

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)

DELAWARE
 (State of incorporation)

04-2564110
 (I.R.S. Employer Identification No.)

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

RESTATED 1982 STOCK OPTION PLAN
AMENDED AND RESTATED 1997 EMPLOYEE STOCK PURCHASE PLAN
AMENDED AND RESTATED 2000 NON-STATUTORY STOCK OPTION PLAN
 (Full Titles of the Plans)

STUART J. NICHOLS
VICE PRESIDENT, GENERAL COUNSEL
KLA-TENCOR CORPORATION
160 Rio Robles
San Jose, CA 95134
 (Name and address of agent for service)

(408) 875-4200
 (Telephone number, including area code, of agent for service)

Copies to:
LARRY W. SONSINI, ESQ.
MARTIN W. KORMAN, ESQ.
BRET M. DIMARCO, ESQ.
WILSON SONSINI GOODRICH & ROSATI
Professional Corporation
650 Page Mill Road
Palo Alto, CA 94304-1050
(650) 493-9300

CALCULATION OF REGISTRATION FEE

Title of Securities to be Registered	Amount to be Registered(1)	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee(4)
Common Stock, \$.001 par value, to be issued under the Restated 1982 Stock Option Plan	5,691,826	\$ 27.07(2)	\$154,077,729.82	\$14,175.15
Common Stock, \$.001 par value, to be issued under the Amended and Restated 1997 Employee Stock Purchase Plan	400,000	\$ 23.01(3)	\$ 9,203,800.00	\$ 846.75
Common Stock, \$.001 par value, to be issued under the Amended and Restated 2000 Non-Statutory Option Plan	7,589,102	\$ 27.07(2)	\$205,436,991.14	\$18,900.20
Total:	13,680,928		\$368,718,520.96	\$33,922.10

(1) Amount of securities to be registered computed in accordance with Rule 457(h) of the Securities Act of 1933, as amended, (the "Securities Act") as the maximum number of the Registrant's Common Stock issuable under the plans covered by this Registration Statement. Pursuant to Rule 416(a) of the Securities Act, this Registration Statement shall also cover any additional shares of the Registrant's Common Stock that become issuable under the plans covered by this Registration Statement by reason of any stock split, stock dividend, recapitalization or other similar transaction effected without the Registrant's receipt of consideration that results in an increase in the number of the Registrant's outstanding shares of Common Stock.

- (2) Estimated in accordance with Rule 457(c) of the Securities Act solely for the purpose of calculating the registration fee based on the average of the high and low prices per share of the Common Stock as reported on The Nasdaq National Market on September 23, 2002.
 - (3) Estimated in accordance with Rule 457(c) of the Securities Act solely for the purpose of calculating the registration fee based on 85% of the average of the high and low prices per share of the Common Stock as reported on The Nasdaq National Market on September 23, 2002.
 - (4) Amount of registration fee was calculated pursuant to Section 6(b) of the Securities Act, which provides that the fee shall be \$92 per \$1,000,000 of the proposed maximum aggregate offering price of the securities proposed to be registered.
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PART II
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, 2002 (File No. 000-09992) pursuant to Section 13(a) of the Securities Exchange Act of 1934, as amended (the “**Exchange Act**”);
- (b) All other reports filed by the Registrant pursuant to Section 13(a) or 15(d) of the Exchange Act since the end of the fiscal year covered by the Annual Report referred to in (a) above;
- (c) 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; and
- (d) All other descriptions of the Registrant’s Common Stock contained in a registration statement filed under the Exchange Act, including any amendment or report filed for the purpose of updating such description.

All documents subsequently filed by the Registrant pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act, prior to the filing of a post-effective amendment to this Registration Statement which indicates that all securities offered hereby have been sold or which deregisters all securities remaining unsold, shall be deemed to be incorporated by reference in this Registration Statement and to be a part hereof from the date of filing of such documents.

Item 4. Description of Securities.

Not applicable.

