

SECURITIES AND EXCHANGE COMMISSION
 Washington, D.C. 20549

 FORM S-8
 REGISTRATION STATEMENT
 UNDER
 THE SECURITIES ACT OF 1933

KLA-TENCOR CORPORATION
 (Exact name of registrant as specified in its charter)

<TABLE>
 <S> DELAWARE <C> 04-2564110

 (State of incorporation) (I.R.S. Employer Identification No.)
 </TABLE>

160 Rio Robles
 San Jose, California 95134
 (Address, including zip code, of principal executive offices)

 1997 EMPLOYEE STOCK PURCHASE PLAN
 (Full Titles of the Plans)

LISA C. BERRY
 VICE PRESIDENT, GENERAL COUNSEL
 KLA-TENCOR CORPORATION
 160 Rio Robles
 San Jose, California 95134
 (Name and address of agent for service)
 (408) 875-4200
 (Telephone number, including area code, of agent for service)

 Copy to:
 JUDITH M. O'BRIEN, ESQ.
 WILSON SONSINI GOODRICH & ROSATI
 Professional Corporation
 650 Page Mill Road
 Palo Alto, California 94304

<TABLE>
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 CALCULATION OF REGISTRATION FEE

Title of Securities to be Registered	Amount to be Registered	Proposed Maximum Offering Price Per Share(1)	Proposed Maximum Aggregate Offering Price(1)	Amount of Registration Fee
<S> Common Stock, \$.001 par value	<C>	<C>	<C>	<C>
Newly reserved under 1997 Employee Stock Purchase Plan	1,000,000	\$35.50	\$35,500,000.00	\$10,757.58

 (1) The Proposed Maximum Offering Price Per Share was estimated in accordance with Rule 457(c) and Rule 457(h) under the Securities Act of 1933, as amended (the "SECURITIES ACT") solely for the purpose of calculating the registration fee, based on the average between the high and low price of the Registrant's stock as reported in the Nasdaq National Market System on November 30, 1998.

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

ITEM 3. INCORPORATION OF DOCUMENTS BY REFERENCE.

KLA-Tencor Corporation (the "REGISTRANT" or the "COMPANY") hereby incorporates by reference in this registration statement the following documents:

- (a) Registrant's Annual Report on Form 10-K for the fiscal year ended June 30, 1998 and Amendment No. 1 to Form 10-K (File No. 000-09992), pursuant to Section 13(a) of the Securities Exchange Act of 1934, as amended (the "EXCHANGE ACT");
- (b) Registrant's definitive proxy statement dated September 30, 1998 (File No. 000-09992), filed in connection with the November 17, 1998 Annual Meeting of Stockholders of the Company;
- (c) Registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended September 30, 1998 (File No. 000-09992), filed pursuant to Section 13(a) of the Exchange Act;
- (d) Registration Statement on Form S-8 filed with the Securities and Exchange Commission on January 30, 1998 registering shares under the 1997 Employee Stock Purchase Plan (File No. 333-45271).
- (e) The description of the Registrant's Common Stock as set forth in the Registration Statement filed by the Registrant on Form 8-A on March 29, 1989 (File No. 000-09992) pursuant to Section 12(g) of the Exchange Act and any amendments or reports thereto filed with the Securities and Exchange Commission for the purpose of updating such description, including Amendment No. 1 to Form 8-A filed September 25, 1995 and Amendment No. 2 to Form 8-A filed September 24, 1996.

ITEM 4. DESCRIPTION OF SECURITIES.

The class of securities to be offered is registered under Section 12 of the Exchange Act.

ITEM 5. INTERESTS OF NAMED EXPERTS AND COUNSEL.

Not applicable.

ITEM 6. INDEMNIFICATION OF DIRECTORS AND OFFICERS.

Section 145(a) of the Delaware General Corporation Law (the "DGCL") provides in relevant part that "[a] corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation) by reason of the fact that he is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by him in connection with such action, suit or proceeding if he acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his conduct was unlawful." With respect to derivative actions, Section 145(b) of the DGCL provides in relevant part that "[a] corporation

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may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor... [by reason of his service in one of the capacities specified in the preceding sentence] against expenses (including attorneys' fees) actually and reasonably incurred by him in connection with the defense or settlement of such action or suit if he acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation and except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper."

The Company's Amended and Restated Certificate of Incorporation provides that to the fullest extent permitted by the DGCL, no director of the Company

shall be personally liable to the Company or its stockholders for monetary damages for breach of fiduciary duty as a director. The Amended and Restated Certificate of Incorporation also provides that no amendment or repeal of such provision shall apply to or have any effect on the right to indemnification permitted thereunder with respect to claims arising from acts or omissions occurring in whole or in part before the effective date of such amendment or repeal whether asserted before or after such amendment or repeal.

The Company's Bylaws provide that the Company shall indemnify to the full extent permitted by the DGCL each of its directors, officers, employees and other agents against expenses actually and reasonably incurred in connection with any proceeding arising by reason of the fact that such person is or was an agent of the Company.

The Company has entered into indemnification agreements with its directors and executive officers and intends to enter into indemnification agreements with any new directors and executive officers in the future.

ITEM 7. EXEMPTION FROM REGISTRATION CLAIMED

Not applicable.

ITEM 8. EXHIBITS

See Exhibit Index.

ITEM 9. UNDERTAKINGS

(a) The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement to include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

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(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration

statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Jose, State of California, on December 4, 1998.

