

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 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)

 EXCESS PROFIT STOCK PLAN
 (Full Title of the Plan)

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) 468-4200
 (Telephone number, including area code, of agent for service)

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

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CALCULATION OF REGISTRATION FEE

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<TABLE>
 <CAPTION>

Amount of Title of Securities to be Register Registration Fee	Amount to be Registered	Proposed Maximum Offering Price Per Share(1)	Proposed Maximum Aggregate Offering Price(1)
-----	-----	-----	-----
<S>	<C>	<C>	<C>
<C>			
Common Stock, \$.001 par value newly reserved under Excess \$2,619.00 Profit Stock Plan	300,000	\$28.8125	\$8,643,000.00

(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 on August 3, 1998.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

ITEM 3. INCORPORATION OF DOCUMENTS BY REFERENCE.

KIA-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, 1997 (File No. 000-09992) filed pursuant to Section 13(a) of the Securities Exchange Act of 1934, as amended (the "EXCHANGE ACT");
- (b) Registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 1998 filed pursuant to Section 13(a) of the Exchange act.
- (c) Registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended December 31, 1997 filed pursuant to Section 13(a) of the Exchange Act.
- (d) Registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended September 30, 1997, filed pursuant to Section 13(a) of the Exchange Act;
- (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 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.

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

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.

Inapplicable.

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,

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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 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 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 his 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 his service in one of the capacities specified in the preceding sentence] 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 the person 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

Inapplicable.

ITEM 8. EXHIBITS

See Exhibit Index.

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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.

(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 August 7, 1998.

KLA-TENCOR CORPORATION

By: /s/ Lisa C. Berry

Lisa C. Berry, Vice President and 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 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 (Principal-Executive-Officer)	<C> August 7, 1998
/s/ Jon D. Tompkins ----- Jon D. Tompkins	Chairman of the Board -----	August 7, 1998 -----
/s/ Kenneth L. Schroeder ----- Kenneth L. Schroeder	President, Chief Operating Officer and Director	August 7, 1998 -----
/s/ Robert J. Boehlke ----- Robert J. Boehlke	Vice President, Administration and Finance, -and- Chief-Financial-Officer (Principal Financial and Accounting Officer)	August 7, 1998 -----
/s/ James W. Bagley ----- James W. Bagley	Director -----	August 7, 1998 -----
/s/ Edward W. Barnholt ----- Edward W. Barnholt	Director -----	August 7, 1998 -----

/s/ Leo J. Chamberlain ----- Leo J. Chamberlain	Director -----	August 7, 1998 -----
/s/ Richard J. Elkus, Jr. ----- Richard J. Elkus, Jr.	Director	August 7, 1998
/s/ Dean O. Morton ----- Dean O. Morton	Director	August 7, 1998
/s/ Yoshio Nishi ----- Yoshio Nishi	Director	August 7, 1998
/s/ Samuel Rubinovitz ----- Samuel Rubinovitz	Director	August 7, 1998
/s/ Dag Tellefsen ----- Dag Tellefsen	Director	August 7, 1998
/s/ Lida Urbanek ----- Lida Urbanek	Director	August 7, 1998

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KLA-TENCOR CORPORATION
REGISTRATION STATEMENT ON FORM S-8
INDEX TO EXHIBITS

Exhibit Number	Description
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<S>	<C>
4.1*	Certificate of Incorporation, as amended
4.2**	Bylaws of the Registrant, as amended
5.1	Opinion re: legality
10.15	Excess Profit Stock 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)

</TABLE>

* Previously filed as Exhibit 3.1 to the Registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 1997 (filed on May 14, 1997, SEC File No. 000-09992).

** Previously filed as Exhibit 3.2 to the Registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 1997 (filed on May 14, 1997, SEC File No. 000-09992).

