

Registration No. 333-_____

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM S-8
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)

23-2725311

(I.R.S. Employer Identification No.)

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

(Address, including zip code, and telephone number,
including area code, of registrant's principal executive offices)

CIENA Corporation Employee Stock Purchase Plan
(Full title of the Plan)

G. Eric Georgatos
Vice President, General Counsel and Secretary
CIENA Corporation
1201 Winterson Road
Linthicum, Maryland 21090
(410) 865-8500

(Name, address and telephone number, including area code, of agent for service)

Copy to:
Michael J. Silver, Esq.
Hogan & Hartson L.L.P.
111 South Calvert Street
Baltimore, Maryland 21202
(410) 659-2700

CALCULATION OF REGISTRATION FEE

TITLE OF SECURITIES TO BE REGISTERED	AMOUNT TO BE REGISTERED	PROPOSED MAXIMUM OFFERING PRICE PER SHARE	PROPOSED MAXIMUM AGGREGATE OFFERING PRICE	AMOUNT OF REGISTRATION FEE (1)
Common Stock, par value \$.01 per share	2,500,000	\$54.25	\$135,625,000	\$40,009.38

(1) Estimated pursuant to Rule 457(c) and (h) of the Securities Act of 1933, as amended, solely for the purpose of calculating the amount of the registration fee, based on the average of the high and low prices per share of CIENA Corporation common stock, par value \$.01 per share, on May 5, 1998, as reported on the NASDAQ National Market.

PART I

INFORMATION REQUIRED IN THE SECTION 10(A) PROSPECTUS

The documents containing the information specified in Part I will be sent or given to employees as specified by Rule 428(b)(1) of the Securities Act of 1933, as amended (the "Securities Act"). In accordance with the instructions to Part I of Form S-8, such documents will not be filed with the Securities and Exchange Commission (the "Commission") either as part of this registration statement or as prospectuses or prospectus supplements pursuant to Rule 424 of the Securities Act. These documents and the documents incorporated by reference pursuant to Item 3 of Part II of this registration statement, taken together, constitute the prospectus as required by Section 10(a) of the Securities Act.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

ITEM 3. INCORPORATION OF DOCUMENTS BY REFERENCE.

CIENA Corporation (the "Company") hereby incorporates by reference into this registration statement the following documents filed by it with the Commission:

- (a) The Registrant's Form 10-K for the fiscal year ended October 31, 1997;
- (b) All reports filed with the Commission pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), since October 31, 1997; and
- (c) The description of the Company's Common Stock, \$.01 par value per share ("Common Stock"), contained in the Registrant's Registration Statement on Form 8-A filed with the Commission on January 13, 1997, including all amendments and reports filed under Section 13(a) or 15(d) of the Exchange Act for purposes of updating the description of Common Stock.

In addition, all documents and reports filed by the Company subsequent to the date hereof pursuant to Sections 13(a), 13(c), 14, and 15(d) of the Exchange Act, prior to the filing of a post-effective amendment which indicates that all securities offered have been sold or which deregisters all securities remaining unsold, shall be deemed to be incorporated by reference in this registration statement and to be part hereof from the date of filing of such documents or reports. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this registration statement to the extent that a statement contained herein or in any other subsequent filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this registration statement.

ITEM 4. DESCRIPTION OF SECURITIES.

Not applicable (the Common Stock is registered under Section 12(g) of the Exchange Act).

ITEM 5. INTERESTS OF NAMED EXPERTS AND COUNSEL.

Not applicable.

ITEM 6. INDEMNIFICATION OF DIRECTORS AND OFFICERS.

Item 14 of Part II of the Registration Statement of the Registrant on Form S-1 (Registration No. 333-17729) is hereby incorporated by reference into this Registration Statement.

* * *

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers, and controlling persons of the Company pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the 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 Company 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.

ITEM 7. EXEMPTION FROM REGISTRATION CLAIMED.

Not applicable.

ITEM 8. EXHIBITS.

Exhibit

Number	Description
5.1	Opinion of Hogan & Hartson L.L.P. regarding the legality of the shares being registered.
23.1	Consent of Hogan & Hartson L.L.P. (included in Exhibit 5.1).
23.2	Consent of Price Waterhouse LLP.
24.1	Power of Attorney (included on signature page).

ITEM 9. UNDERTAKINGS.

(a) The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the 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 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 the effective registration statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.

Provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the registration statement is on Form S-3, or Form S-8, and the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed by the Registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in the registration statement.

(2) 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.

(3) 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.

(b) 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 Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the 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.

(c) The undertaking concerning indemnification is set forth under the response to Item 6.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the undersigned Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Linthicum, State of Maryland, on the 21st day of April, 1998.