KLA-TENCOR CORPORATION

By: /s/ Kenneth Levy

Kenneth Levy, Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Kenneth Levy and Lisa C. Berry, and each of them, their true and lawful attorneys and agents, with full power of substitution, each with power to act alone, to sign and execute on behalf of the undersigned any amendment or amendments to this Registration Statement on Form S-8 and to perform any acts necessary in order to file such amendments, and each of the undersigned does hereby ratify and confirm all that said attorneys and agents, or their or his or her substitutes, shall do or cause to be done by virtue hereof. Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

<TABLE>
<CAPTION>

Signature -----	Title -----	Date ----
<S> /s/ Kenneth Levy ----- Kenneth Levy	<C> Chief Executive Officer and Director (Principal-Executive-Officer)	<C> December 4, 1998
/s/ Jon D. Tompkins ----- Jon D. Tompkins	Chairman of the Board and Director	December 4, 1998
/s/ Kenneth L. Schroeder ----- Kenneth L. Schroeder	President, Chief Operating Officer and Director	December 4, 1998
/s/ Robert J. Boehlke ----- Robert J. Boehlke	Executive Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)	December 4, 1998
/s/ James W. Bagley ----- James W. Bagley	Director	December 4, 1998
/s/ Edward W. Barnholt ----- Edward W. Barnholt	Director	December 4, 1998
/s/ Leo J. Chamberlain ----- Leo J. Chamberlain	Director	December 4, 1998
/s/ Richard J. Elkus, Jr. ----- Richard J. Elkus, Jr.	Director	December 4, 1998
/s/ Dean O. Morton ----- Dean O. Morton	Director	December 4, 1998
/s/ Samuel Rubinovitz ----- Samuel Rubinovitz	Director	December 4, 1998
/s/ Dag Tellefsen ----- Dag Tellefsen	Director	December 4, 1998
/s/ Lida Urbanek ----- Lida Urbanek	Director	December 4, 1998

INDEX TO EXHIBITS

<TABLE>
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Exhibit
Number

Description

<S> <C>
 3.2 Bylaws, as amended November 17, 1998

 5.1 Opinion re: legality

10.2* 1997 Employee Stock Purchase Plan

23.1 Consent of Counsel (included in Exhibit 5.1)

23.2 Consent of Independent Accountants

24.1 Power of Attorney (see Page II-4)

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* Incorporated by reference to Exhibit 10.2 to the Registrant's Registration
Statement on Form S-8, dated January 30, 1998 (Commission File No. 333-45271).

KLA-TENCOR CORPORATION,
A DELAWARE CORPORATION
BY-LAWS
ORIGINALLY ADOPTED: JUNE 12, 1989
AS AMENDED: NOVEMBER 17, 1998

ARTICLE I
STOCKHOLDERS

Section 1. Annual Meeting. An annual meeting of the stockholders, for the election of directors to succeed those whose terms expire and for the transaction of such other business as may properly come before the meeting, shall be held at such place, on such date, and at such time as the Board of Directors shall each year fix, which date shall be within thirteen months subsequent to the last annual meeting of stockholders.

Section 2. Special Meetings. Special meetings of the stockholders, for any purpose or purposes prescribed in the notice of the meeting, may be called only by the Board of Directors and shall be held at such place, on such date, and at such time as they shall fix. Business transacted at special meetings shall be confined to the purpose or purposes stated in the notice.

Section 3. Notice of Meetings. Written notice of the place, date, and time of all meetings of the stockholders shall be given, not less than ten (10) nor more than sixty to each stockholder entitled to vote at such meeting, except as otherwise provided herein or required by law (meaning, here and hereinafter, as required from time to time by the Delaware General Corporation Law or the Certificate of Incorporation of the Corporation). When a meeting is adjourned to another place, date or time, written notice need not be given of the adjourned meeting if the place, date and time thereof are announced at the meeting at which the adjournment is taken; provided, however, that if the date of any adjourned meeting is more than thirty (30) days after the date for which the meeting was originally noticed, or if a new record date is fixed for the adjourned meeting, written notice of the place, date, and time of the adjourned meeting shall be given in conformity herewith. At any adjourned meeting, any business may be transacted which might have been transacted at the original meeting.

Section 4. Quorum. At any meeting of the stockholders, the holders of a majority of all of the shares of the stock entitled to vote at the meeting, present in person or by proxy, shall constitute a quorum for all purposes, unless or except to the extent that the presence of a larger number may be required by law.

If a quorum shall fail to attend any meeting, the chairman of the meeting or the holders of a majority of the shares of stock entitled to vote who are present, in person or by proxy, may adjourn the meeting to another place, date or time.

If a notice of any adjourned special meeting of stockholders is sent to all stockholders entitled to vote thereat, stating that it will be held with those present constituting a quorum, then, provided that those present hold more than 33-1/3% of the shares entitled to vote, those present at such adjourned meeting shall constitute a quorum, and all matters shall be determined by a majority of the votes cast at such meeting.

