series A preferred stock or Series B preferred stock requires the vote of the holders of two-thirds of the outstanding shares of Series A preferred stock and Series B preferred stock.

ACTION BY WRITTEN CONSENT

CIENA. CIENA's charter provides that any action by the stockholders may only be taken at an annual or special meeting and may not be taken by written consent.

OMNIA. Omnia's by-laws provide that any action that must or may be required to be taken by stockholders may be taken by written consent.

NOTICE OF STOCKHOLDER ACTIONS

CIENA. Neither CIENA's charter nor its by-laws require advance notice of stockholder nominations of directors or any other business to be brought by stockholders before any meeting of stockholders.

OMNIA. Neither Omnia's charter nor its by-laws require advance notice of business to be brought by stockholders before any meeting of stockholders, except that stockholder nominations for directors must be made by written notice to the secretary of Omnia at least 14 days, but not more than 60 days, before any meeting called for the election of directors. However, if stockholders are given less than 21 days' notice of the meeting, then they must give notice of their nominations no later than five days after the day notice of the meeting was mailed to them.

RIGHT TO CALL SPECIAL MEETING OF SHAREHOLDERS

CIENA. CIENA's by-laws provide that a special meeting of stockholders may be called at any time by the board or the president and must be called by the president or the secretary at the request of the holders of at least 25% of the number of shares of stock outstanding and entitled to vote at the meeting.

OMNIA. Omnia's by-laws provide that a special meeting of stockholders may be called at any time by the board or the president.

DIVIDENDS

CIENA. CIENA's by-laws provide that, from time to time, CIENA's board may declare and pay dividends upon shares of CIENA stock, but only out of funds available for the payment of dividends as provided by law.

OMNIA. Subject to Omnia's charter, Omnia's by-laws provide that Omnia's board may declare what, if any, dividends may be paid from Omnia's surplus or from its net profits for the current or preceding fiscal year, or as otherwise permitted by law. Dividends are payable on the dates as Omnia's board designates. Omnia's charter provides that no dividends may be paid to the holders of any other capital stock of Omnia unless sufficient funds are set aside at the same time to pay dividends to the holders of Series B preferred stock and the holders are actually paid the dividends.

CONVERSION AND REDEMPTION

CIENA. Holders of CIENA common stock have no right to convert their shares into any other shares of the capital stock of CIENA or any other securities.

OMNIA. Holders of Omnia common stock and Series A preferred stock have no right to convert their shares into any other shares of the capital stock of Omnia or any other securities. Holders of Omnia Series B preferred stock have the right to convert their shares into a number of shares of common stock determined by dividing \$3.25 by the then current conversion price as calculated based on the provisions of the charter, which is currently \$3.25 per share. The holders of Series B preferred stock do not have to pay any additional money to Omnia in order to convert their shares. Their shares automatically convert into common stock upon the closing of a public offering of shares of common stock at a price of at least \$15.00 per share resulting in net proceeds to Omnia of at least \$15,000,000. Holders of Omnia Series A preferred stock and Series B preferred stock also have the right to have their shares redeemed by Omnia on certain dates and events specified in the charter, at a price of \$.99 per share for the Series A preferred stock and \$3.25 per share for the Series B preferred stock.

OTHER MATTERS

LEGAL MATTERS

The validity of the CIENA common stock offered hereby will be passed upon by Hogan & Hartson L.L.P., counsel to CIENA.

The federal income tax consequences described in this prospectus and proxy statement are the subject of opinions issued by Hogan & Hartson L.L.P., counsel to CIENA, and Hale and Dorr LLP, counsel to Omnia.

EXPERTS

The consolidated financial statements of CIENA Corporation at October 31, 1997 and 1998, and for each of the three years in the period ended October 31, 1998, incorporated in this prospectus and proxy statement by reference to the Current Report on Form 8-K of CIENA Corporation filed on April 1, 1999 and amended on April 5, 1999, have been so incorporated in reliance on the report of

PricewaterhouseCoopers LLP, independent accountants, given on the authority of said firm as experts in auditing and accounting.

The consolidated financial statements of Omnia Communications, Inc., at December 31, 1997 and 1998, and for the period from June 3, 1997 (date of inception) to December 31, 1997, for the year ended December 31, 1998 and for the period from June 3, 1997 (date of inception) to December 31, 1998, included in this prospectus and proxy statement have been so included in reliance on the report of PricewaterhouseCoopers LLP, independent accountants, given on the authority of said firm as experts in auditing and accounting.

OTHER MATTERS

As of the date of this prospectus and proxy statement, the Omnia board knows of no matter that will be presented for consideration at the special meeting other than as described in this prospectus and proxy statement. If any other matters come before the special meeting or any adjournments or postponements of the special meeting and are voted upon, the enclosed proxies will confer discretionary authority on the individuals named as proxies to vote the shares represented by the proxies as to any of those matters. The individuals named as proxies intend to vote or not to vote in accordance with the recommendation of the management of Omnia. However, if there are not enough votes to approve the proposals, the proxy holders will not use discretionary voting authority to adjourn the meeting.

WHERE YOU CAN FIND MORE INFORMATION

CIENA has filed the Registration Statement of which this proxy statement and prospectus is a part. The Registration Statement registers the distribution to Omnia stockholders of the shares of CIENA common stock to be issued in connection with the merger. The Registration Statement, including the attached exhibits and schedules, contain additional relevant information about CIENA common stock. The rules and regulations of the SEC allow us to omit certain information included in the Registration Statement from this prospectus and proxy statement.

In addition, CIENA files reports, proxy statements and other information with the SEC under the Exchange Act. You may read and copy any of this information at the following locations of the SEC:

Public Reference Room
450 Fifth Street, N.W.
Room 1024
Washington, D.C. 20549

New York Regional Office
7 World Trade Center
Suite 1300
New York, New York 10048

Chicago Regional Office
Citicorp Center
500 West Madison Street
Suite 1400
Chicago, Illinois 60661-2511

You may obtain information on the operation of the SEC's Public Reference Room by calling the SEC at 1-800-SEC-0330.

The SEC also maintains an Internet web site that contains reports, proxy statements and other information regarding issuers, like CIENA, that file electronically with the SEC. The address of that site is <http://www.sec.gov>. The SEC file number for our documents filed under the Exchange Act is 0-21969.

The SEC allows CIENA to "incorporate by reference" information into this prospectus and proxy statement. This means that CIENA can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is considered to be a part of this prospectus and proxy statement, except for any information that is superseded by information that is included directly in this document.

This prospectus and proxy statement incorporates by reference the documents listed below that CIENA has previously filed or will file with the SEC. They contain important information about CIENA and its financial condition.

- CIENA's Annual Report on Form 10-K for its fiscal year ended October 31, 1998, filed on December 10, 1998 and amended on April 5, 1999
- CIENA's two Current Reports on Form 8-K, filed on April 1, 1999 (and amended April 5, 1999) and April 5, 1999
- CIENA's Quarterly Reports on Form 10-Q for the quarterly period ended January 31, 1999, filed on February 18, 1999 and the quarterly period ended April 30, 1999, filed on May 21, 1999
- All documents filed with the SEC by CIENA pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act after the date of this prospectus and proxy statement and prior to the date of the termination of the offering are incorporated by reference into this prospectus and proxy statement, effective the date that the documents are filed
- The description of CIENA common stock in the CIENA Registration Statement filed under Section 12 of the Exchange Act on Form 8-A on January 13, 1997, including any amendment or report filed with the SEC for the purpose of updating that description.

In the event of conflicting information in these documents, the information in the latest filed document should be considered correct.

You can obtain any of the documents incorporated by reference in this document through CIENA or from the SEC through the SEC's web site at the address described above. Documents incorporated by reference are available from CIENA without charge, excluding any exhibits to those documents unless the exhibit is specifically incorporated by reference as an exhibit in this prospectus and proxy statement. You can obtain documents incorporated by reference in this prospectus and proxy statement by requesting them in writing or by telephone from CIENA at the following address:

CIENA Corporation
1201 Winterson Road
Linthicum, Maryland 21090
Attn: Director, Investor Relations
Telephone (410) 865-8500

If you would like to request documents, please do so by June 23, 1999 to receive them before the special meeting. If you request any incorporated documents from CIENA, CIENA will mail them to you by first class mail, or another equally prompt means, within two business days after CIENA receives your request.

This document constitutes the prospectus of CIENA and the proxy statement of Omnia. CIENA has supplied all information contained or incorporated by reference in this prospectus and proxy statement relating to CIENA and Omnia has supplied all such information relating to Omnia. Neither CIENA nor Omnia has authorized anyone to give any information or make any representation about the merger or CIENA or Omnia that is different from, or in addition to, that contained in this prospectus and proxy statement or in any of the materials that CIENA has incorporated into this document. Therefore, if anyone does give you information of this sort, you should not rely on it. The information contained in this document speaks only as of the date of this document unless the information specifically indicates that another date applies.

OMNIA COMMUNICATIONS, INC.
(A DEVELOPMENT STAGE ENTERPRISE)

CONSOLIDATED FINANCIAL STATEMENTS

REPORT OF INDEPENDENT ACCOUNTANTS

To the Board of Directors and Stockholders of
Omnia Communications, Inc.

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of operations, changes in stockholders' deficit and of cash flows present fairly, in all material respects, the financial position of Omnia Communications, Inc. (a development stage enterprise) at December 31, 1998 and 1997, and the results of its operations and its cash flows for the year ended December 31, 1998 and for the periods from June 3, 1997 (date of inception) to December 31, 1997 and from June 3 (date of inception) to December 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
Boston, Massachusetts
March 2, 1999, except as to Note 11,
for which the date is March 15, 1999

OMNIA COMMUNICATIONS, INC.
(A DEVELOPMENT STAGE ENTERPRISE)
CONSOLIDATED BALANCE SHEETS
as of December 31, 1998 and 1997 and March 31, 1999 (unaudited)

	1998	1997	MARCH 31, 1999
	-----	-----	-----
			(UNAUDITED)
ASSETS			
Current assets:			
Cash and cash equivalents.....	\$10,934,000	\$4,698,000	\$ 7,382,000
Prepaid expenses and other current assets.....	205,000	17,000	249,000
	-----	-----	-----
Total current assets.....	11,139,000	4,715,000	7,631,000
Property and equipment, net.....	975,000	205,000	1,099,000
Other assets.....	--	48,000	--
	-----	-----	-----
Total assets.....	\$12,114,000	\$4,968,000	\$ 8,730,000
	=====	=====	=====
LIABILITIES AND STOCKHOLDERS' DEFICIT			
Current liabilities:			
Accounts payable.....	\$ 1,341,000	\$ 219,000	\$ 758,000
Accrued payroll.....	171,000	51,000	266,000
Accrued expenses.....	456,000	27,000	719,000
Current portion of capital leases and long-term debt.....	262,000	7,000	333,000
	-----	-----	-----
Total current liabilities.....	2,230,000	304,000	2,076,000
Long-term portion of capital leases and debt.....	762,000	15,000	689,000
Commitments and contingencies -- Note 8.....	--	--	--
	-----	-----	-----
Total liabilities.....	2,992,000	319,000	2,765,000
Series A redeemable preferred stock, \$.001 par value; 5,965,000 shares authorized; 5,300,000 issued and outstanding at December 31, 1997; 5,890,100 issued and outstanding at December 31, 1998 and March 31, 1999 (unaudited); at liquidation preference.....	5,831,000	5,247,000	5,831,000
Series B participating convertible preferred stock, \$.001 par value; 3,738,462 shares authorized, issued and outstanding at December 31, 1998 and March 31, 1999 (unaudited); at liquidation preference.....	12,150,000	--	12,150,000
Stockholders' deficit:			
Common stock, \$.001 par value; 13,000,000 shares authorized, 9,776,000 issued and outstanding at December 31, 1997; 18,000,000 shares authorized at December 31, 1998 and March 31, 1999 (unaudited), 12,007,832 and 12,216,332 shares issued at December 31, 1998 and March 31, 1999 (unaudited), respectively; 11,942,832 and 12,142,790 shares outstanding at December 31, 1998 and March 31, 1999 (unaudited), respectively.....	12,000	10,000	12,000
Treasury stock, at cost.....	(1,000)	--	(1,000)
Additional paid-in capital.....	153,000	45,000	218,000
Deficit accumulated during the development stage.....	(8,942,000)	(614,000)	(12,168,000)
Notes receivable from stockholders.....	(18,000)	(4,000)	(18,000)
Unearned compensation.....	(63,000)	(35,000)	(59,000)
	-----	-----	-----
Total stockholders' deficit.....	(8,859,000)	(598,000)	(12,016,000)
	-----	-----	-----
Total liabilities and stockholders' deficit.....	\$12,114,000	\$4,968,000	\$ 8,730,000
	=====	=====	=====

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

OMNIA COMMUNICATIONS, INC.
(A DEVELOPMENT STAGE ENTERPRISE)
CONSOLIDATED STATEMENTS OF OPERATIONS
for the year ended December 31, 1998 and for the periods from
June 3, 1997 (date of inception) to December 31, 1997 and
from June 3, 1997 (date of inception) to December 31, 1998 and three months
ended March 31, 1999 and 1998 (unaudited) and for the period from June 3, 1997
(date of inception) to March 31, 1999 (unaudited)

	YEAR ENDED DECEMBER 31, 1998	FOR THE PERIOD FROM JUNE 3, 1997 (DATE OF INCEPTION) TO DECEMBER 31, 1997	CUMULATIVE FROM JUNE 3, 1997 (DATE OF INCEPTION) TO DECEMBER 31, 1998	THREE MONTHS ENDED MARCH 31, 1999 1998		CUMULATIVE FROM JUNE 3, 1997 (DATE OF INCEPTION) TO MARCH 31, 1999
				(UNAUDITED)		(UNAUDITED)
Operating expenses:						
Research and development.....	\$ 6,666,000	\$ 465,000	\$ 7,131,000	\$ 2,394,000	\$ 1,049,000	\$ 9,525,000
Sales and marketing.....	1,123,000	--	1,123,000	606,000	--	1,729,000
General and administrative.....	759,000	142,000	901,000	305,000	193,000	1,206,000
Operating loss.....	(8,548,000)	(607,000)	(9,155,000)	(3,305,000)	(1,242,000)	(12,460,000)
Interest expense.....	(39,000)	(43,000)	(82,000)	(20,000)	(1,000)	(102,000)
Interest income.....	259,000	36,000	295,000	99,000	9,000	394,000
Net loss.....	\$ (8,328,000)	\$ (614,000)	\$ (8,942,000)	\$ (3,226,000)	\$ (1,234,000)	\$ (12,168,000)
Net loss per common share -- basic and diluted.....	\$ (1.28)	\$ (0.32)	\$ (1.86)	\$ (0.41)	\$ (0.22)	\$ (2.32)
Weighted average shares outstanding.....	6,484,142	1,942,453	4,815,907	7,802,567	5,739,333	5,242,573

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

OMNIA COMMUNICATIONS, INC.
(A DEVELOPMENT STAGE ENTERPRISE)
CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' DEFICIT
for the period from June 3, 1997 (date of inception) to March 31, 1999
(unaudited)

	COMMON STOCK		ADDITIONAL PAID-IN- CAPITAL	DEFICIT ACCUMULATED DURING THE DEVELOPMENT STAGE	NOTES RECEIVABLE	UNEARNED COMPENSATION
	SHARES	AMOUNT				
Initial issuance of common stock upon formation of Company, June 1997.....	400,000	\$ --	\$ 4,000	\$ --	\$ --	\$ --
Issuance of common stock as part of unit with Series A redeemable preferred stock, October 1997...	5,300,000	6,000	47,000	--	--	--
Issuance costs.....	--	--	(43,000)	--	--	--
Restricted common stock issued to employees.....	4,076,000	4,000	37,000	--	(4,000)	(37,000)
Amortization of unearned compensation.....	--	--	--	--	--	2,000
Net loss.....	--	--	--	(614,000)	--	--
Balance, December 31, 1997.....	9,776,000	10,000	45,000	(614,000)	(4,000)	(35,000)
Issuance of common stock as part of unit with Series A redeemable preferred stock, March 1998.....	590,000	1,000	5,000	--	--	--
Issuance costs.....	--	--	(39,000)	--	--	--
Exercise of common stock warrants.....	196,520	--	2,000	--	--	--
Restricted common stock issued to employees.....	1,445,312	1,000	140,000	--	(53,000)	(41,000)
Purchase of treasury stock.....	--	--	--	--	--	--
Repayment of notes receivable from stockholders.....	--	--	--	--	39,000	--
Amortization of unearned compensation.....	--	--	--	--	--	13,000
Net loss.....	--	--	--	(8,328,000)	--	--
Balance at December 31, 1998.....	12,007,832	12,000	153,000	(8,942,000)	(18,000)	(63,000)
Restricted common stock issued to employees.....	208,500	--	65,000	--	(18,000)	--
Purchase of treasury stock.....	--	--	--	--	--	--
Repayment of notes receivable from stockholders.....	--	--	--	--	18,000	--
Amortization of unearned compensation.....	--	--	--	--	--	4,000
Net loss.....	--	--	--	(3,226,000)	--	--
Balance at March 31, 1999 (unaudited).....	12,216,332	\$12,000	\$218,000	\$(12,168,000)	\$(18,000)	\$(59,000)

	TREASURY STOCK		TOTAL STOCKHOLDERS' DEFICIT
	SHARES	AMOUNT	
Initial issuance of common stock upon formation of Company, June 1997.....	\$ --	\$ --	\$ 4,000
Issuance of common stock as part of unit with Series A redeemable preferred stock, October 1997...	--	--	53,000
Issuance costs.....	--	--	(43,000)
Restricted common stock issued to employees.....	--	--	--
Amortization of unearned compensation.....	--	--	2,000
Net loss.....	--	--	(614,000)
Balance, December 31, 1997.....	--	--	(598,000)
Issuance of common stock as part of unit with Series A redeemable preferred stock, March 1998.....	--	--	6,000
Issuance costs.....	--	--	(39,000)
Exercise of common stock warrants.....	--	--	2,000
Restricted common stock issued to employees.....	--	--	47,000
Purchase of treasury stock.....	(65,000)	(1,000)	(1,000)
Repayment of notes receivable from stockholders.....	--	--	39,000
Amortization of unearned compensation.....	--	--	13,000
Net loss.....	--	--	(8,328,000)

Balance at December 31, 1998.....	(65,000)	(1,000)	(8,859,000)
Restricted common stock issued to employees.....	--	--	47,000
Purchase of treasury stock.....	(8,542)	--	--
Repayment of notes receivable from stockholders.....	--	--	18,000
Amortization of unearned compensation.....	--	--	4,000
Net loss.....	--	--	(3,226,000)
	-----	-----	-----
Balance at March 31, 1999 (unaudited).....	(73,542)	\$(1,000)	\$(12,016,000)
	=====	=====	=====

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

OMNIA COMMUNICATIONS, INC.
(A DEVELOPMENT STAGE ENTERPRISE)
CONSOLIDATED STATEMENTS OF CASH FLOWS
for the year ended December 31, 1998 and for the periods from
June 3, 1997 (date of inception) to December 31, 1997
and from June 3, 1997 (date of inception) to December 31, 1998
and three months ended March 31, 1999 and 1998 (unaudited)
and for the period from June 3, 1997 (date of inception) to March 31, 1999
(unaudited)

	YEAR ENDED DECEMBER 31, 1998	FOR THE PERIOD FROM JUNE 3, 1997 (DATE OF INCEPTION) TO DECEMBER 31, 1997	CUMULATIVE FROM JUNE 3, 1997 (DATE OF INCEPTION) TO DECEMBER 31, 1998	THREE MONTHS ENDED MARCH 31, 1999 1998 (UNAUDITED)	
	-----	-----	-----	-----	-----
Operating activities:					
Net loss.....	\$(8,328,000)	\$ (614,000)	\$(8,942,000)	\$(3,226,000)	\$(1,234,000)
Adjustments to reconcile net loss to net cash used in operating activities:					
Depreciation and amortization.....	279,000	5,000	284,000	152,000	22,000
Interest expense associated with convertible notes payable.....	--	43,000	43,000	--	--
Equity compensation.....	13,000	2,000	15,000	4,000	2,000
Changes in operating assets and liabilities:					
Prepaid expenses and other assets.....	(140,000)	(65,000)	(205,000)	(44,000)	(31,000)
Accounts payable and accrued expenses.....	1,671,000	296,000	1,967,000	(225,000)	88,000
Net cash used in operating activities.....	(6,505,000)	(333,000)	(6,838,000)	(3,339,000)	(1,153,000)
Investing activities:					
Purchases of property and equipment.....	(1,036,000)	(186,000)	(1,222,000)	(275,000)	(230,000)
Net cash used in investing activities.....	(1,036,000)	(186,000)	(1,222,000)	(275,000)	(230,000)
Financing activities:					
Proceeds from convertible notes.....	--	100,000	100,000	--	--
Proceeds from long-term debt...	1,000,000	--	1,000,000	--	13,000
Repayment of capital lease obligations.....	(11,000)	(2,000)	(13,000)	(3,000)	(3,000)
Proceeds from issuance of preferred stock.....	12,734,000	5,063,000	17,797,000	--	584,000
Proceeds from issuance of common stock.....	55,000	99,000	154,000	47,000	8,000
Issuance costs.....	(39,000)	(43,000)	(82,000)	--	--
Proceeds from repayment of notes receivable from stockholders.....	39,000	--	39,000	18,000	--
Purchase of treasury stock.....	(1,000)	--	(1,000)	--	--
Net cash provided by financing activities.....	13,777,000	5,217,000	18,994,000	62,000	602,000
Increase (decrease) in cash and cash equivalents.....	6,236,000	4,698,000	10,934,000	(3,552,000)	(781,000)
Cash and cash equivalents at beginning of period.....	4,698,000	--	--	10,934,000	4,698,000
Cash and cash equivalents at end of period.....	\$10,934,000	\$4,698,000	\$10,934,000	\$ 7,382,000	\$ 3,917,000
	=====	=====	=====	=====	=====
Supplemental cash flow disclosures:					
Conversion of notes payable and accrued interest into 142,857 shares of Series A redeemable preferred stock and 142,857 shares of common stock.....	\$ --	\$ 143,000	\$ 143,000	\$ --	\$ --
Notes received in exchange for restricted common stock.....	\$ 14,000	\$ 4,000	\$ 4,000	\$ 18,000	\$ --
Acquisition of property and equipment under capital lease obligations.....	\$ 13,000	\$ 24,000	\$ 37,000	--	\$ 13,000
Interest paid.....	\$ 39,000	\$ --	\$ 39,000	\$ 20,000	\$ 1,000
Taxes paid.....	\$ 1,000	\$ --	\$ 1,000	\$ 5,000	\$ 1,000

CUMULATIVE FROM
JUNE 3, 1997
(DATE OF INCEPTION) TO

(UNAUDITED)

Operating activities:	
Net loss.....	\$(12,168,000)
Adjustments to reconcile net loss to net cash used in operating activities:	
Depreciation and amortization.....	436,000
Interest expense associated with convertible notes payable.....	43,000
Equity compensation.....	19,000
Changes in operating assets and liabilities:	
Prepaid expenses and other assets.....	(249,000)
Accounts payable and accrued expenses.....	1,742,000

Net cash used in operating activities.....	(10,177,000)

Investing activities:	
Purchases of property and equipment.....	(1,497,000)

Net cash used in investing activities.....	(1,497,000)

Financing activities:	
Proceeds from convertible notes.....	100,000
Proceeds from long-term debt...	1,000,000
Repayment of capital lease obligations.....	(16,000)
Proceeds from issuance of preferred stock.....	17,797,000
Proceeds from issuance of common stock.....	201,000
Issuance costs.....	(82,000)
Proceeds from repayment of notes receivable from stockholders.....	57,000
Purchase of treasury stock.....	(1,000)

Net cash provided by financing activities.....	19,056,000

Increase (decrease) in cash and cash equivalents.....	7,382,000
Cash and cash equivalents at beginning of period.....	--

Cash and cash equivalents at end of period.....	\$ 7,382,000
	=====
Supplemental cash flow disclosures:	
Conversion of notes payable and accrued interest into 142,857 shares of Series A redeemable preferred stock and 142,857 shares of common stock.....	\$ 143,000
Notes received in exchange for restricted common stock.....	\$ 22,000
Acquisition of property and equipment under capital lease obligations.....	\$ 37,000
Interest paid.....	\$ 59,000
Taxes paid.....	\$ 6,000

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

OMNIA COMMUNICATIONS, INC.
(A DEVELOPMENT STAGE ENTERPRISE)
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. BUSINESS:

Omnia Communications, Inc. (the "Company"), which began operations in June 1997, is a development stage entity engaged in the design and development of products that enable local exchange telephone network operators to cost effectively offer new and existing services over metropolitan fiber optic access and transport networks. Since its inception, the Company has devoted substantially all of its efforts to raising capital, developing technologies, acquiring equipment, and recruiting employees. Accordingly, the Company is considered a development stage enterprise as defined in Statement of Financial Accounting Standards No. 7, and the accompanying financial statements represent those of a development stage enterprise.

The Company is subject to risks common to companies in the industry including, but not limited to, new technological innovations, dependence on key personnel, protection of proprietary technology, compliance with government regulations, uncertainty of market acceptance of products, product liability and the need to obtain additional financing.

