

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

POST-EFFECTIVE AMENDMENT NO. 1

TO

FORM S-3

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)

**Russell B. Stevenson, Jr.
Senior Vice President, General Counsel and Secretary
1201 Winterson Road
Linthicum, Maryland 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 S. Calvert Street, Suite 1600
Baltimore, Maryland 21202
(410) 659-2700**

Approximate date of commencement of proposed sale to the public: Not applicable.

If the only securities being registered on this form are being offered pursuant to dividend or interest reinvestment plans, please check the following box:

If any of the securities being registered on this form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, 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, please check the following box and list the Securities Act 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(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. _____

If delivery of the prospectus is expected to be made pursuant to Rule 434, please check the following box.

This Post-Effective Amendment No. 1 to Registration Statement on Form S-3 (Reg. No. 333-81133) shall hereafter become effective in accordance with the provisions of Section 8(c) of the Securities Act of 1933, as amended.

DEREGISTRATION OF SECURITIES

CIENA Corporation (the "Registrant") filed with the Securities and Exchange Commission a Registration Statement on Form S-3 (Reg. No. 33-81133) (the "Registration Statement"), which originally registered 17,849,665 shares of Common Stock, par value \$0.01 per share of the Registrant for resale by the selling stockholders named therein. The Registrant's contractual obligation to maintain the effectiveness of the Registration Statement has terminated. Pursuant to the undertaking contained in the Registration Statement, the Registrant is filing this Post-Effective Amendment No. 1 to deregister such number of shares originally registered by the Registration Statement as remain unsold as of the termination of the offering.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 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 September 27, 2001.

CIENA CORPORATION

By: /s/ Patrick H. Nettles, Ph.D.

Patrick H. Nettles, Ph.D.

Executive Chairman of the Board

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 dates indicated.

Date: September 27, 2001

/s/ Patrick H. Nettles, Ph.D.

Patrick H. Nettles, Ph.D.

Executive Chairman of the Board

Date: September 27, 2001

/s/ Gary B. Smith

Gary B. Smith

President, Chief Executive Officer and Director

Date: September 27, 2001

/s/ Joseph R. Chinnici*

Joseph R. Chinnici

Sr. Vice President, Finance and Chief Financial Officer

Principal Financial Officer

Date: September 27, 2001

/s/ Andrew C. Petrik*

Andrew C. Petrik

Vice President, Controller and Treasurer

Principal Accounting Officer

Date: September 27, 2001

/s/ Stephen P. Bradley*

Stephen P. Bradley

Director

Date: September 27, 2001

/s/ Harvey B. Cash*

Harvey B. Cash

Director

John R. Dillon

Director

Lawton W. Fitt

Director

Date: September 27, 2001

/s/ Judith M. O'Brien

Judith M. O'Brien

Director

Gerald H. Taylor
Director

*pursuant to power of attorney

By: /s/ Patrick H. Nettles, Ph.D.
Patrick H. Nettles, Ph.D.
Attorney-in-Fact