* Section 5. Conduct of the Stockholders' Meeting. At every meeting of the stockholders, the Chairman of the Board of the Corporation, or in his absence the Chief Executive Officer of the Corporation, or in his absence the President of the Corporation, or in his absence the Vice President designated by the Chairman of the Board or the Chief Executive Officer, or in the absence of such designation any Vice President, or in the absence of the Chairman of the Board, Chief Executive Officer, President or any Vice President a chairman chosen by the majority of the voting shares represented in person or by proxy, shall act as chairman of the meeting. The Secretary of the Corporation or a person designated by the chairman shall act as Secretary of the meeting. Unless otherwise approved by the chairman, attendance at the Stockholders' Meeting shall be restricted to stockholders of record, persons authorized in accordance with Section 8 of these By-Laws to act by proxy, and officers of the Corporation.

Section 6. Conduct of Business. The Chairman shall call the meeting to order, establish the agenda, and conduct the business of the meeting in accordance herewith or, at the Chairman's discretion, in accordance with the wishes of the stockholders in attendance.

The Chairman shall also conduct the meeting in an orderly manner, rule on the precedence of, and procedure on, motions and other procedural matters, and exercise discretion with respect to such procedural matters with fairness

and good faith toward all those entitled to take part. The Chairman may impose reasonable limits on the amount of time taken up at the meeting on discussion in general or on remarks by any one stockholder. Should any person in attendance become unruly or obstruct the meeting proceedings, the Chairman shall have the power to have such person removed from participation. Notwithstanding anything in these By-Laws to the contrary, no business shall be conducted at any meeting except in accordance with the procedures set forth in this Section 6, Section 7 below and Section 11 of Article II below. The Chairman of any meeting shall, if the facts warrant, determine and declare to the meeting that business was not properly brought before the meeting and in accordance with the provisions of this Section 6, Section 7 below and Section 11 of Article II below, and if he should so determine, he shall so declare to the meeting and any such business not properly brought before the meeting shall not be transacted.

Section 7. Notice of Stockholder Business. At an annual or special meeting of the stockholders, only such business shall be conducted as shall have been properly

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* As amended April 30, 1997.

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brought before the meeting. To be properly brought before a meeting, business must be (a) specified in the notice of meeting (or any supplement thereto) given by or at the direction of the Board of Directors, (b) properly brought before the meeting by or at the direction of the Board of Directors, (c) if at an annual meeting, properly brought before the meeting by a stockholder, or (d) if at a special meeting, if, and only if, the notice of a special meeting provides for business to be brought before the meeting by stockholders, properly brought before the meeting by a stockholder.

For business to be properly brought before a meeting by a stockholder, the stockholder must have given timely notice thereof in writing to the Secretary of the Corporation. To be timely, a stockholder's notice must be delivered to or mailed and received at the principal executive offices of the Corporation no later than the date upon which stockholder proposals to be included in the Corporation's Proxy Statement must be received by the Corporation under the requirements of the Securities Exchange Act of 1934, as amended, and the rules promulgated thereunder.

A stockholder's notice to the Secretary shall set forth as to each matter the stockholder proposes to bring before the annual or special meeting (a) a brief description of the business desired to be brought before the annual or special meeting and the reasons for conducting such business at the annual or special meeting, (b) the name and address, as they appear on the Corporation's books, of the stockholder proposing such business, (c) the class and number of shares of the Corporation which are beneficially owned by the stockholder, (d) any material interest of the stockholder in such business and (e) such other information relating to the stockholder or the proposal as is required to be disclosed under the rules of the Securities and Exchange Commission governing the solicitation of proxies with respect to such proposal, whether or not such proxies are in fact solicited by the stockholder.

Notwithstanding anything in these By-Laws to the contrary, no business shall be conducted at an annual or special meeting except in accordance with the procedures set forth in this Section 7. The chairman of the meeting shall, if the facts warrant, determine and declare to the meeting that business was not properly brought before the meeting and in accordance with the provisions of this Section 7, and if he should so determine, he shall so declare to the meeting and any such business not properly brought before the meeting shall not be transacted.

Section 8. Proxies and Voting. At any meeting of the stockholders, every stockholder entitled to vote may vote in person or by proxy authorized by an instrument in writing filed in accordance with the procedure established for meeting. No stockholder may authorize more than one proxy for his shares.

Each stockholder shall have one vote for every share of stock entitled to vote which is registered in his or her name on the record date for the meeting, except as otherwise provided herein or required by law.

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All voting, including on the election of directors but excepting where otherwise required by law, may be by a voice vote; provided, however, that upon demand therefor by a stockholder entitled to vote or his or her proxy, a stock vote shall be taken. Every stock vote shall be taken by ballots, each of which shall state the name of the stockholder or proxy voting and such other

information as may be required under the procedure established for the meeting. Every vote taken by ballots shall be counted by an inspector or inspectors appointed by the chairman of the meeting.

All elections shall be determined by a plurality of the votes cast, and except as otherwise required by law or By-Laws, all other matters shall be determined by a majority of the votes cast.

Section 9. Stock List. A complete list of stockholders entitled to vote at any meeting of stockholders, arranged in alphabetical order for each class of stock and showing address of each such stockholder and the number of shares registered in his or her name, shall be open to the examination of any such stockholder, for any purpose germane to the meeting, during ordinary business hours for a period of at least ten (10) days prior to the meeting, either at a place within the city where the meeting is to be held, which place shall be specified in the notice of the meeting, or if not so specified, at the place where the meeting is to be held.

The stock list shall also be kept at the place of the meeting during the whole time thereof and shall be open to the examination of any such stockholder who is present. This list shall presumptively determine the identity of the stockholders entitled to vote at the meeting and the number of shares held by each of them.

