

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 8-K
CURRENT REPORT
Pursuant to Section 13 or 15(d) of the
Securities Exchange Act of 1934

December 29, 1997

Date of Report (Date of earliest event reported)

CIENA Corporation

(Exact name of registrant as specified in its charter)

Delaware

0-21969

23-2725311

(State or other jurisdiction
of incorporation)

(Commission
File No.)

(IRS Employer
Identification No.)

920 Elkridge Landing Road, Linthicum, Maryland 21090

(Address of principal executive offices) (Zip Code)

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

Not applicable

(Former name or former address, if changed since last report)

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Total Number of Pages: 76

Item 5. Other Events

a. Adoption of Rights Plan.

On December 23, 1997, the Board of Directors of CIENA Corporation (the "Company") declared a dividend distribution of one Right for each outstanding share of common stock, par value \$.01 per share (the "Common Stock"), of the Company. The distribution is payable to stockholders of record on January 8, 1998. Each Right, when exercisable, entitles the registered holder to purchase from the Company one one-thousandth of a share of Series A Junior Participating Preferred Stock ("Preferred Stock") at a price of \$300 per one one-thousandth share (the "Purchase Price"), subject to adjustment. The description and terms of the Rights are set forth in a Rights Agreement (the "Rights Agreement") between the Company and Boston Equiserve as Rights Agent (the "Rights Agent").

Initially, the Rights will be attached to all certificates representing shares of Common Stock then outstanding, and no separate certificates evidencing the Rights will be distributed. The Rights will separate from the Common Stock and a distribution of Rights Certificates will occur upon the earlier to occur of (i) 10 days following a public announcement that a person or group of affiliated or associated persons (an "Acquiring Person") has acquired, or obtained the right to acquire, beneficial ownership of 15% or more of the outstanding shares of Common Stock (the "Stock Acquisition Date") or (ii) 10 business days (or such later date as the Continuing Directors may determine) following the commencement of a tender offer or exchange offer the consummation of which would result in the beneficial ownership by a person of 15% or more of the outstanding shares of Common Stock (the earlier of such dates being called the "Distribution Date").

Until the Distribution Date, (i) the Rights will be evidenced by the Common Stock certificates, and will be transferred with and only with the Common Stock certificates, (ii) new Common Stock certificates issued after January 6, 1998 upon transfer or new issuance of the Common Stock will contain a notation incorporating the Rights Agreement by reference, and (iii) the surrender for transfer of any certificates for Common Stock outstanding will also constitute the transfer of the Rights associated with the Common Stock represented by such certificate.

The Rights are not exercisable until the Distribution Date and will expire at the close of business on December 29, 2007 unless earlier redeemed or

exchanged by the Company as described below. The Rights will not be exercisable by a holder in any jurisdiction where the requisite qualification to the issuance to such holder, or the exercise by such holder, of the Rights has not been obtained or is not obtainable.

As soon as practicable following the Distribution Date, separate certificates evidencing the Rights ("Rights Certificates") will be mailed to holders of record of the Common Stock as of the close of business on the Distribution Date and, thereafter, the separate Rights Certificates alone will evidence the Rights. Except as otherwise determined by the Board of Directors, only shares of Common Stock issued prior to the Distribution Date will be issued with Rights.

In the event that a Person becomes the beneficial owner of 15% or more of the then outstanding shares of Common Stock (except pursuant to an offer for all outstanding shares of Common Stock which the Outside Directors determine to be fair to and otherwise in the best interests of the Company and its stockholders), each holder of a Right will, after the end of a redemption period referred to below, have the right to exercise the Right by purchasing, for an amount equal to the Purchase Price, Common Stock (or, in certain circumstances, cash, property or other securities of the Company) having a value equal to two times such amount. Notwithstanding any of the foregoing, following the occurrence of the events set forth in this paragraph, all Rights that are, or (under certain circumstances specified in the Rights Agreement) were, beneficially owned by any Acquiring Person will be null and void. However, Rights are not exercisable following the occurrence of the events set forth above until such time as the Rights are no longer redeemable by the Company as set forth below.

For example, at a Purchase Price of \$300 per Right, each Right not owned by an Acquiring Person (or by certain related parties) following an event set forth in the preceding paragraph would entitle its holder to purchase \$600 worth of Common Stock (or other consideration, as noted above) for \$300. Assuming that the Common Stock had a per share value of \$50 at such time, the holder of each valid Right would be entitled to purchase 12 shares of Common Stock for \$300.

In the event that, at any time following the Stock Acquisition Date, (i) the Company is acquired in a merger or other business combination transaction in which the Company is not the surviving corporation (other than a merger which follows an offer described in the second preceding paragraph), or (ii) 50% or more of the Company's assets or earning power is sold or transferred, each holder of a Right (except Rights which previously have been voided as set forth above) shall after the expiration of the redemption period referred to below thereafter have the right to receive, upon exercise, common stock of the

acquiring company having a value equal to two times the Purchase Price of the Right (e.g., common stock of the acquiring company having a value of \$600 for the \$300 Purchase Price).

At any time after a person or group of affiliated or associated persons becomes an Acquiring Person, the Board of Directors of the Company may exchange the Rights (other than Rights owned by such person or group which have become void), in whole or in part, at an exchange ratio of one share of Common Stock per Right (subject to adjustment).

The Purchase Price payable, and the number of one one-thousandths of a share of Preferred Stock or other securities or property issuable, upon exercise of the Rights are subject to adjustment from time to time to prevent dilution (i) in the event of a stock dividend on, or a subdivision, combination or reclassification of the Preferred Stock (ii) upon the grant to holders of the Preferred Stock of certain rights or warrants to subscribe for Preferred Stock or convertible securities at less than the current market price of the Preferred Stock or (iii) upon the distribution to holders of the Preferred Stock of evidences of indebtedness or assets (excluding regular quarterly cash dividends) or of subscription rights or warrants (other than those referred to above).

With certain exceptions, no adjustment in the Purchase Price will be required until cumulative adjustments require an adjustment of at least 1% in such Purchase Price. No fractional shares will be issued and in lieu thereof, an adjustment in cash will be made based on the market price of the Preferred Stock on the last trading date prior to the date of exercise.

In general, the Board of Directors of the Company, may cause the Company to redeem the Rights in whole, but not in part, at any time during the period commencing on January 8, 1998, and ending on the tenth day following the Stock Acquisition Date, as such period may be extended or shortened by the Board of Directors (the "Redemption Period") at a price of \$.001 per Right (payable in cash, Common Stock or other consideration deemed appropriate by the Board of Directors). Under certain circumstances set forth in the Rights Agreement, the decision to redeem the Rights will require the concurrence of a majority of the Continuing Directors. After the Redemption Period has expired, the Company's right of redemption may be reinstated (with the concurrence of the Continuing Directors) if an Acquiring Person reduces his beneficial ownership to 10% or less of the outstanding shares of Common Stock in a transaction or series of transactions not involving the Company and there are no other Acquiring Persons. Immediately upon the action of the Board of Directors of the Company ordering redemption of the Rights, with, where required, the concurrence of the Continuing Directors, the Rights will terminate

and the only right of the holders of Rights will be to receive the \$.001 redemption price.

The term "Continuing Director" means any member of the Board of Directors of the Company who was a member of the Board of Directors prior to the date of the Rights Agreement, and any person who is subsequently elected to the Board if such person is recommended or approved by a majority of the Continuing Directors, but shall not include an Acquiring Person or an affiliate or associate of an Acquiring Person, or any representative of the foregoing entities. The term "Outside Directors" means "Continuing Directors" who are not officers of the Company.

Until a Right is exercised, the holder thereof, as such, will have no rights as a stockholder of the Company, including, without limitation, the right to vote or to receive dividends. While the distribution of the Rights will not be subject to federal taxation to stockholders or to the Company, stockholders may, depending upon the circumstances, recognize taxable income in the event that the Rights become exercisable for Common Stock (or other consideration) of the Company or for common stock of the acquiring company as set forth above.

Other than those provisions relating to the principal economic terms of the Rights, any of the provisions of the Rights Agreement may be amended by the Board of Directors of the Company prior to the Distribution Date. After the Distribution Date, the provisions of the Rights Agreement may be amended by the Board in order to cure any ambiguity, defect or inconsistency or to make changes which do not adversely affect the interests of holders of Rights (excluding the interests of any Acquiring Person), or to shorten or lengthen any time period under the Rights Agreement; provided however, no amendment to adjust the time period governing redemption may be made at such time as the Rights are not redeemable.

Each share of Common Stock outstanding on January 8, 1998 will receive one Right. A total of 300,000 shares of Preferred Stock are reserved for issuance upon exercise of the Rights.

The Rights have certain anti-takeover effects. The Rights will cause substantial dilution to a person or group that attempts to acquire the Company without conditioning the offer on a substantial number of Rights being acquired, or in a manner or on terms not approved by the Board of Directors. The Rights, however, should not deter any prospective offeror willing to negotiate in good faith with the Board of Directors. Nor should the Rights interfere with any merger or other business combination approved by the Board of Directors.

The form of Rights Agreement between the Company and the Rights Agent specifying the terms of the Rights, which includes as Exhibit B the form of Rights Certificate, is attached hereto as Exhibit 4.2 and is incorporated herein by reference. The press release announcing the declaration of the Rights dividend, and the Certificate of Designation, Preferences and Rights of Series A Junior Participating Preferred Stock are attached hereto as Exhibits 99 and Exhibit A to the Rights Agreement, respectively, and are incorporated herein in their entirety by reference. The foregoing description of the Rights does not purport to be complete and is qualified in its entirety by reference to such Exhibits.

b. Legal Proceedings.

Pirelli Litigation. On December 20, 1996, a U.S. affiliate of Pirelli SpA ("Pirelli") filed suit in U.S. District Court in Delaware, alleging willful infringement by the Company of five U.S. patents held by Pirelli. The lawsuit seeks treble damages, attorneys' fees and costs, as well as preliminary and permanent injunctive relief against the alleged infringement. On February 10, 1997, the Company filed its answer denying infringement, alleging inequitable conduct on the part of Pirelli in the prosecution of certain of its patents, and stating a counterclaim against the relevant Pirelli parties for a declaratory judgment finding the Pirelli patents invalid and/or not infringed. Following the filing of the Company's answer, Pirelli dedicated to the public and withdrew from the lawsuit all infringement claims relating to one of the five patents. In September 1997, Pirelli withdrew another patent from the suit, leaving three patents at issue. Expert discovery proceedings are ongoing, and are currently expected to be completed by January 31, 1998, with trial expected no earlier than mid-1998.

In February, 1997, the Company filed a complaint against Pirelli with the International Trade Commission ("ITC"), based on the Company's belief that a 32 channel DWDM system announced by Pirelli infringed at least two of the Company's patents. The Company's complaint sought a ban on the importation by Pirelli into the U.S. of any infringing 32 channel system. A formal investigative proceeding was instituted by the ITC on April 3, 1997. On November 24, 1997, the parties settled the matter by entry of a Consent Order. Under the Consent Order, Pirelli has agreed not to import into the United States WDM components and or systems which infringe the Company's patented in fiber Bragg gratings-based WDM systems.

On March 14, 1997, the Company filed suit against Pirelli in U.S. District Court in the Eastern District of Virginia, alleging willful infringement by Pirelli of three U.S. patents held or co-owned by the Company. In September 1997, the Company withdrew one of the three patents from the suit. The two patents which remained at issue related to certain of Pirelli's cable television equipment, and to

certain Pirelli fiberoptic communications equipment announced by Pirelli in January 1997 as being deployed in a field trial in the MCI network. Motions for summary judgment by both parties had been pending on the issue of infringement as it relates to the cable television patent, and Pirelli also filed a motion for summary judgment of invalidity of this patent. As to the second of the two patents, on December 5, 1997, the court issued an order granting partial summary judgment for Pirelli on the issue of non-infringement, and denying Pirelli's motion for summary judgment of invalidity of this patent. The court later amended its ruling to specifically affirm the validity of this patent. The Company has elected to appeal the partial summary judgment of non-infringement, and has agreed to dismiss its other claims, with the right to reassert certain of them, pending the outcome of the appeal. The appellate decision is not expected until late 1998 at the earliest.

The Company continues to believe its MultiWave 1600 system does not infringe any valid claim of the three remaining Pirelli patents and believes certain of the Pirelli patents and/or claims are invalid. The Company is defending itself vigorously, and is planning on all remaining litigation proceeding through trial. In light of the complexity and likely time-consuming nature of the litigation, including the Company's counterclaim, the ITC proceeding, and the Company's patent infringement lawsuit against Pirelli in the Eastern District of Virginia, the Company recorded a charge of approximately \$7.5 million in estimated legal and related costs associated with these proceedings during fiscal 1997. While the Company believes its estimate of legal and related costs is adequate based on its current understanding of the overall facts and circumstances, the estimate may be increased in future periods depending on the course of the legal proceedings.

In the Delaware litigation, the so-called "Markman" hearing was conducted in September 1997. Markman hearings are pre-trial proceedings required in all patent infringement litigation, and result in rulings by the trial judge on certain issues of patent claim construction. These rulings then become the basis for later jury determination of the infringement claims, and can be very influential in determining the outcome of the litigation. The Delaware court's Markman ruling was issued in November. The Company believes the Markman ruling is generally favorable to the Company's position, and nothing in the ruling has changed the Company's view that its MultiWave systems do not infringe any valid claim of the three remaining Pirelli patents and believes certain of the Pirelli patents and/or claims are invalid. Pirelli has filed a motion for reargument of certain portions of the court's ruling.

As the Delaware proceeding approaches trial, the Company expects pre-trial motions, including motions for summary judgment like those filed in the Virginia litigation, will be filed by both parties with a view to narrowing or disposing of one or more of the claims in one or more of the proceedings. The Company believes that rulings on such motions, whether the motions are made by

CIENA or Pirelli, may but most likely will not result in complete disposition of all litigation, and continues to plan on going to trial in all litigation. The Company also anticipates that as the proceedings converge toward trials, either or both parties may take actions to amend or add to the patent infringement claims already pending. On December 26, 1997, the Company received word that Pirelli had filed on December 23, 1997, a new complaint in U.S. District Court in Delaware, alleging willful infringement by the Company of two additional U.S. patents held by Pirelli. The lawsuit seeks treble damages, attorneys' fees and costs, as well as preliminary and permanent injunctive relief against the alleged infringement. It is currently unclear as to what effect the filing of this lawsuit will have on the timing of the trial as to the three patents which have been at issue since December 1996.

The patent claims cited in the new Delaware complaint had been evaluated by the Company prior to the lawsuit. The Company continues to believe that its MultiWave systems do not infringe any valid claims of any patents held by Pirelli, and will continue to defend itself vigorously as to the new claims brought on December 23, 1997.

The Pirelli proceedings have been and will continue to be costly and involve a substantial diversion of the time and attention of some members of management. Further, the Company believes Pirelli and other competitors have used the existence of the Delaware litigation to raise questions in customers' and potential customers' minds as to the Company's ability to manufacture and deliver MultiWave systems. There can be no assurance that such efforts by Pirelli and others will not disrupt the Company's existing and prospective customer relationships.

There can be no assurance that the Company will be successful in the Pirelli litigation, and an adverse determination in the Delaware court, either on a motion for summary judgment or in trial, could result from a finding of infringement of only one claim of a single patent. The Company may settle the litigation due to the costs and uncertainties associated with litigation in general and patent infringement litigation in particular and due to the fact that an adverse determination in the litigation could preclude the Company from producing MultiWave 1600 systems until it were able to implement a non-infringing alternative design to any portion of the system to which such a determination applied. However, there can be no assurance that any settlement will be reached by the parties. The Company is planning on all litigation proceeding through trial. An adverse determination in, or settlement of, the Pirelli litigation could involve the payment of significant amounts, or could include terms in addition to such payments, which could have a material adverse effect on the Company's business, financial condition and results of operations.

Financial Statements, Pro Forma Financial Information and Exhibits.

- 3. 4. Certificate of Designation, Preferences and Rights of Series A Junior Participating Preferred Stock. (included as Exhibit A to Exhibit 4.2 filed herewith).
- 4.2. Form of Rights Agreement dated as of December 29, 1997 between the Company and Boston Equiserve as Rights Agent.
- 99. Press Release dated December 29, 1997.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, the Registrant has duly caused this Report to be signed on its behalf by the undersigned thereunto duly authorized.

CIENA Corporation

Date: December 29, 1997

By: /s/ G. Eric Georgatos

G. Eric Georgatos
Vice-president, General Counsel
and Secretary

EXHIBIT INDEX

Exhibit No. -----	Description -----
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4.2.	Form of Rights Agreement dated as of December 29, 1997 between the Company and Boston Equiserve as Rights Agent including exhibits thereto.
99.	Press Release dated December 29, 1997.

RIGHTS AGREEMENT

Rights Agreement, dated as of December 29, 1997 (the "Agreement"), between CIENA Corporation, a Delaware corporation (the "Company"), and Boston Equiserve (the "Rights Agent").

WHEREAS, on December 23, 1997 (the "Rights Dividend Declaration Date"), the Board of Directors of the Company authorized and declared a dividend of one Right for each share of Common Stock (as hereinafter defined) of the Company outstanding at the Close of Business (as defined herein) on the Record Date (as defined herein), and has authorized the issuance of one Right with respect to each share of Common Stock of the Company issued between the Record Date (whether originally issued or delivered from the Company's treasury) and the Distribution Date (as hereinafter defined), each Right initially representing the right to purchase one one-thousandth of a share of Series A Junior Participating Preferred Stock of the Company having the rights, powers and preferences set forth in the form of Certificate of Designation, Preferences and Rights attached hereto as Exhibit A, upon the terms and subject to the conditions hereinafter set forth.