The ultimate success of the Company is dependent upon its ability to raise capital through equity placements, development of proprietary technology, sale of product and interest income on invested capital. The Company's capital requirements may change depending upon numerous factors, including progress of the Company's research and development programs, resources the Company devotes to self-funded projects, proprietary manufacturing methods and advanced technologies and demand for the Company's products, if and when approved.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:

BASIS OF PRESENTATION

The consolidated financial statements include the accounts of the Company and its wholly owned subsidiary, Omnia Communications Investment Corporation, a Massachusetts Securities Corporation. All significant intercompany transactions and balances have been eliminated. Certain prior year amounts have been reclassified to be consistent with current year presentation.

INTERIM FINANCIAL STATEMENTS

The accompanying unaudited consolidated financial statements of Omnia Communications Inc. have been prepared in accordance with generally accepted accounting principles for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by generally accepted accounting principles for complete financial statements. In the opinion of management, the accompanying consolidated financial statements include all adjustments, consisting of normal recurring adjustments, necessary for a fair presentation of the financial position, results of operations and changes in cash flows for the periods presented. The results of operations for the three months ended March 31, 1999 are not necessarily indicative of the results to be expected for the remainder of the fiscal year. These financial statements should be read in conjunction with the audited consolidated financial statements and notes thereto for the year ended December 31, 1998.

SIGNIFICANT ESTIMATES AND ASSUMPTIONS

The preparation of the financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts

OMNIA COMMUNICATIONS, INC.
 (A DEVELOPMENT STAGE ENTERPRISE)
 NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (CONTINUED)

of assets and liabilities, and disclosure of contingent assets and liabilities, if any, at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from these estimates.

CASH EQUIVALENTS

The Company considers all highly liquid investments with remaining maturities of three months or less at the time of acquisition to be cash equivalents. Cash equivalents are comprised of a corporate note of approximately \$9,980,000 and money market accounts of approximately \$954,000. Cash equivalents are stated at cost which approximates market.

CONCENTRATION OF CREDIT RISK

Financial instruments which potentially subject the Company to concentrations of credit risk consist of a corporate note and money market accounts primarily through one financial institution.

EQUIPMENT AND IMPROVEMENTS

Equipment and improvements are stated at cost. Depreciation is computed using the straight-line method over the following estimated useful lives:

Computer equipment and purchased software.....	3 years
Furniture and fixtures.....	5 years
Engineering lab equipment.....	3 years
Leasehold improvements.....	Shorter of lease term or estimated useful life

The cost of maintenance and repairs is charged to expense as incurred. Costs of major additions and betterments are capitalized. On disposal, the related cost and accumulated depreciation are eliminated from the accounts and any resulting gain or loss is included in the determination of income or loss.

RESEARCH AND DEVELOPMENT COSTS

Research and development costs are charged to expense as incurred.

STOCK-BASED COMPENSATION

Statement of Financial Accounting Standards No. 123, "Accounting for Stock-Based Compensation," ("SFAS 123") requires that companies either recognize compensation expense for grants of stock, stock options, and other equity instruments to employees based on fair value, or provide pro forma disclosure for net income and earnings per share as if such compensation expense had been recognized in the notes to the financial statements. The Company applies the disclosure provisions of SFAS 123 and has applied the provisions of Accounting Principles Board Opinion No. 25, "Accounting for Stock Issued to Employees," ("APB 25") in accounting for its plans.

INCOME TAXES

The Company uses the liability method of accounting for income taxes. Under the liability method, deferred tax assets and liabilities reflect the impact of temporary timing differences between amounts of assets and liabilities for financial reporting purposes and such amounts as measured by tax

OMNIA COMMUNICATIONS, INC.
(A DEVELOPMENT STAGE ENTERPRISE)
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (CONTINUED)

laws. A valuation allowance is required to offset any net deferred tax assets if, based upon the available evidence, it is more likely than not that some or all of the deferred tax assets will not be realized. Tax credits are generally recognized as reductions of income tax provisions in the year the credit arises.

NET LOSS PER COMMON SHARE

The Company has adopted Statement of Financial Accounting Standard ("SFAS") No. 128, "Earnings Per Share," which specifies the computation, presentation and disclosure requirements for net loss per common share. Basic net loss per common share is computed based on the weighted average number of common outstanding during the period. Diluted net loss per common share gives effect to all dilutive potential common shares outstanding during the period. Under SFAS No. 128, the computation of diluted earnings per share does not assume the issuance of common shares that have an antidilutive effect on net loss per common share.

COMPREHENSIVE INCOME

The Company has adopted SFAS No. 130, "Reporting Comprehensive Income," which specifies that changes in comprehensive income to be shown in a financial statement that is displayed with the same prominence as other financial statements. The statement is effective for annual periods beginning after December 15, 1997. The adoption of SFAS 130 has not affected, and is not expected to affect, the Company's financial position or results of operations.

SEGMENTS OF AN ENTERPRISE

The Company has adopted SFAS No. 131, "Disclosures about Segments of an Enterprise and Related Information." This statement supersedes SFAS No. 14, "Financial Reporting for Segments of a Business Enterprise." This statement includes requirements to report selected segment information quarterly and entity-wide disclosures about products and services, major customers, and the material countries in which the entity holds assets and reports revenues. No additional disclosures are required related to SFAS No. 131 for the year or periods ended December 31, 1998 or 1997.

RECENT PRONOUNCEMENTS

In April 1998, the Accounting Standards Executive Committee of the American Institute of Certified Public Accountants issued Statement of Position 98-5 "Accounting for the Costs of Start-Up Activities" ("SOP 98-5"). SOP 98-5 requires all costs of start-up activities (as defined by SOP 98-5) to be expensed as incurred. The Company does not believe SOP 98-5 will have a significant impact on its financial statement disclosures.

In March of 1998, the American Institute of Certified Public Accountants issued Statement of Position 98-1, "Accounting for the Costs of Computer Software Developed or Obtained for Internal Use". SOP 98-1 requires computer software costs associated with internal use software to be charged to operations as incurred until certain capitalization criteria are met. SOP 98-1 is effective beginning January 1, 1999. The Company does not expect the adoption of this statement to have a material effect on consolidated financial position or results of operations.

In June 1998, the Financial Accounting Standards Board issued Statement of Financial Accounting Standards No. 133 ("SFAS 133"), "Accounting for Derivative Instruments and Hedging

OMNIA COMMUNICATIONS, INC.
(A DEVELOPMENT STAGE ENTERPRISE)
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (CONTINUED)

Activities." The statement is effective for all fiscal quarters beginning after June 15, 1999. At this time, the company holds no derivatives, and therefore it does not expect that this pronouncement will have a significant impact on its financial statement disclosures.

3. EQUIPMENT AND IMPROVEMENTS:

Equipment and improvements at December 31, 1998 and 1997 consist of:

	1998	1997
	-----	-----
Computer equipment and purchased software.....	\$ 774,000	\$162,000
Furniture and fixtures.....	79,000	24,000
Engineering lab equipment.....	363,000	--
Office equipment.....	43,000	24,000
	-----	-----
	1,259,000	210,000
Less accumulated depreciation.....	(284,000)	(5,000)
	-----	-----
	\$ 975,000	\$205,000
	=====	=====
The carrying value of assets under capital leases which are included in computer and office equipment is as follows:		
Office equipment held under capital lease.....	\$ 37,000	\$ 24,000
Accumulated amortization.....	(23,000)	(1,000)
	-----	-----
	\$ 14,000	\$ 23,000
	=====	=====

Total depreciation expense was \$279,000 in the year ended December 31, 1998 and \$5,000 in the period from June 3, 1997 through December 31, 1997.

4. NOTES PAYABLE:

In July 1997, the Company issued two convertible notes payable totaling \$100,000. The agreements contained a provision that allowed the note holders to convert the principal balance and any accrued interest into securities of the Company issued in a financing agreement equal to 70% of the offering price. In October 1997, the note holders elected to convert their principal and accrued interest into 142,857 shares of Series A redeemable preferred stock and 142,857 shares of common stock resulting in a total discount of \$43,000. The discount on the stock was recorded as interest expense.

5. BANK ARRANGEMENTS:

During 1998, the Company entered into a loan and security agreement providing for an equipment line of credit in the amount of \$1 million for equipment purchases through March 25, 1999 (the "line of credit"). The line of credit bears interest at the prime rate (7.75% at December 31, 1998) plus .25%. Through March, 1999 monthly payments on the line are for interest only. Beginning in April, 1999, the unpaid principal balance of the line shall be repaid in 36 equal monthly installments, plus interest. Substantially all of the Company's tangible assets serve as collateral against amounts outstanding on the line of credit. At December 31, 1998 \$1,000,000 was outstanding on the line of credit.

OMNIA COMMUNICATIONS, INC.
(A DEVELOPMENT STAGE ENTERPRISE)
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (CONTINUED)

6. REDEEMABLE PREFERRED STOCK:

In October 1997 the Company issued 5,300,000 shares, and in March 1998 issued another 590,000 shares, of equity units to outside investors at \$1.00 per unit. The combined units are comprised of 5,890,000 shares of common stock at \$.01 per share, and 5,890,000 shares of Series A redeemable preferred stock (the "Series A shares") at \$0.99 per share. The Company received total proceeds in 1997 of \$5,247,000, less \$143,000 relating to the notes payable conversion and issuance costs of \$42,000, and in 1998 received total proceeds of \$590,000, less issuance costs of \$4,000.

In September 1998, the Company issued 3,738,462 shares of Series B participating convertible preferred stock (the "Series B shares") to existing and new investors at \$3.25 per share. The Company received total proceeds of \$12,150,000, less \$35,000 of issuance costs.

The Series A and the Series B shares include the following provisions:

LIQUIDATION PREFERENCE

In the event of any liquidation of the Company, the Series A and the Series B shareholders are entitled to receive, in preference to all common shareholders, an amount equal to the original offering price per share (\$.99 for the Series A and \$3.25 for the Series B) times the number of shares held by them, plus any accrued and unpaid dividends. After payment in full to the Series A and Series B shareholders, the Series B shareholders are entitled to share ratably in any remaining assets based on the numbers of common shares held by them, assuming conversion of the Series B shares into common shares. If the amounts legally available for distribution are insufficient for payment in full, then the amounts will be distributed ratably between the Series A and Series B shareholders.

DIVIDENDS

The Company may not declare or pay any dividends to the Series A or common shareholders without declaring or paying dividends to the Series B shareholders. No dividends were declared or paid in 1997 or 1998.

VOTING RIGHTS

The Series A shareholders have no voting rights. The Series B shareholders have the right to vote the number of shares equal to the number of common shares into which each Series B share is convertible into at the time of any shareholder vote.

COVENANTS

The Company cannot, without first obtaining the affirmative vote or written consent of the holders of two-thirds of the Series A and Series B shares, amend or repeal any provision or by-laws of the corporation, authorize or issue any additional class of shares senior or on par with the Series A and Series B shares, reclassify any shares, declare or pay any dividends except on the Series B shares, or effect certain transactions involving the assets or capital stock of the company, including sales, mergers, consolidations, or liquidations.

OMNIA COMMUNICATIONS, INC.
(A DEVELOPMENT STAGE ENTERPRISE)
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (CONTINUED)

REDEMPTION RIGHTS

Unless otherwise requested by the holders of a majority of the Series A shares outstanding, the Company shall redeem the Series A shares at their liquidation value on certain redemption dates or upon certain redemption events. The redemption dates are October 30, 2002, 2003, and 2004, each on demand of the holders of a majority of the Series A shares then outstanding, for up to one-third of the total Series A shares held. The redemption events, for all of the Series A shares, are a) the date there is a change in control through merger, consolidation, or acquisition of the Company, or b) the date 90 days after the closing of a firm commitment underwritten public offering of the Company of at least \$15,000,000 at a price per share of common stock of at least \$5.00 per share.

Unless otherwise requested by the holders of a majority of the Series B shares outstanding, the Company shall redeem the Series B shares at their liquidation value on certain redemption dates or upon a redemption event. The redemption dates are September 18, 2003, 2004, and 2005, each on demand of the holders of a majority of the Series B shares then outstanding, for up to one-third of the original Series B shares held. The redemption event, for all of the Series B shares, is the date there is a change in control through merger, consolidation, or acquisition of the Company.

CONVERSION RIGHTS

The Series B shares are convertible, at the option of the Series B shareholder and without additional consideration, into one share of common stock, subject to adjustment for any changes in the capital structure of the common stock. Conversion is automatic upon the closing of a Qualified Public Offering.

REISSUANCE

Any Series A or Series B shares that are redeemed or converted will be canceled and not reissued by the Company.

7. COMMON STOCK:

In November 1997, the Company's Board of Directors and stockholders approved the 1997 Stock Plan (the "Plan"). The Plan provides for the sale or award of restricted common stock, or the grant of incentive stock options or nonqualified stock options for the purchase of common stock, of up to 6,433,925 shares to officers, employees and consultants. The Plan is administered by the Board of Directors.

In 1997 and 1998, officers and employees were granted stock awards for the purchase of 4,076,000 and 1,540,812 shares, respectively. Of this amount, 5,521,312 shares were purchased pursuant to Restricted Stock Purchase Agreements (the "Restricted Shares") which, in the case of officers and employees, are subject to the Company's right to repurchase at cost in the event that employment is terminated prior to specified dates. As of December 31, 1998, 65,000 Restricted Shares had been repurchased, and 4,343,833 shares remain subject to this repurchase right. Another 95,500 stock awards were granted in the form of incentive or non-qualified stock options (the "Options"). Options expire over a period not exceeding ten years.

OMNIA COMMUNICATIONS, INC.
(A DEVELOPMENT STAGE ENTERPRISE)
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (CONTINUED)

Options generally vest, and the repurchase rights for Restricted Shares generally expire, over four years (the "Vesting Period"). Over the four-year vesting period, 25% of the unvested shares vest after one year, and the remaining unvested shares vest at the rate of 1/36(th) per month through the fourth anniversary date. Upon a change in control, 50% of any then remaining unvested shares shall become vested shares, and all remaining unvested shares shall become vested in 12 equal increments over the successive twelve months or over the original vesting schedule, whichever is faster.

The Company entered into restricted stock purchase agreements at purchase prices equal to \$0.001 in 1997 and at purchase prices ranging from \$0.001 to \$0.33 in 1998.

Had compensation cost for the Company's stock-based compensation plan been accounted for based on the fair value method of SFAS 123, the Company's net income for the year ended December 31, 1998 and for the periods ended December 31, 1998 or 1997 would have been decreased by the pro forma amounts indicated below:

	NET LOSS	NET LOSS PER SHARE
	-----	-----
As reported:		
Year-ended December 31, 1998.....	\$(8,328,000)	\$(1.28)
Period from June 3, 1997 (Date of Inception) to December 31, 1997.....	(614,000)	(0.32)
Period from June 3, 1997 (Date of Inception) to December 31, 1998.....	(8,942,000)	(1.86)
Pro forma:		
Year-ended December 31, 1998.....	\$(8,329,000)	\$(1.28)
Period from June 3, 1997 (Date of Inception) to December 31, 1997.....	(614,000)	(0.32)
Period from June 3, 1997 (Date of Inception) to December 31, 1998.....	(8,943,000)	(1.86)

The weighted average fair value of options granted during fiscal 1998 was \$.16 per share. In calculating these pro forma disclosures, the fair value of each option grant in fiscal 1998 and 1997 has been estimated on the date of grant using the minimum value method with the following assumptions: risk free interest rate used in calculation ranged from 4.3% to 4.7% in fiscal 1998 expected lives of options were assumed to be three years and no dividends were assumed.

OMNIA COMMUNICATIONS, INC.
(A DEVELOPMENT STAGE ENTERPRISE)
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (CONTINUED)

At December 31, 1998 977,613 shares of common stock were reserved for future issuance to employees and consultants of the Company and 882,113 options were available for grant. Stock award activity is summarized as follows:

	NUMBER OF SHARES UNDER RESTRICTION OR OPTION	WEIGHTED AVERAGE PURCHASE/ EXERCISE PRICE	WEIGHTED AVERAGE REMAINING CONTRACTUAL LIFE
	-----	-----	-----
Balance at June 3, 1997 (Date of inception)			
Granted.....	4,076,000	\$0.01	--
Exercised.....	(4,076,000)	0.01	--
Canceled/Repurchased.....	--	--	--
	-----	-----	-----
	--	--	--
Balance at December 31, 1997			
Granted.....	1,540,812	0.08	--
Exercised.....	(1,380,312)	0.07	--
Canceled/Repurchased.....	(65,000)	0.01	--
	-----	-----	-----
Balance at December 31, 1998.....	95,500	\$0.16	9.9 years
	=====	=====	=====

UNEARNED COMPENSATION

The Company recognized \$41,000 and \$37,000 of unearned compensation in 1998 and 1997, respectively, related to the sale of restricted stock to employees at less than fair value. The Company amortized \$13,000 and \$2,000 of these balances in 1998 and 1997, respectively.

STOCK WARRANTS

In August 1997, the Company issued warrants to Telco Systems, Inc. ("Telco") to purchase 5% of common shares issuable upon the closing of the Company's first round of venture capital financing (the "First Venture Round") at a price of \$.01 per share. Upon 30 days after the closing of the Company's First Venture Round, 40% of the warrants were exercisable. In March 1998, under the terms of this provision, Telco purchased 196,520 shares of the Company's common stock for \$.01 per share.

The remaining 60% of the warrants, or 294,780 shares as of December 31, 1998, are exercisable upon the realization by Telco of certain equipment purchasing milestones for the Company's product, or upon a change in control, whichever occurs first. Of the total remaining shares under the terms of the Telco warrant, 98,260 become exercisable after \$3 million of equipment purchases, another 98,260 shares are exercisable after \$6 million is purchased, and the final 98,260 shares are exercisable after \$9 million is purchased. Upon vesting, the Company expects to record a non-cash charge equal to the difference between fair market value of the common stock on the date of vesting and the price paid.

OMNIA COMMUNICATIONS, INC.
(A DEVELOPMENT STAGE ENTERPRISE)
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (CONTINUED)

NET LOSS PER COMMON SHARE

The calculation of per share earnings is as follows:

	PERIOD FROM JUNE 3, 1997 (DATE OF INCEPTION) TO		CUMULATIVE FROM JUNE 3, 1997 (DATE OF INCEPTION) TO		THREE MONTHS ENDED MARCH 31,		CUMULATIVE FROM JUNE 3, 1997 (DATE OF INCEPTION) TO	
	1998	DECEMBER 31, 1997	DECEMBER 31, 1998	DECEMBER 31, 1998	1999	1998	MARCH 31, 1999	MARCH 31, 1999
					(UNAUDITED)		(UNAUDITED)	
Basic:								
Net loss.....	\$ (8,328,000)	\$ (614,000)	\$ (8,942,000)	\$ (8,942,000)	\$ (3,226,000)	\$ (1,234,000)	\$ (12,168,000)	\$ (12,168,000)
Weighted average common shares outstanding.....	6,484,142	1,942,453	4,815,907	4,815,907	7,802,567	5,739,333	5,242,573	5,242,573
Net loss per share.....	\$ (1.28)	\$ (0.32)	\$ (1.86)	\$ (1.86)	\$ (0.41)	\$ (0.22)	\$ (2.32)	\$ (2.32)

Convertible preferred stock, options, warrants and unvested restricted stock to purchase or convert to 14,764,817 shares of common stock were outstanding for the period ended March 31, 1999, but were not included in the computation of diluted net loss per common share. Convertible preferred stock, options, warrants, and unvested restricted stock to purchase or convert to 10,800,780 shares of common stock were outstanding for the period ended March 31, 1998, but were not included in the computation of diluted net loss per common share. These potentially dilutive securities have not been included in the computation of diluted net loss per common share because the Company is in a net loss position, and the inclusion of such shares, therefore, would be antidilutive.

Convertible preferred stock, options, warrants and unvested restricted stock to purchase or convert to 8,472,575 shares of common stock were outstanding for the year ended December 31, 1998, but were not included in the computation of diluted net loss per common share. Warrants to purchase or convert to 184,920 shares of common stock were outstanding for the year ended December 31, 1997, but were not included in the computation of diluted net loss per common share. These potentially dilutive securities have not been included in the computation of diluted net loss per common share because the Company is in a loss position, and the inclusion of such shares therefore, would be antidilutive.

8. COMMITMENTS:

The Company leases its facility and certain office equipment under operating lease agreements and certain office equipment under a capital lease agreement. These lease agreements expire at dates through 2001.

OMNIA COMMUNICATIONS, INC.
(A DEVELOPMENT STAGE ENTERPRISE)
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (CONTINUED)

Future minimum lease payments are as follows:

	OPERATING -----	CAPITAL -----
1999.....	\$ 99,000	\$16,000
2000.....	5,000	15,000
2001.....	--	1,000
	-----	-----
Total minimum payments required.....	\$104,000	32,000
	=====	
Less -- amount representing interest.....		7,000

Present value of minimum lease payments.....		25,000
Less -- current portion.....		12,000

		\$13,000
		=====

Rent expense was approximately \$284,000 for the year ended December 31, 1998 and \$47,000 for the period from inception (June 3, 1997) to December 31, 1997.

In January 1999, the Company executed a letter of intent to enter into an operating lease for a new primary facility. Under the terms of the agreement outlined in the letter of intent, future minimum lease payments for this facility would approximate \$270,000 in 1999, \$600,000 in 2000, \$690,000 in 2001 and \$630,000 in 2002.

9. INCOME TAXES:

No provision for income taxes is recorded due to the Company's net losses. Net deferred tax assets result from temporary differences in the recognition of expenses for financial statements and income tax purposes. A full valuation allowance for the net deferred tax assets have been provided due to the uncertainty surrounding the realization of these assets.

Components of the net deferred tax asset at December 31, 1998 and 1997 are as follow:

	1998 -----	1997 -----
Deferred tax expense/(benefits):		
Net operating carryforwards.....	\$ 124,000	\$ 6,000
Credit carryforward.....	276,000	21,000
Start-up costs.....	808,000	75,000
Capitalized research and development costs.....	2,589,000	175,000
Other temporary differences.....	58,000	(10,000)
	-----	-----
Total deferred tax assets.....	3,855,000	267,000
Valuation allowance.....	(3,855,000)	(267,000)
	-----	-----
Net deferred tax asset (liability).....	\$ --	\$ --
	=====	=====

OMNIA COMMUNICATIONS, INC.
(A DEVELOPMENT STAGE ENTERPRISE)
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (CONTINUED)

The provision for income taxes (benefit) differs from the Federal statutory rate due to the following:

	1998	1997
	-----	-----
US Federal Statutory Rate.....	(34.00)%	(34.00)%
State taxes - net of federal benefit.....	(6.27)	(6.27)
R&D credits - federal.....	(1.96)	(2.55)
Other, net.....	(0.92)	(0.62)
Change in valuation allowance.....	43.15	43.44
	-----	-----
Effective tax rate.....	0.00%	0.00%
	=====	=====

At December 31, 1998, the Company had net operating loss carryforwards for federal and state income tax purposes of approximately \$311,000 and \$296,000, respectively, which begin to expire in 2012 and 2002, respectively. The Company also has available research and development credits for federal and state income tax purposes of approximately \$187,000 and \$134,000, respectively, which begin to expire in 2012. However, changes in the Company's ownership, as defined in the Internal Revenue Code, may limit the Company's ability to utilize net operating loss and tax credit carryforwards.

Management of the Company has evaluated the positive and negative evidence impacting the realizability of its deferred tax assets, which are comprised principally of net operating loss carryforwards, tax credits and capitalized expenses, as required by Statement of Financial Accounting Standards No. 109. Management has considered the Company's history of annual and cumulative losses and concluded, in accordance with the applicable accounting standards, that it is more likely than not that it will not generate future taxable income prior to the expiration of these items. Based on the weight of the available evidence, it is more likely than not that all of the deferred tax assets will not be realized, and accordingly, the deferred tax assets have been fully reserved.

10. SAVINGS PLAN:

In January 1998, the Company adopted a 401(k) profit sharing plan. The plan covers all full time employees who are at least 21 years of age and who are not covered by a collective bargaining agreement where retirement benefits are subject to good faith bargaining. Participants may contribute up to 12% of pre-tax compensation, subject to certain limitations. There is no required employer matching contributions, but the Company may, at its discretion, contribute a matching amount to employees, subject to the plan provisions. The company made no contributions to the plan in 1998.

11. SUBSEQUENT EVENT:

In March 1999, the Company signed an Agreement and Plan of Merger (the "Agreement") with CIENA Corporation (CIENA). Under the terms of the Agreement, CIENA will acquire all outstanding shares of the Company's common stock (including common shares arising out of the conversion of the Series B shares) and stock options in exchange for 16.0 million shares of CIENA common stock, less the number of CIENA shares, priced at the close of the merger, that are required to fulfill the Liquidation Preference of the Series A and Series B shares. It is expected that the merger will qualify as a tax-free reorganization within the meaning of Section 368(a) of the Internal Revenue Code, and that it will be accounted for as a "pooling of interests." The merger is expected to close in the middle of 1999.