Section 10. Elimination of Written Consent. Any action required or permitted to be taken by the stockholders of the corporation must be effected at a duly called annual or special meeting of stockholders of the corporation and may not be effected by any consent in writing by such stockholders.

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ARTICLE II
BOARD OF DIRECTORS

** Section 1. Number and Term of Office. The number of directors shall be eleven (11)*** and, thereafter, shall be fixed from time to time exclusively by the Board of Directors pursuant to a resolution adopted by a majority of the total number of authorized directors (whether or not there exists any vacancies in previously authorized directorships at the time any such resolution is presented to the Board for adoption). The directors shall be divided into three classes, as nearly equal in number as reasonably possible, with the term of office of the first class to expire at the 1990 annual meeting of stockholders, the term of office of the second class to expire at the 1991 annual meeting of stockholders and the term of office of the third class to expire at the 1992 annual meeting of stockholders. At each annual meeting of stockholders following such initial classification and election, directors shall be elected to succeed those directors whose term expire for a term of office to expire at the third succeeding annual meeting of stockholders after their election. All directors shall hold office until the expiration of the term for which elected and until their successors are elected, except in the case of the death, resignation or removal of any director.

Section 2. Vacancies and Newly Created Directorships. Subject to the rights of the holders of any series of Preferred Stock then outstanding, newly created directorships resulting from any increase in the authorized number of directors or any vacancies in the Board of Directors resulting from death, resignation, retirement, disqualification or other cause (other than removal from office by a vote of stockholders) may be filled only by a majority vote of the directors then in office, though less than a quorum, and directors so chosen shall hold office for a term expiring at the annual meeting of stockholders at which the term of office of the class to which they have been elected expires. No decrease in the number of directors constituting the Board of Directors shall shorten the term of any incumbent director.

Section 3. Removal. Subject to the rights of the holders of any series of Preferred Stock then outstanding, any directors, or the entire Board of Directors, may be removed from office at any time, but only for cause and only by the affirmative vote of the holders of at least a majority of the voting power of all of the then-outstanding shares of capital stock of the Corporation entitled to vote generally in the election of directors, voting together as a single class. Vacancies in the Board of Directors resulting from such removal may be filled by (i) a majority of the directors then in office, though less than a quorum, or (ii) the stockholders at a special meeting of the stockholders properly called for that purpose, by the vote of the holders of a majority of the shares entitled to vote at

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** As amended April 30, 1997.
*** As amended November 17, 1998

such special meeting. Directors so chosen shall hold office for a term expiring at the annual meeting of stockholders at which the term of office of the class to which they have been elected expires.

Section 4. Regular Meetings. Regular meetings of the Board of Directors shall be held at such place or places, on such date or dates, and at such time or times as shall have been established by the Board of Directors and publicized among all directors. A notice of each regular meeting shall not be required.

Section 5. Special Meetings. Special meetings of the Board of Directors may be called by one-third of the directors then in office (rounded up to the nearest whole number), the Chairman of the Board or by the chief executive officer and shall be held at such place, on such date, and at such time as they or he shall fix. Notice of the place, date, and time of each such special meeting shall be given each director by whom it is not waived by mailing written notice not fewer than five (5) days before the meeting or by telecopying or delivering by overnight courier service the same not fewer than twenty-four (24) hours before the meeting. Unless otherwise indicated in the notice thereof, any and all business may be transacted at a special meeting.

Section 6. Quorum. At any meeting of the Board of Directors, a majority of the total number of authorized Directors shall constitute a quorum for all purposes. If a quorum shall fail to attend any meeting, a majority of those present may adjourn the meeting to another place, date, or time, without further notice or waiver thereof.

Section 7. Participation in Meetings by Conference Telephone. Members of the Board of Directors, or of any committee thereof, may participate in a meeting of such Board or committee by means of conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other and such participation shall constitute presence in person at such meeting.

Section 8. Conduct of Business. At any meeting of the Board of Directors, business shall be transacted in such order and manner as the Board may from time to time determine, and all matters shall be determined by the vote of a majority of the directors present, except as otherwise provided herein or required by law. Action may be taken by the Board of Directors without a meeting if all members thereof consent thereto in writing, and the writing or writings are filed with the minutes of proceedings of the Board of Directors.

Section 9. Powers. The Board of Directors may, except as otherwise required by law, exercise all such powers and do all such acts and things as may be exercised or done by the Corporation, including, without limiting the generality of the foregoing, the unqualified power:

(1) To declare dividends from time to time in accordance with law;

(2) To purchase or otherwise acquire any property, rights or privileges on such terms as it shall determine;

(3) To authorize the creation, making and issuance, in such form as it may determine, of written obligations of every kind, negotiable or non-negotiable, secured or unsecured, and to do all things necessary in connection therewith;

(4) To remove any officer of the Corporation with or without cause, and from time to time to devolve the powers and duties of any officer upon any other person for the time being;

(5) To confer upon any officer of the Corporation the power to appoint, remove and suspend subordinate officers, employees and agents;

(6) To adopt from time to time such stock, option, stock purchase, bonus or other compensation plans for directors, officers, employees and agents of the Corporation and its subsidiaries as it may determine;

(7) To adopt from time to time such insurance, retirement, and other benefit plans for directors, officers, employees and agents of the Corporation and its subsidiaries as it may determine; and

(8) To adopt from time to time regulations, not inconsistent with these By-Laws, for the management of the Corporation's business and affairs.