NOW, THEREFORE, in consideration of the premises and the mutual agreements herein set forth, the parties hereby agree as follows:

SECTION 1. CERTAIN DEFINITIONS.

For purposes of this Agreement, the following terms have the meanings indicated:

(a) "Acquiring Person" shall mean any Person (as such term is hereinafter defined) who or which, together with all Affiliates and Associates (as such terms are hereinafter defined) of such Person, shall be the Beneficial Owner (as such term is hereinafter defined) of 15% or more of the shares of Common Stock then outstanding, but shall not include (i) the Company, (ii) any Subsidiary of the Company, or (iii) any employee benefit plan of the Company or any Subsidiary of the Company, or any Person or entity holding shares of Common Stock for or pursuant to the terms of any such plan to the extent, and only to the extent, of such shares so held. Notwithstanding the foregoing, no Person shall become an "Acquiring Person" as the result of an acquisition of shares of Common Stock by the Company which, by reducing the number of shares of Common Stock outstanding, increases the proportionate number of shares of Common Stock beneficially owned by such Person to 15% or more of the shares of Common Stock of the Company then outstanding; provided, however, that if a Person shall

become the Beneficial Owner of 15% or more of the Common Stock of the Company then outstanding by reason of share purchases by the Company and shall, after such share purchases by the Company, become the Beneficial Owner of any additional shares of Common Stock of the Company, then such Person shall be deemed to be an "Acquiring Person" if such Person is then the Beneficial Owner of 15% or more of the Common Stock then outstanding. In addition, if the Board of Directors of the Company determines in good faith that a Person who would otherwise be an "Acquiring Person", as defined pursuant to the foregoing provisions of this paragraph (a), has become such inadvertently, and such Person divests as promptly as practicable a sufficient number of shares of Common Stock so that such Person would no longer be an "Acquiring Person", then such Person shall not be deemed an "Acquiring Person" for any purposes of this Agreement unless and until such Person shall again become an "Acquiring Person".

(b) "Affiliate" and "Associate" shall have the respective meanings ascribed to such terms in Rule 12b-2 of the General Rules and Regulations under the Securities Exchange Act of 1934, as amended (the "Exchange Act").

(c) A Person shall be deemed the "Beneficial Owner" of and shall be deemed to "beneficially own" any securities:

(i) which such Person or any of such Person's Affiliates or Associates, directly or indirectly, has the right to acquire (whether such right is exercisable immediately or only after the passage of time) pursuant to any agreement, arrangement or understanding (whether or not in writing), or upon the exercise of conversion rights, exchange rights, other rights (other than these Rights), warrants or options, or otherwise; provided, however, that a Person shall not be deemed the "Beneficial Owner" of, or to "beneficially own", (A) securities tendered pursuant to a tender or exchange offer made by or on behalf of such Person or any of such Person's Affiliates or Associates until such tendered securities are accepted for purchase or exchange; or (B) securities issuable upon exercise of Rights at any time prior to the occurrence of a Triggering Event, or (C) securities issuable upon exercise of Rights from and after the occurrence of a Triggering Event which Rights were acquired by such Person or any of such Person's Affiliates or Associates prior to the Distribution Date or pursuant to Section 3(a) or Section 22 hereof (the "Original Rights") or pursuant to Section 11(i) hereof in connection with an adjustment made with respect to any Original Rights;

(ii) which such Person or any of such Person's Affiliates or Associates, directly or indirectly, has the right to vote or dispose of or has "beneficial ownership" of (as determined pursuant to Rule 13d-3 of the General Rules and Regulations under the Exchange Act), including pursuant to any agreement, arrangement or understanding, whether or not in writing; provided, however, that a Person shall not be deemed the "Beneficial Owner" of, or to beneficially own, any security under this subparagraph (ii) as a result of an agreement, arrangement or understanding to vote such security if such agreement, arrangement or understanding: (A) arises solely from a revocable proxy given in response to a public proxy or consent solicitation made pursuant to, and in accordance with, the applicable provisions of the General Rules and Regulations under the Exchange Act, and (B) is not also then reportable by such Person on Schedule 13D under the Exchange Act (or any comparable or successor report); or

(iii) which are beneficially owned, directly or indirectly, by any other Person (or any Affiliate or Associate thereof) with which such Person or any of such Person's Affiliates or Associates has any agreement, arrangement or understanding (whether or not in writing), for the purpose of acquiring, holding, voting (except pursuant to a revocable proxy as described in the proviso to subparagraph (ii) of this paragraph (c)) or disposing of any voting securities of the Company; provided, however, that nothing in this paragraph (c) shall cause a person engaged in business as an underwriter of securities to be the "Beneficial Owner" of, or to "beneficially own," any securities acquired through such person's participation in good faith in a firm commitment underwriting until the expiration of forty days after the date of such acquisition.

(d) "Board" shall mean the Board of Directors of the Company.

(e) "Business Day" shall mean any day other than a Saturday, Sunday, or a day on which banking institutions in the State of New York are authorized or obligated by law or executive order to close.

(f) "Close of Business" on any given date shall mean 5:00 P.M., New York City time, on such date; provided, however, that if such date is not a Business Day it shall mean 5:00 P.M., New York City time, on the next succeeding Business Day.

(g) "Common Stock" when used with reference to the Company shall mean the shares of common stock, par value \$.01 per share, of the Company. "Common Stock" when used with reference to any Person other than the Company shall mean the class of capital stock with the greatest aggregate voting power, or the class of equity securities or other equity interests having power to control or direct the management, of such Person.

(h) "Company" shall mean CIENA Corporation, a Delaware Corporation.

(i) "Continuing Director" shall mean (i) any member of the Board, while such Person is a member of the Board, who is not an Acquiring Person, or an Affiliate or Associate of an Acquiring Person, or a representative of any Acquiring Person or of any such Affiliate or Associate, and was a member of the Board as of the date of this Agreement, or (ii) any Person who subsequently becomes a member of the Board, while such Person is a member of the Board, who is not an Acquiring Person, or an Affiliate or Associate of an Acquiring Person, or a representative of an Acquiring Person or of any such Affiliate or Associate, if such Person's nomination for election or election to the Board is recommended or approved by a majority of the Continuing Directors.

(j) "Distribution Date" shall mean the earlier of (i) the Close of Business on the tenth day after the Stock Acquisition Date (or, if the tenth day after the Stock Acquisition Date occurs before the Record Date, the close of business on the Record Date), or (ii) the Close of Business on the tenth Business Day (or, if such tenth Business Day occurs before the Record Date, the Close of Business on the Record Date), or such specified or unspecified later date on or after the Record Date as may be determined by action of a majority of the Continuing Directors, after the date that a tender or exchange offer by any Person (other than the Company, any Subsidiary of the Company or any employee benefit plan of the Company or of any Subsidiary of the Company or any Person or entity holding shares of Common Stock for or pursuant to the terms of any such plan) is first published or sent or given within the meaning of Rule 14d-2(a) of the General Rules and Regulations under the Exchange Act, if upon consummation thereof, such Person would be the beneficial owner of 15% or more of the outstanding shares of Common Stock.

(k) "Exchange Act" shall mean the Securities Exchange Act of 1934, as amended, as in effect on the date of this Agreement.

- (l) "Expiration Date" shall have the meaning set forth in Section 7(a) hereof.
- (m) "Final Expiration Date" shall have the meaning set forth in Section 7(a) hereof.
- (n) "Outside Directors" shall mean the Continuing Directors who are not officers of the Company.
- (o) "Person" shall mean any individual, firm, corporation, partnership or other entity, and shall include any successor (by merger or otherwise) of such entity.
- (p) "Preferred Stock" shall mean shares of Series A Junior Participating Preferred Stock, par value \$.01 per share, of the Company.
- (q) "Principal Party" shall have the meaning set forth in Section 13(b) hereof.
- (r) "Purchase Price" shall have the meaning set forth in Section 4(a) and 11(a)(ii) herein.
- (s) "Record Date" shall mean the close of business on January 8, 1998.
- (t) "Redemption Period" shall have the meaning set forth in Section 23(a) hereof.
- (u) "Rights Agent" shall mean Boston Equiserve.
- (v) "Rights Certificate" shall have the meaning set forth in Section 3 hereof.
- (w) "Rights Dividend Declaration Date" shall mean the close of business on December 23, 1997.
- (x) "Section 11(a)(ii) Event" shall mean any event described in Section 11(a)(ii) hereof.
- (y) "Section 13 Event" shall mean any event described in clauses (x), (y) or (z) of Section 13(a) hereof.
- (z) "Securities Act" shall mean the Securities Act of 1933, as amended, as in effect on the date of this Agreement.

(aa) "Stock Acquisition Date" shall mean the first date of public announcement (which, for purposes of this definition, shall include, without limitation, a report filed pursuant to Section 13(d) of the Exchange Act) by the Company or an Acquiring Person that an Acquiring Person has become such.

(bb) "Subsidiary" of any Person shall mean any corporation or other entity of which a majority of the voting power of the voting equity securities or equity interests is owned, directly or indirectly, by such Person, or is otherwise controlled by such Person.

(cc) "Triggering Event" shall mean any Section 11(a)(ii) Event or any Section 13 Event.

SECTION 2. APPOINTMENT OF RIGHTS AGENT.

The Company hereby appoints the Rights Agent to act as agent for the Company and the holders of the Rights (who, in accordance with Section 3 hereof, shall prior to the Distribution Date also be the holders of the Common Stock) in accordance with the terms and conditions hereof, and the Rights Agent hereby accepts such appointment. The Company may from time to time appoint such Co-Rights Agents as it may deem necessary or desirable, upon ten (10) days, prior written notice to the Rights Agent. The Rights Agent shall have no duty to supervise, and shall in no event be liable for, the acts or omissions of any such co-Rights' Agent.

SECTION 3. ISSUE OF RIGHTS CERTIFICATES.

(a) With respect to certificates for shares of Common Stock outstanding as of the Record Date, until the Distribution Date, the Rights will be evidenced by such certificates for the Common Stock and the registered holders of the Common Stock shall also be the registered holders of the associated Rights. Until the Distribution Date (or the earlier Expiration Date or Final Expiration Date), the transfer of any certificate representing shares of Common Stock in respect of which Rights have been issued shall also constitute the transfer of the Rights associated with the shares of Common Stock represented thereby.

(b) Rights shall be issued in respect of all shares of Common Stock issued (whether originally issued or from the Company's treasury) after the Record Date but prior to the earlier of the Distribution Date or the Expiration Date or the Final Expiration Date. Rights shall also be issued to the extent provided in Section 22 in respect of all shares of Common Stock which are issued (whether originally issued or from the Company's treasury) after the Distribution Date and prior to the Expiration Date. Certificates representing such shares of Common Stock shall also be deemed to be certificates for Rights, and shall bear the following legend:

This certificate also evidences and entitles the holder hereof to certain Rights as set forth in a Rights Agreement between CIENA Corporation (the "Company") and Boston Equiserve (the "Rights Agent") dated as of December 29, 1997 (the "Rights Agreement"), the terms of which are hereby incorporated herein by reference and a copy of which is on file at the principal executive offices of the Company. Under certain circumstances, as set forth in the Rights Agreement, such Rights will be evidenced by separate certificates and will no longer be evidenced by this certificate. The Company will mail to the holder of this certificate a copy of the Rights Agreement as in effect on the date of mailing without charge after receipt of a written request therefor.

Under certain circumstances set forth in the Rights Agreement, Rights issued to, or held by, any Person who is, was or becomes an Acquiring Person or any Affiliate or Associate thereof (as such terms are defined in the Rights Agreement), whether currently held by or on behalf of such Person or by any subsequent holder, may become null and void. The Rights shall not be exercisable, and shall be void so long as held, by a holder in any jurisdiction where the requisite qualification of the issuance to such holder, or the exercise by such holder, of the Rights in such jurisdiction shall not have been obtained or be obtainable.

With respect to such certificates containing the foregoing legend, until the earlier of (i) the Distribution Date or (ii) the Expiration Date, the Rights associated with the Common Stock represented by such certificates shall be evidenced by such certificates alone and registered holders of Common Stock shall also be the registered holders of the associated Rights, and the transfer of any such certificate shall also constitute the transfer of the Rights associated with the Common Stock represented thereby.

(c) Until the Distribution Date (i) the Rights will be evidenced (subject to the provisions of paragraph (a) of this Section 3) by the certificates for Common Stock registered in the names of the holders thereof (which certificates for Common Stock shall also be deemed to be Rights Certificates) and not by separate Rights Certificates, and (ii) the Rights will be transferable only in connection with the transfer of the underlying shares of Common Stock (including a transfer to the Company).

(d) As soon as practicable after the Distribution Date, the Rights Agent will send by first-class, insured, postage prepaid mail, to each record holder of Common Stock as of the Close of Business on the Distribution Date, at the address of such holder shown on the records of the Company, a Rights Certificate, in substantially the form of Exhibit B hereto, evidencing one Right for each share of Common Stock so held, subject to adjustment as provided herein. In the event that an adjustment in the number of Rights per share of Common Stock has been made

pursuant to Section 11(p) hereof, at the time of distribution of the Rights Certificates, the Company shall make necessary and appropriate rounding adjustments (in accordance with Section 14(a) hereof) so that Rights Certificates representing only whole numbers of Rights are distributed and cash is paid in lieu of any fractional Rights. As of and after the Distribution Date, the Rights will be evidenced solely by such Right Certificates.

SECTION 4. FORM OF RIGHTS CERTIFICATES.

(a) The Rights Certificates (and the forms of election to purchase and of assignment to be printed on the reverse thereof) shall be substantially the same as Exhibit B hereto and may have such marks of identification or designation and such legends, summaries or endorsements printed thereon as the Company may deem appropriate and as are not inconsistent with the provisions of this Agreement, or as may be required to comply with any applicable law or with any rule or regulation made pursuant thereto or with any rule or regulation of any stock exchange on which the Rights may from time to time be listed, or to conform to usage. Subject to the provisions of Section 11 and Section 22 hereof, the Rights Certificates, whenever issued, shall be dated as of the Record Date, and on their face shall entitle the holders thereof to purchase such number of one one-thousandths of a share of Preferred Stock as shall be set forth therein at the price set forth therein (such exercise price per one one-thousandth of a share, the "Purchase Price"), but the amount and type of securities purchasable upon exercise of each Right and the Purchase Price thereof shall be subject to adjustment as provided herein.

(b) Any Rights Certificate issued pursuant to Section 3(d) or Section 22 hereof that represents Rights beneficially owned by: (i) an Acquiring Person or any Associate or Affiliate of an Acquiring Person; (ii) a transferee of an Acquiring Person (or of any such Associate or Affiliate) who becomes a transferee after the Acquiring Person becomes such; or (iii) a transferee of an Acquiring Person (or of any such Associate or Affiliate) who becomes a transferee prior to or concurrently with the Acquiring Person becoming such and receives such Rights pursuant to either (A) a transfer (whether or not for consideration) from the Acquiring Person to holders of equity interests in such Acquiring Person or to any Person with whom such Acquiring Person has any continuing agreement, arrangement or understanding regarding the transferred Rights or (B) a transfer which a majority of the Continuing Directors has determined is part of a plan, arrangement or understanding which has as a primary purpose or effect avoidance of Section 7(e) hereof, and any Rights Certificate issued pursuant to Section 6 or Section 11 hereof upon transfer, exchange, replacement or adjustment of any other Rights Certificate referred to in this sentence, shall contain (to the extent feasible) the following legend:

The Rights represented by this Rights Certificate are or were beneficially owned by a Person who was or became an Acquiring Person or an Affiliate or Associate of an Acquiring Person (as such terms are defined in the Rights Agreement). Accordingly, this Rights Certificate and the Rights represented hereby may become null and void in the circumstances specified in Section 7(e) of such Rights Agreement.

SECTION 5. COUNTERSIGNATURE AND REGISTRATION.

(a) The Rights Certificates shall be executed on behalf of the Company by its President or a Vice-President either manually or by facsimile signature, and have affixed thereto the Company's seal or a facsimile thereof which shall be attested by the Secretary or an Assistant Secretary or the Treasurer or an Assistant Treasurer of the Company, either manually or by facsimile signature. The Rights Certificates shall be manually countersigned by the Rights Agent and shall not be valid for any purpose unless so countersigned. In case any officer of the Company who shall have signed any of the Rights Certificates shall cease to be such officer of the Company before countersignature by the Rights Agent and issuance and delivery by the Company, such Rights Certificates, nevertheless, may be countersigned by the Rights Agent, and issued and delivered by the Company with the same force and effect as though the person who signed such Rights Certificates had not ceased to be such officer of the Company; and any Rights Certificate may be signed on behalf of the Company by any person who, at the actual date of the execution of such Rights Certificate, shall be a proper officer of the Company to sign such Rights Certificate, although at the date of the execution of this Rights Agreement any such person was not such an officer.

(b) Following the Distribution Date, the Rights Agent will keep or cause to be kept, at its principal office or offices designated as the appropriate place for surrender of Rights Certificates upon exercise or transfer, books for registration and transfer of the Rights Certificates issued hereunder. Such books shall show the names and addresses of the respective holders of the Rights Certificates, the number of Rights evidenced on its face by each of the Rights Certificates and the date of each of the Rights Certificates.

SECTION 6. TRANSFER, SPLIT UP, COMBINATION AND EXCHANGE OF RIGHTS CERTIFICATES; MUTILATED, DESTROYED, LOST OR STOLEN RIGHTS CERTIFICATES.