AGREEMENT AND PLAN OF MERGER
BETWEEN
CIENA CORPORATION
AND
OMNIA COMMUNICATIONS, INC.
DATED AS OF MARCH 15, 1999

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EXHIBIT INDEX

- Exhibit A -- Form of Affiliate Letter
- Exhibit B -- Form of Stockholder Agreement
- Exhibit C -- Form of Opinion of Hale and Dorr LLP
- Exhibit D -- Form of Proprietary Information Agreement
- Exhibit E -- Form of Hogan & Hartson L.L.P. Tax Opinion
- Exhibit F -- Form of Certificate of CIENA
- Exhibit G -- Form of Certificate of Omnia
- Exhibit H -- Form of Escrow Agreement
- Exhibit I -- Form of Hale and Dorr LLP Tax Opinion
- Exhibit J -- Form of Opinion of Hogan & Hartson L.L.P.

AGREEMENT AND PLAN OF MERGER

AGREEMENT AND PLAN OF MERGER (this "Agreement") dated as of March 15, 1999 by and among CIENA CORPORATION, a Delaware corporation ("CIENA") and OMNIA COMMUNICATIONS, INC., a Delaware corporation (the "Company").

RECITALS

WHEREAS, the Boards of Directors of each of CIENA and the Company have determined that the merger of the Company with and into CIENA (the "Merger") in accordance with the provisions of the Delaware General Corporation Law, as amended (the "DGCL"), and subject to the terms and conditions of this Agreement, is advisable and in the best interests of CIENA and the Company and their respective stockholders and member;

WHEREAS, the Board of Directors of CIENA has received the opinion of Morgan, Stanley & Co. Incorporated, financial advisor to CIENA, that the Merger is fair, from a financial point of view, to CIENA;

WHEREAS, the Company is a Delaware corporation and has authorized 18,000,000 shares of common stock, par value \$0.001 per share ("Company Common Stock"), and 9,628,462 shares of preferred stock, \$0.001 par value per share, of which 5,890,000 shares have been designated Series A Preferred Stock ("Series A Preferred Stock") and 3,738,462 shares have been designated Series B Preferred Stock (the "Series B Preferred Stock") (the Company Common Stock, the Series A Preferred Stock and the Series B Preferred Stock are referred to as the "Company Capital Stock");

WHEREAS, in order to induce CIENA to enter into this Agreement, each stockholder of the Company who also is a director or officer of the Company and persons affiliated with such persons, are entering into stockholder agreements with CIENA in the form attached hereto as EXHIBIT B, pursuant to which, among other things, each such stockholder agrees to vote in favor of this Agreement and the Merger and makes certain representations and warranties to CIENA regarding the matters set forth in ARTICLE II of this Agreement;

WHEREAS, the parties intend that, for federal income tax purposes, the Merger shall qualify as a reorganization within the meaning of Section 368(a) of the Code; and

WHEREAS, the parties intend that, for financial accounting purposes, the Merger shall be accounted for as a "pooling of interests."

NOW, THEREFORE, in consideration of the foregoing and the mutual representations, warranties, covenants and agreements contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto intending to be legally bound do hereby agree as follows:

ARTICLE I
THE MERGER

SECTION 1.1. General.

(a) Subject to the terms and conditions of this Agreement and in accordance with the DGCL, at the Effective Time (i) the Company shall be merged with and into CIENA, (ii) the separate corporate existence of the Company shall cease and (iii) CIENA shall be the surviving company (the "Surviving Company") and shall continue its legal existence under the laws of the State of Delaware.

(b) The Merger shall become effective at the time of filing of a Certificate of Merger with the Secretary of State of the State of Delaware in accordance with the provisions of Section 251 of the DGCL, or at such later time as may be stated in the Certificate of Merger (the "Effective Time").

The closing of the Merger (the "Closing") shall take place at the offices of Hogan & Hartson, LLP, 111 South Calvert Street, Baltimore, Maryland 21202 at 10:00 A.M., two business days after the date on which the last of the conditions set forth in ARTICLE VII shall have been satisfied or waived, or on such other date, time and place as the Company and CIENA may mutually agree (the "Closing Date").

(c) At the Effective Time, the effect of the Merger shall be as provided in the applicable provisions of the DGCL. Without limiting the generality of the foregoing, and subject thereto, at the Effective Time, all the property, rights, privileges, powers and franchises of the Company shall vest in the Surviving Company, and all debts, liabilities, obligations, and duties of the Company shall become the debts, liabilities, obligations, restrictions, disabilities and duties of the Surviving Company.

SECTION 1.2. Certificate of Incorporation.

The Certificate of Incorporation of CIENA, as in effect immediately prior to the Effective Time, shall be the Certificate of Incorporation of the Surviving Company, until thereafter amended as provided therein and by law.

SECTION 1.3. The By-Laws.

The By-laws of CIENA, as in effect immediately prior to the Effective Time, shall be the By-laws of the Surviving Company until thereafter amended as provided therein and by law.

SECTION 1.4. Board of Directors and Officers.

From and after the Effective Time, the Board of Directors and Officers of CIENA at the Effective Time shall be the Board of Directors and Officers of the Surviving Company, each to hold office until his or her respective successors are duly elected or appointed and qualified.

SECTION 1.5. Conversion of Securities.

At the Effective Time, by virtue of the Merger and without any action on the part of the Company or the holders of the Company's Capital Stock (the "Stockholders"):

(a) Each issued and outstanding share of CIENA capital stock shall remain outstanding and unaffected as the outstanding shares of the Surviving Company;

(b) Each share of Company Capital Stock held in the treasury of the Company and each share of Company Capital Stock owned by CIENA shall be canceled without any conversion thereof and no payment or distribution shall be made with respect thereto; and

(c) Subject to the provisions of SECTIONS 1.6 and 1.9, each share of Company Capital Stock issued and outstanding immediately prior to the Effective Time (other than (i) shares canceled in accordance with SECTION 1.5(B) and (ii) Dissenting Shares) shall be converted into a fraction of a share of CIENA common stock, par value \$0.01 per share ("CIENA Common Stock" or "CIENA Stock") including the corresponding fraction of a right ("Right") to purchase shares of junior preferred stock, par value \$1.00 per share, pursuant to the Rights Agreement dated as of December 27, 1997 between CIENA and Boston EquiServe as Rights Agent, determined as follows:

(i) in the case of each share of Company Common Stock, a fraction of a share equal to (a) 16,000,000 less the Preferred Redemption Retirement Amount (as defined below), divided by (b) the Fully-Diluted Company Capital Stock (as defined below). The Preferred Redemption Retirement Amount is equal to \$17,981,101.50 divided by the closing price per share of CIENA Common Stock as reported on Nasdaq on the last business day preceding the Closing Date (the "Stock Price"). The fraction determined under this subparagraph, as adjusted in accordance with SECTION 1.6, is hereinafter called the "Common Stock Exchange

Ratio". The Fully-Diluted Company Capital Stock is equal to the total number of the following items (without duplication) as of the Effective Time: (x) outstanding shares of Company Common Stock, (y) Company stock options and restricted stock awards granted and unexercised at Closing (whether vested or unvested), (z) shares issuable upon exercise of outstanding Company warrants and (aa) shares issuable upon exercise of other instruments or agreements convertible into or exchangeable for or entitling the holder to acquire Company Common Stock, including shares of Series B Preferred Stock outstanding (in each case expressed on a common share equivalent basis);

(ii) in the case of each share of Series A Preferred Stock, (a) \$5,831,100 divided by the Stock Price, divided by (b) the aggregate number of shares of Series A Preferred Stock outstanding on the Closing Date (such number as adjusted in accordance with SECTION 1.6, the "Series A Exchange Ratio"); and

(iii) in the case of each share of Series B Preferred Stock, the Common Stock Exchange Ratio plus an additional fraction of a share of CIENA Common Stock equal to (a) \$12,150,001.50 divided by the Stock Price, divided by (b) the aggregate number of shares of Series B Preferred Stock outstanding on the Closing Date (such number as adjusted in accordance with SECTION 1.6, the "Series B Exchange Ratio").

The Common Stock Exchange Ratio, the Series A Exchange Ratio and the Series B Exchange Ratio are collectively referred to as the "Exchange Ratios."

All references in this Agreement to CIENA Common Stock to be received in accordance with the Merger shall be deemed, from and after the Effective Time, to include the Rights. All such shares of Company Capital Stock shall no longer be outstanding and shall automatically be canceled and retired, and each holder of a certificate representing any such shares shall cease to have any rights with respect thereto other than (i) the right to receive shares of Common Stock of CIENA to be issued in consideration therefor upon the surrender of such certificate, (ii) any dividends and other distributions in accordance with SECTION 1.8(C) and (iii) any cash, without interest, to be paid in lieu of any fractional share of CIENA Common Stock in accordance with SECTION 1.9. Notwithstanding the foregoing, shares of Company Capital Stock surrendered for exchange by any person identified by CIENA at the Effective Time as an "Affiliate" of the Company shall not be exchanged until CIENA has received a written agreement from such person in the form of EXHIBIT A.

SECTION 1.6. Adjustment of the Exchange Ratios.

In the event that, prior to the Effective Date, any stock split, combination, reclassification or stock dividend with respect to the CIENA Common Stock, any change or conversion of CIENA Common Stock into other securities or any other dividend or distribution with respect to the CIENA Common Stock should occur or, if a record date with respect to any of the foregoing should occur, appropriate and proportionate adjustments shall be made to each Exchange Ratio, and thereafter all references to an Exchange Ratio shall be deemed to be to such Exchange Ratio as so adjusted.

SECTION 1.7. Dissenting Shares.

(a) Notwithstanding any provision of this Agreement to the contrary, shares of Company Capital Stock that are outstanding immediately prior to the Effective Time and which are held by stockholders who shall not have voted in favor of the Merger or consented thereto in writing and who shall have demanded properly in writing appraisal for such shares in accordance with Section 262 of the DGCL (collectively, the "Dissenting Shares") shall not be converted into or represent the right to receive the consideration set forth in SECTION 1.5(C). Such stockholders shall be entitled to receive such consideration as is determined to be due with respect to such Dissenting Shares in accordance with the provisions of Section 262, except that all Dissenting Shares held by stockholders who shall have failed to perfect or who effectively shall have withdrawn or lost their rights to appraisal of such

shares under Section 262 shall thereupon be deemed to have been converted into and to have become exchangeable for, as of the Effective Time, the right to receive the shares of CIENA Common Stock specified in SECTION 1.5, without any interest thereon, upon surrender, in the manner provided in SECTION 1.8, of the certificate or certificates that formerly evidenced by such Dissenting Shares less the number of shares of CIENA Common Stock allocable to such stockholder that have been deposited in the Escrow Fund in respect of Company Capital Stock pursuant to SECTIONS 1.8(B) and 8.2.

(b) The Company shall give CIENA (i) prompt notice of any demands for appraisal received by the Company, withdrawals of such demands, and any other instruments served pursuant to the DGCL and received by the Company and (ii) the opportunity to direct all negotiations and proceedings with respect to demands for appraisal under the DGCL. The Company shall not, except with the prior written consent of CIENA, make any payment with respect to any demands for appraisal or offer to settle or settle any such demands.

(c) Notwithstanding the foregoing, as provided in ARTICLE VII, it is a condition to CIENA's obligations pursuant to this Agreement that holders of shares of Company Capital Stock representing in excess of 9.9% of the issued and outstanding Company Capital Stock immediately prior to the Effective Time shall not have demanded or exercised appraisal rights under Section 262 of the DGCL.

SECTION 1.8. Exchange Procedures; Distributions with Respect to Unexchanged Shares; Stock Transfer Books.

(a) As of the Effective Time, CIENA shall deposit with the Exchange Agent for the benefit of the holders of shares of Company Capital Stock, certificates representing shares of the CIENA Common Stock to be issued pursuant to SECTION 1.5(C) in exchange for the shares of Company Capital Stock less the number of shares of CIENA Common Stock to be deposited in the Escrow Fund pursuant to SECTION 8.2. (Such shares of CIENA Common Stock, together with any dividends or distributions with respect thereto pursuant to SECTIONS 1.8(C) and 1.9, are referred to herein as the "Exchange Fund").

(b) As soon as practicable after the Effective Time, CIENA shall use its reasonable efforts to cause the Exchange Agent to send to each Person who was, at the Effective Time, a holder of record of certificates which represented outstanding Company Capital Stock (the "Certificates") which shares were converted into the right to receive CIENA Common Stock pursuant to SECTION 1.5(C), a letter of transmittal which (i) shall specify that delivery shall be effected and risk of loss and title to such Certificates shall pass, only upon actual delivery thereof to the Exchange Agent and (ii) shall contain instructions for use in effecting the surrender of the Certificates. Upon surrender to the Exchange Agent of Certificates for cancellation, together with such letter of transmittal duly executed, such holder shall be entitled to receive in exchange therefor (A) a certificate representing the number of whole shares of CIENA Common Stock into which the Company Capital Stock represented by the surrendered Certificate shall have been converted at the Effective Time (less such holder's pro rata portion of the number of shares of CIENA Common Stock to be deposited in the Escrow Fund on such holder's behalf pursuant to SECTION 8.2), (B) cash in lieu of any fractional share of CIENA Common Stock in accordance with SECTION 1.9 and (c) certain dividends and distributions in accordance with SECTION 1.8(C), and the Certificates so surrendered shall then be canceled. Subject to SECTION 1.8(C) and SECTION 1.9, until surrendered as contemplated by this SECTION 1.8(B), each Certificate, from and after the Effective Time, shall be deemed to represent only the right to receive, upon such surrender, the number of shares of CIENA Common Stock into which such Company Capital Stock shall have been converted. As soon as practicable after the Effective Time, and subject to and in accordance with the provisions of SECTION 8.2, CIENA shall cause to be distributed to the Escrow Agent certificates representing 10% of the aggregate number of

shares of CIENA Common Stock to be issued in the Merger (less shares issued in respect of Company Capital Stock subject to forfeiture or vesting arrangements between the Company and the Stockholder that are assigned to CIENA in the Merger) which shall be registered in the name of the Escrow Agent as nominee for the holders of Certificates canceled pursuant to this SECTION 1.8. Such shares shall be beneficially owned by such holders, shall be held in escrow and shall be available to settle certain contingencies as provided in the Escrow Agreement referred to in SECTION 8.2. To the extent not used for such purpose, such shares shall be released, as provided in the Escrow Agreement.

(c) No dividends or other distribution declared or made after the Effective Time with respect to the CIENA Common Stock with a record date after the Effective Time shall be paid to any holder entitled by reason of the Merger to receive certificates representing CIENA Common Stock and no cash payment in lieu of a fractional share of CIENA Common Stock shall be paid to any such holder pursuant to SECTION 1.9 until such holder shall have surrendered its Certificates pursuant to this SECTION 1.8. Subject to applicable law, following surrender of any such Certificate, such holder shall be paid, in each case, without interest, (i) the amount of any dividends or other distributions theretofore paid with respect to the shares of CIENA Common Stock represented by the certificate received by such holder and having a record date on or after the Effective Time and a payment date prior to such surrender and (ii) at the appropriate payment date or as promptly as practicable thereafter, the amount of any dividends or other distributions payable with respect to such shares of CIENA Common Stock and having a record date on or after the Effective Time but prior to such surrender and a payment date on or after such surrender.

(d) If any certificate representing shares of CIENA Common Stock or any cash is to be issued or paid to any Person other than the registered holder of the Certificate surrendered in exchange therefor, it shall be a condition to such exchange that such surrendered Certificate shall be properly endorsed and otherwise in proper form for transfer and such Person either (i) shall pay to the Exchange Agent any transfer or other taxes required as a result of the issuance of such certificates of CIENA Common Stock and the distribution of such cash payment to such Person or (ii) shall establish to the satisfaction of the Exchange Agent that such tax has been paid or is not applicable. CIENA or the Exchange Agent shall be entitled to deduct and withhold from the consideration otherwise payable pursuant to this Agreement to any holder of shares of Company Capital Stock such amounts as CIENA or the Exchange Agent is required to deduct and withhold with respect to the making of such payment under the Code, or any provision of state, local or foreign tax law. To the extent that amounts are so withheld by CIENA or the Exchange Agent, such withheld amounts shall be treated for all purposes of this Agreement as having been paid to the holder of the shares of Company Capital Stock in respect of which such deduction and withholding was made by CIENA or the Exchange Agent. All amounts in respect of taxes received or withheld by CIENA shall be disposed of by CIENA in accordance with the Code or such state, local or foreign tax law, as applicable.

(e) If any Certificate shall have been lost, stolen or destroyed, upon the making of an affidavit of that fact by the Person claiming such Certificate to be lost, stolen or destroyed and subject to such other conditions as the Board of Directors of the Surviving Company may impose, the Surviving Company shall issue in exchange for such lost, stolen or destroyed Certificate the shares of CIENA Common Stock as determined under SECTION 1.5(C) and pay any cash, dividends and distributions as determined in accordance with SECTION 1.8(C) and SECTION 1.9 in respect of such Certificate. When authorizing such issue of shares of CIENA Common Stock (and payment of any such cash, dividends and distribution) in exchange for such Certificate, the Board of Directors of the Surviving Company (or any authorized officer thereof) may, in its reasonable discretion and as a condition precedent to the issuance thereof, require the owner of such lost, stolen or destroyed Certificate to give the Surviving Company a bond in such sum as the Board of Directors may direct as indemnity

against any claim that may be made against the Surviving Company with respect to the Certificate alleged to have been lost, stolen or destroyed.

(f) At the close of business on the day on which the Effective Time occurs, the stock transfer books of the Company shall be closed and thereafter there shall be no further registration of transfers of shares of Company Capital Stock on the records of the Company. From and after the Effective Time, the holders of shares of Company Capital Stock outstanding immediately prior to the Effective Time shall cease to have any rights with respect to such shares except as otherwise provided herein or by applicable law.

SECTION 1.9. No Fractional Shares.

No certificates or scrip representing fractional shares of CIENA Common Stock shall be issued upon the surrender for exchange of Certificates and such a fractional share shall not entitle the record or beneficial owner thereof to vote or to any other rights as a stockholder of CIENA. In lieu of receiving any such fractional share, each holder of Company Capital Stock who would otherwise have been entitled thereto upon the surrender of Certificates for exchange will receive cash (without interest) in an amount rounded to the nearest whole cent, determined by multiplying (i) the per share closing price on the Nasdaq Stock Market ("Nasdaq") of CIENA Common Stock on the date on which the Effective Time shall occur (or, if the CIENA Common Stock shall not trade on Nasdaq on such date, the first day of trading in CIENA Common Stock on Nasdaq thereafter) by (ii) the fractional share to which such holder would otherwise be entitled. CIENA shall make available to the Exchange Agent the cash necessary for this purpose.

SECTION 1.10. Return of Exchange Fund.

Any portion of the Exchange Fund which remains undistributed to the former holders of Company Capital Stock for six months after the Effective Time shall be delivered to CIENA, upon its request, and any such former holders who have not theretofore surrendered to the Exchange Agent their Certificates in compliance herewith shall thereafter look only to CIENA for payment of their claim for shares of CIENA Common Stock, any cash in lieu of fractional shares of CIENA Common Stock and any dividends or distributions with respect to such shares of CIENA Common Stock. Neither CIENA nor the Company shall be liable to any former holder of Company Capital Stock for any such shares of CIENA Common Stock held in the Exchange Fund (and any cash, dividends and distributions payable in respect thereof) which is delivered to a public official pursuant to an official request under any applicable abandoned property, escheat or similar law.

SECTION 1.11. No Further Ownership Rights in Company Capital Stock.

All certificates representing shares of CIENA Common Stock delivered upon the surrender for exchange of any Certificate in accordance with the terms hereof (including any cash paid pursuant to SECTION 1.8 or SECTION 1.10) shall be deemed to have been delivered (and paid) in full satisfaction of all rights pertaining to the Company Stock previously represented by such Certificate.

SECTION 1.12. Further Assurances.

If at any time after the Effective Time the Surviving Company shall consider or be advised that any deeds, bills of sale, assignments or assurances or any other acts or things are necessary, desirable or proper (a) to vest, perfect or confirm, of record or otherwise, in the Surviving Company, its right, title or interest in, to or under any of the rights, privileges, powers, franchises, properties or assets of the Company or (b) otherwise to carry out the purposes of this Agreement, the Surviving Company and its proper officers and directors or their designees shall be authorized to execute and deliver, in the name and on behalf of the Company, all such deeds, bills of sale, assignments and assurances and do, in the name and on behalf of the Company, all such other acts and things necessary, desirable or proper to vest, perfect or confirm its right, title or interest in, to or under any of the rights, privileges,

powers, franchises, properties or assets of the Company, as applicable, and otherwise to carry out the purposes of this Agreement.

ARTICLE II
REPRESENTATIONS AND WARRANTIES OF THE COMPANY

The Company represents and warrants to CIENA as follows:

SECTION 2.1. Organization and Qualification.

The Company is a corporation duly organized, validly existing and in good standing under the laws of Delaware. The Company has the requisite power and authority to carry on its business as now being conducted and to perform the terms of this Agreement and the transactions contemplated hereby. The Company is duly qualified to conduct its business, and is in good standing, in each jurisdiction in which the ownership or leasing of its assets or the nature of its activities in connection with the conduct of its business makes such qualification necessary or in which the failure to be so qualified and in good standing would have a Company Material Adverse Effect. Except as set forth in SCHEDULE 2.1, the Company has no subsidiaries or any equity interest or other investment in any person. Unless the context otherwise requires, references herein to the Company shall refer to the Company and its subsidiary taken as a whole.

SECTION 2.2. Certificate of Incorporation and Bylaws.

The Company has heretofore delivered to CIENA a complete and correct copy of the certificate of incorporation and the bylaws of the Company, each as amended to date. Such certificate of incorporation and bylaws are in full force and effect. The Company is not in violation of any of the provisions of its certificate of incorporation or bylaws.

SECTION 2.3. Capitalization.

(a) The authorized capital stock of the Company consists of 18,000,000 shares of common stock, \$0.001 par value per share, of which 11,743,132 shares are issued and outstanding and 9,628,462 shares of preferred stock, par value \$0.001 per share, of which 5,890,000 shares are designated as Series A Preferred Stock, all of which are issued and outstanding, and 3,738,462 shares are designated as Series B Preferred Stock, all of which are issued and outstanding. To the knowledge of the Company, all of the issued and outstanding shares of Series A Preferred Stock, Series B Preferred Stock and Common Stock of the Company are owned of record by the Stockholders of the Company shown on SCHEDULE 2.3 hereto, free and clear of all Encumbrances. Except as set forth on SCHEDULE 2.3, the Company has not granted any options, warrants or other rights, or entered into any agreements, arrangements or commitments of any character relating to the issued or unissued capital stock of the Company, or obligating the Company to issue or sell any shares of capital stock of, or other equity interests in the Company, including any securities directly or indirectly convertible into or exercisable or exchangeable for any capital stock or other equity securities of the Company. Except as set forth on SCHEDULE 2.3, there are no outstanding obligations of the Company to repurchase, redeem or otherwise acquire any shares of its capital stock or make any investment (in the form of a loan, capital contribution or otherwise) in any other person. All of the issued and outstanding shares of the Company Capital Stock, have been duly authorized and validly issued in accordance with applicable laws and are fully paid and non-assessable and not subject to preemptive rights. Except as set forth on SCHEDULE 2.3, no shares of capital stock of the Company have been reserved for any purpose.

(b) Except as set forth in SCHEDULE 2.3, the Company has no outstanding indebtedness for borrowed money and all such indebtedness as is set forth in SCHEDULE 2.3 is prepayable in full, without premium or penalty, at any time.

SECTION 2.4. Authority.

(a) The execution and delivery of this Agreement by the Company and the consummation by the Company of the transactions contemplated hereby have been duly and validly authorized by all necessary corporate action and no other corporate proceedings on the part of the Company are necessary to authorize this Agreement or to consummate the transactions contemplated hereby, except approval by holders of a majority of the shares of the Company Common Stock and Series B Preferred Stock, voting together as a single class and approval of the holders of two-thirds the Series A Preferred Stock and Series B Preferred Stock, voting separately as a class. The Series A Preferred Stock is not otherwise entitled to any vote on the Merger. Assuming the due authorization, execution and delivery by CIENA, this Agreement constitutes a legal, valid and binding obligation of the Company, enforceable in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws of general applicability relating to or affecting creditors' rights generally and by the application of general principles of equity.

(b) The Board of Directors of the Company has duly and unanimously approved this Agreement and the Merger and the other transactions contemplated hereby and has recommended approval thereof by the Stockholders.

SECTION 2.5. No Conflict; Required Filings and Consents.

(a) Except as set forth in SCHEDULE 2.5, the execution and delivery of this Agreement by the Company does not, and the performance by the Company of its obligations under this Agreement will not, (i) conflict with or violate the certificate of incorporation or bylaws of the Company, (ii) conflict with or violate any Law applicable to the Company, or (iii) result in any breach of or constitute a default (or an event which with notice or lapse of time or both would become a default) under any note, bond, mortgage, indenture, contract, agreement, lease, license, permit, franchise or other instrument or obligation to which it is subject.

(b) Except as set forth in Schedule 2.5, the execution and delivery of this Agreement by the Company does not, and the performance of this Agreement by the Company will not, require any consent, approval, authorization or permit of, or filing with or notification to, any Government Entity by the Company, except for the filing of a Certificate of Merger under the DGCL.

SECTION 2.6. Financial Statements.