Section 10. Compensation of Directors. Directors, as such, may receive,

pursuant to resolution of the Board of Directors, fixed fees and other compensation for their services as directors, including, without limitation, their services as members of committees of the Board of Directors.

Section 11. Nomination of Director Candidates. Subject to the rights of holders of any class or series of Preferred Stock then outstanding, nominations for the election of directors may be made by the Board of Directors or any nominating or proxy committee appointed by the Board of Directors or by any stockholder entitled to vote in the election of Directors generally who complies with the notice and procedural requirements of this Section 11. All nominees for election to the Board shall satisfy the qualification requirements for membership on the Board of Directors of the Corporation established by any nominating committee designated by the Board, which requirements shall be designed to evaluate, without limitation, the following:

(a) The applicability of the Candidate's business experience and knowledge to the Corporation's business, including any technical skills, industry contacts

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or other special qualifications which would make the Candidate a valuable member of the Board.

(b) The resulting balance of knowledge and experience which would exist on the Board if the Candidate were elected in light of the business experience and knowledge of the other persons likely to be elected to the Board.

(c) The Candidate's other business interests and commitments and the extent to which such interests and commitments are inconsistent or incompatible with such Candidate's effective board membership, including the extent to which the Nominating Committee believes that such Candidate's membership on the Board may be detrimental to the long-term interests of the Corporation and to the maximization of the value of the Corporation's stockholders' investment in the Corporation.

In addition to any other applicable requirements, any such stockholder nomination shall be made only pursuant to timely notice in writing to the Secretary of the Corporation setting forth such stockholder's intent to make a nomination or nominations. To be timely, a stockholder's notice must be delivered to or mailed and received at the principal offices of the Corporation not later than the date on which stockholder proposals to be included in the proxy statement with respect to any annual or special meeting must be received by the Corporation under the requirements of the Securities Exchange Act of 1934, as amended, and the rules promulgated thereunder.

Each such notice by a stockholder shall set forth: (a) the name and address, as they appear on the Corporation's stock register, of the stockholder who intends to make the nomination; (b) a representation that the stockholder is a holder of record of stock of the Corporation entitled to vote for the election of Directors on the date of such notice and intends to appear in person or by proxy at the meeting to nominate the person or persons specified in the notice; (c) a description of all arrangements or understandings between the stockholder and each nominee and any other person or persons (naming such person or persons) pursuant to which the nomination or nominations are to be made by the stockholder; (d) the name, age, business and residence address and principal occupation of each person the stockholder proposes to nominate for election as a director; (e) such other information regarding the stockholder and each nominee proposed by such stockholder as would be required to be included in a proxy statement filed pursuant to the proxy rules of the Securities and Exchange Commission, whether or not proxies are in fact solicited for the election of such person; and (f) the signed consent of each nominee to serve as a director of the Corporation if so elected. The Corporation or any nominating committee designated by the Board of Directors may require any proposed nominee to furnish such other information as may reasonably be required by the Corporation or such committee to determine the qualification of such nominee for election as a director of the Corporation.

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In the event that a person is validly designated as a nominee in accordance with this Section 11 and shall thereafter become unable or unwilling to stand for election to the Board of Directors, the Board of Directors or the stockholder who proposed such nominee as the case may be, may designate a substitute nominee; provided, however, that (i) in the case of the persons nominated by a stockholder, such a substitution may only be made if a written notice to the Secretary setting forth such information regarding such substitute nominee as would have been required to be delivered to the Secretary pursuant to this Section 11 had such substitute nominee been initially proposed as a nominee

is received by the Corporation at its principal executive offices not less than thirty (30) days before the date of the election at which the initial nominee was nominated to stand or (ii) in the case of persons nominated by the Board of Directors the substitute nominee must be designated not less than thirty (30) days before the date of the election at which the initial nominee was nominated to stand.

If the chairman of the meeting for the election of Directors determines that a nomination of any candidate for election as a Director at such meeting was not made in accordance with the applicable provisions of this Section 11, such nomination shall be void; provided, however, that nothing in this Section 11 shall be deemed to limit any voting rights upon the occurrence of dividend arrearages, provided to holders of Preferred Stock pursuant to the Preferred Stock designation for any series of Preferred Stock.

ARTICLE III COMMITTEES

Section 1. Committees of the Board of Directors. The Board of Directors, by a resolution passed by a vote of a majority of the whole Board, may from time to time designate committees of the Board, with such lawfully delegable powers and duties as it thereby confers, to serve at the pleasure of the Board and shall, for those committees and any others provided for herein, elect a director or directors to serve as the member or members, designating, if it desires, other directors as alternate members who may replace any absent or disqualified member at any meeting of the committee. Any committee so designated may exercise the power and authority of the Board of Directors to declare a dividend, to authorize the issuance of stock or to adopt a certificate of ownership and merger pursuant to Section 253 of the Delaware General Corporation Law if the resolution which designates the committee or a supplemental resolution of the Board of Directors shall so provide. In the absence or disqualification of any member of any committee and any alternate member in his place, the member or members of the committee present at the meeting and not disqualified from voting, whether or not he or they constitute a quorum, may by unanimous vote appoint another member of the Board of Directors to act at the meeting in the place of the absent or disqualified member.