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 shall have power to 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 the person 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

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venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding if the person acted in good faith and in a manner the person 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 the person's conduct was unlawful." With respect to derivative actions, Section 145(b) of the DGCL provides in relevant part that "[a] corporation shall have power to 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 the fact that the person 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) actually and reasonably incurred by the person in connection with the defense or settlement of such action or suit if the person acted in good faith and in a manner 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 Registrant's Amended and Restated Certificate of Incorporation provides that to the fullest extent permitted by the DGCL, no director of the Registrant shall be personally liable to the Registrant 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 Registrant's Bylaws provide that the Registrant shall indemnify to the fullest 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 Registrant.

The Registrant 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:

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

- (i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;
- (ii) To reflect in the prospectus any facts or events arising after the effective date of the Registration Statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the Registration Statement; and
- (iii) To include any material information with respect to the plan of distribution not previously disclosed in the Registration Statement or any material change to such information in the Registration Statement.

Provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed by the Registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act 1934 that are incorporated by reference 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.

(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.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, 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 September 23, 2002.

KLA-TENCOR CORPORATION

By: /s/ Stuart J. Nichols

Stuart J. Nichols, Vice President,
General Counsel

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POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Stuart J. Nichols, their true and lawful attorney and agent, with full power of substitution, with the 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 attorney and agent, or his substitute, 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.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Kenneth Levy</u> Kenneth Levy	Chairman of the Board and Director	September 23, 2002
<u>/s/ Kenneth L. Schroeder</u> Kenneth L. Schroeder	Chief Executive Officer and Director (Principal Executive Officer)	September 23, 2002
<u>/s/ John H. Kispert</u> John H. Kispert	Chief Financial Officer (Principal Financial and Accounting Officer)	September 23, 2002
<u>/s/ Edward W. Barnholt</u> Edward W. Barnholt	Director	September 23, 2002
<u>/s/ H. Raymond Bingham</u> H. Raymond Bingham	Director	September 23, 2002
<u>/s/ Robert T. Bond</u> Robert T. Bond	Director	September 23, 2002
<u>/s/ Richard J. Elkus, Jr.</u> Richard J. Elkus, Jr.	Director	September 23, 2002
<u>/s/ Jon D. Tompkins</u> Jon D. Tompkins	Director	September 23, 2002
<u>/s/ Lida Urbanek</u> Lida Urbanek	Director	September 23, 2002

KLA-TENCOR CORPORATION
REGISTRATION STATEMENT ON FORM S-8

INDEX TO EXHIBITS

Exhibit Number	Description
4.1(1)	Amended and Restated Certificate of Incorporation, as amended
4.2(2)	Certificate of Amendment of Amended and Restated Certificate of Incorporation
4.3(3)	Bylaws of the Registrant, as amended
4.4(4)	Amended and Restated Rights Agreement dated as of April 25, 1996, between the Registrant and First National Bank of Boston, as Rights Agent. This agreement includes the Form of Right Certificate as Exhibit A and the Summary of Terms of Rights as Exhibit B thereto
5.1	Opinion re legality
10.1(5)	Amended and Restated 1997 Employee Stock Purchase Plan
10.2(6)	Restated 1982 Stock Option Plan
10.3	Amended and Restated 2000 Nonstatutory Stock Option Plan
23.1	Consent of Independent Accountants
23.2	Consent of Counsel (included in Exhibit 5.1)
24.1	Power of Attorney (see Page II-5)

(1)	Incorporated by reference to Exhibit 3.1 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 1997 (Commission File No. 000-09992).
(2)	Incorporated by reference to Exhibit 3.1 to the Registrant's Quarterly Report on Form 10-Q, for the quarter ended December 31, 2000 (Commission File No. 000-09992).
(3)	Incorporated by reference to Exhibit 3.2 to the Registrant's Registration Statement on Form S-8, filed December 4, 1998 (Commission File No. 333-68415).
(4)	Incorporated by reference to Exhibit 1 of the Registrant's report on Form 8-A12G/A Amendment No. 2 to the Registration Statement on Form 8-A (filed September 24, 1996, Commission File No. 000-09992).
(5)	Incorporated by reference to Exhibit 10.1 to the Registrant's Registration Statement on Form S-8, filed December 26, 2001 (Commission File No. 333-75944).
(6)	Incorporated by reference to Exhibit 10.74 to the Registrant's Registration Statement on Form S-8, filed March 7, 1997. (Commission File No. 333-22941).