(a) Subject to the provisions of Section 4(b), Section 7(e) and Section 14 hereof, at any time after the close of business on the Distribution Date, and at or prior to the close of business on the earlier of the Expiration Date or Final Expiration Date, any Rights Certificate or Certificates may be transferred, split up, combined or exchanged for another Rights Certificate or Certificates, entitling the

registered holder to purchase a like number of one one-thousandths of a share of Preferred Stock (or following a Triggering Event, Common Stock, other securities, cash, or other assets, as the case may be) as the Rights Certificate or Certificates surrendered then entitled such holder (or former holder in the case of a transfer) to purchase. Any registered holder desiring to transfer, split up, combine or exchange any Rights Certificate shall make such request in writing delivered to the Rights Agent, and shall surrender the Rights Certificate or Certificates to be transferred, split up, combined or exchanged at the principal office of the Rights Agent. Neither the Rights Agent nor the Company shall be obligated to take any action whatsoever with respect to the transfer of any such surrendered Rights Certificate until the registered holder shall have completed and signed the certificate contained in the form of assignment on the reverse side of such Rights Certificate and shall have provided such additional evidence of the identity of the Beneficial Owner (or former Beneficial Owner) or Affiliates or Associates thereof as the Company shall reasonably request. Thereupon the Rights Agent shall, subject to Section 4(b), Section 7(e) and Section 14 hereof, countersign and deliver to the person entitled thereto a Rights Certificate or Certificates, as the case may be, as so requested. The Company may require payment of a sum sufficient to cover any tax or governmental charge that may be imposed in connection with any transfer, split up, combination or exchange of Rights Certificates.

(b) Upon receipt by the Company and the Rights Agent of evidence reasonably satisfactory to them of the loss, theft, destruction or mutilation of a Rights Certificate, and, in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to them, and, at the Company's request, reimbursement to the Company and the Rights Agent of all reasonable expenses incidental thereto, and upon surrender to the Rights Agent and cancellation of the Rights Certificate if mutilated, the Company will execute and deliver a new Rights Certificate of like tenor to the Rights Agent for countersignature and delivery to the registered owner in lieu of the Rights Certificate so lost, stolen, destroyed, or mutilated.

SECTION 7. EXERCISE OF RIGHTS; PURCHASE PRICE; EXPIRATION DATE OF RIGHTS.

(a) Subject to Section 7(e) hereof, the registered holder of any Rights Certificate may exercise the Rights evidenced thereby (except as otherwise provided herein including, without limitation, the restrictions on exercisability set forth in Section 9(c), Section 11(a)(iii) and Section 23(a) hereof) in whole or in part at any time after the Distribution Date upon surrender of the Rights Certificate, with the form of election to purchase and the certificate on the reverse side thereof duly executed, to the Rights Agent at the principal office of the Rights Agent, together with payment of the Purchase Price for each one one-thousandth of a share of Preferred Stock (or other securities, cash or other assets, as the case may be) as to which the Rights are exercised, at or prior to the earlier of (i) the close of business

on December 29, 2007 (the "Final Expiration Date"), (ii) the time at which the Rights are redeemed as provided in Section 23 hereof, (iii) the time at which such Rights are exchanged (the "Exchange Date") as provided in Section 24 hereof, or (iv) the time at which the Rights expire pursuant to Section 13(d) hereof (the earliest of (i), (ii), (iii) and (iv) being herein referred to as the "Expiration Date").

(b) Each Right shall entitle the registered holder thereof to purchase one one-thousandth of a share of Preferred Stock, and the Purchase Price for each one one-thousandth of a share of Preferred Stock pursuant to the exercise of a Right shall initially be \$300, and shall be subject to adjustment from time to time as provided in Sections 11 and 13 hereof and shall be payable in lawful money of the United States of America in accordance with paragraph (c) below.

(c) Upon receipt of a Rights Certificate representing exercisable Rights, with the form of election to purchase and the certificate duly executed, accompanied by payment, with respect to each Right so exercised, of the Purchase Price per one one-thousandth of a share of Preferred Stock (or Common Stock, other securities, cash or other assets, as the case may be) to be purchased and an amount equal to any applicable transfer tax in cash, or by certified check, cashier's check or bank draft payable to the order of the Company, the Rights Agent shall, subject to Section 18(j) hereof, thereupon promptly (i) (A) requisition from any transfer agent of the shares of Preferred Stock (or make available, if the Rights Agent is the transfer agent) certificates for the total number of one one-thousandths of a share of Preferred Stock to be purchased and the Company hereby irrevocably authorizes its transfer agent to comply with all such requests, or (B) if the Company shall have elected to deposit the total number of shares of Preferred Stock issuable upon exercise of the Rights hereunder with a depository agent, requisition from the depository agent depository receipts representing such number of one one-thousandths of a share of Preferred Stock as are to be purchased (in which case certificates for the shares of Preferred Stock represented by such receipts shall be deposited by the transfer agent with the depository agent) and the Company will direct the depository to comply with such request, (ii) requisition from the Company the amount of cash, if any, to be paid in lieu of issuance of fractional shares in accordance with Section 14, (iii) promptly after receipt of such certificates or depository receipts, cause the same to be delivered to or upon the order of the registered holder of such Rights Certificate, registered in such name or names as may be designated by such holder and (iv) after receipt thereof, promptly deliver such cash, if any, to or upon the order of the registered holder of such Rights Certificate. In the event that the Company is obligated to issue other securities (including Common Stock) of the Company, pay cash and/or distribute other property pursuant to Section 11(a) hereof, the Company will make all arrangements necessary so that such securities, cash and/or other property are available for distribution by the Rights Agent, if and when appropriate.

(d) In case the registered holder of any Rights Certificate shall exercise less than all the Rights evidenced thereby, a new Rights Certificate evidencing Rights equivalent to the Rights remaining unexercised shall be issued by the Rights Agent and delivered to, or upon the order of, the registered holder of such Rights Certificate, registered in such name or names as may be designated by such holder, subject to the provisions of Section 14 hereof.

(e) Notwithstanding anything in this Agreement to the contrary, from and after the first occurrence of a Section 11(a)(ii) Event, any Rights beneficially owned by (i) an Acquiring Person or an Associate or Affiliate of an Acquiring Person, which a majority of the Continuing Directors, in their sole discretion, determines is or was involved in or caused or facilitated, directly or indirectly (including through any change in the Board), such Section 11(a)(ii) Event, (ii) a transferee of an Acquiring Person (or of any such Associate or Affiliate) who becomes a transferee after the Acquiring Person becomes such, or (iii) a transferee of an Acquiring Person (or of any such Associate or Affiliate) who becomes a transferee prior to or concurrently with the Acquiring Person becoming such and receives such Rights pursuant to either (A) a transfer (whether or not for consideration) from the Acquiring Person to holders of equity interests in such Acquiring Person or to any Person with whom such Acquiring Person has any continuing agreement, arrangement or understanding regarding the transferred Rights or (B) a transfer which a majority of the Continuing Directors has determined is part of a plan, arrangement or understanding which has as a primary purpose or effect the avoidance of this Section 7(e), shall become null and void without any further action, and no holder of such Rights shall have any rights whatsoever with respect to such Rights, whether under any provision of this Agreement or otherwise. The Company shall use all reasonable efforts to ensure that the provisions of this Section 7(e) and Section 4(b) hereof are complied with, but shall have no liability to any holder of Rights Certificates or other Person as a result of its failure to make any determinations with respect to an Acquiring Person or its Affiliates, Associates or transferees hereunder.

(f) Notwithstanding anything in this Agreement to the contrary, neither the Rights Agent nor the Company shall be obligated to undertake any action with respect to a registered holder upon the occurrence of any purported exercise as set forth in this Section 7 unless such registered holder shall have (i) completed and signed the certificate contained in the form of election to purchase set forth on the reverse side of the Rights Certificate surrendered for such exercise, and (ii) provided such additional evidence of the identity of the Beneficial Owner (or former Beneficial Owner) or Affiliates or Associates thereof as the Company shall reasonably request.

SECTION 8. CANCELLATION AND DESTRUCTION OF RIGHTS CERTIFICATES.

All Rights Certificates surrendered for the purpose of exercise, transfer, split up, combination or exchange shall, if surrendered to the Company or to any of its agents, be delivered to the Rights Agent for cancellation or in canceled form, or, if surrendered to the Rights Agent, shall be canceled by it, and no Rights Certificates shall be issued in lieu thereof except as expressly permitted by any provisions of this Rights Agreement. The Company shall deliver to the Rights Agent for cancellation and retirement, and the Rights Agent shall so cancel and retire, any other Rights Certificate purchased or acquired by the Company otherwise than upon the exercise thereof. The Rights Agent shall deliver all canceled Rights Certificates to the Company, or shall, at the written request of the Company, destroy such canceled Rights Certificates, and in such case shall deliver a certificate of destruction thereof to the Company.

SECTION 9. RESERVATION AND AVAILABILITY OF CAPITAL STOCK.

(a) The Company covenants and agrees that it will cause to be reserved and kept available out of its authorized and unissued shares of Preferred Stock (and following the occurrence of a Triggering Event, out of its authorized and unissued shares of Common Stock and/or other securities or out of its authorized and issued shares held in its treasury), the number of shares of Preferred Stock (and, following the occurrence of a Triggering Event, shares of Common Stock and/or other securities) that, as provided in this Agreement, including Section 11(a)(iii) hereof, will be sufficient to permit the exercise in full of all outstanding Rights.

(b) In the event the shares of Preferred Stock (and, following the occurrence of a Triggering Event, Common Stock and/or other securities) issuable upon the exercise of Rights become listed on any national securities exchange, the Company shall use its best efforts to cause, from and after such time as the Rights become exercisable, all shares reserved for such issuance to be listed on such exchange upon official notice of issuance upon such exercise.

(c) The Company shall use its best efforts to (i) file, as soon as practicable following the earliest date after the first occurrence of a Section 11(a)(ii) Event on which the consideration to be delivered by the Company upon exercise of the Rights has been determined in accordance with this Agreement, a registration statement under the Securities Act with respect to the Common Stock or other securities purchasable upon exercise of the Rights on an appropriate form, (ii) cause such registration statement to become effective as soon as practicable after such filing, and (iii) cause such registration statement to remain effective (with a prospectus at all times meeting the requirements of the Securities Act) until the earlier of (A) the date as of which the Rights are no longer exercisable for such

securities, and (B) the Expiration Date. The Company will also take such action as may be appropriate under, or to ensure compliance with, the securities or "blue sky" laws of the various states in connection with the exercisability of the Rights. The Company may temporarily suspend, for a period of time not to exceed ninety (90) days after the date set forth in clause (i) of the first sentence of this Section 9(c), the exercisability of the Rights in order to prepare and file such registration statement and permit it to become effective. In addition, if the Company shall determine that a registration statement is required following the Distribution Date, the Company may temporarily suspend the exercisability of the Rights until such time as a registration statement has been declared effective. Upon any suspension of exercisability of Rights referred to in this Section 9(c), the Company shall issue a public announcement stating that the exercisability of the Rights has been temporarily suspended, as well as a public announcement at such time as the suspension is no longer in effect. Notwithstanding any provision of this Agreement to the contrary, the Rights shall not be exercisable and shall be void so long as held, by a holder in any jurisdiction where the requisite qualification to the issuance to such holder, or the exercise by such holder, of the Rights in such jurisdiction shall not have been obtained or be obtainable, or the exercise thereof shall not be permitted under applicable law or a registration statement shall not have been declared effective.

(d) The Company covenants and agrees that it will take all such action as may be necessary to ensure that all one one-thousandths of a share of Preferred Stock (and, following the occurrence of a Triggering Event, Common Stock and/or other securities) delivered upon exercise of Rights shall, at the time of delivery of the certificates for such shares (subject to payment of the Purchase Price), be duly and validly authorized and issued and fully paid and non-assessable.

(e) The Company further covenants and agrees that it will pay when due and payable any and all federal and state transfer taxes and charges which may be payable in respect of the issuance or delivery of the Rights Certificates or of any certificates for a number of one one-thousandths of a share of Preferred Stock (or Common Stock and/or other securities, as the case may be) upon the exercise of Rights. The Company shall not, however, be required to pay any transfer tax which may be payable in respect of any transfer or delivery of Rights Certificates to a Person other than, or the issuance or delivery of certificates for a number of one one-thousandths of a share of Preferred Stock (or Common Stock and/or other securities, as the case may be) in a name other than that of, the registered holder of the Rights Certificate evidencing Rights surrendered for exercise or to issue or deliver any certificates for a number of one one-thousandths of a share of Preferred Stock (or Common Stock and/or other securities, as the case may be) in a name other than that of the registered holder upon the exercise of any Rights until any such tax shall have been paid (any such tax being payable by the holder of such Rights Certificate at the time of surrender) or until it has been established to the Company's satisfaction that no such tax is due.

SECTION 10. PREFERRED STOCK RECORD DATE.

Each person in whose name any certificate for a number of one one-thousandths of a share of Preferred Stock (or Common Stock and/or other securities, as the case may be) is issued upon the exercise of Rights shall for all purposes be deemed to have become the holder of record of such fractional shares of Preferred Stock (or Common Stock and/or other securities, as the case may be) represented thereby on, and such certificate shall be dated, the date upon which the Rights Certificate evidencing such Rights was duly surrendered and payment of the Purchase Price (and any applicable transfer taxes) was made; provided, however, that if the date of such surrender and payment is a date upon which the Preferred Stock (or Common Stock and/or other securities as the case may be) transfer books of the Company are closed, such person shall be deemed to have become the record holder of such shares (fractional or otherwise) on, and such certificate shall be dated, the next succeeding Business Day on which the Preferred Stock (or Common Stock and/or other securities as the case may be) transfer books of the Company are open. Prior to the exercise of the Rights evidenced thereby, the holder of a Rights Certificate shall not be entitled to any rights of a stockholder of the Company with respect to shares for which the Rights shall be exercisable, including, without limitation, the right to vote, to receive dividends or other distributions or to exercise any preemptive rights, and shall not be entitled to receive any notice of any proceedings of the Company, except as provided herein.

SECTION 11. ADJUSTMENT OF PURCHASE PRICE, NUMBER AND KIND OF SHARES OR NUMBER OF RIGHTS.

The Purchase Price, the number and kind of shares covered by each Right and the number of Rights outstanding are subject to adjustment from time to time as provided in this Section 11.

(a)(i) In the event the Company shall at any time after the date of this Agreement (A) declare a dividend on the Preferred Stock payable in shares of Preferred Stock, (B) subdivide the outstanding Preferred Stock, (C) combine the outstanding Preferred Stock into a smaller number of shares or (D) issue any shares of its capital stock in a reclassification of the Preferred Stock (including any such reclassification in connection with a consolidation or merger in which the Company is the continuing or surviving corporation), except as otherwise provided in this Section 11(a) and Section 7(e) hereof, the Purchase Price in effect at the time of the record date for such dividend or of the effective date of such subdivision, combination or reclassification, and the number and kind of shares of Preferred Stock or the number and kind of shares of capital stock issuable on such date, as the case may be, shall be proportionately adjusted so that the holder of any Right exercised after such time shall be entitled to receive, upon payment of the aggregate

adjusted Purchase Price then in effect necessary to exercise a Right in full, the aggregate number and kind of shares of Preferred Stock or the number and kind of shares of capital stock, as the case may be, which, if such Right had been exercised immediately prior to such date and at a time when the Preferred Stock (or other capital stock, as the case may be) transfer books of the Company were open, he would have owned upon such exercise and been entitled to receive by virtue of such dividend, subdivision, combination, or reclassification. If an event occurs which would require an adjustment under both this Section 11(a)(i) and Section 11(a)(ii) hereof, the adjustment provided for in this Section 11(a)(i) shall be in addition to, and shall be made prior to, any adjustment required pursuant to Section 11(a)(ii) hereof.

(ii) Subject to Sections 23 and 24 of this Agreement, in the event that any Person (other than the Company, any Subsidiary of the Company, any employee benefit plan of the Company or of any Subsidiary of the Company, or any Person or entity organized, appointed or established by the Company for or pursuant to the terms of any such plan), alone or together with its Affiliates and Associates, shall, at any time after the Rights Dividend Declaration Date, become an Acquiring Person, unless the event causing such Person to become an Acquiring Person is a transaction set forth in Section 13(a) hereof, or is an acquisition of shares of Common Stock pursuant to a cash tender offer made pursuant to Section 14(d) of the Exchange Act for all outstanding shares of Common Stock (other than shares of Common Stock beneficially owned by the person making the offer or by its Affiliates or Associates) at a price and on terms determined by at least a majority of the Outside Directors, after receiving advice from one or more investment banking firms, to be (a) at a price which is fair to stockholders (taking into account all factors which such members of the Board deem relevant including, without limitation, prices which could reasonably be achieved if the Company or its assets were sold on an orderly basis designed to realize maximum value) and (b) otherwise in the best interests of the Company and its stockholders, proper provision shall be made so that promptly following the Redemption Period (as defined in Section 23(a)), each holder of a Right (except as provided below and in Section 7(e) hereof) shall thereafter have the right to receive, upon exercise thereof and payment of an amount equal to the then current Purchase Price in accordance with the terms of this Agreement, in lieu of a number of one one-thousandths of a share of Preferred Stock, such number of shares of Common Stock of the Company as shall equal the result obtained by (x) multiplying the then current Purchase Price by the then number of one one-thousandths of a share of Preferred Stock for which a Right was or would have been exercisable immediately prior to the first occurrence of a Section 11(a)(ii) Event, whether or not such Right was then exercisable, and (y) dividing that product (which, following such first occurrence, shall thereafter be referred to as the "Purchase Price" for each Right and for all purposes of this Agreement except to the extent set forth in Section 13 thereof) by 50% of the current market price per share of Common Stock (determined pursuant

to Section 11(d) hereof) on the date of such first occurrence (such number of shares, the "Adjustment Shares").