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[Letterhead]

August 7, 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 August 7, 1998 (the "Registration Statement"), in connection with the registration under the Securities Act of 1933, as amended, of 300,000 shares of Common Stock (the "Shares") reserved for issuance under the Excess Profit Stock 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 Plans.

It is our opinion that, when issued and sold in compliance with applicable prospectus delivery requirements and in the manner referred to in the Plans and pursuant to the agreements which accompany the Plans, 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

KLA-TENCOR CORPORATION
EXCESS PROFIT STOCK PLAN

1. ESTABLISHMENT, PURPOSE AND TERM OF PLAN.

1.1 Establishment. The KLA-Tencor Corporation Excess Profit Stock Plan (the "PLAN") is hereby established effective as of April 25, 1996 (the "EFFECTIVE DATE").

1.2 Purpose. The purpose of the Plan is to advance the interests of the Participating Company Group and its stockholders by providing an incentive to attract, retain and reward employees of the Participating Company Group and by motivating such persons to contribute to the growth and profitability of the Participating Company Group.

2. DEFINITIONS AND CONSTRUCTION.

2.1 Definitions. Whenever used herein, the following terms shall have their respective meanings set forth below:

(a) "BENEFICIARY" means one, some, or all (as the context shall require) of those persons, trusts or other entities which a Participant, in his or her most recent written form of beneficiary designation filed with the Company, shall have designated as a beneficiary to receive a distribution of shares of Stock allocated to the Participant's Plan account upon the Participant's death, as provided in Section 7.

(b) "BOARD" means the Board of Directors of the Company. If one or more Committees have been appointed by the Board to administer the Plan, "Board" also means such Committee(s).

(c) "CODE" means the Internal Revenue Code of 1986, as amended, and any applicable regulations promulgated thereunder.

(d) "COMMITTEE" means a committee duly appointed by the Board to administer the Plan and having such powers as shall be specified by the Board. Unless the powers of the Committee have been specifically limited, the Committee shall have all of the powers of the Board granted herein, including, without limitation, the power to amend or terminate the Plan at any time, subject to the terms of the Plan and any applicable limitations imposed by law.

(e) "COMPANY" means KLA-Tencor Corporation, a Delaware corporation, or any successor corporation thereto.

(f) "COMPENSATION" means amounts paid by a Participating Company to an employee as straight base salary, including lead differential pay, or regular time hourly wages

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(based upon up to forty (40) hours per week), including lead differential pay, as appropriate, before deduction for any contributions to any plan maintained by a Participating Company and described in section 401(k) or section 125 of the Code. Compensation shall not include overtime, bonuses, commissions, shift differentials, payments in lieu of notice, payments pursuant to a severance agreement, termination pay, any other extraordinary compensation, amounts which have been deferred pursuant to a nonqualified deferred compensation plan or amounts which are paid pursuant to such deferred compensation plan.

(g) "CONTRIBUTION PERIOD" means a three-month period ending on each March 31, June 30, September 30 or December 31. The first Contribution Period shall be the period which commenced on October 1, 1995 and ended on December 31, 1995. Notwithstanding the foregoing, the Board may establish a different term for one or more Contribution Periods.

(h) "DISABILITY" means the disability of the Participant, as such term is defined for purposes of the Company's Long-Term Disability Plan, as it may be amended from time to time.

(i) "ELIGIBLE EMPLOYEE" means an employee of a Participating Company who is eligible to receive an allocation of Company contributions made pursuant to Section 3.5 of the Retirement Plan for a Contribution Period.

(j) "EXCESS COMPENSATION" means the amount by which an Eligible Employee's Compensation paid during the Plan Year through the end of a Contribution Period exceeds the Code section 401(a) (17) limit.

(k) "EXCESS CONTRIBUTIONS" means, for any Contribution Period, the amount of Profit Sharing Contributions which the Company could not contribute to the Retirement Plan due to the contribution and deduction limitations set forth in sections 401(a)(17) and 404(a)(3) of the Code and the regulations promulgated thereunder.