September 27, 2002

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

RE: REGISTRATION STATEMENT ON FORM S-8

Ladies and Gentlemen:

I have examined the Registration Statement on Form S-8 to be filed with the Securities and Exchange Commission on or about September 27, 2002 (the "Registration Statement"), in connection with the registration under the Securities Act of 1933, as amended, of an additional 5,691,826 shares of KLA-Tencor Common Stock reserved for issuance under the Restated 1982 Stock Option Plan, as amended (the "1982 Plan"), 400,000 shares of KLA-Tencor Common Stock reserved for issuance under the Amended and Restated 1997 Employee Stock Purchase Plan (the "1997 Plan") and 7,589,102 shares of KLA-Tencor Common Stock reserved for issuance under the Amended and Restated 2000 Non-Statutory Stock Option Plan (the "2000 Plan"). Such shares of Common Stock are referred to herein as the "Shares." As legal counsel, I 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 1982 Plan, the 1997 Plan and the 2000 Plan.

It is my opinion that, when issued and sold in compliance with applicable prospectus delivery requirements and in the manner referred to in the 1982 Plan, the 1997 Plan and the 2000 Plan and pursuant to the agreements which accompany the 1982 Plan, the 1997 Plan and the 2000 Plan, the Shares will be legally and validly issued, fully paid and non-assessable.

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

Sincerely,

/s/ Stuart J. Nichols

Stuart J. Nichols
Vice President, General Counsel
KLA-Tencor Corporation

KLA-TENCOR CORPORATION
2000 NONSTATUTORY STOCK OPTION PLAN
(AS AMENDED AUGUST 2, 2002)

1. Purposes of the Plan. The purposes of this Nonstatutory Stock Option Plan are:

- to attract and retain the best available personnel for positions of substantial responsibility (other than Officers and Directors),
- to provide additional incentive to Employees and Consultants, and
- to promote the success of the Company's business.

Options granted under the Plan will be Nonstatutory Stock Options.

2. Definitions. As used herein, the following definitions shall apply:

(a) "Administrator" means the Board or any of its Committees as shall be administering the Plan, in accordance with Section 4 of the Plan.

(b) "Applicable Laws" means the requirements relating to the administration of stock option plans under U.S. state corporate laws, U.S. federal and state securities laws, the Code, any stock exchange or quotation system on which the Common Stock is listed or quoted and the applicable laws of any foreign country or jurisdiction where Options are, or will be, granted under the Plan.

(c) "Board" means the Board of Directors of the Company.

(d) "Code" means the Internal Revenue Code of 1986, as amended.

(e) "Committee" means a committee of Directors appointed by the Board in accordance with Section 4 of the Plan.

(f) "Common Stock" means the Common Stock of the Company.

(g) "Company" means KLA-Tencor Corporation.

(h) "Consultant" means any person, including an advisor, engaged by the Company or a Parent or Subsidiary to render services to such entity.

(i) "Director" means a member of the Board.

(j) "Disability" means total and permanent disability as defined in Section 22(e)(3) of the Code.

(k) "Employee" means any person, including officers, employed by the Company or any Parent or Subsidiary of the Company. A Service Provider shall not cease to be an Employee in the case of (i) any leave of absence approved by the Company or (ii) transfers between locations of the Company or between the Company, its Parent, any Subsidiary, or any successor. Neither service as a Director nor payment of a director's fee by the Company shall be sufficient to constitute "employment" by the Company.

(l) "Exchange Act" means the Securities Exchange Act of 1934, as amended.

(m) "Fair Market Value" means, as of any date, the value of Common Stock determined as follows:

(i) If the Common Stock is listed on any established stock exchange or a national market system, including without limitation the Nasdaq National Market or The Nasdaq SmallCap Market of The Nasdaq Stock Market, its Fair Market Value shall be the closing sales price for such stock (or the closing bid, if no sales were reported) as quoted on such exchange or system on the date of determination, as reported in The Wall Street Journal or such other source as the Administrator deems reliable;

(ii) If the Common Stock is regularly quoted by a recognized securities dealer but selling prices are not reported, the Fair Market Value of a Share of Common Stock shall be the mean between the high bid

and low asked prices for the Common Stock on the date of determination, as reported in The Wall Street Journal or such other source as the Administrator deems reliable;

(iii) In the absence of an established market for the Common Stock, the Fair Market Value shall be determined in good faith by the Administrator.