Section 2. Conduct of Business. Each committee may determine the procedural rules for meeting and conducting its business and shall act in accordance therewith,

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except as otherwise provided herein or required by law. Adequate provision shall be made for notice to members of all meetings; one-third of the authorized members shall constitute a quorum unless the committee shall consist of one or two members, in which event one member shall constitute a quorum; and all matters shall be determined by a majority vote of the members present. Action may be taken by any committee without a meeting if all members thereof consent thereto in writing, and the writing or writings are filed with the minutes of the proceedings of such committee.

ARTICLE IV OFFICERS

* Section 1. Generally. The officers of the Corporation shall consist of a Chairman of the Board, a Chief Executive Officer, a President, one or more Vice Presidents, a Secretary, a Chief Financial Officer and such other officers as may from time to time be appointed by the Board of Directors. Officers shall be elected by the Board of Directors, which shall consider that subject at its first meeting after every annual meeting of stockholders. Each officer shall hold office until his successor is elected and qualified or until his earlier resignation or removal. The Chairman of the Board, the Chief Executive Officer and the President shall each be members of the Board of Directors. Any number of offices may be held by the same person.

**** Section 2. Chairman of the Board. The Chairman of the Board, if such an officer be elected, shall, if present, preside at meetings of the Board of Directors and exercise and perform such other powers and duties as may from time to time be assigned to him by the Board of Directors or as may be prescribed by these By-Laws. If there is no Chief Executive Officer, then the Chairman of the Board shall also be the Chief Executive Officer of the Corporation and shall have the powers and duties prescribed in Article IV, Section 3 of these By-Laws.

* Section 3. Chief Executive Officer. Subject to such supervisory powers, if any, as may be given by the Board of Directors to the Chairman of the Board, if there be such an officer, the Chief Executive Officer of the Corporation shall, subject to the control of the Board of Directors, have general supervision, direction, and control of the business and the officers of the Corporation. He shall preside at all meetings of the stockholders and, in the absence or nonexistence of a Chairman of the Board, at all meetings of the Board of Directors. He shall have the general powers and duties of management usually

vested in the Chief Executive Officer of a Corporation and shall have such other powers and duties as may be prescribed by the Board of Directors or these By-Laws.

* Section 4. President. The President shall be the chief operating officer of the Corporation with such duties and powers as may be prescribed by the Chief Executive Officer or the Board of Directors.

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**** As amended April 30, 1997.

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* Section 5. Vice President. Each Vice President shall have such powers and duties as may be delegated to him by the Board of Directors.

Section 6. Chief Financial Officer. The Chief Financial Officer shall have the responsibility for maintaining the financial records of the Corporation and shall have custody of all monies and securities of the Corporation. He shall make or cause to be made such disbursements of the funds of the Corporation as are authorized and shall render from time to time an account of all such transactions and of the financial condition of the Corporation. The Chief Financial Officer shall also perform such other duties as the Board of Directors may from time to time prescribe.

Section 7. Secretary. The Secretary shall issue all authorized notices for, and shall keep, or cause to be kept, minutes of all meetings of the stockholders, the Board of Directors, and all committees of the Board of Directors. The Secretary shall keep, or cause to be kept at the principal executive office or at the office of the Corporation's transfer agent or registrar, a record of the Corporation's stockholders, giving the names and addresses of all stockholders and the number and class of shares held by each. The Secretary shall have charge of the seal and the corporate books of the Corporation and shall perform such other duties as the Board of Directors may from time to time prescribe.

Section 8. Delegation of Authority. The Board of Directors may from time to time delegate the powers or duties of any officer to any other officers or agents, notwithstanding any provision hereof.

Section 9. Removal. Any officer of the Corporation may be removed at any time, with or without cause, by the Board of Directors.

***** Section 10. Action With Respect to Securities of Other Corporations. Unless otherwise directed by the Board of Directors, the Chairman of the Board, the Chief Executive Officer or any officer of the Corporation authorized by the Chairman of the Board or the Chief Executive Officer shall have power to vote and otherwise act on behalf of the Corporation, in person or by proxy, at any meeting of stockholders of or with respect to any action of stockholders of any other corporation in which this Corporation may hold securities and otherwise to exercise any and all rights and powers which this Corporation may possess by reason of its ownership of securities in such other corporation.

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***** As amended April 30, 1997.

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ARTICLE V STOCK

***** Section 1. Certificates of Stock. Each stockholder shall be entitled to a certificate signed by, or in the name of the Corporation by, the Chairman of the Board, the Chief Executive Officer, the President or a Vice President, and by the Secretary or an Assistant Secretary, or the Chief Financial Officer or Treasurer (if there be such an officer), certifying the number of shares owned by him or her. Any of or all the signatures on the certificate may be facsimile.

Section 2. Transfers of Stock. Transfers of stock shall be made only upon the transfer books of the Corporation kept at an office of the Corporation or by transfer agents designated to transfer shares of the stock of the Corporation. Except where a certificate is issued in accordance with Section 4 of Article V of these By-Laws, an outstanding certificate for the number of shares involved shall be surrendered for cancellation before a new certificate is issued therefor.

Section 3. Record Date. The Board of Directors may fix a record date,

which shall not be more than sixty (60) days nor fewer than ten (10) days before the date of any meeting of stockholders, no more than sixty (60) days prior to the time for other action hereinafter described, as of which there shall be determined the stockholders who are entitled: to notice of or to vote at any meeting of stockholders or any adjournment thereof; to express consent to corporate action in writing without a meeting (if the Corporation's charter allows such action without a meeting); to receive payment of any dividend or other distribution or allotment of any rights; or to exercise any rights with respect to any change, conversion or exchange of stock or with respect to any other lawful action.