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

(m) "INVOLUNTARY TERMINATION" means the termination of a Participant's employment with the Participating Company Group due to (i) an involuntary termination due to lack of work, or (ii) the sale or other divestiture of the company or division which employs the Participant.

(n) "PARTICIPANT" means any employee of a Participating Company who receives an allocation of shares of Stock purchased with Excess Contributions pursuant to the Plan.

(o) "PARTICIPATING COMPANY" means the Company or any organization which:

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(i) is either (1) a member of a controlled group of corporations (as determined for purposes of section 414(b) of the Code) of which the Company is a member, (2) a member of a group of trades or businesses (whether or not incorporated) which are under common control with the Company (as determined for purposes of section 414(c) of the Code), (3) a member of an affiliated service group within the meaning of section 414(m) of the Code, of which the Company is also a member, or (4) otherwise aggregated with the Company under section 414(o) of the Code; and

(ii) has adopted the Retirement Plan with the authorization of the Company.

(p) "PARTICIPATING COMPANY GROUP" means, at any point in time, all entities collectively which are then Participating Companies.

(q) "PLAN YEAR" means a twelve (12) month period beginning on July 1 and ending on June 30.

(r) "PROFIT SHARING CONTRIBUTIONS" means, for any Contribution Period, the aggregate amount determined pursuant to any of the Company's profit sharing programs which the Company has designated for contribution to the Retirement Plan, calculated without regard to the contribution and deduction limits set forth in sections 401(a)(17) and 404(a)(3) of the code.

(s) "PROFIT SHARING CONTRIBUTION PERCENTAGE" means, for any Contribution Period, the percentage of Compensation of each Eligible Employee used to determine the amount of Profit Sharing Contributions.

(t) "RETIREMENT PLAN" means the KLA Retirement Plan, as it may be amended from time to time.

(u) "RETIREMENT PLAN ACTUAL CONTRIBUTION PERCENTAGE" means the percentage of compensation (as defined for purposes of Section 3.5 of the Retirement Plan) represented by the actual Company contribution made to the Retirement Plan pursuant to Section 3.5 thereof for a Contribution Period.

(v) "STOCK" means the common stock of the Company, as adjusted from time to time in accordance with Section 4.3.

(w) "TRUST" means the legal entity created by the Trust Agreement.

(x) "TRUST AGREEMENT" means that trust agreement entered into between the Company and Wells Fargo Bank, N.A. in connection with the establishment of the Plan.

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(y) "TRUSTEE" means the original Trustee named in the Trust Agreement and any duly appointed successor thereto.

2.2 Construction. Captions and titles contained herein are for convenience only and shall not affect the meaning or interpretation of any provision of the Plan. Except when otherwise indicated by the context, the singular shall include the plural, the plural shall include the singular, and the term "or" shall include the conjunctive as well as the disjunctive.

3. ADMINISTRATION. The Plan shall be administered by the Board, including any duly appointed Committee of the Board. All questions of interpretation of the Plan shall be determined by the Board, and such determinations shall be final and binding upon all persons having an interest in the Plan. Any officer of a Participating Company shall have the authority to act on behalf of the Company with respect to any matter, right, obligation, determination or election which is the responsibility of or which is allocated to the Company herein, provided the officer has apparent authority with respect to such matter, right, obligation, determination or election.

4. SHARES SUBJECT TO PLAN.

4.1 Acquisition of Shares. The Company or the Trustee purchase on the open market shares of Stock so that the Trust shall have a sufficient number of shares of Stock with which to satisfy the Company's obligations under the Plan. Such purchases shall be made at such time or times as determined by the Board, in its sole discretion. Notwithstanding the foregoing, purchases of Stock with Excess Contributions attributable to the first Contribution Period and the Contribution Periods ending on March 31, 1996 and June 30, 1996 shall commence as soon as practicable following the Effective Date. All purchases of Stock pursuant to the Plan shall be made in accordance with any applicable foreign, federal or state securities law or regulation, including, without limitation, Rule 10b-18 promulgated under the Exchange Act.