Attached hereto as SCHEDULE 2.6 are (a) the unaudited consolidated balance sheet of the Company as of the end of the fiscal year ended December 31, 1998 and the audited consolidated balance sheet of the Company as at the end of the fiscal year ended December 31, 1997, and the unaudited and audited, respectively consolidated statements of operations and cash flows for such fiscal years and (b) the unaudited consolidated balance sheet of the Company as of February 28, 1999, and the unaudited consolidated statement of operations and cash flows for the two months then ended (collectively, the "Financial Statements"). The audited consolidated financial statements referred to in this SECTION 2.6 present fairly, in all material respects, the consolidated financial condition of the Company as of the respective dates and the results of operations and cash flows for the respective periods indicated and have been prepared in accordance with United States generally accepted accounting principles ("GAAP") applied on a consistent basis. Except as set forth on SCHEDULE 2.6, the unaudited consolidated financial statements referred to in this SECTION 2.6 present fairly, in all material respects, the consolidated financial condition of the Company as of the respective dates and the results of operations and cash flows for the respective periods indicated and have been prepared in all material respects in accordance with GAAP applied on a consistent basis except for the absence of required footnotes. All audited consolidated financial statements are accompanied by unqualified audit reports of PricewaterhouseCoopers LLP, who are independent for purposes of federal securities laws. Except as set forth on SCHEDULE 2.6 or as reflected in the

unaudited balance sheet of the Company as of February 28, 1999 (the "Balance Sheet Date"), the Company has no liabilities, contingent or absolute, matured or unmatured, known or unknown, and knows of no basis for such liabilities, except for liabilities (a) not required under GAAP applied on a consistent basis with that of the preceding accounting periods to be reported on such Financial Statements, and (b) incurred in the Ordinary Course of Business, that would not reasonably be expected to have a Company Material Adverse Effect.

SECTION 2.7. Accounts Receivable.

The accounts receivable of the Company shown on the balance sheet dated December 31, 1998, if any, or thereafter acquired by the Company up to the date of this Agreement, have been collected or are collectible in amounts not less than the amounts thereof carried on the books of the Company (taking into account the provision for doubtful accounts).

SECTION 2.8. Absence of Certain Changes or Events.

Since the Balance Sheet Date, there has been no event or set of circumstances that resulted in or is reasonably likely to result in a Company Material Adverse Effect. Except as set forth on SCHEDULE 2.8, since the Balance Sheet Date, the Company has conducted its business in the Ordinary Course of Business, and has not (a) paid any dividend or distribution in respect of, or redeemed or repurchased any of, its capital stock; (b) incurred loss of, or significant injury to, any of the material Assets, whether as the result of any natural disaster, labor trouble, accident, other casualty, or otherwise; (c) incurred, or become subject to, any material liability (absolute or contingent, matured or unmatured, known or unknown), and knows of no basis for such liabilities, except current liabilities incurred in the Ordinary Course of Business; (d) mortgaged, pledged or subjected to any Encumbrance any of the Assets; (e) sold, exchanged, transferred or otherwise disposed of any of the Assets except in the Ordinary Course of Business, or canceled any debts or claims; (f) written down the value of any Assets or written off as uncollectible any accounts receivable, except write downs and write-offs in the Ordinary Course of Business, none of which, individually or in the aggregate, are material; (g) entered into any transactions other than in the Ordinary Course of Business; (h) made any change in any method of accounting or accounting practice; or (i) made any agreement to do any of the foregoing. Except as set forth in SCHEDULE 2.8, since December 31, 1998, there has not been: (a) any change in the financial condition, assets, liabilities, personnel policies or practices, or contracts or business of the Company or in its relationships with suppliers, customers, licensors, licensees, distributors, lessors or others, except changes in the Ordinary Course of Business (it being understood that the Company has incurred losses from operations); (b) any damage, destruction or loss (whether or not covered by insurance) or any other event affecting the business or assets of the Company; (c) any forgiveness or cancellation of debts or claims owed to the Company, or termination, abandonment or waiver of any rights; (d) any increase in the compensation or benefits payable or to become payable by the Company to any of the directors, officers, consultants or employees of the Company; (e) any discharge or satisfaction of any Lien or payment of any liability or obligation by the Company other than current liabilities in the Ordinary Course of Business; or (f) any agreement to do any of the foregoing.

SECTION 2.9. Ownership and Condition of the Assets.

Except as set forth on SCHEDULE 2.9, the Company is the sole and exclusive legal and equitable owner of and has good and marketable title to the Assets it purports to own and such Assets are free and clear of all Encumbrances. No person or Government Entity has an option to purchase, right of first refusal or other similar right with respect to all or any part of such Assets. Except as set forth in SCHEDULE 2.9, all of the personal property of the Company is in good working order and repair, ordinary wear and tear excepted, and is suitable and adequate for the uses for which it is intended or is being used except where the failure to be so would not have a Company Material Adverse Effect.

SECTION 2.10. Leases.

SCHEDULE 2.10 lists all leases and other agreements under which the Company is lessee or lessor of any Asset, or holds, manages or operates any Asset owned by any third party, or under which any Asset owned by the Company is held, operated or managed by a third party. The Company is the holder of all the leasehold estates purported to be granted to such entity by the leases listed in SCHEDULE 2.10 and is the owner of all equipment, machinery and other Assets purported to be owned by the Company thereon, free and clear of all Encumbrances. Each such lease and other agreement is in full force and effect and constitutes a legal, valid and binding obligation of, and is legally enforceable against, the respective parties thereto (except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws of general applicability relating to or affecting creditors' rights generally and by the application of general principles of equity) and grants the leasehold estate it purports to grant free and clear of all Encumbrances. All necessary governmental approvals required to be obtained by the Company with respect thereto have been obtained, all necessary filings or registrations therefor have been made, and to the Company's knowledge, there have been no threatened cancellations thereof and are no outstanding disputes thereunder. The Company has performed in all material respects all obligations thereunder required to be performed by such entity to date. The Company is not in default in any material respect under any of the foregoing and to the Company's knowledge, no other party is in default in any material respect under any of the foregoing, and there has not occurred any event which (whether with or without notice, lapse of time or the happening or occurrence of any other event) would, constitute a default on the part of the Company, or to the Company's knowledge, a party other than the Company.

SECTION 2.11. Other Agreements.

(a) SCHEDULE 2.11 is an accurate list all material contracts and agreements to which the Company is a party, or which it or any of its property is bound, (including, without limitation, joint venture agreements, employment contracts, loan agreements, bonds, mortgages, liens, pledges or other security agreements) used in connection with, or relating to the conduct of the business of the Company. Such agreements include each agreement and contract to which the Company is a party that limits the right of the Company to engage in, or to compete with any person in, any business, including each contract or agreement containing exclusivity provisions restricting the geographical area in which, or the method by which, any business may be conducted by the Company prior to the Effective Time.

(b) Except as set forth on SCHEDULE 2.11 with respect to the conduct of the business of the Company and ownership of the Assets, the Company is NOT:

(1) a party to any contract, purchase or sales orders, or commitment that involves a dollar amount in excess of \$35,000 or extends for a period of twelve months or more;

(2) a party to any employment contracts with employees, agents or consultants;

(3) a party to any contract with sales or other agents, brokers, franchisees, distributors or dealers;

(4) a party to any partnership or joint venture agreement;

(5) a party to any lease or other occupancy or use agreements, oral or written, nor has the Company granted any options, rights of first refusal or security or other interests in or relating to the Assets or the business of the Company;

(6) a party to any agreements giving any party the right to renegotiate or require a reduction in price or refund of payments previously made in connection with the business of the Company;

(7) a party to any agreements for the borrowing or lending of money with respect to the business of the Company and is not a party to any guaranty agreement;

(8) a party to any agreement for the sale of goods or services to any Governmental Entity;

(9) a party to any agreement granting any Person a Lien on any of the Assets;

(10) a party to any bonus, executive or deferred compensation, profit sharing, pension or retirement, stock option or stock purchase, hospitalization, insurance, medical reimbursement or other plan, agreement or arrangement or practice providing employee or executive benefits to any officer or employee or former officer or former employee; and

(11) a party to or bound by any non-competition, secrecy or confidentiality agreement relating to the business of the Company or the Assets or any other contract restricting its right to conduct the business the Company at any time, in any manner or at any place in the world, or the expansion thereof to other geographical areas, customers, suppliers or lines of business.

(c) A true and correct copy of each Contract has been delivered to CIENA prior to the date hereof. Each Contract is now valid, in full force and effect and enforceable in accordance with its terms (except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws of general applicability relating to or affecting creditors' rights generally and by the application of general principles of equity). Except as set forth on SCHEDULE 2.11, the Company has not breached or improperly terminated any such Contract, the effect of which could have a Company Material Adverse Effect, and neither the Company nor, to the Company's knowledge, any third party is in default under any such Contract, the effect of which would have a Company Material Adverse Effect. There exists no condition or event which, after notice or lapse of time or both, would constitute any such breach, termination or default. Except as set forth on SCHEDULE 2.11, the Company knows of a bid or contract proposal made by the Company that, if accepted and entered into, is likely to result in a loss to the Company.

SECTION 2.12. Real Property.

SCHEDULE 2.12 contains a list of all leasehold interests in real estate, easements, rights to access, rights-of-way and other real property interests which are owned, or are leased, used or held for use by the Company (collectively, the "Real Property"). The Real Property listed in SCHEDULE 2.12 constitutes all real property interests necessary to conduct the business and operations of the Company as now conducted. The Company is not aware of any easement or other real property interest, other than those listed in SCHEDULE 2.12, that is required, or that has been asserted by a Government Entity to be required, to conduct the business and operations of the Company. The Company has delivered to CIENA true and complete copies of all deeds, leases, easements, rights-of-way and other instruments pertaining to the Real Property (including any and all amendments and other modifications of such instruments). All Real Property (including the improvements thereon) (i) is in good condition and repair consistent with its present use, (ii) is available to the Company for immediate use in the conduct of its business and operations, and (iii) to the knowledge of the Company complies in all material respects with all applicable building or zoning codes and in the regulations of any Government Entity having jurisdiction.

SECTION 2.13. Environmental Matters.

(a) The Company has complied in all material respects and is in material compliance with all Environmental Laws. There are no pending or, to the knowledge of the Company, threatened actions, suits, claims, legal proceedings or other proceedings based on any Environmental Laws, and the Company has not received any notice of any complaint, order, directive, citation, notice of responsibility, notice of potential responsibility, or information request from any Government Entity or any other person arising out of or attributable to: (i) the current or past presence at any part of the Real Property of Hazardous Materials (as defined below) or any substances that pose a hazard to

human health or an impediment to working conditions; (ii) the current or past release or threatened release into the environment from the Real Property (including, without limitation, into any storm drain, sewer, septic system or publicly owned treatment works) of any Hazardous Materials or any substances that pose a hazard to human health or an impediment to working conditions; (iii) the off-site disposal of Hazardous Materials originating on or from the Real Property; (iv) any facility operations or procedures of the Company which do not conform to requirements of the Environmental Laws; or (v) any violation of Environmental Laws at any part of the Real Property or otherwise arising from the Company's activities involving Hazardous Materials.

(b) The Company has been duly issued, and currently has all permits, licenses, certificates and approvals required to be maintained by the Company under any Environmental Law with respect to the use of the Real Property by the Company. A true and complete list of such permits, licenses, certificates and approvals, all of which are valid and in full force and effect, is set out in SCHEDULE 2.13. Except in accordance with such permits, licenses, certificates and approvals, there has been no discharge of any Hazardous Materials or any other material regulated by such permits, licenses, certificates or approvals.

(c) To the Company's knowledge, none of the Real Property contains any underground storage tanks, or underground piping associated with such tanks, used currently or in the past for Hazardous Materials.

SECTION 2.14. Litigation.

Except as set forth on SCHEDULE 2.14, there is no action, suit, investigation, claim, arbitration or litigation pending or, to the knowledge of the Company, threatened against or involving the Company, or the Assets, at law or in equity, or before or by any court, arbitrator or Government Entity. The Company is not operating under, and is not subject to, any judgment, writ, order, injunction, award or decree of any court, judge, justice or magistrate, including any bankruptcy court or judge, or any order of or by any Government Entity. No property or Assets of the Company has been taken or expropriated by any federal, state, provincial, municipal or other Government Entity nor has any notice or proceeding with respect to thereof been given or commenced, nor is the Company aware of any intent or proposal by any Governmental Entity to give any such notice or commence any such proceeding.

SECTION 2.15. Compliance with Laws.

The Company is in compliance in all material respects with all Laws applicable to the Assets and its business and operations, including all Laws applicable to the Company's relationship with its employees.

SECTION 2.16. Intellectual Property.

(a) Except as set forth in SCHEDULE 2.16, the Company has all right, title, interest and license rights necessary to use all intellectual property used in the business of the Company as presently conducted and to the Company's knowledge, has the right, title, interest and license rights to use all intellectual property that is currently anticipated by the Company to be required to carry out, in all material respects, the Company's product development and marketing plans through December 31, 1999 as previously disclosed to CIENA (the "Intellectual Property Rights"). There are no claims or demands against the Company by any other Person pertaining to any of such Intellectual Property Rights and no proceedings have been instituted, or are pending or to the knowledge of the Company, threatened, which challenge the rights of the Company in respect thereof. To the knowledge of the Company, the Company has the right to use, without infringing the rights of others, all customer lists, designs, manufacturing or other processes, computer software, systems, data compilations, research results and other information required for or incident to its products or its business as presently conducted.

(b) SCHEDULE 2.16(b) lists all patents, patent applications, registered trademarks, trademark applications and registrations and registered copyrights owned or licensed by or registered in the name of the Company or used by the Company in its business as presently conducted, and generally describes any other Intellectual Property Rights material to the business or operations of the Company. All of such patents, patent applications, registered trademarks, trademark applications and registrations and registered copyrights, if any, have been duly registered in, filed in or issued by the United States Patent and Trademark Office, the United States Register of Copyrights, or the corresponding offices of other jurisdictions as identified on SCHEDULE 2.16(b), and have been properly maintained and renewed in accordance with all applicable provisions of law and administrative regulations in the United States and each such jurisdiction except as set forth on SCHEDULE 2.16(b).

(c) All licenses or other agreements under which the Company is granted rights in Intellectual Property Rights are listed on SCHEDULE 2.16(c). All such licenses or other Agreements are in full force and effect, there is no material default by the Company or, to the Company's knowledge, any party thereto. To the knowledge of the Company, the licensors under such licenses and other agreements have and had all requisite power and authority to grant the rights purported to be conferred thereby. True and complete copies of all such licenses or other Agreements, and any amendments thereto, have been furnished to CIENA.

(d) All licenses or other agreements under which the Company has granted rights to others in Intellectual Property Rights owned or licensed by the Company are listed on SCHEDULE 2.16(d). All of such licenses or other agreements are in full force and effect, there is no material default by the Company, or to the Company's knowledge, by any party thereto. True and complete copies of all such licenses or other agreements, and any amendments thereto, have been furnished to CIENA.

(e) The Company has taken all reasonable steps it believes to be required in accordance with sound business practice to establish and preserve its ownership of all material copyright, trade secret and other proprietary rights with respect to its products and technology. The Company has required all professional and technical employees and independent contractors having access to valuable non-public information of the Company to execute agreements under which such persons are required to maintain the confidentiality of such information and appropriately restricting the use thereof. The Company has no knowledge of any infringement by others of any Intellectual Property Rights of the Company.

(f) To the knowledge of the Company, the present business, activities and products of the Company do not infringe any Intellectual Property Rights of any other Person. No proceeding charging the Company with infringement of any Intellectual Property Rights has been filed or, to the knowledge of the Company, is threatened or likely to be filed. To the knowledge of the Company, there exists no unexpired patent or patent application which includes claims that would be infringed by the products, activities or business of the Company. To the knowledge of the Company, the Company is not making any unauthorized use of any confidential information or trade secrets of any Person, including without limitation, any customer of the Company, or any past or present employee of the Company. Except for customer contracts in the Ordinary Course of Business and confidentiality agreements by Employees with former employers, neither the Company nor, to the knowledge of the Company, any of its employees have any agreements or arrangements with any Persons other than the Company related to confidential information or trade secrets of such Persons or restricting any such employee's engagement in business activities of any nature. The activities of its employees on behalf of the Company do not violate any such agreements or arrangements known to the Company.

SECTION 2.17. Taxes and Assessments.

Except as set forth on SCHEDULE 2.17, the Company has (i) duly and timely paid all material Taxes which have become due and payable by it, and there are no agreements, waivers or other

arrangements providing for an extension of time with respect to the filing of any Tax Return or the payment of any Tax; (ii) received no written notice of, nor does the Company have any knowledge of, any notice of deficiency or assessment or proposed deficiency or assessment from any taxing Government Entity; (iii) no knowledge of any audits pending and there are no outstanding agreements or waivers by the Company that extend the statutory period of limitations applicable to any federal, state, local, or foreign tax returns or Taxes; and (iv) not entered into any discussions with any federal, state, local, or foreign authority with respect to any Tax asserted by such authority. Since inception of the Company, the Tax Returns of the Company have never been audited by federal, state, local, or foreign authorities. There are no Liens on any property of the Company that arose in connection with any failure (or alleged failure) to pay any material Tax. The Company has withheld from each payment made to any of its past or present employees, officers or directors, and to any non-residents, the amount of Taxes and other deductions required to be withheld therefrom and has paid the same to the proper Tax or other receiving officers within the time required under applicable Laws. The provision for Taxes of the Company, if any, as shown in the Financial Statements is adequate for Taxes due or accrued as of the date thereof.

SECTION 2.18. Employment and Benefit Matters.

(a) Pension and Benefit Plans and Other Arrangements. SCHEDULE 2.18(a) lists each employee benefit plan, program, arrangement and contract (including, without limitation, any "employee benefit plan" as defined by Section 3(3) of ERISA), applicable to employees of the Company to which it has contributed or under which it has any material liability (collectively, the "Company Benefit Plans"). The Company has delivered to CIENA, to the extent they exist, a true and correct copy of (i) the two most recent annual reports (Form 5500 series) filed with the Internal Revenue Service (the "IRS") with respect to each Company Benefit Plan or similar report of the jurisdiction in which such employee benefit plan is located, (ii) each such Company Benefit Plan document, (iii) each trust agreement or other funding vehicle relating to each such Company Benefit Plan, (iv) the most recent summary plan description for each Company Benefit Plan for which a summary plan description is required, and (v) the most recent determination letter issued by the IRS with respect to any Company Benefit Plan qualified under Section 401(a) of the Code or similar report of the jurisdiction in which such employee benefit plan is located.

(b) Compliance. The Company has complied, in all material respects, with all applicable provisions of the Company Benefit Plans and the Code, ERISA, the National Labor Relations Act, Title VII of the Civil Rights Act of 1964, the Age Discrimination in Employment Act, the Fair Labor Standards Act, the Securities Act of 1933, as amended (the "Securities Act"), the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and all other Laws pertaining to the Company Benefit Plans or the Company's relations with its employees, and other employee or employment related benefits, and all premiums and assessments relating to all Company Benefit Plans. The Company has no liability for any delinquent contributions within the meaning of Section 515 of ERISA (including, without limitation, related attorneys' fees, costs, liquidated damages and interest) or for any arrearages of wages. The Company has no pending unfair labor practice charges, contract grievances under any collective bargaining agreement, other administrative charges, claims, grievances or lawsuits before any court, governmental agency, regulatory body, or arbiter arising under any Law governing any Plan, and, to the knowledge of the Company, there exist no facts that could reasonably be expected to give rise to such a claim.

(c) Collective Bargaining Agreements. There are no collective bargaining agreements applicable to the Company's employees and the Company has no duty to bargain with any labor organization with respect to any such persons. There is not pending any demand for recognition or any other request or demand from a labor organization for representative status with respect to any persons employed by the Company.

(d) Employee Information. SCHEDULE 2.18(d) contains the names, positions and rates of compensation of all officers, directors, employees and consultants of the Company, showing each such person's name, positions, and annual remuneration, bonuses and fringe benefits for the current fiscal year and the most recently completed fiscal year. With respect to any persons employed by the Company, the Company is in compliance with all Laws respecting employment conditions and practices, has withheld all amounts required by any applicable Laws to be withheld from wages or any Taxes or penalties for failure to comply with any of the foregoing.

(e) Employment Practices. With respect to any persons employed by the Company, (i) the Company has not engaged in any unfair labor practice within the meaning of the National Labor Relations Act and has not violated any legal requirement prohibiting discrimination on the basis of race, color, national origin, sex, religion, age, marital status, or handicap in its employment conditions or practices; and (ii) there are no pending or, to the knowledge of the Company, threatened unfair labor practice charges or discrimination complaints relating to race, color, national origin, sex, religion, age, marital status, or handicap against the Company before any Government Entity nor, to the knowledge of the Company, does any basis therefor exist.

(f) Contributions to the Company Benefit Plans. All contributions to, and payments from, each Company Benefit Plan which may have been required to be made in accordance with the terms of such plan or with the recommendation of the administrator or actuary for such Company Benefit Plan, and, where applicable, the laws of the jurisdiction which govern such plan, have been made in a timely manner. All material reports, returns and similar documents (including applications for approval of contributions) with respect to any Company Benefit Plan required to be filed with any Government Entity or distributed to any participant of such plan have been duly filed on a timely basis or distributed. The assets of each Company Benefit Plan are at least equal to the liabilities of such plan based on the actuarial assumptions utilized in the most recent valuation performed by an actuary for such plan.

(g) Immigration Laws. The Company has complied, in all material respects, with all Laws governing the employment of personnel by U.S. companies and the employment of non-U.S. nationals in the United States, including, but not limited to, the Immigration and Nationality Act 8 U.S.C. Sections 1101 et seq. and its implementing regulations.

SECTION 2.19. Transactions with Related Parties.

Except as set forth on SCHEDULE 2.19, neither any present or former officer, director, stockholder or person known by the Company to be an Affiliate of any of them, is currently a party to any transaction or agreement with the Company, including, without limitation, any agreement providing for the employment of, furnishing of services by, rental of Assets from or to, or otherwise requiring payments to, any such officer, director, stockholder or Affiliate.

SECTION 2.20. Insurance and List of Claims.

SCHEDULE 2.20 contains a list of all policies of title, property, fire, casualty, liability, life, workmen's compensation, libel and slander, and other forms of insurance of any kind relating to the business and operations of the Company. The Company has delivered to CIENA true and correct copies of all such policies. All such policies: (a) are in full force and effect; (b) are sufficient for compliance by the Company with all requirements of applicable Law and of all licenses, franchises and other agreements to which the Company is a party; (c) are valid, outstanding, and enforceable policies; and (d) insure against risks of the kind customarily insured against and in amounts customarily carried by corporations similarly situated. All premiums due and payable on all such policies have been paid. A true and complete list of all claims made since January 1, 1997 under any of the policies (or their predecessors) listed on SCHEDULE 2.20 is included on SCHEDULE 2.20.

SECTION 2.21. Intentionally Omitted.

SECTION 2.22. Brokers.

Except as set forth in SCHEDULE 2.22, no broker, finder or investment banker is entitled to any brokerage, finder's or other fee or commission in connection with the transactions contemplated by this Agreement based upon arrangements made by or on behalf of any of the Company.

SECTION 2.23. Disclosure.

(a) The Company has fully provided CIENA with all documents and information which CIENA has requested in writing. No representations or warranties by any of the Company in this Agreement and no statement or information contained in the schedules hereto or any certificate furnished or to be furnished by the Company to CIENA pursuant to the provisions of this Agreement, contains or will contain any untrue statement of a material fact or omits or will omit to state any material fact necessary, in light of the circumstances under which it was made, in order to make the statements herein or therein not misleading.

(b) The books of account, minute books, stock record books and other financial and corporate records of the Company, all of which have been made available to CIENA, are complete and correct and have been maintained in accordance with good business practices, including the maintenance of an adequate system of internal accounting controls, and such book and records are accurately reflected in the Financial Statements. The minute books of the Company contain accurate and complete records of all meetings held of, and corporate or partnership action by, the stockholders and the board of directors (and committees thereof) of the Company, and no meeting of any such stockholders or board of directors (or committees thereof) has been held for which minutes have not been prepared and are not contained in such minute books.

(c) Each of Messrs. Michael Champa, Jeff Black, William Regan, Jeffrey Weiss and Walter Drey have carefully read the representations and warranties of the Company contained herein and the disclosure schedules provided to CIENA, and are not aware of any facts that such representations, warranties and schedules are not accurate and complete in all material respects.

SECTION 2.24. Absence of Violation.

To the knowledge of the Company, none of the Company, nor any of its officers, directors, employees or agents (or stockholders, distributors, representatives or other persons acting on the express, implied or apparent authority of any of the Company) have paid, given or received or have offered or promised to pay, give or receive, any bribe or other unlawful payment of money or other thing of value, any extraordinary discount, or any other unlawful inducement, to or from any person, business association or governmental official or entity in the United States or elsewhere in connection with or in furtherance of the business of the Company (including, without limitation, any unlawful offer, payment or promise to pay money or other thing of value (i) to any foreign official or political party (or official thereof) for the purposes of influencing any act, decision or omission in order to assist the Company in obtaining business for or with, or directing business to, any person, or (ii) to any person, while knowing that all or a portion of such money or other thing of value will be offered, given or promised to any such official or party for such purposes). To the knowledge of the Company, the business of the Company is not in any manner dependent upon the making or receipt of such unlawful payments, discounts or other inducements.