Section 4. Lost, Stolen or Destroyed Certificates. In the event of the loss, theft or destruction of any certificate of stock, another may be issued in its place pursuant to such regulations as the Board of Directors may establish concerning proof of such loss, theft or destruction and concerning the giving of a satisfactory bond or bonds of indemnity.

Section 5. Regulations. The issue, transfer, conversion and registration of certificates of stock shall be governed by such other regulations as the Board of Directors may establish.

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***** As amended April 30, 1997.

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ARTICLE VI
NOTICES

Section 1. Notices. Except as otherwise specifically provided herein or required by law, all notices required to be given to any stockholder, director, officer, employee or agent shall be in writing and may in every instance be effectively given by hand delivery to the recipient thereof, by depositing such notice in the mails, postage paid, or by sending such notice by prepaid telegram, mailgram or commercial courier service. Any such notice shall be addressed to such stockholder, director, officer, employee or agent at his or her last known address as the same appears on the books of the Corporation. The time when such notice shall be deemed to be given shall be the time such notice is received by such stockholder, director, officer, employee or agent, or by any person accepting such notice on behalf of such person, if hand delivered, or the time such notice is dispatched, if delivered through the mails or by telegram, mailgram or courier.

Section 2. Waivers. A written waiver of any notice, signed by a stockholder, director, officer, employee or agent, whether before or after the time of the event for which notice is to be given, shall be deemed equivalent to the notice required to be given to such stockholder, director, officer, employee or agent. Neither the business nor the purpose of any meeting need be specified in such a waiver. Attendance of a person at a meeting shall constitute a waiver of notice for such meeting, except when the person attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened.

ARTICLE VII
MISCELLANEOUS

Section 1. Facsimile Signatures. In addition to the provisions for use of facsimile signatures elsewhere specifically authorized in these By-Laws, facsimile signatures of any officer or officers of the Corporation may be used whenever and as authorized by the Board of Directors or a committee thereof.

Section 2. Corporate Seal. The Board of Directors may provide a suitable seal, containing the name of the Corporation, which seal shall be in the charge of the Secretary. If and when so directed by the Board of Directors or a committee thereof, duplicates of the seal may be kept and used by the Chief Financial Officer or by an Assistant Secretary.

Section 3. Reliance Upon Books, Reports and Records. Each director, each member of any committee designated by the Board of Directors, and each officer of the Corporation shall, in the performance of his duties, be fully protected in relying in good faith upon the books of account or other records of the Corporation, including reports made to the Corporation by any of its officers, by an independent certified public accountant, or by an appraiser selected with reasonable care.

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Section 4. Fiscal Year. The fiscal year of the Corporation shall be as fixed by the Board of Directors.

Section 5. Time Periods. In applying any provision of these By-Laws which require that an act be done or not done a specified number of days prior to an event or that an act be done during a period of a specified number of days prior to an event, calendar days shall be used, the day of the doing of the act shall be excluded, and the day of the event shall be included.

ARTICLE VIII INDEMNIFICATION OF DIRECTORS AND OFFICERS

Section 1. Right to Indemnification. Each person who was or is made a party or is threatened to be made a party to or is involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative ("proceeding"), by reason of the fact that he or a person of whom he is the legal representative, is or was a director, officer or employee of the Corporation or is or was serving at the request of the Corporation as a director, officer or employee of another corporation, or of a partnership, joint venture, trust or other enterprise, including service with respect to employee benefit plans, whether the basis of such proceeding is alleged action in an official capacity as a director, officer or employee or in any other capacity while serving as a director, officer or employee, shall be indemnified and held harmless by the Corporation to the fullest extent authorized by Delaware Law, as the same exists or may hereafter be amended (but, in the case of any such amendment, only to the extent that such amendment permits the Corporation to provide broader indemnification rights than said Law permitted the Corporation to provide prior to such amendment) against all expenses, liability and loss (including attorneys' fees, judgments, fines, ERISA excise taxes or penalties, amounts paid or to be paid in settlement and amounts expended in seeking indemnification granted to such person under applicable law, this by-law or any agreement with the Corporation) reasonably incurred or suffered by such person in connection therewith and such indemnification shall continue as to a person who has ceased to be a director, officer or employee and shall inure to the benefit of his or her heirs, executors and administrators; provided however, that, except as provided in Section 2 of this Article VIII, the Corporation shall indemnify any such person seeking indemnity in connection with an action, suit or proceeding (or part thereof) initiated by such person only if such action, suit or proceeding (or part thereof) was authorized by the Board of Directors of the Corporation. Such right shall be a contract right and shall include the right to be paid by the Corporation expenses incurred in defending any such proceeding in advance of its final disposition; provided, however, that, if the Delaware General Corporation Law then so requires, the payment of such expenses incurred by a director or officer of the Corporation in his or her capacity as a director or officer (and not in any other capacity in which service was or is rendered by such person while a director or officer, including, without limitation, service to an employee benefit plan) in advance of the final disposition of such proceeding, shall be made only upon delivery

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to the Corporation of an undertaking, by or on behalf of such director or officer, to repay all amounts so advanced if it should be determined ultimately that such director or officer is not entitled to be indemnified under this Section 1 or otherwise.