(n) "Notice of Grant" means a written or electronic notice evidencing certain terms and conditions of an individual Option grant. The Notice of Grant is part of the Option Agreement.

(o) "Officer" means an Employee subject to Section 16 of the Securities Exchange Act of 1934, as amended.

(p) "Option" means a nonstatutory stock option granted pursuant to the Plan, that is not intended to qualify as an incentive stock option within the meaning of Section 422 of the Code and the regulations promulgated thereunder.

(q) "Option Agreement" means an agreement between the Company and an Optionee evidencing the terms and conditions of an individual Option grant. The Option Agreement is subject to the terms and conditions of the Plan.

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(r) "Optioned Stock" means the Common Stock subject to an Option.

(s) "Optionee" means the holder of an outstanding Option granted under the Plan.

(t) "Parent" means a "parent corporation," whether now or hereafter existing, as defined in Section 424(e) of the Code.

(u) "Plan" means this 2000 Nonstatutory Stock Option Plan.

(v) "Service Provider" means an Employee, Consultant or Director.

(w) "Share" means a share of the Common Stock, as adjusted in accordance with Section 12 of the Plan.

(x) "Subsidiary" means a "subsidiary corporation," whether now or hereafter existing, as defined in Section 424(f) of the Code.

3. Stock Subject to the Plan. Subject to the provisions of Section 12 of the Plan, the maximum aggregate number of Shares which may be optioned and sold under the Plan is seven million five hundred eighty-nine thousand one hundred two (7,589,102) Shares. The Shares may be authorized, but unissued, or reacquired Common Stock.

If an Option expires or becomes unexercisable without having been exercised in full, the unpurchased Shares which were subject thereto shall become available for future grant or sale under the Plan (unless the Plan has terminated).

4. Administration of the Plan.

(a) Administration. The Plan shall be administered by (i) the Board or (ii) a Committee, which Committee shall be constituted to satisfy Applicable Laws.

(b) Powers of the Administrator. Subject to the provisions of the Plan, and in the case of a Committee, subject to the specific duties delegated by the Board to such Committee, the Administrator shall have the authority, in its discretion:

(i) to determine the Fair Market Value of the Common Stock;

(ii) to select the Service Providers to whom Options may be granted hereunder;

(iii) to determine whether and to what extent Options are granted hereunder;

(iv) to determine the number of shares of Common Stock to be covered by each Option granted hereunder;

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(v) to approve forms of agreement for use under the Plan,

including the ability to approve forms of agreement allowing for early exercise of stock options prior to vesting, subject to the Optionee entering into a form of restricted stock purchase agreement;

(vi) to determine the terms and conditions, not inconsistent with the terms of the Plan, of any award granted hereunder. Such terms and conditions include, but are not limited to, the exercise price, the time or times when Options may be exercised (which may be based on performance criteria), any vesting acceleration or waiver of forfeiture restrictions, and any restriction or limitation regarding any Option or the shares of Common Stock relating thereto, based in each case on such factors as the Administrator, in its sole discretion, shall determine;

(vii) to construe and interpret the terms of the Plan and awards granted pursuant to the Plan;

(viii) to prescribe, amend and rescind rules and regulations relating to the Plan, including rules and regulations relating to sub-plans established for the purpose of qualifying for preferred tax treatment under foreign tax laws;

(ix) to modify or amend each Option (subject to Section 14(b) of the Plan), including the discretionary authority to extend the post-termination exercisability period of Options longer than is otherwise provided for in the Plan;

(x) to authorize any person to execute on behalf of the Company any instrument required to effect the grant of an Option previously granted by the Administrator;

(xi) to determine the terms and restrictions applicable to Options;

(xii) to allow Optionees to satisfy withholding tax obligations by electing to have the Company withhold from the Shares to be issued upon exercise of an Option that number of Shares having a Fair Market Value equal to the amount required to be withheld (but not more than the amount required to be withheld). The Fair Market Value of the Shares to be withheld shall be determined on the date that the amount of tax to be withheld is to be determined. All elections by an Optionee to have Shares withheld for this purpose shall be made in such form and under such conditions as the Administrator may deem necessary or advisable; and

(xiii) to make all other determinations deemed necessary or advisable for administering the Plan.