SECTION 2.25. Customers and Suppliers.

Except as set forth on SCHEDULE 2.25, the Company has no knowledge of (i) any termination or cancellation of (or any intent to terminate or cancel) the business relationship of the Company with (y) any single customer or any group of affiliated customers who represented five percent (5%) or more of the revenues or potential revenues of the business of the Company during the fiscal year

ended December 31, 1998, or (z) any single supplier or any group of affiliated suppliers who provided five percent (5%) or more of the requirements of the business of the Company during the fiscal year ended December 31, 1998, or (ii) any existing condition, state of facts or circumstances that in the reasonable judgment of the Company will cause the Company or any of its customers to terminate their relationships or refuse to consider a prospective relationship. To the knowledge of the Company, none of the business or prospective business of the Company is in any manner dependent upon the making or receipt of any payments, discounts or other inducements to any officers, directors, employees, representatives or agents of any customer.

SECTION 2.26. Copies of Documents.

True and complete copies of all documents listed in the Schedules have been provided to CIENA.

SECTION 2.27. Hardware and Software Development Status.

SCHEDULE 2.27 sets forth a true and complete description of the current status of development of all of the Company's hardware and software products under development, including without limitation: (1) the expected bill of materials required to manufacture the product, (2) the components for such products having lead times of more than two weeks between order and delivery, (3) the status of network management software, (4) certification efforts under Bellcore's OSMINE, and NEBS testing, and (5) reliability or performance issues identified to date in customer or laboratory trials.

SECTION 2.28. Accounting as "Pooling-of-Interests."

(a) As of the date hereof, to the knowledge of the Company, neither the Company nor any of its Affiliates has taken or agreed to take any action that would prevent CIENA from accounting for the business combination to be effected by the Merger as a "pooling-of-interests" or prevent the Merger and the other transactions contemplated by this Agreement from qualifying as a "reorganization" within the meaning of Section 368(a) of the Code.

(b) The Company has provided to CIENA, CIENA's independent accountants and the Company's independent accountants all information concerning actions taken or agreed to be taken by the Company or any of its Affiliates on or before the date of this Agreement that could reasonably be expected to adversely affect the ability of CIENA to account for the business combination to be effected by the Merger as a pooling of interests.

(c) SCHEDULE 2.28 identifies all Persons who are "affiliates" of the Company for purposes of Rule 145 under the Securities Act and executed "Affiliate Letters" from all such persons in the form of EXHIBIT A have been provided to CIENA, together with Affiliate Letters from any other person previously identified by CIENA as a person CIENA reasonably believes to be an affiliate of the Company for purposes of Rule 145.

ARTICLE III

INTENTIONALLY OMITTED

ARTICLE IV REPRESENTATIONS AND WARRANTIES OF CIENA

CIENA represents and warrants to the Company as follows:

SECTION 4.1. Organization and Qualification.

CIENA is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware. CIENA has the requisite power and authority to own, lease and operate its

assets and properties, to carry on its business as now being conducted and to perform the terms of this Agreement and the transactions contemplated hereby. CIENA is duly qualified to conduct its business, and is in good standing, in each jurisdiction where the ownership or leasing of its properties or the nature of its activities in connection with the conduct of its business makes such qualification necessary.

SECTION 4.2. Authority.

The execution and delivery of this Agreement by CIENA and the consummation by CIENA of the transactions contemplated hereby have been duly and validly authorized by all necessary corporate action and no other corporate proceedings on the part of CIENA are necessary to authorize this Agreement or to consummate the transactions contemplated hereby. This Agreement has been duly executed and delivered by CIENA and, assuming the due authorization, execution and delivery by the Company, constitutes a legal, valid and binding obligation of CIENA, enforceable in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws of general applicability relating to or affecting creditors' rights generally and by the application of general principles of equity.

SECTION 4.3. No Conflict; Required Filings and Consents.

(a) The execution and delivery of this Agreement by CIENA does not, and the performance by CIENA of its obligations under this Agreement will not, (i) conflict with or violate the certificate of incorporation or bylaws of CIENA, (ii) conflict with or violate any Law applicable to CIENA or its assets and properties, or (iii) result in any breach of or constitute a default under any note, bond, mortgage, indenture, contract, agreement, lease, license, permit, franchise or other instrument or obligation to which CIENA is a party or by which CIENA is bound, or by which any of its properties or assets is subject.

(b) The execution and delivery of this Agreement by CIENA does not, and the performance by CIENA of its obligations under this Agreement will not, require any consent, approval, authorization or permit of, or filing with or notification to, any Government Entity other than the filing of a registration statement with the Securities and Exchange Commission and filings under the Hart-Scott-Rodino Act of 1976, as amended (the "Hart-Scott-Rodino Act").

SECTION 4.4. Brokers.

No broker, finder or investment banker is entitled to any brokerage, finder's or other fee or commission in connection with the transactions contemplated by this Agreement based upon arrangements made by or on behalf of CIENA, except for the fee to be paid by CIENA to Morgan, Stanley & Co. Incorporated.

SECTION 4.5. Issuance of CIENA Stock.

Upon consummation of the Merger, and as of the Effective Time, the shares of CIENA Stock to be issued in the Merger will be duly and validly issued, fully paid and non-assessable, free and clear of all Encumbrances imposed by CIENA, except as contemplated hereby.

SECTION 4.6. SEC Filings.

CIENA has filed all reports required to be filed by it with the Securities and Exchange Commission (the "SEC") since February 7, 1997. The reports filed with the SEC (i) were prepared substantially in accordance of the requirements of the Securities Exchange Act of 1934, as amended and (ii) did not, at the time they were filed, contain any untrue statements of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading. Except as disclosed or contemplated in CIENA's SEC reports, since the date of CIENA's last report filed with

the SEC, CIENA has incurred no liabilities, contingent or absolute, matured or unmatured, known or unknown that would reasonably be expected to result in a CIENA Material Adverse Effect, and there has been no event that has resulted in, or development that would reasonably be expected to result in, a CIENA Material Adverse Effect.

SECTION 4.7 Litigation.

Except as set forth on SCHEDULE 4.7 or as otherwise publicly disclosed by CIENA, there is no action, suit, investigation, claim, arbitration or litigation pending or, to the knowledge of CIENA, threatened against or involving CIENA or its Assets or the business and operations of any of CIENA, at law or in equity, or before or by any court, arbitrator or Government Entity that would reasonably be expected to result in a CIENA Material Adverse Effect. Except under proceedings that have been publicly disclosed, CIENA is not operating under nor is it subject to any judgment, writ, order, injunction, award or decree of any court, judge, justice or magistrate, including any bankruptcy court or judge, or any order of or by any Government Entity. No property or Assets of CIENA has been taken or expropriated by any federal, state, provincial, municipal or other Government Entity nor has any notice or proceeding with respect to thereof been given or commenced nor is CIENA aware of any intent or proposal to give any such notice or commence any such proceeding.

SECTION 4.8 Capitalization.

The authorized capital stock of CIENA consists of 360,000,000 shares of common stock, \$0.01 par value per share, of which 103,509,433 shares are issued and outstanding as of March 11, 1999 and 20,000,000 shares of Preferred Stock, par value \$0.01 per share, none of which are issued and outstanding. Except for shares issuable in this Agreement, 20,600,000 shares issuable under the Agreement and Plan of Merger by and among CIENA, Lightera Networks, Inc. and certain stockholders of Lightera Networks, Inc. and for 9,089,718 shares issuable under outstanding stock options and 150,688 shares issuable under stock purchase plans and the shares issuable under the terms of the Rights Agreement, there are no options, warrants or other agreements obligating CIENA to issue or sell any shares of capital stock of, or other equity interests in CIENA. Except as disclosed in the Company's SEC reports, there are no outstanding obligations of CIENA to repurchase, redeem or otherwise acquire any shares of its capital stock. All of the issued and outstanding shares of CIENA capital stock have been duly authorized and validly issued in accordance with applicable laws and are fully paid and non-assessable and not subject to preemptive rights.

SECTION 4.9 Reorganization under Section 368(a) of the Code.

Neither CIENA nor its Affiliates have taken any actions which would prevent the Merger from qualifying as a reorganization under Section 368(a) of the Code.

ARTICLE V

INTENTIONALLY OMITTED

ARTICLE VI CONDUCT PENDING CLOSING

SECTION 6.1. Conduct of Business Pending Closing.

From the date hereof until the Closing, the Company shall:

- (a) maintain its existence in good standing;
- (b) maintain the general character of its business and properties and conduct its business in the ordinary and usual manner consistent with past practices, except as expressly permitted by this Agreement;

(c) maintain business and accounting records consistent with past practices; and

(d) use its best efforts (i) to preserve its business intact, (ii) to keep available to the Company the services of its present officers and employees, and (iii) to preserve for the Company the goodwill of its suppliers, customers and others having business relations with the Company.

SECTION 6.2. Prohibited Actions Pending Closing.

Unless otherwise provided for herein or approved by CIENA in writing, from the date hereof until the Closing, the Company shall not:

(a) amend or otherwise change its Certificate of Incorporation or By-Laws;

(b) issue or sell or authorize for issuance or sale (other than any issuance of Company Capital Stock upon the exercise of any outstanding option or warrant to purchase Company Capital Stock which option or warrant was issued prior to the date hereof in accordance with the terms of the relevant stock option or warrant agreement and the terms of which are disclosed on SCHEDULE 2.3), or grant any options (other than options to purchase Company Capital Stock to new employees under the Company's 1997 Stock Plan as in effect on the date hereof, in the Ordinary Course of Business and consistent with past practice) or make other agreements with respect to, any shares of its capital stock or any other of its securities, except for those provisions of the agreement with the Exchange Agent which provisions are in furtherance of this Agreement;

(c) declare, set aside, make or pay any dividend or other distribution, payable in cash, stock, property or otherwise with respect to any of its capital stock;

(d) reclassify, combine, split, subdivide or redeem, purchase or otherwise acquire, directly or indirectly, any of its capital stock;

(e) incur any indebtedness for borrowed money or issue any debt securities or assume, guarantee or endorse, or otherwise as an accommodation become responsible for, the obligations of any Person, or make any loans or advances, except in the ordinary course of business, consistent with past practice or indebtedness incurred under commercially reasonable terms to meet the Company's cash requirements for operations substantially in accordance with the Company budget set forth in SCHEDULE 6.2;

(f) (i) acquire (including, without limitation, by merger, consolidation, or acquisition of stock or assets) any corporation, partnership, other business organization or any division thereof or any material amount of assets;

(ii) enter into any contract or agreement other than in the ordinary course of business, consistent with past practice; or

(iii) authorize any capital commitment or capital lease which is in excess of \$250,000 or capital expenditures which are, in the aggregate, in excess of \$1,500,000;

(g) mortgage, pledge or subject to Encumbrance, any of its assets or properties or agree to do so;

(h) assume, guarantee or otherwise become responsible for the obligations of any other Person or agree to so do;

(i) enter into or agree to enter into any employment agreement;

(j) increase the compensation payable or to become payable to its officers or employees, or grant any severance or termination pay to, or enter into any severance agreement with any director, officer or other employee of the Company, or establish, adopt, enter into or amend any collective bargaining, bonus, profit sharing, thrift, compensation, stock option, restricted stock,

pension, retirement, deferred compensation, employment, termination, severance or other plan, agreement, trust, fund, policy or arrangement for the benefit of any such director, officer or employee except for annual salary raises (on the anniversary date of employment) to employees who are not officers not to exceed 10%) and severance payments consistent with past practices and in the Ordinary Course of Business;

(k) take any action to change in any respect its accounting policies or procedures (including, without limitation, procedures with respect to the payment of accounts payable and collection of accounts receivables);

(l) make any Tax election or settle or compromise any federal, state, local or foreign income material Tax liability in excess of \$50,000;

(m) settle or compromise any pending or threatened suit, action or claim;

(n) pay, discharge or satisfy any claim, liability or obligation (absolute, accrued, asserted or unasserted, contingent or otherwise), other than the payment, discharge or satisfaction, in the ordinary course of business and consistent with past practice, of liabilities reflected or reserved against in the latest balance sheet included in the last audited financial statement provided to CIENA or subsequently incurred in the Ordinary Course of Business and consistent with past practice;

(o) sell, assign, transfer, license or sublicense (other than in the Ordinary Course of Business and consistent with past practice), pledge or otherwise encumber any of the Intellectual Property Rights;

(p) knowingly take or omit any other action that could disqualify the Merger as a "pooling of interests" for financial reporting purposes; or

(q) announce an intention, commit or agree to do any of the foregoing.

SECTION 6.3. Access; Documents; Supplemental Information.

(a) From and after the date hereof until the Closing, the Company shall afford, and, with respect to clause (ii) below, shall use its best efforts to cause the independent certified public accountants for the Company to afford, (i) to the officers, independent certified public accountants, counsel and other representatives of CIENA, upon reasonable notice free and full access at all reasonable times to the properties, books and records including tax returns filed and those in preparation of the Company and the right to consult with the officers, employees, accountants, counsel and other representatives of the Company in order that CIENA may have full opportunity to make such investigations as it shall reasonably desire to make of the operations, properties, business, financial condition and prospects of the Company, (ii) to the independent certified public accountants of CIENA, free and full access at all reasonable times to the work papers and other records of the accountants relating to the Company, and (iii) to CIENA and its representatives, such additional financial and operating data and other information as to the properties, operations, business, financial condition and prospects of the Company as CIENA shall from time to time reasonably require.

(b) From the date of this Agreement through and including the Closing, CIENA and the Company agree to furnish to each other copies of any notices, documents, requests, court papers, or other materials received from any governmental agency or any other third party with respect to the transactions contemplated by this Agreement, except for any such materials the furnishing of which would, based on advice of counsel, be inadvisable or impermissible under applicable Laws.

SECTION 6.4. No Solicitation.

The Company shall not, nor shall it authorize or permit any of its affiliates or any officer, director, employee, investment banker, attorney or other adviser or representative of the Company or any of its affiliates to (a) solicit, initiate, or encourage the submission of, any Acquisition Proposal

(as hereinafter defined), (b) enter into any agreement with respect to any Acquisition Proposal or (c) participate in any discussions or negotiations regarding, or furnish to any Person any information for the purpose of facilitating the making of, or take any other action to facilitate any inquiries or the making of, any proposal that constitutes, or may reasonably be expected to lead to, any Acquisition Proposal. Without limiting the foregoing, it is understood that any violation, of which the Company or any of its Affiliates had knowledge at the time of such violation, of the restrictions set forth in the immediately preceding sentence by any officer, director, employee, investment banker, attorney, employee, or other adviser or representative of the Company or any of its Affiliates, whether or not such Person is purporting to act on behalf of the Company or any of its Affiliates or otherwise, shall be deemed to be a breach of this SECTION 6.4 by the Company and its Affiliates. The Company promptly shall advise CIENA of any Acquisition Proposal and inquiries with respect to any Acquisition Proposal. "Acquisition Proposal" means any proposal for a merger or other business combination involving the Company or any proposal or offer to acquire in any manner, directly or indirectly, an equity interest in the Company, any voting securities of the Company or a substantial portion of the assets of the Company (except in connection with employee stock option grants or warrant exercises).

SECTION 6.5. Information Supplied.

Each of the Company and CIENA agree that none of the information supplied or to be supplied by it or them for inclusion or incorporation by reference in (a) the Registration Statement on Form S-4 to be filed with the SEC by CIENA in connection with the issuance of shares of CIENA Common Stock in the Merger (the "S-4 Registration Statement") will, at the time the S-4 Registration Statement becomes effective under the Securities Act, contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein, not misleading, and (b) the Prospectus and any amendment or supplement thereto will, at the date of mailing to the Company's stockholders and at the times of the meeting of the Company's stockholders to be held in connection with the Merger, contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading.

SECTION 6.6. Stockholder Meeting.

The Company will take, in accordance with its certificate of incorporation and bylaws, all action necessary to either (i) convene a meeting or meetings of the holders of Company Capital Stock, to be held as promptly as practicable after the S-4 Registration Statement is declared effective, or (ii) solicit written consents from its stockholders, in either case to consider and vote upon the approval of the Merger, and the Company's board of directors will recommend such approval by its stockholders, will not withdraw or modify such recommendation and shall take all lawful action to solicit such approval as promptly as possible.

SECTION 6.7. Filings; Other Actions; Notification.

(a) CIENA shall prepare and file with the SEC the S-4 Registration Statement as promptly as practicable. CIENA shall use its reasonable best efforts to have the S-4 Registration Statement declared effective under the Securities Act as promptly as practicable after such filing, and promptly thereafter mail the Prospectus to the stockholders of the Company. CIENA shall also use its reasonable best efforts to obtain prior to the effective date of the S-4 Registration Statement all necessary state securities law or "blue sky" permits and approvals required in connection with the Merger and to consummate the other transactions contemplated by this Agreement. CIENA further agrees to file following the Effective Time a post-effective amendment to the S-4 Registration

Statement to convert it to a Form S-3 shelf registration covering resales of CIENA Common Stock by affiliates of the Company.

(b) The Company and CIENA each shall from the date hereof until the Effective Time cooperate with the other and use its reasonable best efforts to cause to be done all things necessary, proper or advisable on its part under this Agreement and applicable Laws to consummate and make effective the Merger and the other transactions contemplated by this Agreement as soon as practicable, including preparing and filing as promptly as practicable all documentation to effect all necessary notices, reports and other filings and to obtain as promptly as practicable all consents, registrations, approvals, permits and authorizations necessary or advisable to be obtained from any third party and/or any Governmental Entity in order to consummate the Merger or any of the other transactions contemplated by this Agreement.

(c) The Company and CIENA each shall, upon request by the other, furnish the other with all information concerning itself, its Subsidiaries, directors, executive officers and stockholders and such other matters as may be reasonably necessary or advisable in connection with the Prospectus, the S-4 Registration Statement or any other statement, filing, notice or application made by or on behalf of CIENA, the Company or any of their respective Subsidiaries to any third party and/or any Governmental Entity in connection with the Merger and the transactions contemplated by this Agreement.

(d) The Company and CIENA each shall keep the other apprised of the status of matters relating to completion of the transactions contemplated hereby.

SECTION 6.8. Comfort Letters.

The Company shall use its reasonable best efforts to cause to be delivered to CIENA a "comfort" letter of PricewaterhouseCoopers LLP, the Company's independent public accountants, dated as of the Effective Date of the S-4 Registration Statement, and addressed to CIENA and the Company, in form and substance reasonably satisfactory to CIENA and reasonably customary in scope and substance for letters delivered by independent public accounts in connection with transactions such as those contemplated by this Agreement.

SECTION 6.9. Nasdaq Listing.

CIENA shall use its reasonable best efforts to list on Nasdaq the shares of CIENA Common Stock to be issued in connection with the Merger and upon exercise of Substitute Options and Warrants.

SECTION 6.10. Company Stock Options; Company Warrants.

(a) Concurrent with the Effective Time, each stock option to purchase Company Common Stock (the "Stock Options") which is outstanding immediately prior to the Effective Time pursuant to the Company's 1997 Stock Option Plan in effect on the date hereof (the "Stock Plan") shall be assumed by CIENA and become and represent an option (a "Substitute Option") issued under an appropriate CIENA stock option plan, to purchase the number of shares of CIENA Common Stock (decreased to the nearest full share) determined by multiplying (i) the number of shares of Company Common Stock subject to such Stock Option immediately prior to the Effective Time by (ii) the Common Stock Exchange Ratio, which Stock Options shall have an exercise price per share of CIENA Common Stock (rounded up to the nearest tenth of a cent) equal to the exercise price per share of Common Stock immediately prior to the Effective Time divided by the Common Stock Exchange Ratio. After the Effective Time, except as provided herein, each Substitute Option shall be exercisable upon the same terms and conditions as were applicable under the related Stock Option immediately prior to the Effective Time. The Company agrees that it will not grant any stock

appreciation rights or limited stock appreciation rights and will not permit cash payments to holders of Stock Options in lieu of the substitution therefor of Substitute Options.

(b) The adjustments provided herein with respect to any "Stock Options" that are "Incentive Stock Options" as defined in Section 422 of the Code shall be and are intended to be effected in a manner which is consistent with Section 424(a) of the Code.

(c) As soon as practicable after the Effective Time, CIENA shall deliver to the holders of Stock Options appropriate notices setting forth such holders' rights pursuant to CIENA's stock option plans and the agreements evidencing the grants of such Substitute Options and that such Substitute Options shall continue in effect on the same terms and conditions as the Stock Options (subject to the adjustment set forth in this SECTION 6.10).

(d) As soon as practicable after the Effective Time, CIENA shall prepare and file with the SEC a registration statement on Form S-8 (or another appropriate form) registering a number of shares subject to the Substitute Options. Such registration statement shall be kept effective (and the current status of the prospectus required thereby shall be maintained in accordance with the relevant requirements of the Securities Act and the Exchange Act) at least for so long as any Substitute Options remain outstanding.

(e) Concurrent with the Effective Time, each warrant to purchase Company Common Stock that is then outstanding and exercisable described in SCHEDULE 2.3 (each, a "Company Warrant"), without any action on the part of the holder, shall be deemed assumed by CIENA and shall constitute a warrant to acquire, on the same terms and conditions as were applicable under such Company Warrant, a number of shares of CIENA Common Stock equivalent to (A) the number of Shares that could have been purchased immediately prior to the Effective Time under such Company Warrant multiplied by (B) the Common Stock Exchange Ratio (rounded down to the nearest whole number), at a price per share of CIENA Common Stock (rounded up to the nearest tenth of a cent) equal to the exercise price per share pursuant to such Company Warrant immediately prior to the Effective Time divided by the Common Stock Exchange Ratio. At or prior to the Effective Time, the Company shall make all necessary arrangements with respect to the Company Warrants to permit the assumption of the unexercised Company Warrants by CIENA pursuant to this SECTION 6.7(e).

(f) CIENA and the Company agree that the Closing of the Merger will constitute a "change of control" of the Company for purposes of applicable vesting provisions of restricted stock agreements and stock option agreements between the Company and its employees and other parties to such agreements.

SECTION 6.11. Notification of Certain Matters.

The Company shall give prompt notice to CIENA, and CIENA shall give prompt notice to the Company, of (a) the occurrence, or non-occurrence, of any event which would be likely to cause (i) any representation or warranty contained in this Agreement to be untrue or inaccurate in any material respect or (ii) any covenant, condition or agreement contained in this Agreement not to be complied with or satisfied; and (iii) any failure of the Company or CIENA, as the case may be, to comply with or satisfy any covenant, condition or agreement to be complied with or satisfied by it hereunder; provided that the delivery of any notice pursuant to this SECTION 6.11 shall not limit or otherwise affect the remedies available to the party receiving such notice.

SECTION 6.12. Reorganization.

Each of CIENA and the Company shall use its reasonable best efforts to cause the business combination to be effected by the Merger to be qualified as a "reorganization" described in Section 368(a) of the Code. CIENA shall take no action following the Effective Time that would have the effect of causing the Merger to fail to so qualify.

SECTION 6.13. Indemnification.

From and after the Effective Time for a period of four years, CIENA shall fulfill and honor in all respects the obligations of the Company to indemnify each person who is or was a director or officer of the Company pursuant to any indemnifications provision of the Company's Certificate of Incorporation or By-Laws as each is in effect on the date hereof.

SECTION 6.14. Actions by the Parties.

Upon the terms and subject to the conditions set forth in this Agreement, each of the parties hereto will use its reasonable best efforts to take or cause to be taken all actions, and to do, or cause to be done, all things necessary, proper or advisable under applicable law and regulations to consummate and make effective in the most expeditious manner practicable, the transactions contemplated by this Agreement including (i) the obtaining of all necessary actions and non-actions, waivers and consents, if any, from any governmental agency or authority and the making of all necessary registrations and filings and the taking of all reasonable steps as may be necessary to obtain an approval or waiver from, or to avoid an action or proceeding by any governmental agency or authority; (ii) the obtaining of all necessary consents, approvals or waivers from any other Person; (iii) the defending of any claim, investigation, action, suit or other legal proceeding, whether judicial or administrative, challenging this Agreement or the consummation of the transactions contemplated hereby; and (iv) the execution of additional instruments necessary to consummate the transactions contemplated by this Agreement. Each party will promptly consult with the other and provide necessary information (including copies thereof) with respect to all filings made by such party with the any agency or authority in connection with this Agreement and the transactions contemplated hereby.

SECTION 6.15 CIENA Acquisition Proposal

In the event that CIENA enters into any agreement to carry out a CIENA Acquisition Proposal (as hereinafter defined) prior to the earlier of (i) the Closing Date or (ii) September 30, 1999, and in the event the Closing Date does not occur prior to September 30, 1999 as a result of the CIENA Acquisition Proposal, CIENA shall advance the Company an \$21 million loan on commercially reasonable terms by wire transfer on September 30, 1999 and, if CIENA shall provide the Company a legally binding written agreement (a "Commitment Agreement") executed by an authorized representative of CIENA and all other parties to the CIENA Acquisition Proposal agreement confirming the intention of CIENA and those parties that all transactions contemplated by this Agreement will be consummated on the terms set forth in this Agreement on or before December 31, 1999, the Company shall agree to extend the date referred to in Section 9.5(b) to December 31, 1999. If no such Commitment Agreement is delivered to the Company on September 30, 1999, or if the Closing Date does not occur prior to December 31, 1999, and the Company elects to terminate this Agreement under Section 9.5(b), such advance and any accrued and unpaid interest thereon shall be forgiven by CIENA. "CIENA Acquisition Proposal" means any proposal for a merger or other business combination that would, if consummated, result in a change in control of CIENA or a sale of substantially all of its assets.