Section 2. Right of Claimant to Bring Suit. If a claim under Section 1 of this Article VIII is not paid in full by the Corporation within twenty (20) days after a written claim has been received by the Corporation, the claimant may at any time thereafter bring suit against the Corporation to recover the unpaid amount of the claim and, if such suit is not frivolous or brought in bad faith, the claimant shall be entitled to be paid also the expense of prosecuting such claim. It shall be a defense to any such action (other than an action brought to enforce a claim for expenses incurred in defending any proceeding in advance of its final disposition where the required undertaking, if any, has been tendered to this Corporation) that the claimant has not met the standards of conduct which make it permissible under the Delaware General Corporation Law for the Corporation to indemnify the claimant for the amount claimed, but the burden of proving such defense shall be on the Corporation. Neither the failure of the Corporation (including its Board of Directors, independent legal counsel, or its stockholders) to have made a determination prior to the commencement of such action that indemnification of the claimant is proper in the circumstances because he has met the applicable standard of conduct set forth in the Delaware General Corporation Law, nor an actual determination by the Corporation (including its Board of Directors, independent legal counsel, or its stockholders) that the claimant has not met such applicable standard of conduct, shall be a defense to the action or create a presumption that claimant has not met the applicable standard of conduct.

Section 3. Non-Exclusivity of Rights. The rights conferred on any person in Sections 1 and 2 of this Article VIII shall not be exclusive of any other right which such persons may have or hereafter acquire under any statute,

provision of the Certificate of Incorporation, by-law, agreement, vote of stockholders or disinterested directors or otherwise.

Section 4. Indemnification Contracts. The Board of Directors is authorized to enter into a contract with any director, officer, employee or agent of the Corporation, or any person serving at the request of the Corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, including employee benefit plans, providing for indemnification rights equivalent to or, if the Board of Directors so determines, greater than, those provided for in this Article VIII.

Section 5. Insurance. The Corporation shall maintain insurance to the extent reasonably available, at its expense, to protect itself and any such director, officer, employee or agent of the Corporation or another corporation, partnership, joint venture, trust or other enterprise against any such expense, liability or loss, whether or not the Corporation would have the power to indemnify such person against such expense, liability or loss under the Delaware General Corporation Law.

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Section 6. Effect of Amendment. Any amendment, repeal or modification of any provision of this Article VIII by the stockholders and the Directors of the Corporation shall not adversely affect any right or protection of a director or officer of the Corporation existing at the time of such amendment, repeal or modification.

Section 7. Savings Clause. If this Article VIII or any portion hereof shall be invalidated on any ground by any court of competent jurisdiction, then the Corporation shall nevertheless indemnify each director, officer, employee and agent of the Corporation as to costs, charges and expenses (including attorneys' fees), judgments, fines and amounts paid in settlement with respect to any action, suit or proceeding, whether civil, criminal, administrative or investigative, including an action by or in the right of the Corporation, to the full extent permitted by an applicable portion of this Article VIII that shall not have been invalidated and to the full extent permitted by applicable law.

ARTICLE IX
AMENDMENTS

The Board of Directors is expressly empowered to adopt, amend or repeal By-Laws of the Corporation. Any adoption, amendment or repeal of By-Laws of the Corporation by the Board of Directors shall require the approval of a majority of the total number of authorized directors (whether or not there exist any vacancies in previously authorized directorships at the time any resolution providing for adoption, amendment or repeal is presented to the Board). The stockholders shall also have power to adopt, amend or repeal the By-Laws of the Corporation. In the event of any such adoption, amendment or repeal of these By-Laws by Stockholders, in addition to any vote of the holders or any class or series of stock of this Corporation required by law or by these By-Laws, the affirmative vote of the holders of at least a majority of the voting power of all of the then-outstanding shares of the capital stock of the Corporation entitled to vote generally in the election of directors, voting together as a single class, shall be required.

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[Wilson Sonsini Goodrich & Rosati Letterhead]

December 4, 1998

KLA-Tencor Corporation
160 Rio Robles
San Jose, CA 95134

RE: REGISTRATION STATEMENT ON FORM S-8

Ladies and Gentlemen:

We have examined the Registration Statement on Form S-8 to be filed by you with the Securities and Exchange Commission on or about December 4, 1998 (the "Registration Statement"), in connection with the registration under the Securities Act of 1933, as amended, of an additional 1,000,000 shares of Common Stock (the "Shares") reserved for issuance under the 1997 Employee Stock Purchase Plan (the "Plan"). As your legal counsel, we have examined the proceedings taken and proposed to be taken in connection with the issuance, sale and payment of consideration for the Shares to be issued under the Plan.

It is our opinion that, when issued and sold in compliance with applicable prospectus delivery requirements and in the manner referred to in the Plan and pursuant to the agreements which accompany the Plan, the Shares will be legally and validly issued, fully paid and non-assessable.

We consent to the use of this opinion as an exhibit to the Registration Statement and further consent to the use of our name wherever appearing in the Registration Statement and any amendments thereto.

Sincerely,

WILSON SONSINI GOODRICH & ROSATI
Professional Corporation

/s/ Wilson Sonsini Goodrich & Rosati

CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of our report dated July 28, 1998, which appears on page 34 of the 1998 Annual Report to Stockholders of KLA-Tencor Corporation, which is incorporated by reference in KLA-Tencor Corporation's Annual Report on Form 10-K for the year ended June 30, 1998.

PRICEWATERHOUSECOOPERS LLP

San Jose, California
December 3, 1998