4.2 Shares Held by Trustee. Any shares of Stock which the Company repurchases on the open market to satisfy its obligations under the Plan shall be deposited with the Trustee as soon as practicable following the Company's repurchase of such shares. Until the shares of Stock which are purchased pursuant to Section 4.1 for the Plan are distributed pursuant to Section 7 of the Plan, the certificate evidencing such shares shall be registered in the name of the Trustee. Any dividends paid with respect to the shares of Stock held by the Trustee pursuant to the Trust Agreement ("DIVIDENDS") shall be used to purchase shares of Stock to satisfy the Company's obligations under the Plan with respect to the Contribution Period in which the Dividend was paid (or any future Contribution Period, to the extent that the Dividends exceed the amount of the Excess Contributions for the Contribution Period in which the Dividend was paid). The amount of Excess Contributions which shall be used to purchase shares of Stock shall be reduced by the amount of Dividends paid with respect to shares of Stock held by the Trustee pursuant to the Trust Agreement.

4.3 Adjustments for Changes in Capital Structure. In the event of any stock dividend, stock split, reverse stock split, recapitalization, combination, reclassification or similar change in the capital structure of the Company, appropriate adjustments shall be made in the number

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and class of shares subject to the Plan. The adjustments determined by the Board pursuant to this Section shall be final, binding and conclusive.

5. ALLOCATION OF SHARES.

5.1 Persons Eligible to Receive an Allocation of Shares. For each Contribution Period an Eligible Employee shall have his or her Plan account credited with the number of shares of Stock equal to (a) his or her share of the Excess Contributions for such Contribution Period, divided by (b) the average price of the Stock allocated with respect to such Contribution Period.

5.2 Share of Excess Contributions. An Eligible Employee's share of the Excess Contributions for a Contribution Period shall be the sum of the amounts allocated to such Eligible Employee pursuant to Sections 5.2(a) and 5.2(b) below.

(a) ALLOCATION OF EXCESS CONTRIBUTIONS DUE TO COMPENSATION LIMIT. Each Eligible Employee whose Compensation exceeds the limit set forth in section 401(a)(17) of the Code shall be allocated a portion of the Excess Contributions equal to (i) the amount of his or her Excess Compensation paid during the Contribution Period, multiplied by (ii) the Profit Sharing Contribution Percentage for such Contribution Period.

(b) ALLOCATION OF EXCESS CONTRIBUTIONS DUE TO DEDUCTION LIMIT. The balance of the Excess Contributions for the Contribution Period shall be allocated to the Eligible Employees in proportion to their Compensation not in excess of the Code section 401(a)(17) limit for such Contribution Period. To determine the balance of Excess Contributions allocable under this Section 5.2(b) expressed as a percentage of Compensation (not in excess of the Code Section 401(a)(17) limit), subtract the Retirement Plan Actual Contribution Percentage for the Contribution Period from the Profit Sharing Contribution Percentage.

(c) EXAMPLES. Schedule A, attached hereto, illustrates the

allocation of Excess Contributions under the Plan assuming that the Profit Sharing Contribution Percentage for each Contribution Period is equal to fifteen percent (15%) of the Compensation of each Eligible Employee and that the Retirement Plan Actual Contribution Percentage is only seven percent (7%) of the Compensation of each Eligible Employee up to the Code section 401(a)(17) limit.

5.3 Price of Stock Allocated With Respect to a Contribution Period. The average price Stock allocated with respect to a Contribution Period shall be determined based upon the price(s) at which Stock was purchased by the Company pursuant to Section 4.1 of the Plan on a first-in, first-out basis, or such other method as the Company may, from time to time, establish.