ARTICLE VII
CONDITIONS PRECEDENT

SECTION 7.1. Conditions Precedent to Each Party's Obligation to Effect the Merger.

The respective obligations of each party hereto to effect the Merger shall be subject to the fulfillment or satisfaction, prior to or on the Closing Date of the following conditions:

(a) Approvals. All authorizations, consents, orders, declarations or approvals of, or filings with, or terminations or expirations of waiting periods imposed by (including without limitation, expiration of any Hart-Scott-Rodino waiting period), any governmental or regulatory authority, domestic or foreign, which the failure to obtain, make or occur would have the effect of making the Merger or any of the transactions contemplated hereby illegal or would have a CIENA Material Adverse Effect or a Company Material Adverse Effect, assuming the Merger had taken place, shall have been obtained, made or occurred.

(b) No Injunction. No temporary restraining order, preliminary or permanent injunction or other order from any court of competent jurisdiction or other governmental or regulatory authority prohibiting or preventing the consummation of the Merger or any of the transactions contemplated hereunder shall have been enacted, issued, promulgated or enforced.

(c) S-4. The S-4 Registration Statement shall have become effective under the Securities Act. No stop order suspending the effectiveness of the S-4 Registration Statement shall have been issued, and no proceeding for that purpose shall have been initiated or be threatened, by the SEC.

(d) Stockholder Approval. The Merger shall have been duly approved by holders of Company Capital Stock as required by the Company's Certificate of Incorporation.

(e) Nasdaq Listing. The CIENA Common Stock to be issued in the Merger shall have been approved for listing on Nasdaq.

SECTION 7.2. Conditions Precedent to Obligations of CIENA.

All obligations of CIENA under this Agreement are subject to the fulfillment or satisfaction, prior to or on the Closing Date, of each of the following conditions precedent:

(a) Performance of Obligations; Representations and Warranties; Dissenters.

(i) The Company shall have performed and complied in all material respects with all agreements and conditions contained in this Agreement that are required to be performed or complied with by it prior to or at the Closing. Each of the Company's representations and warranties contained in ARTICLE II of this Agreement shall be true and correct in all material respects, in each case, on and as of the Closing with the same effect as though such representations and warranties were made on and as of the Closing, except for changes permitted by this Agreement and except to the extent that such representations and warranties expressly relate to an earlier date, in which case such representations and warranties shall be as of such earlier date. CIENA shall have received a certificate dated the Closing Date and signed by the Chairman, President or a Vice-President of the Company, certifying that, the conditions specified in this SECTION 7.2(a) have been satisfied; and

(ii) holders of shares of Company Capital Stock representing in excess of 9.9% of the issued and outstanding Company Capital Stock immediately prior to the Effective Time shall not be entitled to exercise appraisal rights under Section 262 of the DGCL.

(b) Opinion of Counsel. CIENA shall have received the favorable written opinion dated the Closing Date of Hale and Dorr LLP, counsel to the Company, in form satisfactory to CIENA, to the effect stated in EXHIBIT C.

(c) Resignations. The Company shall have delivered to CIENA the written resignation of all Trustees of all the benefit plans of the Company as shall be requested in writing by CIENA.

(d) Consents. The Company shall have received all necessary consents or waivers, in form and substance satisfactory to CIENA, from the other parties to all contracts, leases or agreements to which the Company is a party, except where the failure to receive such consent would not reasonably be expected, individually or in the aggregate, to have a CIENA Material Adverse Effect.

(e) Non-Competition Agreements. Each of the individuals listed on SCHEDULE 7.2 shall have entered into Non-Competition Agreements with the Surviving Company, each substantially in the form of EXHIBIT D hereto, and such agreements shall be in full force and effect.

(f) Tax Opinion. CIENA shall have received the opinion of Hogan & Hartson L.L.P., counsel to CIENA, in the form of EXHIBIT E dated the Closing Date, to the effect that the Merger will not result in taxation to CIENA or the Company under the Code except to the extent of any reimbursement of expenses to CIENA. In rendering such opinion, Hogan & Hartson L.L.P. shall require delivery of and rely upon the representations letters delivered by CIENA and the Company substantially in the forms of EXHIBIT F and EXHIBIT G hereto.

(g) Pooling Letters; Accountant Letters. (i) CIENA shall have received (i) the Company Affiliates Letters in substantially the form attached hereto as EXHIBIT A from all persons identified by the Company pursuant to SECTION 2.19 and any other person who CIENA reasonably believes to be an affiliate of the Company and (ii) CIENA shall have received, in form and substance reasonably satisfactory to CIENA, from PricewaterhouseCoopers LLP a favorable letter, dated the Closing Date, regarding the appropriateness of "pooling-of-interests" accounting treatment for the Merger.

SECTION 7.3. Conditions Precedent to the Company's Obligations.

All obligations of the Company under this Agreement are subject to the fulfillment or satisfaction, prior to or on the Closing Date, of each of the following conditions precedent:

(a) Performance of Obligations; Representations and Warranties. CIENA shall have performed and complied in all material respects with all agreements and conditions contained in this Agreement that are required to be performed or complied with by them prior to or at the Closing. Each of the representations and warranties of CIENA contained in ARTICLE IV of this Agreement shall be true and correct in all material respects, in each case, on and as of the Closing with the same effect as though such representations and warranties were made on and as of the Closing except for changes permitted by this Agreement and except to the extent that such representations and warranties expressly relate to an earlier date, in which case such representations and warranties shall be as of such earlier date. The Company shall have received certificates dated the Closing Date and signed by the President or a Vice-President of CIENA, certifying that the conditions specified in this SECTION 7.3(a) have been satisfied.

(b) Opinion of Counsel. The Company shall have received the favorable written opinion dated the Closing Date of Hogan & Hartson L.L.P., counsel to CIENA, in substantially the form attached hereto as EXHIBIT J.

(c) Tax Opinion. The Company shall have received the opinion of Hale and Dorr LLP, counsel to the Company, in the form of EXHIBIT I, dated the Closing Date, to the effect that the Merger will constitute a reorganization within the meaning of Section 368(a) of the Code. In rendering such opinion, Hale and Dorr LLP shall require delivery of and rely upon the

representations letters delivered by CIENA and the Company substantially in the forms of EXHIBIT F and EXHIBIT G hereto.

ARTICLE VIII
SURVIVAL OF REPRESENTATIONS AND WARRANTIES; INDEMNIFICATION

SECTION 8.1. Survival of Representations and Warranties.

All of the Company's and CIENA's representations and warranties in this Agreement or in any instrument delivered pursuant to this Agreement shall survive the Merger and continue until the date which is one year following the Closing Date.

SECTION 8.2. Indemnification; Escrow Agreements.

(a) Indemnification. CIENA and its officers, directors and affiliates (the "Indemnified Parties") shall be indemnified and held harmless by the Stockholders (other than those dissenting stockholders exercising rights of appraisal under Section 262 of the DGCL who do not receive CIENA Common Stock in the Merger) against all claims, losses, liabilities, damages, deficiencies, costs and expenses, including reasonable attorneys' fees and expenses of investigation (hereinafter individually a "Loss" and collectively "Losses") incurred by the Indemnified Parties directly or indirectly as a result of: (i) any inaccuracy or breach of a representation or warranty of the Company contained in a certificate of any officer of the Company delivered pursuant to this Agreement, or (ii) any failure by the Company to perform or comply with any covenant contained in this Agreement; provided, however, that the aggregate amount available to indemnify the Indemnified Parties shall not exceed the amount deposited in the Escrow Fund (as defined below) and no Stockholder shall be required to indemnify the Indemnified Parties for an amount that would exceed such Stockholder's pro rata share of the CIENA Stock deposited in the Escrow Fund. The Escrow Fund shall be available to compensate the Indemnified Parties for any such Losses. The Stockholders shall not have any right of contribution from the Company with respect to any Loss claimed by CIENA after the Effective Time. Nothing herein shall limit the liability of the Company for any breach of any representation, warranty or covenant if the Merger is not consummated.

(b) Escrow Fund. As security for the indemnity provided for in SECTION 8.2 and to provide security to satisfy any contingencies arising from the representations and warranties of the Company hereunder, each of the Stockholders receiving CIENA Common Stock in the Merger will be deemed to have received and deposited with the Escrow Agent (as defined below) the Escrow Amount (plus any additional shares as may be issued upon any stock split, stock dividend or recapitalization effected by CIENA after the Effective Time with respect to the Escrow Amount). The Escrow Amount will be deposited with and will be held by Boston EquiServe (or another institution acceptable to CIENA and the Stockholder Representative (as defined in SECTION 8.3) as Escrow Agent (the "Escrow Agent"), such deposit to constitute an escrow fund (the "Escrow Fund") to be governed by the terms set forth in the Escrow Agreement. The portion of the Escrow Amount contributed on behalf of each Stockholder shall be in proportion to the aggregate CIENA Common Stock which such holder would otherwise be entitled under SECTION 1.5(c).

SECTION 8.3. Stockholder Representative.

Rob L. Soni will be appointed as agent and attorney-in-fact (the "Stockholder Representative") for each Stockholder receiving CIENA Common Stock in the Merger, for and on behalf of the Stockholder, to give and receive notices and communications, to authorize delivery to CIENA of shares of CIENA Common Stock from the Escrow Fund in satisfaction of claims by CIENA, to object to such deliveries, to agree to, negotiate, enter into settlements and compromise of, and demand arbitration and comply with orders of courts and awards of arbitrators with respect to such claims, and to take all actions necessary or appropriate in the judgment of the Stockholder

Representative for the accomplishment of the foregoing, or for any other purpose related to the transactions contemplated hereby including the granting of any waivers or the making of any representations.

SECTION 8.4. Maximum Payments; Remedy.

Except as otherwise provided in this Section, from and after the Effective Time this Article and the Escrow Fund held under the Escrow Agreement shall provide the sole and exclusive remedy for any and all damages or other liability sustained or incurred by the Indemnified Parties or their successors and assigns as the result of any breach of any representation, warranty or covenant contained in this Agreement or any claim of negligent misrepresentation against the Company or the Stockholders in connection with this Agreement or the Merger. Notwithstanding anything to the contrary herein, the existence of this Article and of the rights and restrictions set forth herein do not limit any (i) equitable remedies or (ii) any type of statutory or common law remedy (i.e., not based on any indemnity right provided in this Article) with respect to any knowing (meaning actual knowledge) or intentional breaches of the representations and warranties or covenants of the Company or the Stockholders contained in this Agreement or a certificate of any officer of the Company delivered pursuant to this Agreement, or in the event of fraud, provided such remedy may only be pursued against the person who committed or authorized such knowing (meaning actual knowledge) or intentional breaches of such representations, warranties or covenants. No Stockholder shall have any right to contribution from the Company for any claim made by CIENA after the Effective Time.

ARTICLE IX MISCELLANEOUS AND GENERAL

SECTION 9.1. Expenses.

Each party hereto shall pay its own expenses incidental to the preparation of this Agreement, the carrying out of the provisions of this Agreement and the consummation of the transactions contemplated hereby. Notwithstanding the foregoing, the Stockholders shall promptly reimburse the Company following Closing for any expenses incurred by the Company in excess of \$1,000,000.

SECTION 9.2. Press Releases.

The Company shall not issue any press release or otherwise make public any information with respect to this Agreement nor the transactions contemplated hereby, prior to the Closing, without the prior written consent of CIENA. CIENA shall not issue an initial press release announcing the execution of this Agreement without prior consultation with the Company concerning the contents of such release.

SECTION 9.3. Contents of Agreement; Parties in Interest; Etc.

This Agreement and the agreements referred to or contemplated herein and the letter agreement dated February 19, 1999 concerning confidentiality (the "Confidentiality Agreement") set forth the entire understanding of the parties hereto with respect to the transactions contemplated hereby, and, except as set forth in this Agreement, such other agreements and the Exhibits hereto and the Confidentiality Agreement, there are no representations or warranties, express or implied, made by any party to this Agreement with respect to the subject matter of this Agreement and the Confidentiality Agreement. Except for the matters set forth in the Confidentiality Agreement, any and all previous agreements and understandings between or among the parties regarding the subject matter hereof, whether written or oral, are superseded by this Agreement and the agreements referred to or contemplated herein.

SECTION 9.4. Assignment and Binding Effect.

This Agreement may not be assigned by either party hereto without the prior written consent of the other party; provided, that CIENA may assign its rights and obligations under this Agreement to any directly or indirectly wholly-owned Subsidiary of CIENA, upon written notice to the Company if the assignee shall assume the obligations of CIENA hereunder and CIENA shall remain liable for its obligations hereunder. All the terms and provisions of this Agreement shall be binding upon and inure to the benefit of and be enforceable by the respective successors and assigns of the parties hereto.

SECTION 9.5. Termination.

This Agreement may be terminated, and the Merger may be abandoned at any time prior to the Effective Time whether before or after the approval and adoption of this Agreement and the transactions contemplated hereby by the stockholders of the Company:

(a) by the mutual agreement of the Board of Directors of the Company and CIENA; or

(b) by CIENA or the Company if (i) the Effective Time shall not have occurred by September 30, 1999 (unless extended in accordance with SECTION 6.15); provided that the right to terminate this Agreement under this SECTION 9.5(b) shall not be available to any party whose failure to fulfill any obligation under this Agreement has been the cause of, or resulted in, the failure of the Effective Time to occur on or before such date; or (ii) any court of competent jurisdiction in the United States or other United States governmental authority shall have issued an order, decree, ruling or taken any other action restraining, enjoining or otherwise prohibiting the Merger and such order, decree, ruling or other action shall have become final and nonappealable.

SECTION 9.6. Definitions.

As used in this Agreement the terms set forth below shall have the following meanings:

(a) "Affiliate" of a Person means any other Person who (i) directly or indirectly through one or more intermediaries controls, is controlled by or is under common control with, such Person or (ii) owns more than 5% of the capital stock or equity interest in such Person. "Control" means the possession of the power, directly or indirectly, to direct or cause the direction of the management and policies of a Person whether through the ownership of voting securities, by contract or otherwise.

(b) "Code" shall mean the Internal Revenue Code of 1986, as amended.

(c) "Company Material Adverse Effect" means a material adverse effect on the business, financial condition, prospects, assets, liabilities or results of operations of the Company.

(d) "Encumbrances" means Liens, security interests, deeds of trust, encroachments, reservations, orders of Governmental Entities, decrees, judgments, contract rights, claims or equity of any kind.

(e) "Environmental Laws" shall mean all applicable federal, state, local or foreign laws, rules and regulations, orders, decrees, judgments, permits, filings and licenses relating (i) to protection and clean-up of the environment and activities or conditions related thereto, including those relating to the generation, handling, disposal, transportation or release of Hazardous Substances and (ii) the health or safety of employees in the workplace environment, all as amended from time to time, and shall also include any common law theory based on nuisance, trespass, negligence or other tortious conduct.

(f) "ERISA" means the Employee Retirement Income Security Act of 1974, as amended, and all Laws promulgated pursuant thereto or in connection therewith.

(g) "Exchange Agent" shall mean Boston EquiServe or another bank or trust company designated as the exchange agent by CIENA (which designation shall be reasonably acceptable to the Company).

(h) "Governmental Entity" means any United States or other national, state, municipal or local government, domestic or foreign, any subdivision, agency, entity, commission or authority thereof, or any quasi-governmental or private body exercising any regulatory, taxing, importing or other governmental or quasi-governmental authority.

(i) "Hazardous Substances" shall mean any and all hazardous and toxic substances, wastes or materials, any pollutants, contaminants, or dangerous materials (including, but not limited to, polychlorinated biphenyls, PCBs, friable asbestos, volatile and semi-volatile organic compounds, oil, petroleum products and fractions, and any materials which include hazardous constituents or become hazardous, toxic, or dangerous when their composition or state is changed), or any other similar substances or materials which are included under or regulated by any Environmental Laws.

(j) "Laws" means all foreign, federal, state and local statutes, laws, ordinances, regulations, rules, resolutions, orders, determinations, writs, injunctions, awards (including, without limitation, awards of any arbitrator), judgments and decrees applicable to the specified persons or entities.

(k) "Liens" shall mean any mortgage, pledge, lien, security interest, conditional or installment sale agreement, encumbrance, charge or other claims of third parties of any kind.

(l) "Ordinary Course of Business" shall mean all actions taken by a Person if: (A) such action is consistent with the past practices of such Person and is taken in the ordinary course of the normal day-to-day operations of such Person; (B) such action is not required to be authorized by the board of directors of such Person (or by any Person or group of Persons exercising similar authority); and (C) such action is similar in nature and magnitude to actions customarily taken, without any authorization by the board of directors (or by any Person or group of Persons exercising similar authority), in the ordinary course of the normal day-to-day operations of other Persons that are in the same line of business and the same stage of development as such Person.

(m) "Person" shall mean any individual, corporation, partnership, limited partnership, limited liability company, trust, association or entity or government agency or authority.

(n) "Subsidiary" of a Person shall mean any corporation, partnership, joint venture or other entity in which such person (a) owns, directly or indirectly, 50% or more of the outstanding voting securities or equity interests or (b) is a general partner.

(o) "Tax" (and, with correlative meaning, "Taxes" and "Taxable") shall mean any federal, state, local or foreign net income, gross income, gross receipts, windfall profit, severance, property, production, sales, use, license, excise, franchise, employment, payroll, withholding, alternative or add-on minimum, ad valorem, value-added, transfer, stamp, or environmental tax, or any other tax, custom, duty, governmental fee or other like assessment or charge of any kind whatsoever, together with any interest or penalty, addition to tax or additional amount imposed by any governmental authority.

(p) "Tax Return" shall mean any return, report or similar statement required to be filed with respect to any Tax (including any attached schedules), including, without limitation, any information return, claim for refund, amended return or declaration of estimated Tax.

(q) "CIENA Material Adverse Effect" means a material adverse effect on the business, financial condition, prospects, assets, liabilities or results of operations of CIENA and its Subsidiaries, taken as a whole.

SECTION 9.7. Notices.

Any notice, request, demand, waiver, consent, approval, or other communication which is required or permitted to be given to any party hereunder shall be in writing and shall be deemed given only if delivered to the party personally or sent to the party by facsimile transmission (promptly followed by a hard-copy delivered in accordance with this SECTION 9.7) or by registered or certified mail (return receipt requested), with postage and registration or certification fees thereon prepaid, addressed to the party at its address set forth below:

If to CIENA:

CIENA Corporation
1201 Winterson Road
Linthicum, Maryland 21090
Attention: General Counsel

with a copy to:

Hogan & Hartson L.L.P.
111 South Calvert Street, 16th Floor
Baltimore, Maryland 21202
Attention: Michael J. Silver

If to the Company:

Omnia Communications, Inc.
100 Nickerson Road
Marlborough, Massachusetts 01752

with a copy to:

Hale and Dorr LLP
60 State Street
Boston, Massachusetts 02109
Attention: Peter B. Tarr

or to such other address or Person as any party may have specified in a notice duly given to the other party as provided herein. Such notice, request, demand, waiver, consent, approval or other communication will be deemed to have been given as of the date so delivered, telegraphed or mailed.

SECTION 9.8. Amendment.

This Agreement may be amended, modified or supplemented at any time prior to the Effective Time by mutual agreement of the respective Boards of Directors of the Company and CIENA, except as provided in Section 251(d) of the DGCL. Any amendment, modification or revision of this Agreement and any waiver of compliance or consent with respect hereto shall be effective only if in a written instrument executed by the parties hereto.

SECTION 9.9. Governing Law.

This Agreement shall be governed by and interpreted and enforced in accordance with the laws of the State of Maryland as applied to contracts made and fully performed in such state, except insofar as the DGCL shall be mandatorily applicable to the Merger and the rights of the Stockholders in connection therewith.

SECTION 9.9. No Benefit to Others.

The representations, warranties, covenants and agreements contained in this Agreement are for the sole benefit of the parties hereto, and their respective successors and assigns, and they shall not be construed as conferring, and are not intended to confer, any rights on any other Person.

SECTION 9.10. Severability.

If any term or other provision of this Agreement is determined to be invalid, illegal or incapable of being enforced by any rule of law or public policy, all other terms and provisions of the Agreement shall remain in full force and effect. Upon such determination, the parties hereto shall negotiate in good faith to modify this Agreement so as to give effect to the original intent of the parties to the fullest extent permitted by applicable law.

SECTION 9.11. Section Headings.

All section headings are for convenience only and shall in no way modify or restrict any of the terms or provisions hereof.

SECTION 9.12. Schedules and Exhibits.

All Schedules and Exhibits referred to herein are intended to be and hereby are specifically made a part of this Agreement.

SECTION 9.13. Extensions.

At any time prior to the Effective Time, CIENA, on the one hand, and the Company on the other may by corporate action, extend the time for compliance by or waive performance of any representation, warranty, condition or obligation of the other party.

SECTION 9.14. Counterparts.

This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, and the Company and CIENA may become a party hereto by executing a counterpart hereof. This Agreement and any counterpart so executed shall be deemed to be one and the same instrument.

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AGREEMENT AND PLAN OF MERGER
BY AND BETWEEN CIENA CORPORATION
AND OMNIA COMMUNICATIONS, INC.
SIGNATURE PAGE

IN WITNESS WHEREOF, the parties hereto, intending to be legally bound hereby, have duly executed this Agreement and Plan of Merger as of the date first above written.

CIENA CORPORATION

By: /s/ PATRICK H. NETTLES, PH.D.

Patrick H. Nettles, Ph.D.
President and Chief Executive
Officer

OMNIA COMMUNICATIONS, INC.

By: /s/ MICHAEL A. CHAMPA

Michael A. Champa
Chief Executive Officer

GLOSSARY OF DEFINED TERMS

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DEFINED TERM

LOCATION OF DEFINITION

DEFINED TERM	LOCATION OF DEFINITION
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DELAWARE GENERAL CORPORATION LAW
DELAWARE CODE ANNOTATED
TITLE 8. CORPORATIONS
CHAPTER 1. GENERAL CORPORATION LAW
SUBCHAPTER IX. MERGER OR CONSOLIDATION

SECTION 262 Appraisal rights.

(a) Any stockholder of a corporation of this State who holds shares of stock on the date of the making of a demand pursuant to subsection (d) of this section with respect to such shares, who continuously holds such shares through the effective date of the merger or consolidation, who has otherwise complied with subsection (d) of this section and who has neither voted in favor of the merger or consolidation nor consented thereto in writing pursuant to Section 228 of this title shall be entitled to an appraisal by the Court of Chancery of the fair value of the stockholder's shares of stock under the circumstances described in subsections (b) and (c) of this section. As used in this section, the word "stockholder" means a holder of record of stock in a stock corporation and also a member of record of a nonstock corporation; the words "stock" and "share" mean and include what is ordinarily meant by those words and also membership or membership interest of a member of a nonstock corporation; and the words "depository receipt" mean a receipt or other instrument issued by a depository representing an interest in one or more shares, or fractions thereof, solely of stock of a corporation, which stock is deposited with the depository.

(b) Appraisal rights shall be available for the shares of any class or series of stock of a constituent corporation in a merger or consolidation to be effected pursuant to Section 251 (other than a merger effected pursuant to subsection (g) of Section 251 of this title), 252, 254, 257, 258, 263 or 264 of this title:

(1) Provided, however, that no appraisal rights under this section shall be available for the shares of any class or series of stock, which stock, or depository receipts in respect thereof, at the record date fixed to determine the stockholders entitled to receive notice of and to vote at the meeting of stockholders to act upon the agreement of merger or consolidation, were either (i) listed on a national securities exchange or designated as a national market system security on an interdealer quotation system by the National Association of Securities Dealers, Inc. or (ii) held of record by more than 2,000 holders; and further provided that no appraisal rights shall be available for any shares of stock of the constituent corporation surviving a merger if the merger did not require for its approval the vote of the holders of the surviving corporation as provided in subsection (f) of Section 251 of this title.

(2) Notwithstanding paragraph (1) of this subsection, appraisal rights under this section shall be available for the shares of any class or series of stock of a constituent corporation if the holders thereof are required by the terms of an agreement of merger or consolidation pursuant to Sections 251, 252, 254, 257, 258, 263 and 264 of this title to accept for such stock anything except:

a. Shares of stock of the corporation surviving or resulting from such merger or consolidation, or depository receipts in respect thereof;

b. Shares of stock of any other corporation, or depository receipts in respect thereof, which shares of stock (or depository receipts in respect thereof) or depository receipts at the effective date of the merger or consolidation will be either listed on a national securities exchange or designated as a national market system security on an interdealer quotation system by the National Association of Securities Dealers, Inc. or held of record by more than 2,000 holders;

c. Cash in lieu of fractional shares or fractional depository receipts described in the foregoing subparagraphs a. and b. of this paragraph; or

d. Any combination of the shares of stock, depository receipts and cash in lieu of fractional shares or fractional depository receipts described in the foregoing subparagraphs a., b. and c. of this paragraph.