(iii) The Company may at its option substitute for a share of Common Stock issuable upon the exercise of Rights in accordance with the foregoing subparagraph (ii) such number or fractions of shares of Preferred Stock having an aggregate market value equal to the current per share market price of a share of Common Stock. In the event that the number of shares of Common Stock which is authorized by the Company's Certificate of Incorporation but not outstanding, or reserved for issuance for purposes other than upon exercise of the Rights, is not sufficient to permit the exercise in full of the Rights in accordance with the foregoing subparagraph (ii), the Board shall (acting by at least a majority of the Continuing Directors), to the extent permitted by applicable law and by material agreements then in effect to which the Company is a party, (A) determine the excess of (1) the value of the Adjustment Shares issuable upon the exercise of a Right (the "Current Value") over (2) the Purchase Price (such excess, the "Spread"), and (B) with respect to each Right (subject to Section 7(e) hereof), make adequate provision to substitute for some or all of the Adjustment Shares, upon exercise of a Right and payment of the applicable Purchase Price, (1) cash, (2) a reduction in the Purchase Price, (3) Common Stock or other equity securities of the Company (including, without limitation, shares, or units of shares, of Preferred Stock which the Board has deemed to have the same value as shares of Common Stock) such shares or units of shares of equity securities are herein called "common stock equivalents"), (4) debt securities of the Company, (5) other assets, or (6) any combination of the foregoing, having an aggregate value equal to the Current Value, where such aggregate value has been determined by the Board based upon the advice of an investment banking firm selected by the Board; provided, however, if the Company shall not have made adequate provision to deliver value pursuant to clause (B) above within thirty (30) days following the later of (x) the first occurrence of a Section 11(a)(ii) Event and (y) the date on which the Company's right of redemption pursuant to Section 23(a) expires (the later of (x) and (y) being referred to herein as the "Section 11(a)(ii) Trigger Date"), then the Company shall be obligated to deliver, upon the surrender for exercise of a Right and without requiring payment of the Purchase Price, shares of Common Stock (to the extent available) and then, if necessary, cash, which shares and/or cash have an aggregate value equal to the Spread. If, upon the occurrence of a Section 11(a)(ii) Event, the Board shall determine in good faith that it is likely that sufficient additional shares of Common Stock could be authorized for issuance upon exercise in full of the Rights, then if the Board so elects, the thirty (30) day period set forth above may be extended to the extent necessary, but not more than ninety (90) days after the Section 11(a)(ii) Trigger Date, in order that the Company may seek stockholder approval for the authorization of such additional shares (such period, as it may be extended, the "Substitution Period"). To the extent that action is to be taken pursuant to the preceding provisions of this Section 11(a)(iii), the Company (x) shall provide, subject to Section 7(e) hereof, that such action shall apply uniformly to all

outstanding Rights, and (y) may suspend the exercisability of the Rights until the expiration of the Substitution Period in order to seek any authorization of additional shares and/or to decide the appropriate form of distribution to be made pursuant to the first sentence of this Section 11(a)(iii) and to determine the value thereof. In the event of any such suspension, the Company shall issue a public announcement stating that the exercisability of the Rights has been temporarily suspended, as well as a public announcement at such time as the suspension is no longer in effect. For purposes of this Section 11(a)(iii), the value of the Common Stock shall be the current market price (as determined pursuant to Section 11(d) hereof) per share of the Common Stock on the Section 11(a)(ii) Trigger Date and the value of any "common stock equivalent" shall be deemed to have the same value as the Common Stock on such date. The Board may, but shall not be required to, establish procedures to allocate the right to receive shares of Common Stock upon the exercise of the Rights among holders of Rights pursuant to this Section 11(a)(iii).

(b) In case the Company shall fix a record date for the issuance of rights, options or warrants to all holders of Preferred Stock entitling them (for a period expiring within forty-five (45) calendar days after such record date) to subscribe for or purchase Preferred Stock (or shares having the same rights, privileges and preferences as the shares of Preferred Stock ("equivalent preferred stock") or securities convertible into Preferred Stock at a price per share of Preferred Stock or per share of "equivalent preferred stock" (or having a conversion price per share of Preferred Stock, if a security convertible into Preferred Stock) less than the current per share market price of the Preferred Stock (as defined in Section 11(d)) on such record date, the Purchase Price to be in effect after such record date shall be determined by multiplying the Purchase Price in effect immediately prior to such record date by a fraction, the numerator of which shall be the number of shares of Preferred Stock outstanding on such record date, plus the number of shares of Preferred Stock which the aggregate offering price of the total number of shares of Preferred Stock and/or equivalent preferred stock so to be offered (and/or the aggregate initial conversion price of the convertible securities so to be offered) would purchase at such current market price, and the denominator of which shall be the number of shares of Preferred Stock outstanding on such record date, plus the number of additional shares of Preferred Stock and/or equivalent preferred stock to be offered for subscription or purchase (or into which the convertible securities so to be offered are initially convertible). In case such subscription price may be paid in a consideration part or all of which shall be in a form other than cash, the value of such consideration shall be as determined in good faith by the Board, whose determination shall be described in a statement filed with the Rights Agent and shall be conclusive for all purposes. Shares of Preferred Stock owned by or held for the account of the Company shall not be deemed outstanding for the purpose of any such computation. Such adjustment shall be made successively whenever such a record date is fixed; and in the event that such rights

or warrants are not so issued, the Purchase Price shall be adjusted to be the Purchase Price which would then be in effect if such record date had not been fixed.

(c) In case the Company shall fix a record date for a distribution to all holders of Preferred Stock (including any such distribution made in connection with a consolidation or merger in which the Company is the continuing or surviving corporation) of evidences of indebtedness, cash (other than a regular quarterly cash dividend out of the earnings or retained earnings of the Company), assets (other than a dividend payable in Preferred Stock, but including any dividend payable in stock other than Preferred Stock), or subscription rights or warrants (excluding those referred to in Section 11(b)), the Purchase Price to be in effect after such record date shall be determined by multiplying the Purchase Price in effect immediately prior to such record date by a fraction, the numerator of which shall be the current per share market price of the Preferred Stock (as defined in Section 11(d)) on such record date, less the fair market value (as determined in good faith by the Board, whose determination shall be described in a statement filed with the Rights Agent and shall be conclusive for all purposes) of the portion of the cash, assets or evidences of indebtedness so to be distributed or of such subscription rights or warrants applicable to a share of Preferred Stock and the denominator of which shall be such current per share market price of the Preferred Stock. Such adjustment shall be made successively whenever such a record date is fixed; and in the event that such distribution is not so made, the Purchase Price shall again be adjusted to be the Purchase Price which would then be in effect if such record date had not been fixed.

(d) (i) For the purpose of any computation hereunder, the "current market price" of the Common Stock on any date shall be deemed to be the average of the daily closing prices per share of such Common Stock for the 30 consecutive Trading Days (as such term is hereinafter defined) immediately prior to such date, and for purposes of computations made pursuant to Section 11(a)(iii) hereof, the "current market price" per share of Common Stock on any date shall be deemed to be the average of the daily closing prices per share of Common Stock for the ten (10) consecutive Trading Days immediately following such date; provided, however, that in the event that the current market price of the Common Stock is determined during a period following the announcement by the issuer of such Common Stock of (i) a dividend or distribution on such Common Stock payable in shares of such Common Stock or securities convertible into such Common Stock (other than the Rights), or (ii) any subdivision, combination or reclassification of such Common Stock, and prior to the expiration of the requisite thirty (30) Trading Day or ten (10) Trading Day period, as set forth above, after the ex-dividend date for such dividend or distribution, or the record date for such subdivision, combination or reclassification, then, and in each such case, the "current market price" shall be appropriately adjusted to take into account ex-dividend trading. The closing price for each day shall be the last sale price, regular way, or, in case no such sale takes place on such day, the average of the closing bid and asked prices, regular way, in

either case as reported in the principal consolidated transaction reporting system with respect to securities listed or admitted to trading on the New York Stock Exchange or, if the shares of Common Stock are not listed or admitted to trading on the New York Stock Exchange, as reported in the principal consolidated transaction reporting system with respect to securities listed on the principal national securities exchange on which the shares of Common Stock are listed or admitted to trading or, if the shares of Common Stock are not listed or admitted to trading on any national securities exchange, the last quoted price or, if not so quoted, the average of the high bid and low asked prices in the over-the-counter market, as reported by the NASDAQ Stock Market ("NASDAQ") or such other system then in use, or, if on any such date the shares of Common Stock are not quoted by any such organization, the average of the closing bid and asked prices as furnished by a professional market maker making a market in the shares of Common Stock selected by the Board. If on any such date no market maker is making a market in the Common Stock, the fair value of such shares on such date as determined in good faith by the Board shall be used. The term "Trading Day" shall mean a day on which the principal national securities exchange on which the shares of Common Stock are listed or admitted to trading is open for the transaction of business, or, if the shares of Common Stock are not listed or admitted to trading on any national securities exchange, the term "Trading Day" shall mean a Monday, Tuesday, Wednesday, Thursday or Friday on which banking institutions in the State of New York are not authorized or obligated by law or executive order to close. If the Common Stock is not publicly held or not listed or traded, "current market price" shall mean the fair value per share as determined in good faith by the Board, whose determination shall be described in a statement filed with the Rights Agent and shall be conclusive for all purposes.

(ii) For the purpose of any computation hereunder, the "current market price" per share of Preferred Stock shall be determined in the same manner as set forth above for the Common Stock in clause (i) of this Section 11(d) (other than the last sentence thereof). If the current market price per share of Preferred Stock cannot be determined in the manner provided above or if the Preferred Stock is not publicly held or listed or traded in a manner described in clause (i) of this Section 11(d), the "current market price" per share of Preferred Stock shall be conclusively deemed to be an amount equal to 1,000 (as such number may be appropriately adjusted for such events as stock splits, stock dividends and recapitalizations with respect to the Common Stock occurring after the date of this Agreement) multiplied by the current market price per share of the Common Stock. If neither the Common Stock nor the Preferred Stock is publicly held or so listed or traded, "current market price" per share of the Preferred Stock shall mean the fair value per share as determined in good faith by the Board, whose determination shall be described in a statement filed with the Rights Agent and shall be conclusive for all purposes. For all purposes of this Agreement, the "current market price" of one one-thousandth of a share of Preferred Stock shall be equal to the "current market price" of one share of Preferred Stock divided by 1,000.

(e) Anything herein to the contrary notwithstanding, no adjustment in the Purchase Price shall be required unless such adjustment would require an increase or decrease of at least one percent (1%) in such price; provided, however, that any adjustments which by reason of this Section 11(e) are not required to be made shall be carried forward and taken into account in any subsequent adjustment. All calculations under this Section 11 shall be made to the nearest cent or to the nearest ten-thousandth of a share of Common Stock or other share or one-millionth of a share of Preferred Stock, as the case may be. Notwithstanding the first sentence of this Section 11(e), an adjustment required by this Section 11 shall be made no later than the earlier of (i) three years from the date of the transaction which requires such adjustment or (ii) the Expiration Date.

(f) If as a result of an adjustment made pursuant to Section 11(a)(ii) or Section 13(a) hereof, the holder of any Right thereafter exercised shall become entitled to receive any shares of capital stock of the Company other than Preferred Stock, thereafter the number of such other shares so receivable upon exercise of any Right and the Purchase Price thereof shall be subject to adjustment from time to time in a manner and on terms as nearly equivalent as practicable to the provisions with respect to the Preferred Stock contained in Sections 11(a), (b), (c), (e), (g), (h), (i), (j), (k) and (m), and the provisions of Sections 7, 9, 10, 13 and 14 hereof with respect to the Preferred Stock shall apply on like terms to any such other shares.

(g) All Rights originally issued by the Company subsequent to any adjustment made to the Purchase Price hereunder shall evidence the right to purchase, at the adjusted Purchase Price, the number of one one-thousandths of a share of Preferred Stock purchasable from time to time hereunder upon exercise of the Rights, all subject to further adjustment as provided herein.

(h) Unless the Company shall have exercised its election as provided in Section 11(i), upon each adjustment of the Purchase Price as a result of the calculations made in Sections 11(b) and (c), each Right outstanding immediately prior to the making of such adjustment shall thereafter evidence the right to purchase, at the adjusted Purchase Price, that number of one one-thousandths of a share of Preferred Stock (calculated to the nearest one-millionth) obtained by (i) multiplying (x) the number of one one-thousandths of a share covered by a Right immediately prior to this adjustment by (y) the Purchase Price in effect immediately prior to such adjustment of the Purchase Price and (ii) dividing the product so obtained by the Purchase Price in effect immediately after such adjustment of the Purchase Price.

(i) The Company may elect on or after the date of any adjustment of the Purchase Price to adjust the number of Rights, in lieu of any adjustment in the number of one one-thousandths of a share of Preferred Stock issuable upon the exercise of a Right. Each of the Rights outstanding after such adjustment of the

number of Rights shall be exercisable for the number of one one-thousandths of a share of Preferred Stock for which a Right was exercisable immediately prior to such adjustment. Each Right held of record prior to such adjustment of the number of Rights shall become that number of Rights (calculated to the nearest ten-thousandth) obtained by dividing the Purchase Price in effect immediately prior to adjustment of the Purchase Price by the Purchase Price in effect immediately after adjustment of the Purchase Price. The Company shall make a public announcement of its election to adjust the number of Rights, indicating the record date for the adjustment, and, if known at the time, the amount of the adjustment to be made. This record date may be the date on which the Purchase Price is adjusted or any day thereafter, but, if the Rights Certificates have been issued, shall be at least ten (10) days later than the date of the public announcement. If Rights Certificates have been issued, upon each adjustment of the number of Rights pursuant to this Section 11(i), the Company shall, as promptly as practicable, cause to be distributed to holders of record of Rights Certificates on such record date Rights Certificates evidencing, subject to Section 14 hereof, the additional Rights to which such holders shall be entitled as a result of such adjustment, or, at the option of the Company, shall cause to be distributed to such holders of record in substitution and replacement for the Rights Certificates held by such holders prior to the date of adjustment, and upon surrender thereof, if required by the Company, new Rights Certificates evidencing all the Rights to which such holders shall be entitled after such adjustment. Rights Certificates so to be distributed shall be issued, executed and countersigned in the manner provided for herein (and may bear, at the option of the Company, the adjusted Purchase Price) and shall be registered in the names of the holders of record of Rights Certificates on the record date specified in the public announcement.

(j) Irrespective of any adjustment or change in the Purchase Price or the number of one one-thousandths of a share of Preferred Stock issuable upon the exercise of the Rights, the Rights Certificates theretofore and thereafter issued may continue to express the Purchase Price per one one-thousandth of a share and the number of one one-thousandths of a share which were expressed in the initial Rights Certificates issued hereunder.

(k) Before taking any action that would cause an adjustment reducing the Purchase Price below the then-par value, if any, of the number of one one-thousandths of a share of Preferred Stock issuable upon exercise of the Rights, the Company shall take any corporate action which may, in the opinion of its counsel, be necessary in order that the Company may validly and legally issue fully paid and non-assessable such number of one one-thousandths of a share of Preferred Stock at such adjusted Purchase Price.

(l) In any case in which this Section 11 shall require that an adjustment in the Purchase Price be made effective as of a record date for a specified event, the Company may elect to defer until the occurrence of such event

the issuance to the holder of any Right exercised after such record date the number of one one-thousandths of a share of Preferred Stock and other capital stock or securities of the Company, if any, issuable upon such exercise over and above the number of one one-thousandths of a share of Preferred Stock and other capital stock or securities of the Company, if any, issuable upon such exercise on the basis of the Purchase Price in effect prior to such adjustment; provided, however, that the Company shall deliver to such holder a due bill or other appropriate instrument evidencing such holder's right to receive such additional shares upon the occurrence of the event requiring such adjustment.

(m) Anything in this Section 11 to the contrary notwithstanding, the Company shall be entitled to make such reductions in the Purchase Price, in addition to those adjustments expressly required by this Section 11, as and to the extent that it in its sole discretion shall determine to be advisable in order that any (i) consolidation or subdivision of the Preferred Stock, (ii) issuance wholly for cash of any shares of Preferred Stock at less than the current market price, (iii) issuance wholly for cash of shares of Preferred Stock or securities which by their terms are convertible into or exchangeable for Preferred Stock, (iv) stock dividends or (v) issuance of rights, options or warrants referred to hereinabove in this Section 11, hereafter made by the Company to holders of its Preferred Stock shall not be taxable to such stockholders.

(n) The Company covenants and agrees that it shall not, at any time after the Distribution Date, (i) consolidate with any other Person (other than a Subsidiary of the Company in a transaction which complies with Section 11(o) hereof), (ii) merge with or into any other Person (other than a Subsidiary of the Company in a transaction which complies with Section 11(o) hereof), or (iii) sell or transfer (or permit any Subsidiary to sell or transfer), in one transaction, or a series of related transactions, assets or earning power aggregating more than 50% of the assets or earning power of the Company and its Subsidiaries (taken as a whole) to any other Person or Persons (other than the Company and/or any of its Subsidiaries in one or more transactions each of which complies with Section 11(o) hereof), if (x) at the time of or immediately after such consolidation, merger or sale there are any rights, warrants or other instruments or securities outstanding or agreements in effect which would substantially diminish or otherwise eliminate the benefits intended to be afforded by the Rights or (y) prior to, simultaneously with or immediately after such consolidation, merger or sale, the stockholders of the Person who constitutes, or would constitute, the "Principal Party" for purposes of Section 13(a) hereof shall have received a distribution of Rights previously owned by such Person or any of its Affiliates and Associates.