5.4 Participant Accounts. Individual Plan accounts shall be maintained for each Participant. All shares of Stock allocated to a Participant (pursuant to this Section 5 or Section 6.3 below) shall be credited to such account, and such account shall be reduced by the number of unvested shares of Stock forfeited by the Participant pursuant to Section 6.2 below, as well as the

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number of shares of Stock distributed to a Participant or his or her Beneficiary pursuant to Section 7 below.

6. VESTING OF SHARES.

6.1 Vesting Date. Shares of Stock allocated to a Participant's Plan account are subject to forfeiture pursuant to the provisions of Section 6.2 below until the Participant becomes vested with respect to such shares. A Participant will become vested with respect to shares of Stock allocated to his or her Plan account ("VESTED SHARES") with respect to a Contribution Period on the third January 1 following the end of the Plan Year in which such Contribution Period occurred (the "VESTING DATE"); provided, however, that a Participant who has reached age fifty-five (55) years shall be fully vested with respect to all shares of Stock allocated to his or her Plan account.

6.2 Forfeitures. In the event the Participant terminates employment with the Participating Company Group, for any reason other than death, Disability, or Involuntary Termination, the Participant shall forfeit any shares of Stock allocated to his or her Plan account which are not Vested Shares ("FORFEITED SHARES") as of the date of his or her termination of employment with the Participating Company Group.

6.3 Allocation of Forfeitures. Forfeited Shares shall be allocated to each Participant who is employed by a Participating Company as of the end of the Plan Year in which the forfeiture occurred. As soon as practicable following the end of each Plan Year, the pro rata portion of the Forfeited Shares shall be allocated to each Participant's Plan account based on the ratio of the Participant's Compensation for the Plan Year divided by the aggregate Compensation for the Plan Year of all Participants employed by a Participating Company on the last day of the Plan Year. Such reallocated forfeited shares shall vest in the same manner as do any other shares which are allocated with respect to the last quarter in the Plan Year.

7. DISTRIBUTION OF SHARES.

7.1 Distribution upon Vesting Date. The Trustee shall distribute the Vested Shares allocated to each Participant's Plan account on the first January 31 following the applicable Vesting Date for such Vested Shares, unless the Participant elects to defer the distribution of the Vested Shares pursuant to Section 7.2 below. For purposes of this Section 7 only, for a Participant who becomes vested because he or she is age fifty-five (55) or older, the Vesting Date shall mean the date which would have been the Vesting Date of such shares determined as if such Participant had not yet reached age fifty-five (55).

7.2 Deferred Distribution. Subject to the provisions of Section 7.2(b), a Participant may elect to defer the distribution of all, but not less than all, of his or her Vested Shares attributable to a particular Plan Year for a period of one or more years (not to exceed ten (10) years) after the applicable Vesting Date, and such Vested Shares shall be distributed to the Participant on the first January 31 occurring after the expiration of the deferral period (the "DEFERRED DISTRIBUTION

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DATE"). Notwithstanding the foregoing, if the Participant's employment with the Participating Company Group terminates prior to the Deferred Distribution Date,

for any reason, all of the Participant's Vested Shares shall be distributed to the Participant (or his or her Beneficiary) as soon as practicable after the end of the quarter in which the Participant's termination of employment occurred.

(a) DEFERRAL ELECTION PROCEDURE. To elect to defer the distribution of Vested Shares a Participant must submit an election (on a form provided by the Company) to the Company (a "DEFERRAL ELECTION"), at any time prior to the date occurring six (6) months prior to the Vesting Date applicable to such shares. In the event a Participant submits more than one Deferral Election, the latest such Deferral Election which is filed at least six (6) months prior to the Vesting Date shall supersede and revoke any prior Deferral Elections filed with respect to such shares. Except as otherwise expressly provided in this Plan, once the applicable Deferral Election, if any, is filed with respect to any shares, it shall become irrevocable upon the Vesting Date for such shares. A Participant may make a one-time election to extend the Deferred Distribution Date specified on any Deferral Election by filing a request for such an extension with the Company on or before the date occurring six (6) months prior to the Deferred Distribution Date originally specified in the Deferral Election; provided, however, that the Participant may not extend the Deferred Distribution Date to a date more than ten (10) years after the Vesting Date applicable to the shares described in the Deferral Election. Except as otherwise expressly provided in the Plan, a Deferral Election is irrevocable.