(3) In the event all of the stock of a subsidiary Delaware corporation party to a merger effected under Section 253 of this title is not owned by the parent corporation immediately prior to the merger, appraisal rights shall be available for the shares of the subsidiary Delaware corporation.

(c) Any corporation may provide in its certificate of incorporation that appraisal rights under this section shall be available for the shares of any class or series of its stock as a result of an amendment to its certificate of incorporation, any merger or consolidation in which the corporation is a constituent corporation or the sale of all or substantially all of the assets of the corporation. If the certificate of incorporation contains such a provision, the procedures of this section, including those set forth in subsections (d) and (e) of this section, shall apply as nearly as is practicable.

(d) Appraisal rights shall be perfected as follows:

(1) If a proposed merger or consolidation for which appraisal rights are provided under this section is to be submitted for approval at a meeting of stockholders, the corporation, not less than 20 days prior to the meeting, shall notify each of its stockholders who was such on the record date for such meeting with respect to shares for which appraisal rights are available pursuant to subsection (b) or (c) hereof that appraisal rights are available for any or all of the shares of the constituent corporations, and shall include in such notice a copy of this section. Each stockholder electing to demand the appraisal of his shares shall deliver to the corporation, before the taking of the vote on the merger or consolidation, a written demand for appraisal of his shares. Such demand will be sufficient if it reasonably informs the corporation of the identity of the stockholder and that the stockholder intends thereby to demand the appraisal of his shares. A proxy or vote against the merger or consolidation shall not constitute such a demand. A stockholder electing to take such action must do so by a separate written demand as herein provided. Within 10 days after the effective date of such merger or consolidation, the surviving or resulting corporation shall notify each stockholder of each constituent corporation who has complied with this subsection and has not voted in favor of or consented to the merger or consolidation of the date that the merger or consolidation has become effective; or

(2) If the merger or consolidation was approved pursuant to Section 228 or Section 253 of this title, each constituent corporation, either before the effective date of the merger or consolidation or within ten days thereafter, shall notify each of the holders of any class or series of stock of such constituent corporation who are entitled to appraisal rights of the approval of the merger or consolidation and that appraisal rights are available for any or all shares of such class or series of stock of such constituent corporation, and shall include in such notice a copy of this section; provided that, if the notice is given on or after the effective date of the merger or consolidation, such notice shall be given by the surviving or resulting corporation to all such holders of any class or series of stock of a constituent corporation that are entitled to appraisal rights. Such notice may, and, if given on or after the effective date of the merger or consolidation, shall, also notify such stockholders of the effective date of the merger or consolidation. Any stockholder entitled to appraisal rights may, within twenty days after the date of mailing of such notice, demand in writing from the surviving or resulting corporation the appraisal of such holder's shares. Such demand will be sufficient if it reasonably informs the corporation of the identity of the stockholder and that the stockholder intends thereby to demand the appraisal of such holder's shares. If such notice did not notify stockholders of the effective

date of the merger or consolidation, either (i) each such constituent corporation shall send a second notice before the effective date of the merger or consolidation notifying each of the holders of any class or series of stock of such constituent corporation that are entitled to appraisal rights of the effective date of the merger or consolidation or (ii) the surviving or resulting corporation shall send such a second notice to all such holders on or within 10 days after such effective date; provided, however, that if such second notice is sent more than 20 days following the sending of the first notice, such second notice need only be sent to each stockholder who is entitled to appraisal rights and who has demanded appraisal of such holder's shares in accordance with this subsection. An affidavit of the secretary or assistant secretary or of the transfer agent of the corporation that is required to give either notice that such notice has been given shall, in the absence of fraud, be prima facie evidence of the facts stated therein. For purposes of determining the stockholders entitled to receive either notice, each constituent corporation may fix, in advance, a record date that shall be not more than 10 days prior to the date the notice is given, provided that, if the notice is given on or after the effective date of the merger or consolidation, the record date shall be such effective date. If no record date is fixed and the notice is given prior to the effective date, the record date shall be the close of business on the day next preceding the day on which the notice is given.

(e) Within 120 days after the effective date of the merger or consolidation, the surviving or resulting corporation or any stockholder who has complied with subsections (a) and (d) hereof and who is otherwise entitled to appraisal rights, may file a petition in the Court of Chancery demanding a determination of the value of the stock of all such stockholders. Notwithstanding the foregoing, at any time within 60 days after the effective date of the merger or consolidation, any stockholder shall have the right to withdraw his demand for appraisal and to accept the terms offered upon the merger or consolidation. Within 120 days after the effective date of the merger or consolidation, any stockholder who has complied with the requirements of subsections (a) and (d) hereof, upon written request, shall be entitled to receive from the corporation surviving the merger or resulting from the consolidation a statement setting forth the aggregate number of shares not voted in favor of the merger or consolidation and with respect to which demands for appraisal have been received and the aggregate number of holders of such shares. Such written statement shall be mailed to the stockholder within 10 days after his written request for such a statement is received by the surviving or resulting corporation or within 10 days after expiration of the period for delivery of demands for appraisal under subsection (d) hereof, whichever is later.

(f) Upon the filing of any such petition by a stockholder, service of a copy thereof shall be made upon the surviving or resulting corporation, which shall within 20 days after such service file in the office of the Register in Chancery in which the petition was filed a duly verified list containing the names and addresses of all stockholders who have demanded payment for their shares and with whom agreements as to the value of their shares have not been reached by the surviving or resulting corporation. If the petition shall be filed by the surviving or resulting corporation, the petition shall be accompanied by such a duly verified list. The Register in Chancery, if so ordered by the Court, shall give notice of the time and place fixed for the hearing of such petition by registered or certified mail to the surviving or resulting corporation and to the stockholders shown on the list at the addresses therein stated. Such notice shall also be given by 1 or more publications at least 1 week before the day of the hearing, in a newspaper of general circulation published in the City of Wilmington, Delaware or such publication as the Court deems advisable. The forms of the notices by mail and by publication shall be approved by the Court, and the costs thereof shall be borne by the surviving or resulting corporation.

(g) At the hearing on such petition, the Court shall determine the stockholders who have complied with this section and who have become entitled to appraisal rights. The Court may require the stockholders who have demanded an appraisal for their shares and who hold stock represented by

certificates to submit their certificates of stock to the Register in Chancery for notation thereon of the pendency of the appraisal proceedings; and if any stockholder fails to comply with such direction, the Court may dismiss the proceedings as to such stockholder.

(h) After determining the stockholders entitled to an appraisal, the Court shall appraise the shares, determining their fair value exclusive of any element of value arising from the accomplishment or expectation of the merger or consolidation, together with a fair rate of interest, if any, to be paid upon the amount determined to be the fair value. In determining such fair value, the Court shall take into account all relevant factors. In determining the fair rate of interest, the Court may consider all relevant factors, including the rate of interest which the surviving or resulting corporation would have had to pay to borrow money during the pendency of the proceeding. Upon application by the surviving or resulting corporation or by any stockholder entitled to participate in the appraisal proceeding, the Court may, in its discretion, permit discovery or other pretrial proceedings and may proceed to trial upon the appraisal prior to the final determination of the stockholder entitled to an appraisal. Any stockholder whose name appears on the list filed by the surviving or resulting corporation pursuant to subsection (f) of this section and who has submitted his certificates of stock to the Register in Chancery, if such is required, may participate fully in all proceedings until it is finally determined that he is not entitled to appraisal rights under this section.

(i) The Court shall direct the payment of the fair value of the shares, together with interest, if any, by the surviving or resulting corporation to the stockholders entitled thereto. Interest may be simple or compound, as the Court may direct. Payment shall be so made to each such stockholder, in the case of holders of uncertificated stock forthwith, and the case of holders of shares represented by certificates upon the surrender to the corporation of the certificates representing such stock. The Court's decree may be enforced as other decrees in the Court of Chancery may be enforced, whether such surviving or resulting corporation be a corporation of this State or of any state.

(j) The costs of the proceeding may be determined by the Court and taxed upon the parties as the Court deems equitable in the circumstances. Upon application of a stockholder, the Court may order all or a portion of the expenses incurred by any stockholder in connection with the appraisal proceeding, including, without limitation, reasonable attorney's fees and the fees and expenses of experts, to be charged pro rata against the value of all the shares entitled to an appraisal.

(k) From and after the effective date of the merger or consolidation, no stockholder who has demanded his appraisal rights as provided in subsection (d) of this section shall be entitled to vote such stock for any purpose or to receive payment of dividends or other distributions on the stock (except dividends or other distributions payable to stockholders of record at a date which is prior to the effective date of the merger or consolidation); provided, however, that if no petition for an appraisal shall be filed within the time provided in subsection (e) of this section, or if such stockholder shall deliver to the surviving or resulting corporation a written withdrawal of his demand for an appraisal and an acceptance of the merger or consolidation, either within 60 days after the effective date of the merger or consolidation as provided in subsection (e) of this section or thereafter with the written approval of the corporation, then the right of such stockholder to an appraisal shall cease. Notwithstanding the foregoing, no appraisal proceeding in the Court of Chancery shall be dismissed as to any stockholder without the approval of the Court, and such approval may be conditioned upon such terms as the Court deems just.

(l) The shares of the surviving or resulting corporation to which the shares of such objecting stockholders would have been converted had they assented to the merger or consolidation shall have the status of authorized and unissued shares of the surviving or resulting corporation.

ESCROW AGREEMENT

THIS ESCROW AGREEMENT (the "Agreement") is made and dated as of by and among CIENA CORPORATION, a Delaware corporation (the "CIENA"), OMNIA COMMUNICATIONS, INC., a Delaware corporation (the "Company"), BOSTON EQUISERVE (the "Escrow Agent"), and ROBI L. SONI, acting by virtue of action taken by the Stockholders of the Company by vote, consent or other approval appointing him as the attorney-in-fact and Representative of the Stockholders of the Company (the "Representative").

WITNESSETH:

WHEREAS, CIENA and the Company have entered into an Agreement and Plan of Merger dated as of March 15, 1999 (the "Merger Agreement"), providing for the merger of the Company with and into CIENA, and in connection with which the Stockholders shall receive as consideration a number of shares of Common Stock of CIENA (the "CIENA Common Stock") as set forth in the Merger Agreement;

WHEREAS, pursuant to the Merger Agreement, CIENA and the Company have agreed that the rights of indemnification under Article VIII of the Merger Agreement shall survive the consummation of the transactions contemplated by the Merger Agreement, and shall be secured, pursuant to this Agreement, by certain shares of CIENA Common Stock (together with any accumulations thereto as provided herein, the "Escrow Shares"), to be registered in the name of the Escrow Agent, as escrow agent hereunder, and deposited in escrow with the Escrow Agent;

WHEREAS, the Escrow Agent is willing to act in the capacity of Escrow Agent hereunder subject to, and upon the terms and conditions of this Agreement;

WHEREAS, by virtue of action taken by the Stockholders of the Company by vote, consent or other approval, the Representative has been appointed by the Stockholders as their attorney-in-fact and authorized and empowered to act, for and on behalf of any or all of the Stockholders (with full power of substitution in the premises) in connection with the indemnity provisions of the Merger Agreement, this Escrow Agreement, and such other matters as are reasonably necessary for the consummation of the transactions contemplated hereby and thereby; and

WHEREAS, capitalized terms used and not defined herein have the meanings assigned to such terms in the Merger Agreement.

NOW, THEREFORE, in consideration of the premises, covenants and agreements set forth in this Agreement and of other good and valuable consideration, the receipt and legal sufficiency of which they hereby acknowledge, and intending to be legally bound hereby, and as an inducement for the execution and delivery of the Merger Agreement, CIENA, the Escrow Agent, and the Representative on behalf of the Stockholders hereby agree as follows:

ARTICLE I

DESIGNATION OF ESCROW AGENT AND CAPITAL SHARES SUBJECT TO ESCROW

1.1 Designation of Escrow Agent. CIENA and the Stockholders hereby mutually designate and appoint Boston EquiServe, a corporation having an office and place of business located at 150 Royall Street, Canton, Massachusetts, as Escrow Agent for the purposes set forth herein. The Escrow Agent hereby accepts such appointment and agrees to act in furtherance of the provisions of the Merger Agreement, but only upon the terms and conditions provided in this Agreement.

1.2 Capital Stock Subject to Escrow. In accordance with Section 8.2 of the Merger Agreement, upon execution of this Agreement and subject to compliance by the Company with the provisions of the Merger Agreement, CIENA shall on the Closing Date (as defined in the Merger Agreement) issue and deliver, or cause to be delivered, to the Escrow Agent stock certificates (the "Escrow

Certificates"), each of which shall be registered in the name of the Escrow Agent as escrow agent hereunder, representing ten percent (10%) of CIENA's Stock issued in consummation of the merger provided for by the Merger Agreement (except for shares subject to certain vesting requirements). The Escrow Agent shall hold and distribute the Escrow Certificates and Escrow Shares in accordance with the terms hereof. The Escrow Shares plus any additional shares issued upon any stock split, stock dividend or recapitalization with respect thereto and any accumulations thereon or the sale proceeds thereof are herein sometimes referred to as the "Escrow Fund."

1.3 Value of Escrow Shares. For all purposes pursuant to this Agreement, including without limitation the distribution of Escrow Shares, the value of each Escrow Share shall be equal to the closing price of a share of CIENA Common Stock on the Nasdaq National Market on the last business day preceding the Closing Date (the "Closing Price").

1.4 Powers of Stockholders' Representative. Pursuant to the action taken by the Stockholders of the Company, the Representative is empowered to act as the Stockholders' true and lawful agent and attorney-in-fact with respect to all matters arising in connection with this Agreement and the Merger Agreement, including but not limited to the power and authority on behalf of each Stockholder (other than in his or her own right) to do any one or all of the following:

(a) give any written notices or consents and seek any declaratory judgments, damages or other appropriate relief from a court or other tribunal that the Representative may consider necessary or appropriate;

(b) give any written direction to the Escrow Agent as the Representative may consider necessary or appropriate;

(c) effecting a sale or disposition of the Escrow Shares by giving written direction to the Escrow Agent subject to the provisions of SECTION 2.3 hereof;

(d) make, execute and deliver such amendments of and supplements to this Agreement or any other agreements, instruments or documents relating hereto that the Representative may consider necessary or appropriate and not materially adverse to the Stockholders' interests hereunder, such authority to be conclusively evidenced by the execution and delivery thereof; and

(e) take all actions and do all things, including but not limited to the execution and delivery of all documents necessary or proper, required, contemplated or deemed advisable by the Representative, including the execution, delivery and surrender of the Escrow Certificates and accompanying stock powers, and generally to act for and in the name of each such Stockholder with respect to this Agreement.

ARTICLE II TREATMENT OF ACCUMULATIONS TO ESCROW SHARES

2.1 Escrow Period; Distribution Upon Termination of Escrow Periods. Subject to the following requirements, the Escrow Fund shall be in existence immediately following the Closing Date and shall terminate on the earlier of (i) the first anniversary of the Closing Date or (ii) the satisfaction in full of any indemnification obligations of the Company and the Stockholders under the Merger Agreement in the reasonable judgment of CIENA (the "Escrow Period"); provided, however, that the Escrow Period shall not terminate with respect to any amount which, in the reasonable judgment of CIENA, is necessary to satisfy any unsatisfied claims specified in any Officer's Certificate (as defined below) delivered to the Escrow Agent prior to the first anniversary of the Closing Date or the termination of such Escrow Period with respect to facts and circumstances existing prior to the first anniversary of the Closing Date or the termination of such Escrow Period. The Escrow Agent shall promptly deliver to the Stockholders the remaining portion of the Escrow Fund not required to satisfy such claims following the first anniversary of the Closing Date or the termination of the Escrow

Period. Deliveries of Escrow Amounts to the Stockholder pursuant to this Section shall be made in proportion to their respective original contributions to the Escrow Fund.

2.2 Protection of Escrow Fund.

(a) The Escrow Agent shall hold and safeguard the Escrow Fund during the Escrow Period, shall treat such fund as a trust fund in accordance with the terms of this Agreement and not as the property of CIENA, and shall hold and dispose of the Escrow Fund only in accordance with the terms hereof.

(b) Any shares of CIENA Common Stock or other equity securities issued or distributed by CIENA (including shares issued upon a stock split) ("New Shares") in respect of CIENA Common Stock in the Escrow Fund which have not been released from the Escrow Fund shall be added to the Escrow Fund and become a part thereof. New Shares issued in respect of shares of CIENA Common Stock which have been released from the Escrow Fund shall not be added to the Escrow Fund but shall be distributed to the record holders thereof. Cash dividends, if any, on CIENA Common Stock shall not be added to the Escrow Fund but shall be distributed to the Stockholders.

(c) Each Stockholder shall have voting rights and the right to distributions of cash dividends with respect to the shares of CIENA Common Stock contributed to the Escrow Fund by such Stockholder (and on any voting securities added to the Escrow Fund in respect of such shares of CIENA Common Stock). As the record holder of such shares, the Escrow Agent shall vote such shares in accordance with the instructions of the Stockholders having the beneficial interest therein and shall promptly deliver copies of all proxy solicitation materials to such Stockholders.

2.3 Additional Property Subject to Escrow.

(a) If at any time after the date hereof and prior to the distribution of the Escrow Shares any of the Stockholders shall become entitled to receive or shall receive in connection with the Escrow Shares any (i) non-taxable distribution of securities of CIENA or of any other entity including, without limitation, any certificate in connection with any increase or reduction of capital, reclassification, recapitalization, merger, business combination, consolidation, sale of assets, stock split-up or spin-off; or (ii) any non-taxable distribution of stock options, warrants or rights, whether as an addition to or in substitution of or exchange for any of the Escrow Shares; or (iii) non-taxable stock dividend or other non-taxable distribution payable in securities or property of any description, all of the shares of capital stock, or other property resulting from any such distribution, stock option, warrant, right or stock dividend shall be deemed to be Escrow Shares and shall be subject to the terms hereof to the same extent as the original Escrow Shares. Any cash dividends and any taxable stock dividends paid with respect to the Escrow Shares shall be paid to the Stockholders through the Representative in accordance with their respective proportionate interests in the Escrow Shares and any taxable stock dividends. Each of the Stockholders shall recognize as income on a current basis all of the cash dividends to which such Stockholder is entitled to receive and for any non-cash dividend and any other non-taxable distribution shall, through the Representative, execute stock powers or other appropriate instruments of transfer for all shares, options, warrants or rights as required for transfer.

(b) At any time beginning on the date that at least thirty days of results of combined operations of CIENA and the Company have been published, and subject to any restrictions on resale arising under federal or state securities laws, the Representative may effect a sale of any or all Escrow Shares by written direction given to the Escrow Agent provided that (i) the net proceeds per share are at least equal to the Closing Price and (ii) the net proceeds are retained in the Escrow Fund and are held at the election of the Representative in an interest-bearing or non-interest bearing demand deposit account on behalf of the Stockholders. The amount of net proceeds from any such disposition

and any interest accruing thereon shall be allocated among the Stockholders in accordance with their percentage interests in the Escrow Fund.

2.4 Retained Voting and Other Rights. The Escrow Agent shall hold the Escrow Shares and any additional property acquired with respect thereto pursuant to Section 2.3 above in safekeeping and dispose thereof only in accordance with the terms of this Agreement. The Escrow Agent may treat the Representative as the duly authorized agent and representative of the Stockholders with respect to any additional property related to the Escrow Shares. The Escrow Agent shall hold the Escrow Shares and all other amounts in the Escrow Fund in accordance with each Stockholder's original proportionate interest in the Escrow Shares and shall (to the extent legally permissible) vote the Escrow Shares in accordance with the written instructions of the Stockholder for whose account such Escrow Shares are held.

ARTICLE III

DISTRIBUTION OF ESCROW FUND UPON TERMINATION OF THE AGREEMENT

3.1 Third-Party Claims. In the event that a third party makes a claim against CIENA or a claim against the Escrow Fund, CIENA shall notify the Representative of such claim, and the Representative shall be entitled to participate in any defense of such claim. The expenses of the Representative shall be paid by the Stockholders in accordance with the terms and conditions of Section 5.2. CIENA may not settle any such claim without the consent of the Representative, which consent shall not be unreasonably withheld or delayed. In the event that the Representative has consented to any such settlement, the Stockholders shall have no power or authority to object under any provision of this Article to the amount of any claim by CIENA against the Escrow Fund with respect to such settlement.

3.2 Claims Upon Escrow Fund. Upon receipt by the Escrow Agent at any time on or before the earlier of the first anniversary of the Closing Date or the last day of the Escrow Period of a certificate signed by any officer of CIENA (an "Officer's Certificate"): (A) stating that CIENA has paid or properly accrued or, with respect to third-party claims of which CIENA or the Company has received notice and reasonably anticipates that it will have to pay or accrue Losses, and (B) specifying in reasonable detail the individual items of Losses included in the amount so stated, the date each such item was paid or properly accrued, or the basis for such anticipated liability, and the nature of the misrepresentation, breach of warranty or covenant to which such item is related, the Escrow Agent shall deliver to CIENA out of the Escrow Fund, as promptly as practicable, but subject to Section 3.3 below, shares of CIENA Common Stock and/or cash held in the Escrow Fund with a value equal to such Losses; provided, however, that in the event of a third party claim that is the subject of the demand on the Escrow Fund, no amounts shall be delivered out of the Escrow Fund until the claim is settled or adjudicated.

3.3 Notification of Representative. At the time of delivery of any Officer's Certificate to the Escrow Agent, a duplicate copy of such certificate shall be delivered to the Representative, and for a period of thirty (30) days after such delivery, the Escrow Agent shall make no delivery to CIENA of any Escrow Amounts unless the Escrow Agent shall have received written authorization from the Representative to make such delivery. After the expiration of such thirty (30) day period, the Escrow Agent shall make delivery of shares of CIENA Common Stock and/or cash from the Escrow Fund; provided, however, that no such payment or delivery may be made if the Representative shall object in a written statement to the claim made in the Officer's Certificate, and such statement shall have been delivered to the Escrow Agent prior to the expiration of such thirty (30) day period.

3.4 Resolution of Conflicts; Arbitration.

(a) In case the Representative shall object in writing to any claim or claims made in any Officer's Certificate, the Representative and CIENA shall attempt in good faith to agree upon the rights of the respective parties with respect to such claims. If the Representative and CIENA should so agree, a memorandum setting forth such agreement shall be prepared and signed by both parties and shall be furnished to the Escrow Agent in accordance with the terms thereof.

(b) If no such agreement can be reached after good faith negotiation, either CIENA or the Representative may demand arbitration of the matter unless the amount of the claim or Loss is at issue in pending litigation with a third party, in which event arbitration shall not be commenced until such amount is ascertained or both parties agree to arbitration; and in either such event the matter shall be settled by arbitration conducted by one arbitrator mutually agreeable to CIENA and the Representative. In the event that within forty-five (45) days after submission of any dispute to arbitration, CIENA and the Representative cannot mutually agree on one arbitrator, CIENA and the Representative shall each select one arbitrator, and the two arbitrators so selected shall select a third arbitrator. The arbitrator or arbitrators, as the case may be, shall set a limited time period and establish procedures designed to reduce the cost and time for discovery while allowing the parties an opportunity, adequate in the sole judgment of the arbitrator or majority of the three arbitrators, as the case may be, to discover relevant information from the opposing parties about the subject matter of the dispute. The arbitrator or a majority of the three arbitrators, as the case may be, shall rule upon motions to compel or limit discovery and shall have the authority to impose sanctions, including attorneys' fees and costs, to the same extent as a competent court of law or equity, should the arbitrators or a majority of the three arbitrators, as the case may be, determine that discovery was sought without substantial justification or that discovery was refused or objected to without substantial justification. The decision of the arbitrator or a majority of the three arbitrators, as the case may be, as to the validity and amount of any claim in such Officer's Certificate shall be binding and conclusive upon the parties to this Agreement. Such decision shall be written and shall be supported by written findings of fact and conclusions which shall set forth the award, judgment, decree or order awarded by the arbitrator(s).

(c) Judgment upon any award rendered by the arbitrator(s) may be entered in any court having jurisdiction. Any such arbitration shall be held in Baltimore, Maryland, under the rules then in effect of the American Arbitration Association. The arbitrator(s) shall determine how all expenses relating to the arbitration shall be paid, including without limitation, the respective expenses of each party, the fees of each arbitrator and the administrative fee of the American Arbitration Association.

ARTICLE IV ESCROW AGENT

4.1 Escrow Agent's Duties.

(a) The Escrow Agent shall be obligated only for the performance of such duties as are specifically set forth herein, and as set forth in any additional written escrow instructions which the Escrow Agent may receive after the date of this Agreement which are signed by an officer of CIENA and the Representative, and may rely and shall be protected in relying or refraining from acting on any instrument reasonably believed to be genuine and to have been signed or presented by the proper party or parties. The Escrow Agent shall not be liable for any act done or omitted hereunder as Escrow Agent while acting in good faith and in the exercise of reasonable judgment, and any act done or omitted pursuant to the advice of counsel shall be conclusive evidence of such good faith.

(b) The Escrow Agent is hereby expressly authorized to disregard any and all warnings given by any of the parties hereto or by any other person, and is hereby expressly authorized to comply with and obey any final non-appealable orders, judgments or decrees of any court or of the arbitrator(s).