(o) The Company covenants and agrees that, after the Distribution Date, it will not, except as permitted by Section 23 or Section 27 hereof, take (or permit any Subsidiary to take) any action if at the time such action is taken it is

reasonably foreseeable that such action will diminish substantially or otherwise eliminate the benefits intended to be afforded by the Rights.

(p) Anything in this Agreement to the contrary notwithstanding, in the event that the Company shall at any time after the Rights Dividend Declaration Date and prior to the Distribution Date (i) declare a dividend on the outstanding shares of Common Stock payable in shares of Common Stock, (ii) subdivide the outstanding shares of Common Stock, or (iii) combine the outstanding shares of Common Stock into a smaller number of shares, the number of Rights associated with each share of Common Stock then outstanding, or issued or delivered thereafter but prior to the Distribution Date, shall be proportionately adjusted so that the number of Rights thereafter associated with each share of Common Stock following any such event shall equal the result obtained by multiplying the number of Rights associated with each share of Common Stock immediately prior to such event by a fraction the numerator of which shall be the total number of shares of Common Stock outstanding immediately prior to the occurrence of the event and the denominator of which shall be the total number of shares of Common Stock outstanding immediately following the occurrence of such event.

SECTION 12. CERTIFICATE OF ADJUSTED PURCHASE PRICE OR NUMBER OF SHARES.

Whenever an adjustment is made as provided in Sections 11 and 13 hereof, the Company shall (a) promptly prepare a certificate setting forth such adjustment, and a brief statement of the facts accounting for such adjustment, (b) promptly file with the Rights Agent and with each transfer agent for the Preferred Stock and the Common Stock a copy of such certificate and (c) mail a brief summary thereof to each holder of a Rights Certificate (or, if prior to the Distribution Date, to each holder of a certificate representing shares of Common Stock) in accordance with Section 25 hereof. The Rights Agent shall be fully protected in relying on any such certificate and on any adjustment therein contained and shall not be deemed to have knowledge of any adjustment unless and until it shall have received such certificate.

SECTION 13. CONSOLIDATION, MERGER OR SALE OR TRANSFER OF ASSETS OR EARNING POWER.

(a) Subject to Section 23 of this Agreement, in the event that, following the Stock Acquisition Date, directly or indirectly, (x) the Company shall consolidate with, or merge with and into, any other Person (other than a Subsidiary of the Company in a transaction which complies with Section 11(o) hereof), and the Company shall not be the continuing or surviving corporation of such consolidation or merger, (y) any Person (other than a Subsidiary of the Company in a transaction which complies with Section 11(o) hereof) shall consolidate with, or merge with or

into, the Company, and the Company shall be the continuing or surviving corporation of such consolidation or merger and, in connection with such consolidation or merger, all or part of the outstanding shares of Common Stock shall be changed into or exchanged for stock or other securities of any other Person or cash or any other property, or (z) the Company shall sell or otherwise transfer (or one or more of its Subsidiaries shall sell or otherwise transfer), in one transaction or a series of related transactions, assets or earning power aggregating more than 50% of the assets or earning power of the Company and its Subsidiaries (taken as a whole) to any Person or Persons (other than the Company or any Subsidiary of the Company in one or more transactions each of which complies with Section 11(o) hereof), then, and in each such case (except as may be contemplated by Section 13(d) hereof), proper provision shall be made so that: (i) each holder of a Right, except as provided in Section 7(e) hereof, shall, upon the expiration of the Redemption Period (as defined in Section 23(a)), thereafter have the right to receive, upon the exercise thereof at the then current Purchase Price in accordance with the terms of this Agreement, such number of validly authorized and issued, fully paid, non-assessable and freely tradable shares of Common Stock of the Principal Party (as such term is hereinafter defined), not subject to any liens, encumbrances, rights of first refusal or other adverse claims, as shall be equal to the result obtained by (1) multiplying the then current Purchase Price by the number of one one-thousandths of a share of Preferred Stock for which a Right was exercisable immediately prior to the first occurrence of a Section 13 Event (or, if a Section 11(a)(ii) Event has occurred prior to the first occurrence of a Section 13 Event, multiplying the number of one one-thousandths of a share of Preferred Stock for which a Right was exercisable immediately prior to the first occurrence of a Section 11(a)(ii) Event by the Purchase Price in effect immediately prior to such first occurrence), and (2) dividing that product (which product, following the first occurrence of a Section 13 Event, shall be referred to as the "Purchase Price" for each Right and for all purposes of this Agreement) by 50% of the current market price per share of the shares of Common Stock of such Principal Party on the date of consummation of such Section 13 Event (or the fair market value on such date or other securities or property of the Principal Party, as provided for herein); (ii) such Principal Party shall thereafter be liable for, and shall assume, by virtue of such Section 13 Event, all the obligations and duties of the Company pursuant to this Agreement; (iii) the term "Company" shall thereafter be deemed to refer to such Principal Party, it being specifically intended that the provisions of Section 11 hereof (other than Sections 11(a)(ii) and 11(a)(iii)) shall apply only to such Principal Party following the first occurrence of a Section 13 Event; (iv) such Principal Party shall take such steps (including, but not limited to, the reservation of a sufficient number of shares of its Common Stock) in connection with the consummation of any such transaction as may be necessary to assure that the provisions hereof shall thereafter be applicable, as nearly as reasonably may be, in relation to its shares of Common Stock thereafter deliverable upon the exercise of the Rights; and (v) the provisions of Section 11(a)(ii) and Section 11(a)(iii) hereof shall be of no effect following the first occurrence of any Section 13 Event.

(b) "Principal Party" shall mean

(i) in the case of any transaction described in clause (x) or (y) of the first sentence of Section 13(a), the Person that is the issuer of any securities into which shares of Common Stock of the Company are converted in such merger or consolidation, and if no securities are so issued, the Person that is the other party to such merger or consolidation; and

(ii) in the case of any transaction described in clause (z) of the first sentence of Section 13(a), the Person that is the party receiving the greatest portion of the assets or earning power transferred pursuant to such transaction or transactions; provided, however, that in any such case, (1) if the Common Stock of such Person is not at such time and has not been continuously over the preceding twelve (12) month period registered under Section 12 of the Exchange Act, and such Person is a direct or indirect Subsidiary of another Person the Common Stock of which is and has been so registered, "Principal Party" shall refer to such other Person; and (2) in case such Person is a Subsidiary, directly or indirectly, of more than one Person, the Common Stocks of two or more of which are and have been so registered, "Principal Party" shall refer to whichever of such Persons is the issuer of the Common Stock having the greatest aggregate market value.

(c) The Company shall not consummate any Section 13 Event unless the Principal Party shall have a sufficient number of authorized shares of its Common Stock which have not been issued or reserved for issuance to permit the exercise in full of the Rights in accordance with this Section 13 and unless prior thereto the Company and such Principal Party shall have executed and delivered to the Rights Agent a supplemental agreement providing for the terms set forth in paragraphs (a) and (b) of this Section 13 and further providing that, as soon as practicable after the date of any such Section 13 Event, the Principal Party will:

(i) prepare and file a registration statement under the Securities Act, with respect to the Rights and the securities purchasable upon exercise of the Rights on an appropriate form, and will use its best efforts to cause such registration statement to (A) become effective as soon as practicable after such filing and (B) remain effective (with a prospectus at all times meeting the requirements of the Act) until the Expiration Date; and

(ii) will deliver to holders of the Rights historical financial statements for the Principal Party and each of its Affiliates which

comply in all respects with the requirements for registration on Form 10 under the Exchange Act.

The provisions of this Section 13 shall similarly apply to successive mergers or consolidations or sales or other transfers. In the event that a Section 13 Event shall occur at any time after the occurrence of a Section 11(a)(ii) Event, the Rights which have not theretofore been exercised shall thereafter become exercisable in the manner described in Section 13(a) hereof.

(d) Notwithstanding anything in this Agreement to the contrary, Section 13 shall not be applicable to a transaction described in subparagraphs (x) and (y) of Section 13(a) if (i) such transaction is consummated with a Person or Persons (or a wholly owned subsidiary of any such Person or Persons) who acquired shares of Common Stock pursuant to a cash tender offer for all outstanding shares of Common Stock which complies with the provisions of Section 11(a)(ii) hereof, (ii) the price per share of Common Stock offered in such transaction is not less than the price per share of Common Stock paid to all holders of Common Stock whose shares were purchased pursuant to such cash tender offer and (iii) the form of consideration being offered to the remaining holders of shares of Common Stock pursuant to such transaction is the same as the form of consideration paid pursuant to such cash tender offer. Upon consummation of any such transaction contemplated by this Section 13(d), all Rights hereunder shall expire.

SECTION 14. FRACTIONAL RIGHTS AND FRACTIONAL SHARES.

(a) The Company shall not be required to issue fractions of Rights except prior to the Distribution Date as provided in Section 11(p) hereof, or to distribute Rights Certificates which evidence fractional Rights. In lieu of such fractional Rights, there shall be paid to the registered holders of the Rights Certificates with regard to which such fractional Rights would otherwise be issuable, an amount in cash equal to the same fraction of the current market value of the whole Right. For the purposes of this Section 14(a), the current market value of a whole Right shall be the closing price of the Rights for the Trading Day immediately prior to the date on which such fractional Rights would have been otherwise issuable. The closing price for any day shall be the last sale price, or, in case no such sale takes place on such day, the average of the high bid and low asked prices, in either case as reported by NASDAQ or such other system then in use or, if on any such date the Rights are not quoted by any such organization, the average of the closing bid and asked prices as furnished by a professional market maker making a market in the Rights selected by the Board. If on any such date no such market maker is making a market in the Rights the fair value of the Rights on such date as determined in good faith by the Board shall be used. In the event the Rights are listed or admitted to trading on a national securities exchange, the closing price for any day shall be the last sale price, regular way, or, in case no such

sale takes place on such day, the average of the high bid and low asked prices, regular way, in either case as reported in the principal consolidated transaction reporting system with respect to the national securities exchange on which the Rights are listed or admitted to trading.

(b) The Company shall not be required to issue fractions of shares of Preferred Stock (other than fractions which are integral multiples of one one-thousandth of a share of Preferred Stock) upon exercise of the Rights or to distribute certificates which evidence fractional shares of Preferred Stock (other than fractions which are integral multiples of one one-thousandth of a share of Preferred Stock). In lieu of fractional shares of Preferred Stock that are not integral multiples of one one-thousandth of a share of Preferred Stock, the Company may pay to the registered holders of Rights Certificates at the time such Rights are exercised as herein provided an amount in cash equal to the same fraction of the current market value of one one-thousandth of a share of Preferred Stock. For purposes of this Section 14(b), the current market value of one one-thousandth of a share of Preferred Stock shall be one one-thousandth of the closing price of a share of Preferred Stock (as determined pursuant to Section 11(d)(ii) hereof) for the Trading Day immediately prior to the date of such exercise.

(c) Following the occurrence of a Triggering Event, the Company shall not be required to issue fractions of shares of Common Stock upon exercise of the Rights or to distribute certificates which evidence fractional shares of Common Stock. In lieu of fractional shares of Common Stock, the Company may pay to the registered holders of Rights Certificates at the time such Rights are exercised as herein provided an amount in cash equal to the same fraction of the current market value of one (1) share of Common Stock. For purposes of this Section 14(c), the current market value of one share of Common Stock shall be the closing price of one share of Common Stock (as determined pursuant to Section 11(d)(i) hereof) for the Trading Day immediately prior to the date of such exercise.

(d) The holder of a Right by the acceptance of the Rights expressly waives his right to receive any fractional Rights or any fractional shares upon exercise of a Right, except as permitted by this Section 14.

SECTION 15. RIGHTS OF ACTION.

All rights of action in respect of this Agreement, except the rights of action vested in the Rights Agent pursuant to Section 18 and Section 20 hereof, are vested in the respective registered holders of the Rights Certificates (and, prior to the Distribution Date, the registered holders of the Common Stock); and any registered holder of any Rights Certificate (or, prior to the Distribution Date, of the Common Stock), without the consent of the Rights Agent or of the holder of any other Rights Certificate (or, prior to the Distribution Date, of the Common Stock),

may, in his own behalf and for his own benefit, enforce, and may institute and maintain any suit, action or proceeding against the Company to enforce, or otherwise act in respect of, his right to exercise the Rights evidenced by such Rights Certificate in the manner provided in such Rights Certificate and in this Agreement. Without limiting the foregoing or any remedies available to the holders of Rights, it is specifically acknowledged that the holders of Rights would not have an adequate remedy at law for any breach of this Agreement and will be entitled to specific performance of the obligations under, and injunctive relief against actual or threatened violations of, the obligations hereunder of any Person subject to this Agreement.

SECTION 16. AGREEMENT OF RIGHTS HOLDERS.

Every holder of a Right by accepting the same consents and agrees with the Company and the Rights Agent and with every other holder of a Right that:

(a) prior to the Distribution Date, the Rights will be transferable only in connection with the transfer of the Common Stock;

(b) after the Distribution Date, the Rights Certificates are transferable only on the registry books of the Rights Agent if surrendered at the principal office of the Rights Agent, duly endorsed or accompanied by a proper instrument of transfer and with the appropriate form of assignment and the certificate contained therein duly completed and executed;

(c) subject to Section 6(a) and Section 7(f) hereof, the Company and the Rights Agent may deem and treat the person in whose name the Rights Certificate (or, prior to the Distribution Date, the associated Common Stock certificate) is registered as the absolute owner thereof and of the Rights evidenced thereby (notwithstanding any notations of ownership or writing on the Rights Certificates or the associated Common Stock certificate made by anyone other than the Company or the Rights Agent) for all purposes whatsoever, and neither the Company nor the Rights Agent, subject to the last sentence of Section 7(e) hereof, shall be affected by any notice to the contrary; and

(d) Notwithstanding anything in this Agreement to the contrary, neither the Company nor the Rights Agent shall have any liability to any holder of a Right or other Person as a result of its inability to perform any of its obligations under this Agreement by reason of any preliminary or permanent injunction or other order, decree or ruling issued by a court of competent jurisdiction or by a governmental, regulatory or administrative agency or commission, or any statute, rule, regulation or executive order promulgated or enacted by any government authority, prohibiting or otherwise restraining performance of such obligation;

provided, however, the Company must use its best efforts to have any such order, decree or ruling lifted or otherwise overturned as soon as possible.

SECTION 17. RIGHTS CERTIFICATE HOLDER NOT DEEMED A STOCKHOLDER.

No holder, as such, of any Rights Certificate shall be entitled to vote, receive dividends or be deemed for any purpose the holder of the Preferred Stock or any other securities of the Company which may at any time be issuable on the exercise of the Rights represented thereby, nor shall anything contained herein or in any Rights Certificate be construed to confer upon the holder of any Rights Certificate, as such, any of the rights of a stockholder of the Company or any right to vote for the election of directors or upon any matter submitted to stockholders at any meeting thereof, or to give or withhold consent to any corporate action, or to receive notice of meetings or other actions affecting stockholders (except as provided in Section 25 hereof), or to receive dividends or subscription rights, or otherwise, until the Right or Rights evidenced by such Rights Certificate shall have been exercised in accordance with the provisions hereof.

SECTION 18. DUTIES OF RIGHTS AGENT.

The Rights Agent undertakes the duties and obligations imposed by this Agreement upon the following terms and conditions, by all of which the Company and the holders of Rights Certificates, by their acceptance thereof, shall be bound:

(a) The Rights Agent may consult with legal counsel (who may be legal counsel for the Company), and the advice or opinion of such counsel shall be full and complete authorization and protection to the Rights Agent as to any action taken or omitted by it in good faith and in accordance with such opinion.

(b) Whenever in the performance of its duties under this Agreement the Rights Agent shall deem it necessary or desirable that any fact or matter (including, without limitation, the identity of any Acquiring Person and the determination of "current market price") be proved or established by the Company prior to taking or suffering any action hereunder, such fact or matter (unless other evidence in respect thereof be herein specifically prescribed) may be deemed to be conclusively proved and established by a certificate signed by any one of the President, a Vice President, the Treasurer or the Secretary of the Company and delivered to the Rights Agent; and such certificate shall be full authorization to the Rights Agent for any action taken or suffered in good faith by it under the provisions of this Agreement in reliance upon such certificate.

(c) The Rights Agent shall be liable hereunder only for its own gross negligence, bad faith, or willful misconduct.

(d) The Rights Agent shall not be liable for or by reason of any of the statements of fact or recitals contained in this Agreement or in the Rights Certificates (except as to its countersignature thereof) or be required to verify the same, but all such statements and recitals are and shall be deemed to have been made by the Company only.

(e) The Rights Agent's responsibilities are of an administrative nature only and it shall not be under any responsibility in respect of the validity of this Agreement or the execution and delivery hereof (except the due execution hereof by the Rights Agent) or in respect of the validity or execution of any Rights Certificate (except its countersignature thereof); nor shall it be responsible for any breach by the Company of any covenant or condition contained in this Agreement or in any Rights Certificate; nor shall it be responsible for any change in the exercisability of the Rights (including the Rights becoming void pursuant to Section 7(e) hereof) or any adjustment required under any of the provisions hereof or responsible for the manner, method, or amount of any such adjustment or the ascertaining of the existence of facts that would require any such adjustment (except with respect to the exercise of Rights evidenced by Rights Certificates after actual notice of any such adjustment); nor shall it by any act hereunder be deemed to make any representation or warranty as to the authorization or reservation of any shares of Common Stock or shares of Preferred Stock to be issued pursuant to this Agreement or any Rights Certificate or as to whether any shares of Common Stock or shares of Preferred Stock will, when so issued, be validly authorized and issued, fully paid and non-assessable.