(b) EARLY WITHDRAWAL OF VESTED SHARES. Notwithstanding the foregoing, a Participant may, upon written notice to the Company, elect to receive a distribution of ninety percent (90%) of all Vested Shares credited to his or her Plan account prior to the Deferred Distribution Date(s) for such shares. Such Vested Shares shall be distributed as soon as it is administratively feasible after the date the Participant files the written notice of withdrawal in accordance with such requirements as may be established by the Committee. After the distribution of such Vested Shares, the remaining ten percent (10%) of the Vested Shares remaining in the Participant's Plan account shall become Forfeited Shares and shall be allocated to Participants' accounts pursuant to the provisions of Section 6.3. After the date on which a Participant makes an early withdrawal election pursuant to this Section 7.2(b), all shares of Stock allocated to the Participant's account which become Vested Shares after the date of such early withdrawal election shall be distributed on the applicable Vesting Date and the Participant shall not be permitted to defer the distribution of such Vested Shares.

7.3 Death, Disability or Involuntary Termination. In the event of a Participant's termination of employment with the Participating Company Group due to death, Disability or Involuntary Termination, all of the shares of Stock allocated to the Participant's Plan account as of such date shall immediately become vested and shall be distributed to the Participant or the Participant's Beneficiary as soon as practicable following the end of the quarter in which such death, disability or involuntary termination occurred.

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(a) DESIGNATION OF BENEFICIARY. Each Participant shall have the right to designate, on such form as may be prescribed by the Company, a Beneficiary to receive a distribution of shares of Stock allocated to his or her Plan account as of the date of the Participant's death. The Participant shall have the right at any time to revoke such designation and to substitute another such Beneficiary in accordance with any procedures as may be established by the Company.

(b) NO DESIGNATED BENEFICIARY. If, upon the death of the Participant, there is no valid designation of Beneficiary, the Beneficiary shall be the Participant's estate.

7.4 Fractional Shares. The Trustee shall not be required to distribute fractional shares pursuant to the Plan, and any distributions of Stock pursuant to the Plan shall be made in whole shares of Stock, rounded down to the nearest whole number.

7.5 Tax Withholding. The Company shall have the right to require the Participant, through payroll withholding, cash payment or otherwise, to make adequate provision for any federal, state local and foreign tax withholding obligations of the Participating Company Group arising in connection with the shares allocated or distributed to the Participant pursuant to the Plan. The Trustee shall have no obligation to distribute shares of Stock to a Participant until the Participating Company Group's tax withholding obligations with respect to the Participant's shares, if any, have been satisfied.

7.6 Benefits Paid from Trust. All shares distributable pursuant to the Plan shall be distributed by the Trustee to the extent of the shares held in Trust by the Trustee, and by the Company to the extent that the shares in the Trust are less than a Participant's Vested Shares.

7.7 No Secured Interest. Except as otherwise provided by the Trust

Agreement, the assets of the Trust shall be subject to the claims of the Company's creditors and neither a Participant nor a Beneficiary shall have any legal or equitable interest in such assets, or any other asset of the Company. Each Participant and each Beneficiary is a general unsecured creditor of the Company with respect to the promises of the Company made herein, except as otherwise expressly provided by the Trust Agreement.

8. CASH DISTRIBUTION. Notwithstanding any other provision in the Plan to the contrary, the Board may, in its sole discretion, pay each Eligible Employee's share of the Excess Contributions for any quarter in cash, subject to applicable tax withholding, within a reasonable period of time after the end of the quarter. The provisions of Sections 5, 6 and 7 shall be inapplicable to any Excess Contributions which are so distributed.