In case the Escrow Agent obeys or complies with any such order, judgment or decree of any court or of the arbitration panel, the Escrow Agent shall not be liable to any of the parties hereto or to any other person by reason of such compliance, notwithstanding any such order, judgment or decree being subsequently reversed, modified, annulled, set aside, vacated or found to have been entered without jurisdiction.

(c) The Escrow Agent shall not be liable in any respect on account of the identity, authority or rights of the parties executing or delivering or purporting to execute or deliver this Agreement or any documents or papers deposited or called for hereunder.

(d) The Escrow Agent shall not be liable for the expiration of any rights under any statute of limitations with respect to this Agreement or any documents deposited with the Escrow Agent.

(e) In performing any duties under the Agreement, the Escrow Agent shall not be liable to any party for damages, losses, or expenses, except for negligence or willful misconduct on the part of the Escrow Agent. The Escrow Agent shall not incur any such liability for any action taken or omitted in reliance upon any instrument, including any written statement of affidavit provided for in this Agreement that the Escrow Agent shall in good faith believe to be genuine, nor will the Escrow Agent be liable or responsible for forgeries, fraud, impersonations, or determining the scope of any representative authority. In addition, the Escrow Agent may consult with legal counsel in connection with Escrow Agent's duties under this Agreement and shall be fully protected in any act taken, suffered, or permitted by him/her in good faith in accordance with the advice of counsel. The Escrow Agent is not responsible for determining and verifying the authority of any person acting or purporting to act on behalf of any party to this Agreement.

(f) If any controversy arises between the parties to this Agreement, or with any other party, concerning the subject matter of this Agreement, its terms or conditions, the Escrow Agent will not be required to determine the controversy or to take any action regarding it. The Escrow Agent may hold all documents and shares of CIENA Common Stock subject to such controversy and may wait for settlement of any such controversy by final appropriate legal proceedings or other means as, in the Escrow Agent's discretion, the Escrow Agent may reasonably require, despite what may be set forth elsewhere in this Agreement. In such event, the Escrow Agent will not be liable for any damages. Furthermore, the Escrow Agent may at its option, file an action of interpleader requiring the parties to answer and litigate any claims and rights among themselves. The Escrow Agent is authorized to deposit with the clerk of the court all documents and shares of CIENA Common Stock held in escrow, except all cost, expenses, charges and reasonable attorney's fees incurred by the Escrow Agent due to the interpleader action and which the parties jointly and severally agree to pay. Upon initiating such action, the Escrow Agent shall be fully released and discharged of and from all obligations and liability by the terms of this Agreement.

(g) The parties and their respective successors and assigns agree jointly and severally to indemnify and hold Escrow Agent harmless against any and all losses, claims, damages, liabilities, and expenses, including reasonable costs of investigation, counsel fees, including allocated costs of in-house counsel and disbursements that may be imposed on Escrow Agent or incurred by Escrow Agent in connection with the performance of his/her duties under this Agreement, including but not limited to any litigation or arbitration arising from this Agreement or involving its subject matter other than arising out of its negligence or willful misconduct.

(h) The Escrow Agent may resign at any time upon giving at least thirty (30) days written notice to the parties; provided, however, that no such resignation shall become effective until the appointment of a successor escrow agent which shall be accomplished as follows: the parties shall use their best efforts to mutually agree on a successor escrow agent within thirty (30) days after receiving such notice. If the parties fail to agree upon a successor escrow agent within such time, the Escrow Agent shall have the right to appoint a successor escrow agent authorized to do business in the State

of Maryland. The successor escrow agent shall execute and deliver an instrument accepting such appointment and it shall, without further acts, be vested with all the estates, properties, rights, powers, and duties of the predecessor escrow agent as if originally named as Escrow Agent. Upon appointment of a successor escrow agent, the Escrow Agent shall be discharged from any further duties and liability under this Agreement.

4.2 Fees. All fees of the Escrow Agent for performance of its duties hereunder shall be paid by CIENA in accordance with the standard fee schedule of the Escrow Agent. It is understood that the fees and usual charges agreed upon for services of the Escrow Agent shall be considered compensation for ordinary services as contemplated by this Agreement. In the event that the conditions of this Agreement are not promptly fulfilled, or if the Escrow Agent renders any service not provided for in this Agreement, or if the parties request a substantial modification of its terms, or if any controversy arises, or if the Escrow Agent is made a party to, or intervenes in, any litigation or arbitration pertaining to the Escrow Fund or its subject matter, the Escrow Agent shall be reasonable compensated for such extraordinary services and reimbursed for all costs, attorney's fees, including allocated costs of in-house counsel, and expenses occasioned by such default, delay, controversy or litigation or arbitration.

4.3 Consequential Damages. In no event shall the Escrow Agent be liable for special, indirect or consequential loss or damage of any kind whatsoever (including but not limited to lost profits), even if the Escrow Agent has been advised of the likelihood of such loss or damage and regardless of the form of action.

4.4 Successor Escrow Agents. Any corporation into which the Escrow Agent in its individual capacity may be merged or converted or with which it may be consolidated, or any corporation resulting from any merger, conversion or consolidation to which the Escrow Agent in its individual capacity shall be a party, or any corporation to which substantially all the corporate trust business of the Escrow Agent in its individual capacity may be transferred, shall be the Escrow Agent under this Escrow Agreement without further act.

ARTICLE V THE REPRESENTATIVE

5.1 General. The Representative may be removed and a new Representative or Representatives may be appointed at any time and from time to time by the written agreement of a majority of the Stockholders. Any such removal and appointment shall be effective upon receipt by the Escrow Agent and CIENA of a duly executed copy of the instrument appointing the new Representative. In the event that the Representative shall resign or otherwise cease to act as the Representative, the Stockholders shall immediately proceed to select a successor Representative to act hereunder.

5.2 Responsibility. The Representative shall have no liability to the Stockholders with respect to any action taken by him or her under this Agreement, except with respect to the Representative's gross negligence or willful misconduct. The Representative shall not be liable to any Stockholder in the event that in the exercise of the Representative's reasonable judgment he believes there will not be adequate resources available to cover his potential costs and expenses to contest a claim made by Purchase or any CIENA hereunder. The Representative may act in reliance upon the advice of counsel in reference to any matter in connection with this Agreement and shall not incur any liability to the other Stockholders or any one of them, for any action taken in good faith in accordance with such advice. All Stockholders (inclusive of the Representative) shall jointly and severally indemnify the Representative, ratably according to the respective number of shares of CIENA Common Stock to be received by each Stockholder, from and against any and all damages, losses, demands, claims, costs, liabilities, judgments, deficiencies or expenses incurred in connection with the Representative's actions under this Agreement or by virtue of acting in his capacity as the Representative, except to

the extent resulting from the Representative's gross negligence or willful misconduct. The Representative shall be reimbursed by the Stockholders for all costs and expenses incurred by him in connection with serving as representative of the Stockholders hereunder. The Escrow Agent shall from time to time sell such amount of the Escrow Shares as necessary to pay such Representative's costs and expenses, to the extent required by the preceding sentence, and sell other Escrow Shares in accordance with the written instructions of the Representative as provided in SECTION 2.3. In the event that the Representative reasonably believes that he will not have adequate resources available to cover his potential costs and expenses, he will consult with the Stockholders in order to make alternative arrangements for the costs and expenses of the Representative.

ARTICLE VI
MISCELLANEOUS

6.1 Successors and Assigns. This Agreement shall be binding upon and shall inure to the benefit of Stockholders (by and through the Representative), CIENA and the Escrow Agent, and their respective successors and assigns, whether so expressed or not.

6.2 Waiver of Consent. No failure or delay on the part of any party hereto in exercising any power or right hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any such right or power, or any abandonment or discontinuance of steps to enforce such a right or power, preclude any other or further exercise thereof or the exercise of any other right or power. The rights and remedies of the parties hereunder are cumulative and not exclusive of any rights or remedies which they would otherwise have. No modification or waiver of any provision of this Agreement, nor consent to any departure by any party therefrom, shall in any event be effective unless the same shall be in writing, and then such waiver or consent shall be effective only in the specific instance and for the purpose for which given. No notice to or demand on any party in any case shall entitle such party to any other or further notice or demand in similar or other circumstances.

6.3 Captions. The Article and Section captions used herein are for reference purposes only and shall not in any way affect the meaning or interpretation of this Agreement.

6.4 Notices. Any notice or other communication required or permitted hereunder shall be sufficiently given if delivered in person or sent by telex, telecopy or by registered or certified mail or by recognized overnight courier, postage prepaid, addressed as follows:

If to CIENA, to:

CIENA Corporation
1201 Winterson Road
Linthicum, Maryland 21090
Attention: General Counsel

with a copy to its counsel:

Hogan & Hartson L.L.P.
111 South Calvert Street, 16th Floor
Baltimore, Maryland 21202
Attention: Michael J. Silver

if to the Escrow Agent, to:

Boston EquiServe
Blue Hills Office Park
Mail Stop 45-02-62
150 Royall Street
Canton, Massachusetts 02021

if to the Representative, to:

Robi L. Soni
c/o Bessemer Venture Partners
83 Walnut Street
Wellesley, Mass 02481

and if to any Stockholder, to such Stockholder at such Stockholder's address appearing in CIENA's books and records or to such other address or number as shall be furnished in writing by any such party, and such notice or communication shall be deemed to have been given as of the date so delivered, sent by telecopies, telex or mailed.

6.5 Counterparts. This Agreement may be executed in two or more counterparts, all of which shall be considered one and the same agreement and each of which shall be deemed an original.

6.6 Governing Law. The interpretation and construction of this Agreement, and all matters relating thereto, shall be governed by the laws of the State of Maryland, without regard to the choice of law provisions thereof. Except as set forth in Section 3.4(c) with respect to any arbitration commenced pursuant to Section 3.4, the non-prevailing party in any dispute arising hereunder shall bear and pay the costs and expenses (including without limitation reasonable attorneys' fees and expenses) incurred by the prevailing party or parties in connection with resolving such dispute.

6.7 Severability. If any term, provision, covenant or restriction of this Agreement is held by a court of competent jurisdiction or other authority to be invalid, void, unenforceable or against its regulatory policy, the remainder of the terms, provisions, covenants and restrictions of this Agreement shall remain in full force and effect and shall in no way be affected, impaired or invalidated.

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ESCROW AGREEMENT
CIENA CORPORATION
OMNIA COMMUNICATIONS, INC.
SIGNATURE PAGE

IN WITNESS WHEREOF, CIENA, the Company and the Escrow Agent have caused their corporate names to be hereunto subscribed by their respective officers thereunto duly authorized, and the Representative has executed this Escrow Agreement, all as of the day and year first above written.

CIENA CORPORATION

By:

G. Eric Georgatos
Senior Vice President, General
Counsel and Secretary

OMNIA COMMUNICATIONS, INC.

By:

Name: -----
Title: -----

REPRESENTATIVE:

Robi L. Soni

BOSTON EQUISERVE

Name: -----

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 20. INDEMNIFICATION OF DIRECTORS AND OFFICERS

Under Section 145 of the Delaware General Corporation Law ("DGCL"), a corporation may indemnify its directors, officers, employees and agents and its former directors, officers, employees and agents and those who serve, at the corporation's request, in such capacities with another enterprise, against expenses (including attorneys' fees), as well as judgments, fines and settlements in nonderivative lawsuits, actually and reasonably incurred in connection with the defense of any action, suit or proceeding in which they or any of them were or are made parties or are threatened to be made parties by reason of their serving or having served in such capacity. The DGCL provides, however, that such person must have acted in good faith and in a manner such person reasonably believed to be in (or not opposed to) the best interests of the corporation and, in the case of a criminal action, such person must have had no reasonable cause to believe his or her conduct was unlawful. In addition, the DGCL does not permit indemnification in an action or suit by or in the right of the corporation, where such person has been adjudged liable to the corporation, unless, and only to the extent that, a court determines that such person fairly and reasonably is entitled to indemnity for costs the court deems proper in light of liability adjudication. Indemnity is mandatory to the extent a claim, issue or matter has been successfully defended.

The Amended and Restated Certificate of Incorporation of CIENA (the "CIENA Certificate") contains provisions that provide that no director of CIENA shall be liable for breach of fiduciary duty as a director except for (1) any breach of the directors' duty of loyalty to CIENA or its stockholders; (2) acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of the law; (3) liability under Section 174 of the DGCL; or (4) any transaction from which the director derived an improper personal benefit. The CIENA Certificate contains provisions that further provide for the indemnification of directors and officers to the fullest extent permitted by the DGCL. Under the Bylaws of CIENA, CIENA is required to advance expenses incurred by an officer or director in defending any such action if the director or officer undertakes to repay such amount if it is determined that the director or officer is not entitled to indemnification. In addition, CIENA has entered into indemnity agreements with each of its directors pursuant to which CIENA has agreed to indemnify the directors as permitted by the DGCL. CIENA has obtained directors and officers liability insurance against certain liabilities, including liabilities under the Securities Act.

ITEM 21. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) EXHIBITS

2.1	Merger Agreement (included as Appendix A to the prospectus/proxy statement)
2.2	Form of Escrow Agreement (included as Appendix C to the prospectus/proxy statement)
2.3(4)	Form of Stockholder Voting Agreement
4.1(1)	Specimen Stock Certificate
4.2(2)	Rights Agreement dated December 29, 1997
4.3(3)	Amendment to Rights Agreement
5.1	Hogan & Hartson L.L.P. Opinion
8.1	Hale and Dorr LLP Tax Opinion
23.1(4)	Consent of Independent Accountants
23.2(4)	Consent of Independent Accountants
23.3	Consent of Hogan & Hartson L.L.P. (included in Exhibit 5.1)
23.4	Consent of Hale and Dorr LLP (included in Exhibit 8.1)
99.1(4)	Form of Proxy Card

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

(2) Incorporated by reference to the Company's Form 8-K dated December 29, 1997.

(3) Incorporated by reference to the Company's Form 8-K dated October 14, 1998.

(4) Previously filed on June 10, 1999 as exhibits to the Company's Registration Statement on Form S-4 (SEC File No. 333-80375).

(B) FINANCIAL STATEMENT SCHEDULES

None

(C) REPORTS, OPINIONS OR APPRAISALS

None

ITEM 22. UNDERTAKINGS

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned registrant hereby undertakes to respond to requests for information that is incorporated by reference into the prospectus pursuant to Items 4, 10(b), 11 or 13 of this Form, within one business day of receipt of such request, and to send the incorporated documents by first class mail or other equally prompt means. This includes information contained in documents filed subsequent to the effective date of this Registration Statement through the date of responding to the request.

The undersigned registrant hereby undertakes to supply by means of a post-effective amendment all information concerning a transaction, and the company being acquired involved therein, that was not the subject of and included in this Registration Statement when it became effective.

The undersigned registrant hereby undertakes to file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:

- to include any prospectus required by Section 10(a)(3) of the Securities Act of 1933 (the "Securities Act");
- to reflect in the prospectus any facts or events arising after the effective date of this Registration Statement (or the most recent post-effective amendment hereof) which, individually or in the aggregate, represents a fundamental change in the information set forth in this Registration Statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Securities and Exchange Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in this Registration Statement when it becomes effective; and
- to include any material information with respect to the plan of distribution not previously disclosed in this Registration Statement or any material change to such information in this Registration Statement.

The undersigned registrant hereby undertakes that, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

The undersigned registrant hereby undertakes to remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

The undersigned registrant hereby undertakes as follows: that prior to any public reoffering of the securities registered hereunder through the use of a prospectus which is a part of this Registration Statement, by any person or party who is deemed to be an underwriter within the meaning of Rule 145(c), the issuer undertakes that such reoffering prospectus will contain the information called for by Form S-4 with respect to reofferings by persons who may be deemed underwriters, in addition to the information called for by the other items of Form S-4.

The undersigned registrant hereby undertakes that every prospectus (i) that is filed pursuant to the immediately preceding paragraph, or (ii) that purports to meet the requirements of Section 10(a)(3) of the Act and is used in connection with an offering of securities subject to Rule 415, will be filed as a part of an amendment to the Registration Statement and will not be used until such amendment is effective, and that, for purposes of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Linthicum, Maryland, on this 11th day of June, 1999.

CIENA CORPORATION

By: /s/ PATRICK H. NETTLES, PH.D.

Patrick H. Nettles, Ph.D.
President and Chief Executive
Officer

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the date indicated.

Date: June 11, 1999

By: /s/ PATRICK H. NETTLES, PH.D.

Patrick H. Nettles, Ph.D.
President and Chief Executive Officer

Date: June 11, 1999

/s/ JOSEPH R. CHINNICI*

Joseph R. Chinnici
Sr. Vice President, Chief Financial
Officer
(Principal Financial Officer)

Date: June 11, 1999

/s/ ANDREW C. PETRIK*

Andrew C. Petrik
Vice President, Controller and Treasurer
(Principal Accounting Officer)

Date: June 11, 1999

/s/ HARVEY B. CASH*

Harvey B. Cash
Director

Date: June 11, 1999

/s/ BILLY B. OLIVER*

Billy B. Oliver
Director

Date: June 11, 1999

/s/ JAGDEEP SINGH*

Jagdeep Singh
Director

Date: June 11, 1999

/s/ MICHAEL J. ZAK*

Michael J. Zak
Director

Date: June 11, 1999

/s/ STEPHEN P. BRADLEY*

Stephen P. Bradley
Director

By: /s/ PATRICK H. NETTLES, PH.D.

* Patrick H. Nettles, Ph.D., Attorney in Fact.

INDEX TO EXHIBITS

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(4) Previously filed on June 10, 1999 as exhibits to the Company's Registration Statement on Form S-4 (SEC File No. 333-80375).

HOGAN & HARTSON L.L.P.
111 South Calvert Street
Baltimore, Maryland 21202

June 11, 1999

Board of Directors
CIENA Corporation
1201 Winterson Road
Linthicum, MD 21090

Ladies and Gentlemen:

We are acting as counsel to CIENA Corporation, a Delaware corporation (the "COMPANY"), in connection with its registration statement on Form S-4 (the "REGISTRATION STATEMENT") filed with the Securities and Exchange Commission relating to the registration of 16,000,000 shares of the Company's common stock, par value \$.01 per share (the "SHARES"), pursuant to the terms of the Agreement and Plan of Merger between the Company and Omnia Communications, Inc. ("OMNIA"), which provides for the merger of Omnia with and into the Company, with the Company surviving the merger (the "MERGER"). This opinion letter is furnished to you at your request to enable you to fulfill the requirements of Item 601(b)(5) of Regulation S-K, 17 C.F.R. Section 229.601(b)(5), in connection with the Registration Statement.

For purposes of this opinion letter, we have examined copies of the following documents:

1. An executed copy of the Registration Statement.
2. The Third Restated Certificate of Incorporation of the Company, as certified by the Secretary of the State of the State of Delaware on April 19, 1999 and by the Secretary of the Company on the date hereof as being complete, accurate and in effect.
3. The Bylaws of the Company, as certified by the Secretary of the Company on the date hereof as being complete, accurate and in effect.

4. Resolutions of the Board of Directors of the Company adopted at a meeting held on March 14, 1999, as certified by the Secretary of the Company on the date hereof as being complete, accurate and in effect, authorizing the issuance and sale of the Shares.
5. Executed copies of the Agreement and Plan of Merger, dated March 15, 1999, by and among the Company and Omnia (the "Merger Agreement"), relating to, among other things, the issuance of the Shares.

In our examination of the aforesaid documents, we have assumed the genuineness of all signatures, the legal capacity of all natural persons, the authenticity, accuracy and completeness of all documents submitted to us, the authenticity of all original documents and the conformity to authentic original documents of all documents submitted to us as copies (including telecopies). This opinion letter is given, and all statements herein are made, in the context of the foregoing.

This opinion letter is based as to matters of law solely on Delaware corporate law. We express no opinion herein as to any other laws, statutes, ordinances, rules, or regulations.

Based upon, subject to and limited by the foregoing, we are of the opinion that following (i) effectiveness of the Registration Statement, (ii) approval of the Merger by the Omnia stockholders, and (iii) the effectiveness of the Merger pursuant to the General Corporation Law of the State of Delaware, the Shares will be validly issued, fully paid and nonassessable.

This opinion letter has been prepared solely for your use in connection with the Registration Statement and speaks as of the date hereof. We assume no obligation to advise you of any changes in the foregoing subsequent to the delivery of this opinion letter.

We hereby consent to the filing of this opinion letter as Exhibit 5.1 to the Registration Statement and to the reference to this firm under the caption "Legal Matters" in the prospectus constituting a part of the Registration Statement. In giving this consent, we do not thereby admit that we are an "expert" within the meaning of the Securities Act of 1933, as amended.

Very truly yours,

HOGAN & HARTSON L.L.P.

[HALE AND DORR LETTERHEAD]

Counsellors at Law

60 State Street, Boston, Massachusetts 02109
617-526-6000 - fax 617-526-5000

June 11, 1999

Omnia Communications, Inc.
100 Nickerson Road
Marlborough, MA 01752

Re: Merger pursuant to Agreement and Plan of Merger among
CIENA Corporation and Omnia Communications, Inc.

Ladies and Gentlemen:

This opinion is being delivered to you in connection with the filing of a registration statement (the "Registration Statement") on Form S-4, which includes the Proxy Statement and Prospectus relating to the Agreement and Plan of Merger dated as of March 15, 1999 (the "Merger Agreement"), by and among CIENA Corporation, a Delaware corporation ("CIENA"), and Omnia Communications, Inc., a Delaware corporation ("Omnia"). Pursuant to the Merger Agreement, Omnia will merge with and into CIENA (the "Merger"). Except as otherwise provided, capitalized terms not defined herein have the meanings set forth in the Merger Agreement and the exhibits thereto or in the letters delivered to Hale and Dorr LLP by CIENA and Omnia containing certain representations of CIENA and Omnia relevant to this opinion (the "Representation Letters"). All section references, unless otherwise indicated, are to the United States Internal Revenue Code of 1986, as amended (the "Code").

In our capacity as counsel to Omnia in the Merger, and for purposes of rendering this opinion, we have examined and relied upon the Registration Statement, the Merger Agreement and the exhibits thereto, the Representation Letters, and such other documents as we considered relevant to our analysis. In our examination of documents, we have assumed the authenticity of original documents, the accuracy of copies, the genuineness of signatures, and the legal capacity of signatories.

OMNIA COMMUNICATIONS, INC.
JUNE 11, 1999
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We have assumed that all parties to the Merger Agreement and to any other documents examined by us have acted, and will act, in accordance with the terms of such Merger Agreement and documents and that the Merger will be consummated at the Effective Time pursuant to the terms and conditions set forth in the Merger Agreement without the waiver or modification of any such terms and conditions. Furthermore, we have assumed that all representations contained in the Merger Agreement, as well as the factual representations contained in the Representation Letters, are, and at the Effective Time will be, true and complete in all material respects. We have not attempted to verify independently such representations, but in the course of our representation, nothing has come to our attention that would cause us to question the accuracy thereof.

The conclusions expressed herein represent our judgment as to the proper treatment of certain aspects of the Merger under the income tax laws of the United States based upon the Code, Treasury Regulations, case law, and rulings and other pronouncements of the Internal Revenue Service (the "IRS") as in effect on the date of this opinion. No assurances can be given that such laws will not be amended or otherwise changed prior to the Effective Time, or at any other time, or that such changes will not affect the conclusions expressed herein. Nevertheless, we undertake no responsibility to advise you of any developments after the Effective Time in the application or interpretation of the income tax laws of the United States.

Our opinion represents our best judgment of how a court would decide if presented with the issues addressed herein and is not binding upon either the IRS or any court. Thus, no assurances can be given that a position taken in reliance on our opinion will not be challenged by the IRS or rejected by a court.

This opinion addresses only the specific United States federal income tax consequences of the Merger set forth below, and does not address any other federal, state, local, or foreign income, estate, gift, transfer, sales, use, or other tax consequences that may result from the Merger or any other transaction (including any transaction undertaken in connection with the Merger). We express no opinion regarding the tax consequences of the Merger to shareholders of Omnia that are subject to special tax rules, and we express no opinion regarding the tax consequences of the Merger arising in connection with the ownership of options or warrants for Omnia stock.

On the basis of, and subject to, the foregoing, and in reliance upon the representations and assumptions described above, we are of the following opinions:

OMNIA COMMUNICATIONS, INC.
JUNE 11, 1999
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1. The Merger will constitute a reorganization within the meaning of Section 368(a) and
2. The discussion under the section "Federal Income Tax Consequences" in the Registration Statement accurately describes the material federal income tax considerations relevant to Omnia stockholders receiving CIENA Common Stock in the Merger.

No opinion is expressed as to any federal income tax consequence of the Merger except as specifically set forth herein, and this opinion may not be relied upon except with respect to the consequences specifically discussed herein.

This opinion has been prepared solely for your use in connection with the filing of this Registration Statement and speaks as of the date hereof. We hereby consent to the filing of this opinion as an exhibit to the Registration Statement and further consent to the use of our name in the Registration Statement in connection with references to this opinion and the tax consequences of the Merger. In giving this consent, however, we do not hereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act of 1933, as amended.

Very truly yours,

HALE AND DORR LLP