(c) Effect of Administrator's Decision. The Administrator's decisions, determinations and interpretations shall be final and binding on all Optionees and any other holders of Options.

5. Eligibility. Options may be granted to Service Providers; provided, however, that in no event may Options be granted hereunder to individuals who are Officers or Directors.

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6. Limitation. Neither the Plan nor any Option shall confer upon an Optionee any right with respect to continuing the Optionee's relationship as a Service Provider with the Company, nor shall they interfere in any way with the Optionee's right or the Company's right to terminate such relationship at any time, with or without cause.

7. Term of Plan. The Plan shall become effective upon its adoption by the Board. It shall continue in effect for ten (10) years, unless sooner terminated under Section 14 of the Plan.

8. Term of Option. The term of each Option shall be stated in the Option Agreement.

9. Option Exercise Price and Consideration.

(a) Exercise Price. The per share exercise price for the Shares to be issued pursuant to exercise of an Option shall be determined by the Administrator.

(b) Waiting Period and Exercise Dates. At the time an Option is granted, the Administrator shall fix the period within which the Option may be exercised and shall determine any conditions which must be satisfied before the Option may be exercised.

(c) Form of Consideration. The Administrator shall determine the acceptable form of consideration for exercising an Option, including the method of payment. Such consideration may consist entirely of:

(i) cash;

(ii) check;

(iii) promissory note;

(iv) other Shares which (A) in the case of Shares acquired upon exercise of an option, have been owned by the Optionee for more than six months on the date of surrender, and (B) have a Fair Market Value on the date of surrender equal to the aggregate exercise price of the Shares as to which said Option shall be exercised;

(v) consideration received by the Company under a cashless exercise program implemented by the Company in connection with the Plan;

(vi) such other consideration and method of payment for the issuance of Shares to the extent permitted by Applicable Laws; or

(vii) any combination of the foregoing methods of payment.

10. Exercise of Option.

(a) Procedure for Exercise; Rights as a Shareholder. Any Option granted hereunder shall be exercisable according to the terms of the Plan and at such times and under such

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conditions as determined by the Administrator and set forth in the Option Agreement. An Option may not be exercised for a fraction of a Share.

An Option shall be deemed exercised when the Company receives: (i) written or electronic notice of exercise (in accordance with the Option Agreement) from the person entitled to exercise the Option, and (ii) full payment for the Shares with respect to which the Option is exercised. Full payment may consist of any consideration and method of payment authorized by the Administrator and permitted by the Option Agreement and the Plan. Shares issued upon exercise of an Option shall be issued in the name of the Optionee or, if requested by the Optionee, in the name of the Optionee and his or her spouse. Until the Shares are issued (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company), no right to vote or receive dividends or any other rights as a shareholder shall exist with respect to the Optioned Stock, notwithstanding the exercise of the Option. The Company shall issue (or cause to be issued) such Shares promptly after the Option is exercised. No adjustment will be made for a dividend or other right for which the record date is prior to the date the Shares are issued, except as provided in Section 12 of the Plan.

Exercising an Option in any manner shall decrease the number of Shares thereafter available, both for purposes of the Plan and for sale under the Option, by the number of Shares as to which the Option is exercised.

(b) Termination of Relationship as a Service Provider. If an Optionee ceases to be a Service Provider, other than upon the Optionee's death or Disability, the Optionee may exercise his or her Option, but only within such period of time as is specified in the Option Agreement, and only to the extent that the Option is vested on the date of termination (but in no event later than the expiration of the term of such Option as set forth in the Option Agreement). In the absence of a specified time in the Option Agreement, the Option shall remain exercisable for three (3) months following the Optionee's termination. If, on the date of termination, the Optionee is not vested as to his or her entire Option, the Shares covered by the unvested portion of the Option shall revert to the Plan. If, after termination, the Optionee does not exercise his or her Option within the time specified by the Administrator, the Option shall terminate, and the Shares covered by such Option shall revert to the Plan.