9. NONASSIGNMENT AND NONTRANSFERABILITY OF SHARES. Prior to the distribution of shares of Stock to a Participant (or his or her Beneficiary), neither the shares of Stock allocated to the Participant's Plan account nor any rights hereunder may be assigned or transferred in any manner by the Participant (or his or her Beneficiary), except by will or by the laws of descent and distribution.

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10 . RESTRICTION ON DISTRIBUTION OF SHARES. The distribution of shares under the Plan by the Trustee shall be subject to compliance with all applicable requirements of foreign, federal or state law with respect to such securities. In addition, shares may not be distributed to a Participant unless (a) a registration statement under the Securities Act of 1933, as amended, shall at the time of distribution be in effect with respect to the shares issuable to the Participant, or (b) in the opinion of legal counsel to the Company, the shares issuable to the Participant may be issued in accordance with the terms of an applicable exemption from the registration requirements of said Act. The inability of the Company to obtain from any regulatory body having jurisdiction the authority, if any, deemed by the Company's legal counsel to be necessary to the lawful issuance and sale of any shares under the Plan shall relieve the Company of any liability in respect of the failure to issue such shares as to which such requisite authority shall not have been obtained. As a condition to the distribution of shares pursuant to the Plan, the Company may require the Participant to satisfy any qualifications that may be necessary or appropriate, to evidence compliance with any applicable law or regulation, and to make any representation or warranty with respect thereto as may be requested by the Company.

11. RIGHTS AS A STOCKHOLDER OR EMPLOYEE. A Participant shall have no rights as a stockholder with respect to the shares of Stock allocated to his or her Plan account until the date of issuance to the Participant of a certificate or certificates for such shares of Stock in accordance with the provisions of the Plan (the "ISSUANCE DATE"). Except as provided in Section 4.3, no adjustment to the Participant's Plan account shall be made for dividends or distributions or other rights for which the record date is prior to the Issuance Date. On the Issuance Date, the Participant shall become the record holder of any such shares of Stock, entitled to dividends, if any, voting rights and other rights of a holder thereof. Nothing in the Plan shall confer upon the Participant any right to continue in the employ of a Participating Company or interfere in any way with any right of the Participating Company Group to terminate the Participant's employment at any time.

12. INDEMNIFICATION. In addition to such other rights of indemnification as they may have as members of the Board or officers or employees of the Participating Company Group, members of the Board and any officers or employees of the Participating Company Group to whom authority to act for the Board is delegated shall be indemnified by the Company against all reasonable expenses, including attorneys' fees, actually and necessarily incurred in connection with the defense of any action, suit or proceeding, or in connection with any appeal therein, to which they or any of them may be a party by reason of any action taken or failure to act under or in connection with the Plan, or any right granted hereunder, and against all amounts paid by them in settlement thereof (provided such settlement is approved by independent legal counsel selected by the Company) or paid by them in satisfaction of a judgment in any such action, suit or proceeding, except in relation to matters as to which it shall be adjudged in such action, suit or proceeding that such person is liable for gross negligence, bad faith or intentional misconduct in duties; provided, however, that within sixty (60) days after the institution of such action, suit or proceeding, such person shall offer to the Company, in writing, the opportunity at its own expense to handle and defend the same.

13. TERMINATION OR AMENDMENT OF PLAN. The Board may terminate or amend the

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Plan at any time; provided, however, that any such amendment or termination may not reduce the number of shares of Stock allocated to a Participant's account as of the date of such amendment or termination. To the extent provided by the Board, the Vested Shares shall be distributed as soon as administratively feasible after termination of the Plan without regard to any Deferral Elections which have been filed and all unvested shares shall be distributed promptly upon becoming vested.

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, 1997, which appears on page 30 of the 1997 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, 1997.

/s/PricewaterhouseCoopers LLP

PricewaterhouseCoopers LLP

San Jose, California
August 3, 1998