(f) The Company agrees that it will perform, execute, acknowledge and deliver or cause to be performed, executed, acknowledged and delivered all such further and other acts, instruments and assurances as may reasonably be required by the Rights Agent for the carrying out or performing by the Rights Agent of the provisions of this Agreement.

(g) The Rights Agent is hereby authorized and directed to accept instructions with respect to the performance of its duties hereunder from any one of the Chairman of the Board, the President, a Vice President, the Secretary or the Treasurer of the Company, and to apply to such officers for advice or instructions in connection with its duties, and it shall not be liable for any action taken or suffered to be taken by it in good faith in accordance with instructions of any such officer. Any application by the Rights Agent for written instructions from the Company may, at the option of the Rights Agent, set forth in writing any action proposed to be taken or omitted by the Rights Agent under this Rights Agreement and the date on or after which such action shall be taken or such omission shall be effective. The Rights Agent shall not be liable for any action taken by, or omission of, the Rights

Agent in accordance with a proposal included in any such application on or after the date specified in such application (which date shall not be less than five Business Days after the date any officer of the Company actually receives such application, unless any such officer shall have consented in writing to an earlier date) unless, prior to taking any such action (or the effective date in the case of an omission), the Rights Agent shall have received written instruction in response to such application specifying the action to be taken or omitted.

(h) The Rights Agent and any stockholder, director, officer or employee of the Rights Agent may buy, sell or deal in any of the Rights or other securities of the Company or become pecuniarily interested in any transaction in which the Company may be interested, or contract with or lend money to the Company or otherwise act as fully and freely as though it were not Rights Agent under this Agreement. Nothing herein shall preclude the Rights Agent from acting in any other capacity for the Company or for any other legal entity.

(i) The Rights Agent may execute and exercise any of the rights or powers hereby vested in it or perform any duty hereunder either itself or by or through its attorneys or agents, and the Rights Agent shall not be answerable or accountable for any act, default, neglect, or misconduct of any such attorneys or agents or for any loss to the Company resulting from any such act, default, neglect, or misconduct; provided, however, reasonable care was exercised in the selection and continued employment thereof.

(j) No provision of this Agreement shall require the Rights Agent to expend or risk its own funds or otherwise incur any financial liability in the performance of any of its duties hereunder or in the exercise of its rights if there shall be reasonable grounds for believing that repayment of such funds or adequate indemnification against such risk or liability is not reasonably assured to it.

(k) If, with respect to any Rights Certificate surrendered to the Rights Agent for exercise or transfer, the certificate attached to the form of assignment or form of election to purchase, as the case may be, has either not been completed or indicates an affirmative response to clause 1 and/or 2 thereof, the Rights Agent shall not take any further action with respect to such requested exercise of transfer without first consulting with the Company.

SECTION 19. COMPENSATION AND INDEMNIFICATION OF THE RIGHTS AGENT.

(a) The Company agrees to pay to the Rights Agent reasonable compensation for all services rendered by it hereunder and, from time to time, on demand of the Rights Agent, its reasonable expenses and counsel fees and other disbursements incurred in the administration and execution of this Agreement and

the exercise and performance of its duties hereunder. The Company also agrees to indemnify the Rights Agent, its officers, employees, agents and directors for, and to hold each of them harmless against, any loss, liability, or expense, incurred without gross negligence, bad faith or willful misconduct on the part of the Rights Agent, for anything done or omitted by the Rights Agent or such other indemnified party in connection with the acceptance and administration of this Agreement and its duties hereunder, including the costs and expenses of defending against any claim of liability in the premises. The indemnity provided for hereunder shall survive the expiration of the Rights and the termination of this Agreement.

(b) The Rights Agent shall be protected and shall incur no liability for or in respect of any action taken, suffered or omitted by it in connection with its administration of this Agreement or the exercise of its duties hereunder in reliance upon any Rights Certificate or certificate for Common Stock or for other securities of the Company, instrument of assignment or transfer, power of attorney, endorsement, affidavit, letter, notice, direction, consent, certificate, statement, or other paper or document believed by it to be genuine and to be signed, executed and, where necessary, verified or acknowledged, by the proper person or persons.

SECTION 20. MERGER OR CONSOLIDATION OR CHANGE OF NAME OF RIGHTS AGENT.

(a) Any corporation into which the Rights Agent or any successor Rights Agent may be merged or with which it may be consolidated, or any corporation resulting from any merger or consolidation to which the Rights Agent or any successor Rights Agent shall be a party, or any corporation succeeding to the corporate trust business of the Rights Agent or any successor Rights Agent, shall be the successor to the Rights Agent under this Agreement without the execution or filing of any paper or any further act on the part of any of the parties hereto; provided, however, that such corporation would be eligible for appointment as a successor Rights Agent under the provisions of Section 21 hereof. In case at the time such successor Rights Agent shall succeed to the agency created by this Agreement, any of the Rights Certificates shall have been countersigned but not delivered, any such successor Rights Agent may adopt the countersignature of the predecessor Rights Agent and deliver such Rights Certificates so countersigned; and in case at that time any of the Rights Certificates shall not have been countersigned, any successor Rights Agent may countersign such Rights Certificates either in the name of the predecessor Rights Agent or in the name of the successor Rights Agent; and in all such cases such Rights Certificates shall have the full force provided in the Rights Certificates and in this Agreement.

(b) In case at any time the name of the Rights Agent shall be changed and at any such time any of the Rights Certificates shall have been countersigned but not delivered, the Rights Agent may adopt the countersignature

under its prior name and deliver Rights Certificates so countersigned; and in case at that time any of the Rights Certificates shall not have been countersigned, the Rights Agent may countersign such Rights Certificates either in its prior name or in its changed name; and in all such cases such Rights Certificates shall have the full force provided in the Rights Certificates and in this Agreement.

SECTION 21. CHANGE OF RIGHTS AGENT.

The Rights Agent or any successor Rights Agent may resign and be discharged from its duties under this Agreement upon thirty (30) days' notice in writing mailed to the Company and to each transfer agent of the Common Stock and the Preferred Stock by registered or certified mail, and to the holders of the Rights Certificates by first-class mail. The Company may remove the Rights Agent or any successor Rights Agent upon thirty (30) days' notice in writing, mailed to the Rights Agent or successor Rights Agent, as the case may be, and to each transfer agent of the Common Stock and Preferred Stock by registered or certified mail, and to the holders of the Rights Certificates by first-class mail. If the Rights Agent shall resign or be removed or shall otherwise become incapable of acting, the Company shall appoint a successor to the Rights Agent. If the Company shall fail to make such appointment within a period of thirty (30) days after giving notice of such removal or after it has been notified in writing of such resignation or incapacity by the resigning or incapacitated Rights Agent or by the holder of a Rights Certificate (who shall, with such notice, submit his Rights Certificate for inspection by the Company), then the registered holder of any Rights Certificate may apply to any court of competent jurisdiction for the appointment of a new Rights Agent. Any successor Rights Agent, whether appointed by the Company or by such a court, shall be a corporation organized and doing business under the laws of the United States or of the State of Maryland or New York (or of any other state of the United States so long as such corporation is authorized to do business as a banking institution in the State of Maryland or New York), in good standing, having a principal office in the State of Maryland or New York which is authorized under such laws to exercise corporate trust power and is subject to supervision or examination by federal or state authority and which has at the time of its appointment as Rights Agent a combined capital and surplus of at least \$50 million. After appointment, the successor Rights Agent shall be vested with the same powers, rights, duties and responsibilities as if it had been originally named as Rights Agent without further act or deed; but the predecessor Rights Agent shall deliver and transfer to the successor Rights Agent any property at the time held by it hereunder, and execute and deliver any further assurance, conveyance, act or deed necessary for the purpose. Not later than the effective date of any such appointment the Company shall file notice thereof in writing with the predecessor Rights Agent and each transfer agent of the Common Stock and the Preferred Stock, and mail a notice thereof in writing to the registered holders of the Rights Certificates. Failure to give any notice provided for in this Section 21, however, or

any defect therein, shall not affect the legality or validity of the resignation or removal of the Rights Agent or the appointment of the successor Rights Agent, as the case may be.

SECTION 22. ISSUANCE OF NEW RIGHTS CERTIFICATES.

Notwithstanding any of the provisions of this Agreement or of the Rights to the contrary, the Company may, at its option, issue new Rights Certificates evidencing Rights in such form as may be approved by the Board to reflect any adjustment or change in the Purchase Price per share and the number or kind of class of shares or other securities or property purchasable under the Rights Certificates made in accordance with the provisions of this Agreement. In addition, in connection with the issuance or sale of shares of Common Stock following the Distribution Date (other than upon exercise of a Right) and prior to the redemption or expiration of the Rights, the Company (a) shall, with respect to shares of Common Stock so issued or sold pursuant to the exercise of stock options or under any employee plan or arrangement, or upon the exercise, conversion or exchange of securities hereinafter issued by the Company, and (b) may, in any other case, if deemed necessary or appropriate by the Board, issue Rights Certificates representing the appropriate number of Rights in connection with such issuance or sale; provided, however, that (i) no such Rights Certificate shall be issued if, and to the extent that, the Company shall be advised by counsel that such issuance would create a significant risk of material adverse tax consequences to the Company or the Person to whom such Rights Certificate would be issued, and (ii) no such Rights Certificate shall be issued if, and to the extent that, appropriate adjustment shall otherwise have been made in lieu of the issuance thereof.

SECTION 23. REDEMPTION.

(a) The Board may, at its option, at any time prior during the period commencing on the Rights Dividend Declaration Date and ending on the earlier of (i) the Close of Business on the tenth day following the Stock Acquisition Date (or, if the Stock Acquisition Date shall have occurred prior to the Record Date, the Close of Business on the tenth day following the Record Date), as such period may be extended or shortened in the discretion of the Board of Directors (the "Redemption Period") or (ii) the Final Expiration Date, cause the Company to redeem all but not less than all the then outstanding Rights at a redemption price of \$.001 per Right, as such amount may be appropriately adjusted to reflect any stock split, stock dividend or similar transaction occurring after the date hereof (such redemption price being hereinafter referred to as the "Redemption Price"); provided, however, that, if the Board authorizes redemption of the Rights or a change in the Redemption Period on or after the time a Person becomes an Acquiring Person then there must be Continuing Directors then in office and such authorization shall require the concurrence of a majority of such Continuing Directors. If, following the

occurrence of a Stock Acquisition Date and following the expiration of the Company's right of redemption hereunder (i) a Person who is an Acquiring Person shall have transferred or otherwise disposed of a number of shares of Common Stock in one transaction or series of transactions, not directly or indirectly involving the Company or any of its Subsidiaries, which did not result in the occurrence of a Triggering Event such that such Person is thereafter a Beneficial Owner of 10% or less of the outstanding shares of Common Stock, (ii) there are no other Persons, immediately following the occurrence of the event described in clause (i), who are Acquiring Persons, and (iii) the Board (with the concurrence of a majority of the Continuing Directors) shall so approve, then the Company's right of redemption shall be reinstated and thereafter be subject to the provisions of this Section 23. Notwithstanding anything contained in this Agreement to the contrary, the Rights shall not be exercisable after the first occurrence of a Section 11(a)(ii) Event or a Section 13 Event until such time as the Company's right of redemption hereunder has expired. The Company may, at its option, pay the Redemption Price in cash, shares of Common Stock (based on the current market price of the Common Stock at the time of redemption) or any other form of consideration deemed appropriate by the Board.

(b) Immediately upon the action of the Board ordering the redemption of the Rights, evidence of which shall have been filed with the Rights Agent and without any further action and without any notice, the right to exercise the Rights will terminate and the only right thereafter of the holders of Rights shall be to receive the Redemption Price. Promptly after the action of the Board ordering the redemption of the Rights, the Company shall give notice of such redemption to the Rights Agent and the holders of the then outstanding Rights by mailing such notice to all such holders at their last addresses as they appear upon the registry books of the Rights Agent or, prior to the Distribution Date, on the registry books of the Transfer Agent for the Common Stock. Any notice which is mailed in the manner herein provided shall be deemed given, whether or not the holder receives the notice. Each such notice of redemption will state the method by which the payment of the Redemption Price will be made.

SECTION 24. EXCHANGE.

(a) The Board may, at its option, at any time after any Person becomes an Acquiring Person, exchange all or part of the then outstanding and exercisable Rights (which shall not include Rights that have become void pursuant to the provisions of Section 11(a)(ii) or Section 7(e) hereof) for shares of Common Stock at an exchange ratio of one share of Common Stock per Right, appropriately adjusted to reflect any stock split, stock dividend or similar transaction occurring after the date hereof (such exchange ratio being hereinafter referred to as the "Exchange Ratio").

(b) Immediately upon the action of the Board ordering the exchange of any Rights pursuant to subsection (a) of this Section 24 and without any further action and without any notice, the right to exercise such Rights shall terminate and the only right thereafter of a holder of such Rights shall be to receive that number of shares of Common Stock equal to the number of such Rights held by such holder multiplied by the Exchange Ratio. The Company shall promptly give public notice of any such exchange; provided, however, that the failure to give, or any defect in, such notice shall not affect the validity of such exchange. The Company promptly shall mail a notice of any such exchange to all of the holders of such Rights at their last addresses as they appear upon the registry books of the Rights Agent. Any notice which is mailed in the manner herein provided shall be deemed given, whether or not the holder receives the notice. Each such notice of exchange will state the method by which the exchange of Common Stock for Rights will be effected and, in the event of any partial exchange, the number of Rights which will be exchanged. Any partial exchange shall be effected pro rata based on the number of Rights (other than Rights which have become void pursuant to the provisions of Section 11(a)(ii) or Section 7(e) hereof) held by each holder of Rights.

(c) In the event that there shall not be sufficient Common Stock issued but not outstanding or authorized but unissued to permit any exchange of Rights as contemplated in accordance with this Section 24, the Company shall take all such action as may be necessary to authorize additional shares of Common Stock for issuance upon exchange of the Rights.

(d) The Company shall not be required to issue fractions of shares of Common Stock or to distribute certificates which evidence fractional shares of Common Stock. In lieu of such fractional shares, the Company shall pay to the registered holders of the Right Certificates with regard to which such fractional shares would otherwise be issuable an amount in cash equal to the same fraction of the current market value of a whole share of Common Stock. For the purposes of this paragraph (d), the current market value of a whole share of Common Stock shall be the closing price of a share of Common Stock (as determined pursuant to the second sentence of Section 11(d) hereof) for the Trading Day immediately prior to the date of exchange pursuant to this Section 24.

SECTION 25. NOTICE OF CERTAIN EVENTS.

(a) In case the Company shall propose, at any time after the Distribution Date (i) to pay any dividend payable in stock of any class to the holders of Preferred Stock or to make any other distribution to the holders of Preferred Stock (other than a regular quarterly cash dividend out of earnings or retained earnings) or (ii) to offer to the holders of Preferred Stock rights or warrants to subscribe for or to purchase any additional shares of Preferred Stock or shares of stock of any class or any other securities, rights or options, or (iii) to effect any

reclassification of its Preferred Stock (other than a reclassification involving only the subdivision of outstanding Preferred Stock), or (iv) to effect any consolidation or merger into or with, or to effect any sale or other transfer (or to permit one or more of its subsidiaries to effect any sale or other transfer), in one or more transactions, of more than 50% of the assets or earning power of the Company and its subsidiaries (taken as a whole) to, any other Person, or (v) to effect the liquidation, dissolution or winding up of the Company, then, in each such case, the Company shall give to each holder of a Rights Certificate, to the extent feasible and in accordance with Section 26 hereof, a notice of such proposed action, which shall specify the record date for the purposes of such stock dividend, distribution of rights or warrants, or the date on which such reclassification, consolidation, merger, sale, transfer, liquidation, dissolution, or winding up is to take place and the date of participation therein by the holders of the shares of Preferred Stock, if any such date is to be fixed, and such notice shall be so given in the case of any action covered by clause (i) or (ii) above at least twenty (20) days prior to the record date for determining holders of the shares of Preferred Stock for purposes of such action and in the case of any such other action, at least twenty (20) days prior to the date of the taking of such proposed action or the date of participation therein by the holders of the shares of Preferred Stock whichever shall be the earlier.

(b) In case any Section 11(a)(ii) Event shall occur, then, in any such case, (i) the Company shall as soon as practicable thereafter give to each holder of a Rights Certificate, to the extent feasible and in accordance with Section 26 hereof, a notice of the occurrence of such event which shall specify the event and the consequences of the event to holders of Rights under Section 11(a)(ii) hereof, and (ii) all references in the preceding paragraph to Preferred Stock shall be deemed thereafter to refer to Common Stock and/or, if appropriate other securities.

SECTION 26. NOTICES.