(c) Disability of Optionee. If an Optionee ceases to be a Service Provider as a result of the Optionee's Disability, the Optionee may exercise his or her Option within such period of time as is specified in the Option Agreement, to the extent the Option is vested on the date of termination (but in no event later than the expiration of the term of such Option as set forth in the Option Agreement). In the absence of a specified time in the Option Agreement, the Option shall remain exercisable for twelve (12) months following the Optionee's termination. If, on the date of termination, the Optionee is not vested as to his or her entire Option, the Shares covered by the unvested portion of the Option shall revert to the Plan. If, after termination, the Optionee does not exercise his or her Option within the time specified herein, the Option shall terminate, and the Shares covered by such Option shall revert to the Plan.

(d) Death of Optionee. If an Optionee dies while a Service Provider, the Option may be exercised within such period of time as is specified in the Option Agreement (but in no event later than the expiration of the term of such Option as set forth in the Notice of Grant), by the Optionee's estate or by a person who acquires the right to exercise the Option by bequest or inheritance, but only to the extent that the Option is vested on the date of death. In the absence of a specified time in the Option Agreement, the Option shall remain exercisable for twelve (12) months following the Optionee's termination. If, at the time of death, the Optionee is not vested as to his or her entire Option, the Shares covered by the unvested portion of the Option shall immediately revert to the Plan. The Option may be exercised by the executor or administrator of the Optionee's estate or, if none, by the person(s) entitled to exercise the Option under the Optionee's will or the laws of descent or distribution. If the Option is not so exercised within the time specified herein, the Option shall terminate, and the Shares covered by such Option shall revert to the Plan.

(e) Leave of Absence. Options granted hereunder shall have their vesting suspended during any unpaid leave of absence unless (i) the Administrator provides otherwise in writing, or (ii) if otherwise required under Applicable Laws.

11. Transferability of Options. During the lifetime of the Optionee, an Option shall be exercisable only by the Optionee or the Optionee's guardian, legal representative or permitted transferees. Except as specified below, no Option shall be assignable or transferable by the Optionee except by will or by the laws of descent and distribution. At the sole discretion of the Administrator, and subject to such terms and conditions as the Administrator deems advisable, the Administrator may allow, by means of a writing to the Optionee, for all or part of an Option to be assigned or transferred, during an Optionee's lifetime, to a member of the Optionee's immediate family or to a trust, LLC or partnership for the benefit of any one or more members of such Optionee's immediate family. "Immediate family" as used herein means the spouse, lineal descendants, father, mother, brothers and sisters of the Optionee. In such case, the transferee shall receive and hold the Option subject to the provisions of this Section 11, and there shall be no further assignation or transfer of the Option. The terms of Options granted hereunder shall be binding upon the transferees, purchasers, executors, administrators, heirs, successors and assigns of the Optionee.

12. Adjustments Upon Changes in Capitalization, Dissolution, Merger, Asset Sale or Corporate Reorganization.

(a) Changes in Capitalization. Subject to any required action by the shareholders of the Company, the number of shares of Common Stock covered by each outstanding Option, and the number of shares of Common Stock which have been authorized for issuance under the Plan but as to which no Options have yet been granted or which have been returned to the Plan upon cancellation or expiration of an Option, as well as the price per share of Common Stock covered by each such outstanding Option, shall be proportionately adjusted for any increase or decrease in the number of issued shares of Common Stock resulting from a stock split, reverse stock split, stock dividend, combination or reclassification of the Common Stock, or any other increase or decrease in the number of issued shares of Common Stock effected without receipt of consideration by the Company; provided, however, that conversion of any convertible securities of the Company shall not be deemed to have been "effected without receipt of consideration." Such adjustment shall be made

by the Board, whose determination in that respect shall be final, binding and conclusive. Except as expressly provided herein, no issuance by the Company of shares of stock of any class, or securities convertible into shares of stock of any class, shall affect, and no adjustment by reason thereof shall be made with respect to, the number or price of shares of Common Stock subject to an Option.