CIENA CORPORATION

By: /s/PATRICK H. NETTLES

Patrick H. Nettles
President and Chief Executive Officer

POWER OF ATTORNEY

Know all men by these presents, that each individual whose signature appears below constitutes and appoints Patrick H. Nettles, Joseph R. Chinnici and G. Eric Georgatos, and each of them or his true and lawful attorney-in-fact and agent, with power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign a registration statement (the "Registration Statement") relating to a registration of shares of common stock on Form S-8 and to sign any and all amendments (including post-effective amendments) to the Registration Statement, and to file the same, with all exhibits and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons in the capacities and on the date indicated.

Signature -----	Title -----	Date -----
/s/PATRICK H. NETTLES ----- Patrick H. Nettles	Director, President and Chief Executive Officer	April 21, 1998
/s/JOSEPH R. CHINNICI ----- Joseph R. Chinnici	Senior Vice President, Finance and Chief Financial Officer	April 21, 1998
/s/JON W. BAYLESS ----- Jon W. Bayless	Chairman of the Board of Directors	April 21, 1998
/s/ANDREW C. PETRIK ----- Andrew C. Petrik	Vice President, Controller and Treasurer	April 21, 1998

/s/HARVEY B. CASH ----- Harvey B. Cash	Director	April 20, 1998
/s/CLIFFORD H. HIGGERSON ----- Clifford H. Higgeson	Director	April 21, 1998
/s/BILLY B. OLIVER ----- Billy B. Oliver	Director	April 21, 1998
/s/MICHAEL J. ZAK ----- Michael J. Zak	Director	April 21, 1998

EXHIBIT INDEX

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24.1	Power of Attorney (included on signature page).

May 12, 1998

Board of Directors
CIENA Corporation
1201 Winterson Road
Linthicum, MD 21090

Gentlemen:

This firm has acted as counsel to CIENA Corporation (the "Company"), a Delaware corporation, in connection with its registration, pursuant to a registration statement on Form S-8 filed on or about the date hereof (the "Registration Statement"), of 2,500,000 shares (the "Shares") of Common Stock, par value \$.01 per share, of the Company ("Common Stock"), issuable under the CIENA Corporation Employee Stock Purchase Plan (the "Plan"). This letter is furnished to you pursuant to the requirements of Item 601(b)(5) of Regulation S-K, 17 C.F.R. Section 229.601(b)(5), in connection with such registration.

For purposes of this opinion, we have examined copies of the following documents:

1. An executed copy of the Registration Statement.
2. A copy of the Plan, as certified by the Secretary of the Company on the date hereof as being complete, accurate and in effect.
3. The Certificate of Incorporation of the Company, as amended, as certified on April 21, 1998 by the Secretary of State of the State of Delaware and as certified by the Secretary of the Company on the date hereof as being complete, accurate and in effect.
4. The Amended and Restated Bylaws of the Company as certified by the Secretary of the Company on the date hereof as being complete, accurate and in effect.
5. Resolutions of the Board of Directors of the Company adopted on December 23, 1997, as certified by the Secretary of the Company on the

date hereof as being complete, accurate and in effect, relating to, among other things, approval of the Plan.

6. A certificate of the Secretary of the Company, dated May 11, 1998, as to certain facts relating to the Company.

For purposes of rendering this opinion, we have not, except as specifically identified above, made any independent review or investigation of factual or other matters, including the organization, existence, good standing, assets, business or affairs of the Company. In our examination of the aforesaid certificates, records and documents, we have assumed the genuineness of all signatures, the legal capacity of all natural persons, the 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). We also have assumed the accuracy, completeness and authenticity of the foregoing certifications (of public officials, governmental agencies and departments and corporate officers) and statements of fact, on which we are relying, and have made no independent investigations thereof. This opinion is given in the context of the foregoing.

This opinion is based as to matters of law solely on the General Corporation Law of the State of Delaware, as amended, and we express no opinion as to any other laws, statutes, regulations, or ordinances, including, without limitation, any federal or state tax or securities laws or regulations.

Based upon, subject to, and limited by the foregoing, we are of the opinion that the Shares, when issued and delivered in the manner and on the terms contemplated in the Registration Statement and the Plan (with the Company having received the consideration therefor, the form of which is in accordance with applicable law), will be validly issued, fully paid and non-assessable.

We assume no obligation to advise you of any changes in the foregoing subsequent to the delivery of this opinion. This opinion has been prepared solely for your use in connection with the filing of the Registration Statement on the date of this letter, and should not be quoted in whole or in part or otherwise be referred to, nor be filed with or furnished to any governmental agency or other person or entity, without the prior written consent of this firm.

We hereby consent to the filing of this opinion as Exhibit 5.1 to 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.

CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 on our report dated November 26, 1997 appearing on page 36 of CIENA Corporation's Annual Report on Form 10-K for the fiscal year ended October 31, 1997.

PRICE WATERHOUSE LLP
Falls Church, VA

May 11, 1998