Notices or demands authorized by this Agreement to be given or made by the Rights Agent or by the holder of any Rights Certificate to or on the Company shall be sufficiently given or made if sent by first-class mail, postage prepaid, addressed (until another address is filed in writing with the Rights Agent) as follows:

CIENA Corporation
920 Elkridge Landing Road
Linthicum, Maryland 21090

Attention: General Counsel

Subject to the provisions of Section 21 hereof, any notice or demand authorized by this Agreement to be given or made by the Company or by the holder of any Rights

Certificate to or on the Rights Agent shall be sufficiently given or made if sent by first-class mail, postage prepaid, addressed (until another address is filed in writing with the Company) as follows:

Boston Equiserve
Blue Hills Office Park
Mail Stop 45-02-62
150 Royall Street
Canton, Massachusetts 02021

Attention: Executive Vice President

Notices or demands authorized by this Agreement to be given or made by the Company or the Rights Agent to the holder of any Rights Certificate shall be sufficiently given or made if sent by first-class mail, postage prepaid, addressed to any such holder at the address of such holder as shown on the registry books of the Company.

SECTION 27. SUPPLEMENTS AND AMENDMENTS.

Prior to the Distribution Date and subject to the penultimate sentence of this Section 27, the Company may, and the Rights Agent shall, if the Company so directs, supplement or amend any provision of this Agreement without the approval of any holders of certificates representing shares of Common Stock. From and after the Distribution Date and subject to the penultimate sentence of this Section 27, the Company may, and the Rights Agent shall at any time and from time to time, if the Company so directs, supplement or amend this Agreement without the approval of any holders of Rights Certificates in order (i) to cure any ambiguity, (ii) to correct or supplement any provision contained herein which may be defective or inconsistent with any other provisions herein, (iii) to shorten or lengthen any time period hereunder or (iv) to change or supplement the provisions hereunder in any manner which the Company may deem necessary or desirable and which shall not adversely affect the interests of the holders of Rights Certificates (other than an Acquiring Person or an Affiliate or Associate of any such Person); provided, however, that this Agreement may not be supplemented or amended (A) whether before or after the Distribution Date, to lengthen a time period relating to when the Rights may be redeemed, or (B) after the Distribution Date, to lengthen, pursuant to clause (iii) of this sentence, any other time period unless such lengthening is for the purpose of protecting, enhancing or clarifying the rights of, and/or the benefits to, the holders of Rights. Upon the delivery of a certificate from an appropriate officer of the Company which states that the proposed supplement or amendment is in compliance with the terms of this Section 27, the Rights Agent shall execute such supplement or amendment. Notwithstanding anything contained in this Agreement to the contrary, no supplement or amendment shall be made which

changes the Redemption Price, the Final Expiration Date, the Purchase Price or the number of one one-thousandths of a share of Preferred Stock for which a Right is exercisable. Prior to the Distribution Date, the interests of the holders of Rights shall be deemed coincident with the interests of the holders of shares of Common Stock.

SECTION 28. SUCCESSORS.

All the covenants and provisions of this Agreement by or for the benefit of the Company or the Rights Agent shall bind and inure to the benefit of their respective successors and assigns hereunder.

SECTION 29. DETERMINATIONS AND ACTIONS BY THE BOARD OF DIRECTORS, ETC.

For all purposes of this Agreement, any calculation of the number of shares of Common Stock outstanding at any particular time, including for purposes of determining the particular percentage of such outstanding shares of Common Stock of which any Person is the Beneficial Owner, shall be made in accordance with the last sentence of Rule 13d-3(d)(1)(i) of the General Rules and Regulations under the Exchange Act. The Board (with, where specifically provided for herein, the concurrence of the Continuing Directors or Outside Directors) shall have the exclusive power and authority to administer this Agreement and to exercise all rights and powers specifically granted to the Board (with, where specifically provided for herein, the concurrence of the Continuing Directors or Outside Directors) or to the Company, or as may be necessary or advisable in the administration of this Agreement, including, without limitation, the right and power to (i) interpret the provisions of this Agreement, and (ii) make all determinations deemed necessary or advisable for the administration of this Agreement (including without limitation a determination to redeem or not redeem the Rights or to amend the Agreement). All such actions, calculations, interpretations and determinations (including, for purposes of clause (y) below, all omissions with respect to the foregoing) which are done or made by the Board (with, where specifically provided for herein, the concurrence of the Continuing Directors or Outside Directors) in good faith, shall (x) be final, conclusive and binding on the Company, the Rights Agent, the holders of the Rights and all other parties, and (y) not subject any director to any liability to the holders of the Rights.

SECTION 30. BENEFITS OF THIS AGREEMENT.

Nothing in this Agreement shall be construed to give to any Person other than the Company, the Rights Agent and the registered holders of the Rights Certificates (and, prior to the Distribution Date, the registered holders of the Common Stock) any legal or equitable right, remedy or claim under this Agreement;

but this Agreement shall be for the sole and exclusive benefit of the Company, the Rights Agent and the registered holders of the Rights Certificates (and, prior to the Distribution Date, registered holders of Common Stock).

SECTION 31. 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 or unenforceable, 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; provided, however, that notwithstanding anything in this Agreement to the contrary, if any such term, provision, covenant or restriction is held by such court or authority to be invalid, void or unenforceable and the Board of Directors determines in its good faith judgment that severing the invalid language from this Agreement would materially and adversely affect the purpose or effect of this Agreement, the right of redemption set forth in Section 23 hereof shall be reinstated and shall not expire until the Close of Business on the tenth day following the date of such determination by the Board.

SECTION 32. GOVERNING LAW.

This Agreement, each Right and each Rights Certificate issued hereunder shall be deemed to be a contract made under the laws of the State of Delaware and for all purposes shall be governed by and construed in accordance with laws of such State.

SECTION 33. COUNTERPARTS.

This Agreement may be executed in any number of counterparts. It shall not be necessary that the signature of or on behalf of each party appears on each counterpart, but it shall be sufficient that the signature of or on behalf of each party appears on one or more of the counterparts. All counterparts shall collectively constitute a single agreement. It shall not be necessary in any proof of this Agreement to produce or account for more than a number of counterparts containing the respective signatures of or on behalf of all of the parties.

SECTION 34. DESCRIPTIVE HEADINGS.

Descriptive headings of the several Sections of this Agreement are inserted for convenience only and shall not control or affect the meaning or construction of any of the provisions hereof.

IN WITNESS WHEREOF, the parties hereto have caused this Rights Agreement to be duly executed and their respective corporate seals to be hereunto affixed and attested, all as of the day and year first above written.

CIENA CORPORATION

Attest:

By /s/ G. Eric Georgatos
Vice-president, General Counsel
and Secretary

By /s/Patrick H. Nettles

President

BOSTON EQUISERVE

Attest:

By -----

By -----

CERTIFICATE OF DESIGNATION, PREFERENCES AND
RIGHTS OF
SERIES A JUNIOR PARTICIPATING PREFERRED STOCK

of

CIENA Corporation

Pursuant to Section 151 of the General Corporation Law
of the State of Delaware

I, Patrick H. Nettles, President and Chief Executive Officer,
of CIENA Corporation, a corporation organized and existing under the General
Corporation Law of the State of Delaware, in accordance with the provisions of
Section 103 thereof, DO HEREBY CERTIFY:

That pursuant to the authority conferred upon the Board of
Directors by the Certificate of Incorporation of the said Corporation, the said
Board of Directors on December 23, 1997, adopted the following resolution
creating a series of 300,000 shares of Preferred Stock designated as Series A
Junior Participating Preferred Stock:

RESOLVED, that pursuant to the authority vested in the Board
of Directors of this Corporation (the "Board") in accordance with the
provisions of its Certificate of Incorporation, a series of Preferred Stock of
the Corporation be and it hereby is created, and that the designation and
amount thereof and the voting rights or powers, preferences and relative,
participating, optional and other special rights of the shares of such series,
and the qualifications, limitations or restrictions thereof are as follows:

Section 1. Designation and Amount. The shares of such
series, par value \$.01 per share, shall be designated as "Series A Junior
Participating Preferred Stock" and the number of shares constituting such
series shall be 300,000.

Section 2. Dividends and Distributions.

(A) Subject to the prior and superior rights of the holders
of any shares of any series of Preferred Stock ranking prior and superior to
the shares of Series A Junior Participating Preferred Stock with respect to
dividends, the holders of shares of Series A Junior Participating Preferred
Stock shall be entitled to receive, when, as and if declared by the Board of
Directors out of

funds legally available for the purpose, quarterly dividends payable in cash on the 15th day of April, July, October and January, in each year (each such date being referred to herein as a "Quarterly Dividend Payment Date"), commencing on the first Quarterly Dividend Payment Date after first issuance of a share or fraction of a share of Series A Junior Participating Preferred Stock in an amount per share (rounded to the nearest cent) equal to the greater of (a) \$.01 or (b) subject to the provision for adjustment hereinafter set forth, 1,000 times the aggregate per share amount of all cash dividends, and 1,000 times the aggregate per share amount (payable in kind) of all non cash dividends or other distributions other than a dividend payable in shares of common stock, par value \$.01 per share, of the Corporation (the "Common Stock"), or a subdivision of the outstanding shares of Common Stock (by reclassification or otherwise), declared on the Common Stock, since the immediately preceding Dividend Payment Date, or, with respect to the first Dividend Payment Date, since the first issuance of any share or fraction of a share of Series A Junior Participating Preferred Stock. In the event the Corporation shall at any time after December 23, 1997 (the "Rights Declaration Date") (i) declare any dividend on Common Stock payable in shares of Common Stock, (ii) subdivide the outstanding Common Stock, or (iii) combine the outstanding Common Stock into a smaller number of shares, then in each such case the amount to which holders of shares of Series A Junior Participating Preferred Stock were entitled immediately prior to such event under clause (b) of the preceding sentence shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

(B) The Corporation shall declare a dividend or distribution on the Series A Junior Participating Preferred Stock as provided in paragraph (A) above immediately after it declares a dividend or distribution on the Common Stock (other than a dividend payable in shares of Common Stock); provided that, in the event no dividend or distribution shall have been declared on the common stock during the period between any quarterly Dividend Payment Date and the next subsequent Quarterly Dividend Payment Date, a dividend of \$.01 per share on the Series A Junior Participating Preferred Stock shall nevertheless be payable on such subsequent quarterly Dividend Payment Date. (C) Dividends shall begin to accrue and be cumulative on outstanding shares of Series A Junior Participating Preferred Stock from the Quarterly Dividend Payment Date next preceding the date of issue of such shares of Series A Junior Participating Preferred Stock, unless the date of issue of such shares is prior to the record set for the first quarterly Dividend Payment Date, in which case dividends on such shares shall begin to accrue from the date of issue of such shares, or unless the date of issue is a Quarterly Dividend Payment Date or is a date after the record date for the determination of holders of shares of Series A Junior Participating Preferred Stock entitled to receive a quarterly

dividend and before such Quarterly Dividend Payment date, in either of which event such dividends shall begin to accrue and be cumulative for such Quarterly Dividend Payment Date. Accrued but unpaid dividends shall not bear interest. Dividends paid on the shares of Series a Junior Participating Preferred Stock in an amount less than the total amount of such dividends at the time accrued and payable on such shares shall be allocated pro rata on a share-by-share basis among all such shares at the time outstanding. The Board of Directors may fix a record date for the determination of holders of shares of Series A Junior Participating Preferred stock entitled to receive payment of a dividend or distribution declared thereon, which record date shall be no more than 30 days prior to the date fixed for the payment thereof.

Section 3. Voting Rights. The holders of shares of Series A Junior Participating Preferred Stock shall have the following voting rights:

(A) Subject to the provision for adjustment hereinafter set forth, each share of Series A Junior Participating Preferred Stock shall entitle the holder thereof to 1,000 votes on all matters submitted to a vote of the stockholders of the Corporation. In the event the Corporation shall at any time after the Rights Declaration Date (i) declare any dividend on Common Stock payable in shares of Common Stock, (ii) subdivide the outstanding Common Stock, or (iii) combine the outstanding Common Stock into a smaller number of shares, then in each such case the number of votes per share to which holders of shares of Series A Junior Participating Preferred Stock were entitled immediately prior to such event shall be adjusted by multiplying such number by a fraction the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

(B) Except as otherwise provided by law, the holders of shares of Series A Junior Participating Preferred Stock and the holders of shares of Common Stock shall vote together as one class on all matters submitted to a vote of stockholders of the Corporation.

Section 4. Certain Restrictions.

(A) Whenever dividends or distributions payable on the Series A Junior Participating Preferred Stock as provided in Section 2 are not paid, thereafter and until such dividends and distributions, whether or not declared, on shares of Series A Junior Participating Preferred Stock outstanding shall have been paid in full, the Corporation shall not:

(i) declare or pay dividends on, make any other distributions on, or redeem or purchase or otherwise acquire for consideration

any shares of stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series A Junior Participating Preferred Stock; or

(ii) declare or pay dividends on or make any other distributions on any shares of stock ranking on a parity (either as to dividends or upon liquidation, dissolution or winding up) with the Series A Junior Participating Preferred Stock, except dividends paid ratably on the Series A Junior Participating Preferred Stock and all such parity stock on which dividends are payable in proportion to the total amounts to which the holders of all such shares are then entitled; or

(iii) redeem or purchase or otherwise acquire for consideration shares of any stock ranking on a parity (either as to dividends or upon liquidation, dissolution or winding up) with the Series A Junior Participating Preferred Stock, provided that the Corporation may at any time redeem, purchase or otherwise acquire shares of any such parity stock in exchange for shares of any stock of the Corporation ranking junior (either as to dividends or upon dissolution, liquidation or winding up) to the Series A Junior Participating Preferred Stock; or

(iv) purchase or otherwise acquire for consideration any shares of Series A Junior Participating Preferred Stock, or any shares of stock ranking on a parity with the Series A Junior Participating Preferred Stock, except in accordance with a purchase offer made in writing or by publication (as determined by the Board of Directors) to all holders of such shares upon such terms as the Board of Directors, after consideration of the respective annual dividend rates and other relative rights and preferences of the respective series and classes, shall determine in good faith will result in fair and equitable treatment among the respective series or classes.

(B) The Corporation shall not permit any subsidiary of the Corporation to purchase or otherwise acquire for consideration any shares of stock of the Corporation unless the Corporation could, under paragraph (A) of this Section 4, purchase or otherwise acquire such shares at such time and in such manner.

Section 5. Reacquired Shares. Any shares of Series A Junior Participating Preferred Stock purchased or otherwise acquired by the Corporation in any manner whatsoever shall be retired and canceled promptly after the acquisition thereof. All such shares shall upon their cancellation become authorized but unissued shares of Preferred Stock and may be reissued as part of a new series of Preferred Stock to be created by resolution or resolutions of the Board of Directors, subject to the conditions and restrictions on issuance set forth herein.

Section 6. Liquidation, Dissolution or Winding Up.

(A) Upon any liquidation (voluntary or otherwise), dissolution or winding up of the Corporation, no distribution shall be made to the holders of shares of stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series A Junior Participating Preferred Stock unless, prior thereto, the holders of shares of Series A Junior Participating Preferred Stock shall have received \$300,000 per share, plus any unpaid dividends and distributions payable thereon, whether or not declared, to the date of such payment (the "Series A Liquidation Preference"). Following the payment of the full amount of the Series A Liquidation Preference, no additional distributions shall be made to the holders of Series A Junior Participating Preferred Stock unless, prior thereto, the holders of shares of Common Stock shall have received an amount per share (the "Common Adjustment") equal to the quotient obtained by dividing (i) the Series A Liquidation Preference by (ii) 1,000 (as appropriately adjusted as set forth in subparagraph (C) below to reflect such events as stock splits, stock dividends and recapitalizations with respect to the Common Stock) (such number in clause (ii) immediately above being referred to as the "Adjustment Number"). Following the payment of the full amount of the Series A Liquidation Preference and the Common Adjustment in respect of all outstanding shares of Series A Junior Participating Preferred Stock and Common Stock, respectively, holders of Series A Junior Participating Preferred Stock and holders of shares of Common Stock shall receive their ratable and proportionate share of the remaining assets to be distributed in the ratio of the Adjustment Number to one (1) with respect to such Preferred Stock and Common Stock, on a per share basis, respectively.

(B) In the event, however, that there are not sufficient assets available to permit payment in full of the Series A Liquidation Preference and the liquidation preferences of all other series of preferred stock, if any, which rank on a parity with the Series A Junior Participating Preferred Stock, then such remaining assets shall be distributed ratably to the holders of such parity shares in proportion to their respective liquidation preferences. In the event, however, that there are sufficient assets available to permit payment in full of the Common Adjustment, then such remaining assets shall be distributed ratably to the holders of Common Stock.

(C) In the event the Corporation shall at any time after the Rights Declaration Date (i) declare any dividend on Common Stock payable in shares of Common Stock, (ii) subdivide the outstanding Common Stock, or (iii) combine the outstanding Common Stock into a smaller number of shares, then in each such case the Adjustment Number in effect immediately prior to such event shall be adjusted by multiplying such Adjustment Number by a

fraction the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

Section 7. Consolidation, Merger, etc. In case the Corporation shall enter into any consolidation, merger, combination or other transaction in which the shares of Common Stock are exchanged for or changed into other stock or securities, cash and/or any other property, then in any such case the shares of Series A Junior Participating Preferred Stock shall at the same time be similarly exchanged or changed in an amount per share (subject to the provision for adjustment hereinafter set forth) equal to 1,000 times the aggregate amount of stock, securities, cash and/or any other property (payable in kind), as the case may be, into which or for which each share of Common Stock is changed or exchanged. In the event the Corporation shall at any time after the Rights Declaration Date (i) declare any dividend on Common Stock payable in shares of Common Stock, (ii) subdivide the outstanding Common Stock, or (iii) combine the outstanding Common Stock into a smaller number of shares, then in each such case the amount set forth in the preceding sentence with respect to the exchange or change of shares of Series A Junior Participating Preferred Stock shall be adjusted by multiplying such amount by a fraction the numerator of which is the number of shares of Common Stock outstanding immediately after such event and the denominator of which is the number of shares of Common Stock that were outstanding immediately prior to such event.