(b) Dissolution or Liquidation. In the event of the proposed dissolution or liquidation of the Company, the Administrator shall notify each Optionee as soon as practicable prior to the effective date of such proposed transaction. The Administrator in its discretion may provide for an Optionee to have the right to exercise his or her Option until ten (10) days prior to such transaction as to all of the Optioned Stock covered thereby, including Shares as to which the Option would not otherwise be exercisable. In addition, the Administrator may provide that any Company repurchase option applicable to any Shares purchased upon exercise of an Option shall lapse as to all such Shares, provided the proposed dissolution or liquidation takes place at the time and in the manner contemplated. To the extent it has not been previously exercised, an Option will terminate immediately prior to the consummation of such proposed action.

(c) Merger or Asset Sale. In the event of a merger of the Company with or into another corporation, or the sale of substantially all of the assets of the Company, each outstanding Option shall be assumed or an equivalent option or right substituted by the successor corporation or a Parent or Subsidiary of the successor corporation. In the event that the successor corporation refuses to assume or substitute for the Option, the Optionee shall fully vest in and have the right to exercise the Option as to all of the Optioned Stock, including Shares as to which it would not otherwise be vested or exercisable. If an Option becomes fully vested and exercisable in lieu of assumption or substitution in the event of a merger or sale of assets, the Administrator shall notify the Optionee in writing or electronically that the Option shall be fully vested and exercisable for a period of fifteen (15) days from the date of such notice, and the Option shall terminate upon the expiration of such period. For the purposes of this paragraph, the Option shall be considered assumed if, following the merger or sale of assets, the option or right confers the right to purchase or receive, for each Share of Optioned Stock, immediately prior to the merger or sale of assets, the consideration (whether stock, cash, or other securities or property) received in the merger or sale of assets by holders of Common Stock for each Share held on the effective date of the transaction (and if holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding Shares); provided, however, that if such consideration received in the merger or sale of assets is not solely common stock of the successor corporation or its Parent, the Administrator may, with the consent of the successor corporation, provide for the consideration to be received upon the exercise of the Option, for each Share of Optioned Stock to be solely common stock of the successor corporation or its Parent equal in fair market value to the per share consideration received by holders of Common Stock in the merger or sale of assets.

13. Date of Grant. The date of grant of an Option shall be, for all purposes, the date on which the Administrator makes the determination granting such Option, or such other later date as is determined by the Administrator. Notice of the determination shall be provided to each Optionee within a reasonable time after the date of such grant.

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14. Amendment and Termination of the Plan.

(a) Amendment and Termination. The Board may at any time amend, alter, suspend or terminate the Plan.

(b) Effect of Amendment or Termination. No amendment, alteration, suspension or termination of the Plan shall impair the rights of any Optionee, unless mutually agreed otherwise between the Optionee and the Administrator, which agreement must be in writing and signed by the Optionee and the Company. Termination of the Plan shall not affect the Administrator's ability to exercise the powers granted to it hereunder with respect to options granted under the Plan prior to the date of such termination.

15. Conditions Upon Issuance of Shares.

(a) Legal Compliance. Shares shall not be issued pursuant to the exercise of an Option unless the exercise of such Option and the issuance and delivery of such Shares shall comply with Applicable Laws and shall be further subject to the approval of counsel for the Company with respect to such compliance.

(b) Investment Representations. As a condition to the exercise of an Option the Company may require the person exercising such Option to represent and warrant at the time of any such exercise that the Shares are being purchased only for investment and without any present intention to sell or distribute such Shares if, in the opinion of counsel for the Company, such a representation is required.

16. Inability to Obtain Authority. The inability of the Company to obtain authority from any regulatory body having jurisdiction, which authority is deemed by the Company's counsel to be necessary to the lawful issuance and sale of any Shares hereunder, shall relieve the Company of any liability in respect of the failure to issue or sell such Shares as to which such requisite authority shall not have been obtained.

17. Reservation of Shares. The Company, during the term of this Plan, will at all times reserve and keep available such number of Shares as shall be sufficient to satisfy the requirements of the Plan.

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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 31, 2002 relating to the financial statements of KLA-Tencor Corporation, which appears in KLA-Tencor Corporation's Annual Report on Form 10-K for the year ended June 30, 2002. We also consent to the incorporation by reference of our report dated July 31, 2002 relating to the financial statement schedule, which appears in such Annual Report on Form 10-K.

/s/ PricewaterhouseCoopers

San Jose, California
September 27, 2002