Section 8. Redemption. The outstanding shares of Series A Junior Participating Preferred Stock may be redeemed as a whole, but not in part, at any time, or from time to time, at the option of the Board, at a cash price per share equal to 105 percent of (i) the product of the Adjustment Number times the Average Market Value (as such term is hereinafter defined) of the Common Stock, plus (ii) all dividends which on the redemption date are payable on the shares to be redeemed and have not been paid or declared, and a sum sufficient for the payment thereof set apart, without interest. The "Average Market Value" is the average of the closing sale prices of the Common Stock during the 30 day period immediately preceding the date before the redemption date on the NASDAQ National Stock Market, or if such stock is not listed on NASDAQ Stock Market, on the principal United States securities exchange registered under the Securities Exchange Act of 1934, as amended, on which such stock is listed, or, if such stock is not listed on any such exchange, or if no such quotations are available, the fair market value of the Common Stock as determined by the Board in good faith.

Section 9. Ranking. Notwithstanding anything contained herein to the contrary, the Series A Junior Participating Preferred Stock shall rank

junior to all other series of the Corporation's Preferred Stock as to voting rights, the payment of dividends and the distribution of assets in liquidation, unless the terms of any such series shall provide otherwise.

Section 10. Amendment. The Certificate of Incorporation of the Corporation shall not be further amended in any manner which would materially alter or change the powers, preferences or special rights of the Series A Junior Participating Preferred Stock so as to affect them adversely without the affirmative vote of the holders of a majority or more of the outstanding shares of Series A Junior Participating Preferred Stock, voting separately as a class.

Section 11. Fractional Shares. Series A Junior Participating Preferred Stock may be issued in fractions of a share which shall entitle the holders, in proportion to such holders fractional shares, to exercise voting rights, receive dividends, participate in distributions and to have the benefit of all other rights of holders of Series A Junior Participating Preferred Stock.

IN WITNESS WHEREOF, I have executed and subscribed this Certificate and do affirm the foregoing as true under the penalties of perjury this __ day of _____, 1997.

Patrick H. Nettles
President and Chief Executive Officer

Attest:

G. Eric Georgatos
General Counsel and Secretary

[Form of Rights Certificate]

Certificate No. R-_____ Rights

NOT EXERCISABLE AFTER DECEMBER 29, 2007 OR EARLIER IF REDEEMED OR EXCHANGED BY THE COMPANY. THE RIGHTS ARE SUBJECT TO REDEMPTION, AT THE OPTION OF THE COMPANY, AT \$.001 PER RIGHT ON THE TERMS SET FORTH IN THE RIGHTS AGREEMENT. UNDER CERTAIN CIRCUMSTANCES, RIGHTS BENEFICIALLY OWNED BY AN ACQUIRING PERSON OR AN AFFILIATE OR ASSOCIATE OF ANY SUCH PERSON (AS SUCH TERMS ARE DEFINED IN THE RIGHTS AGREEMENT) AND ANY SUBSEQUENT HOLDER OF SUCH RIGHTS MAY BECOME NULL AND VOID. THE RIGHTS SHALL NOT BE EXERCISABLE, AND SHALL BE VOID SO LONG AS HELD, BY A HOLDER IN ANY JURISDICTION WHERE THE REQUISITE QUALIFICATION TO THE ISSUANCE TO SUCH HOLDER, OR THE EXERCISE BY SUCH HOLDER, OF THE RIGHTS IN SUCH JURISDICTION SHALL NOT HAVE BEEN OBTAINED OR BE OBTAINABLE. [THE RIGHTS REPRESENTED BY THIS RIGHTS CERTIFICATE ARE OR WERE BENEFICIALLY OWNED BY A PERSON WHO WAS OR BECAME AN ACQUIRING PERSON OR AN AFFILIATE OR ASSOCIATE OF AN ACQUIRING PERSON (AS SUCH TERMS ARE DEFINED IN THE RIGHTS AGREEMENT). ACCORDINGLY, THIS RIGHTS CERTIFICATE AND THE RIGHTS REPRESENTED HEREBY MAY BECOME NULL AND VOID IN THE CIRCUMSTANCES SPECIFIED IN SECTION 7(e) OF SUCH AGREEMENT.] *

* The portion of the legend in brackets shall be inserted only if applicable and shall replace the preceding sentence.

Rights Certificate
CIENA Corporation

This certifies that _____, or its registered assigns, is the registered owner of the number of Rights set forth above, each of which entitles the owner thereof, subject to the terms, provisions and conditions of the Rights Agreement, dated as of December 29, 1997 (the "Rights Agreement"), between CIENA Corporation, a Delaware corporation (the "Company"), and Boston Equiserve (the "Rights Agent"), to purchase from the Company at any time prior to December 29, 2007 at the office or offices of the Rights Agent designated for such purpose, or its successors as Rights Agent, one one-thousandth of a fully paid, non-assessable share of Series A Junior Participating Preferred Stock, par value \$.01 per share (the "Preferred Stock") of the Company, at a purchase price of \$300 per one one-thousandth share (the "Purchase Price"), upon presentation and surrender of this Rights Certificate with the Form of Election to Purchase and related Certificate duly executed. The number of Rights evidenced by this Rights Certificate (and the number of shares which may be purchased upon exercise thereof) set forth above, and the Purchase Price per share set forth above, are the number and Purchase Price as of _____, based on the Preferred Stock as constituted at such date, and are subject to adjustment upon the happening of certain events as provided in the Rights Agreement.

From and after the occurrence of an event described in Section 11(a)(ii) of the Rights Agreement, the Rights evidenced by this Rights Certificate beneficially owned by (i) an Acquiring Person or an Affiliate or Associate of any such Person (as such terms are defined in the Rights Agreement), which the Continuing Directors (as defined in the Rights Agreement), in their sole discretion, determines is or was involved in or caused or facilitated, directly or indirectly (including through any change in the Board), such Section 11(a)(ii) Event, (ii) a transferee of any such Acquiring Person, Associate or Affiliate, or (iii) under certain circumstances specified in the Rights Agreement, a transferee of a person who, concurrently with or after such transfer, became an Acquiring Person or an Affiliate or Associate of an Acquiring Person shall become null and void and no holder hereof shall have any right with respect to such Rights from and after the occurrence of such Section 11(a)(ii) Event.

The Rights evidenced by this Rights Certificate shall not be exercisable, and shall be void so long as held, by a holder in any jurisdiction where the requisite qualification to the issuance to such holder, or the exercise by such holder, of the Rights in such jurisdiction shall not have been obtained or be obtainable.

As provided in the Rights Agreement, the Purchase Price and the number and kind of shares of Preferred Stock or other securities, which may be purchased upon the exercise of the Rights evidenced by this Rights Certificate are subject to modification and adjustment upon the happening of certain events, including Triggering Events (as such term is defined in the Rights Agreement).

This Rights Certificate is subject to all of the terms, provisions and conditions of the Rights Agreement, which terms, provisions and conditions are hereby incorporated herein by reference and made a part hereof and to which Rights Agreement reference is hereby made for a full description of the rights, limitations of rights, obligations, duties and immunities hereunder of the Rights Agent, the Company and the holders of the Rights Certificates, which limitations of rights include the temporary suspension of the exercisability of such Rights under the specific circumstances set forth in the Rights Agreement. Copies of the Rights Agreement are on file at the above-mentioned office of the Rights Agent and are also available upon written request to the Rights Agent.

This Rights Certificate, with or without other Rights Certificates, upon surrender at the office or offices of the Rights Agent designated for such purpose, may be exchanged for another Rights Certificate or Right Certificates of like tenor and date evidencing Rights entitling the holder to purchase a like aggregate number of one one-thousandths of a share of Preferred Stock as the Rights evidenced by the Rights Certificate or Rights Certificates surrendered shall have entitled such holder to purchase. If this Rights Certificate shall be exercised in part, the holder shall be entitled to receive upon surrender hereof another Rights Certificate or Rights Certificates for the number of whole Rights not exercised.

Subject to the provisions of the Rights Agreement, the Rights evidenced by this Certificate may be redeemed by the Company at its option at a redemption price of \$.001 per Right at any time prior to the earlier of the close of business on (i) the tenth day following the Stock Acquisition Date (as such time period may be changed in the discretion of the Board of Directors pursuant to the Rights Agreement), and (ii) the Final Expiration Date (as defined in the Rights Agreement). Under certain circumstances set forth in the Rights Agreement, the decision to redeem shall require the concurrence of a majority of the Continuing Directors. After the expiration of the redemption period, the Company's right of redemption may be reinstated if an Acquiring Person reduces his beneficial ownership to 10% or less of the outstanding shares of Common Stock in a transaction or series of transactions not involving the Company, and such reinstatement is approved by the Company's Board of Directors (with the concurrence of a majority of the Continuing Directors).

At any time after a person becomes an Acquiring Person, the Board of Directors of the Company may exchange the Rights (other than Rights owned by such Acquiring Person which have become void), in whole or in part, at an exchange ratio of one share of Common Stock per Right (subject to adjustment).

No fractional shares of Preferred Stock will be issued upon the exercise of any Right or Rights evidenced hereby, (other than fractions which are integral multiples of one one-thousandth of a share of Preferred Stock, which may, at the election of the Company, be evidenced by depositary receipts), but in lieu thereof a cash payment will be made, as provided in the Rights Agreement.

No holder of this Rights Certificate, as such, shall be entitled to vote or receive dividends or be deemed for any purpose the holder of shares of Preferred Stock or of any other securities of the Company which may at any time be issuable on the exercise hereof, nor shall anything contained in the Rights Agreement or herein be construed to confer upon the holder hereof, as such, any of the rights of a stockholder of the Company or any right to vote for the election of directors or upon any matter submitted to stockholders at any meeting thereof, or to give or withhold consent to any corporate action, or to receive notice of meetings or other actions affecting stockholders (except as provided in the Rights Agreement), or to receive dividends or subscription rights, or otherwise, until the Right or Rights evidenced by this Rights Certificate shall have been exercised as provided in the Rights Agreement.

This Rights Certificate shall not be valid or obligatory for any purpose until it shall have been countersigned by the Rights Agent.

WITNESS the facsimile signature of the proper officers of the Company and its corporate seal.

Dated as of _____, 19 _____

ATTEST:

CIENA CORPORATION

By: -----

Name: -----

Title: -----

Countersigned:

By: -----

Authorized Signature

FORM OF ASSIGNMENT

(To be executed by the registered holder if such holder desires to transfer the Rights Certificate.)

FOR VALUE RECEIVED

hereby sells, assigns and transfers unto

(Please print name and address of transferee)

this Rights Certificate, together with all right, title and interest therein, and does hereby irrevocably constitute and appoint Attorney, to transfer the within Rights Certificate on the books of the within-named Company, with full power of substitution.

Dated: ,

Signature

Signature Guaranteed:

Certificate

The undersigned hereby certifies by checking the appropriate boxes that:

(1) this Rights Certificate [] is [] is not being sold, assigned and transferred by or on behalf of a Person who is or was an Acquiring Person or an Affiliate or Associate of any such Person (as such terms are defined pursuant to the Rights Agreement);

(2) after due inquiry and to the best knowledge of the undersigned, it [] did [] did not acquire the Rights evidenced by this Rights Certificate from any Person who is, was or subsequently became an Acquiring Person or an Affiliate or Associate of any such Person.

Dated: _____, _____

Signature

Signature Guaranteed:

NOTICE

The signature to the foregoing Assignment and Certificate must correspond to the name as written upon the face of this Rights Certificate in every particular, without alteration or enlargement or any change whatsoever.

FORM OF ELECTION TO PURCHASE

(To be executed if the registered holder desires to exercise Rights represented by the Rights Certificate.)

To: -----

The undersigned hereby irrevocably elects to exercise _____ Rights represented by this Rights Certificate to purchase the shares of Preferred Stock issuable upon the exercise of the Rights (or such other securities of the Company or of any other person which may be issuable upon the exercise of the Rights) and requests that certificates for such shares be issued in the name of and delivered to:

(Please print name and address)

Please insert social security or other identifying number: -----

If such number of Rights shall not be all the Rights evidenced by this Rights Certificate, a new Rights Certificate for the balance of such Rights shall be registered in the name of and delivered to:

(Please print name and address)

Please insert social security or other identifying number: -----

Dated: _____, _____

Signature

Signature Guaranteed:

Certificate

The undersigned hereby certifies by checking the appropriate boxes that:

(1) the Rights evidenced by this Rights Certificate [] are [] are not being exercised by or on behalf of a Person who is or was an Acquiring Person or an Affiliate or Associate of any such Person (as such terms are defined in the Rights Agreement);

(2) after due inquiry and to the best knowledge of the undersigned, it [] did [] did not acquire the Rights evidenced by this Rights Certificate from any Person who is, was or became an Acquiring Person or an Affiliate or Associate of any such Person.

Dated: _____, 19 _____

Signature

Signature Guaranteed:

NOTICE

The signature to the foregoing Election to Purchase and Certificate must correspond to the name as written upon the face of this Rights Certificate in every particular, without alteration or enlargement or any change whatsoever.

INVESTOR CONTACT: Suzanne DuLong
CIENA Corporation
(888) 243-6223
email: ir@CIENA.com

PRESS CONTACT: Denny Bilter
CIENA Corporation
(800) 921-1144

FOR IMMEDIATE RELEASE:
- - - - -

CIENA ADOPTS STOCKHOLDER RIGHTS PLAN

FILES FORM 8-K TO PROVIDE DETAILS OF PLAN; ALSO UPDATES DISCUSSION OF PIRELLI
LITIGATION

LINTHICUM, MD - December 29, 1997 - CIENA Corporation (NASDAQ: CIEN) announced today that its Board of Directors has adopted a Stockholder Rights Plan. Details of the Plan are set forth in a Form 8-K filed today with the Securities and Exchange Commission (SEC). In an unrelated matter, the Company also indicated it was providing in the Form 8-K an update to its discussion of the Company's pending patent litigation with Pirelli SpA.

STOCKHOLDER RIGHTS PLAN

CIENA's Stockholder Rights Plan is designed to deter any potential coercive or unfair takeover tactics in the future that may attempt to deprive the Company and its stockholders of the opportunity to obtain the most attractive price for their shares. This plan was adopted by CIENA's Board of Directors following several months of evaluation and after consultation with its outside advisors, as part of a review of overall corporate governance issues appropriate to a newly public company.

The Rights Plan is similar to those adopted by more than 1,700 publicly-traded companies. Under the Plan, the Board has granted Rights to CIENA's stockholders at the rate of one Right for each share of Common Stock held of record as of the close of business on January 8, 1998. Under certain circumstances, the Rights become exercisable for shares of CIENA

Common Stock, or shares of an acquiring entity's stock, having a value twice that of the exercise price of the Rights. At the time of adoption of the Rights Plan, the Rights are neither exercisable nor traded separately from the Common Stock. The Rights will become exercisable only if a person or group acquires 15% or more of the Company's Common Stock or announces a tender or exchange offer which would result in its ownership of 15% or more of the Company's Common Stock. Adoption of the Rights Plan is a pro-active move by the Company's Board of Directors, intended to protect the rights of CIENA's stockholders. The Plan was not undertaken in response to any acquisition proposal or anticipated action to acquire the Company.

Investors and interested parties are referred to the Company's Form 8-K filed with the SEC concurrently herewith for further details of the Company's adoption of the Stockholder Rights Plan.

UPDATE ON PENDING LITIGATION

In its Form 10-K filed with the SEC on December 10, 1997, CIENA detailed the status of its legal proceedings with Pirelli SpA (Pirelli) in a series of related patent litigation disputes which have been ongoing in three jurisdictions, including the U.S. District Court of Virginia and the U.S. District Court in Delaware.

In its Form 8-K filed today, the Company updates those discussions to reflect the effects of subsequent events including recent developments in the Virginia proceedings and receipt of a new complaint filed in Delaware, alleging willful infringement by the Company of two additional U.S. patents held by Pirelli.

The patent claims cited in the new Delaware complaint were known to and evaluated by the Company prior to the new complaint. The Company continues to believe that its MultiWave(R) systems do not infringe any valid claims of any patents held by Pirelli, and will continue to defend itself vigorously.

Because of the complex nature of this ongoing litigation, investors and interested parties are asked to refer to the Company's Form 8-K filed with the SEC concurrently herewith to gain understanding of these latest developments in the context of those which preceded.

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ABOUT CIENA

CIENA Corporation is a worldwide market leader of open architecture, dense wavelength division multiplexing (DWDM) systems for long-distance and local exchange carriers. CIENA's DWDM solutions include the multiwave(r) 1600 and MultiWave 4000 long-haul transport systems, WaveWatcher(R) network management software, the MultiWave Optical Add/Drop

Multiplexer, the MultiWave Sentry enhanced long-distance transport system and the new MultiWave Firefly short-haul system.

CIENA's DWDM equipment expands the carrying capacity of fiber optic networks by up to 24 times by dividing the optical signal into several separate optical channels or wavelengths. An optical fiber without DWDM technology carries a single color of laser light, or a single wavelength, on which travels approximately 32,000 voice or data transmissions. CIENA's DWDM technology divides the single wavelength into multiple colors, or channels, thereby multiplying the capacity of the fiber by the number of channels and enabling service providers to expand bandwidth without the expensive process of adding more fibers.

Additional information about CIENA can be found on its World Wide Website: <http://www.ciena.com>.