

SCHEDULE 14A INFORMATION

PROXY STATEMENT PURSUANT TO SECTION 14(A) OF THE SECURITIES
EXCHANGE ACT OF 1934 (AMENDMENT NO.)

Filed by the Registrant [X]

Filed by a Party other than the Registrant []

Check the appropriate box:

<TABLE>
<S> <C>
 [] Preliminary Proxy Statement [] Confidential, for Use of the Commission
Only (as permitted by Rule 14a-6(e)(2))
 [X] Definitive Proxy Statement
 [] Definitive Additional Materials
 [] Soliciting Material Pursuant to sec.240.14a-11(c) or sec.240.14a-12
</TABLE>

KLA-TENCOR CORPORATION

(Name of Registrant as Specified In Its Charter)

(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check the appropriate box):

- [X] No fee required.
- [] \$125 per Exchange Act Rules 0-11(c)(1)(ii), or 14a-6(i)(1), or 14a-6(i)(2) or Item 22(a)(2) of Schedule 14A.
- [] \$500 per each party to the controversy pursuant to Exchange Act Rule 14a-6(i)(3).
- [] Fee computed on table below per Exchange Act Rules 14a-6(i)(4) and 0-11.
- (1) Title of each class of securities to which transaction applies:
- (2) Aggregate number of securities to which transaction applies:
- (3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (Set forth the amount on which the filing fee is calculated and state how it was determined):
- (4) Proposed maximum aggregate value of transaction:
- (5) Total fee paid:
- [] Fee paid previously with preliminary materials.
- [] Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.
- (1) Amount Previously Paid:
- (2) Form, Schedule or Registration Statement No.:
- (3) Filing Party:
- (4) Date Filed:

KLA-TENCOR CORPORATION

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS
NOVEMBER 16, 1999

To the Stockholders:

NOTICE IS HEREBY GIVEN that the Annual Meeting of Stockholders of KLA-Tencor Corporation (the "Company"), a Delaware corporation, will be held on Tuesday, November 16, 1999 at 11:00 a.m., at the Company's offices located at One Technology Drive, Milpitas, California 95035, for the following purposes:

1. To elect four Class I directors to serve for a three year term and until their successors are elected.

2. To ratify the appointment of PricewaterhouseCoopers LLP as independent accountants of the Company for the fiscal year ending June 30, 2000.
3. To transact such other business as may properly come before the meeting and any adjournments thereof.

The foregoing items of business are more fully described in the Proxy Statement accompanying this Notice.

Only stockholders of record at the close of business on September 20, 1999 are entitled to notice of and to vote at the meeting.

Sincerely,

Larry W. Sonsini
Secretary

San Jose, California
October 15, 1999

YOUR VOTE IS IMPORTANT

All stockholders are cordially invited to attend the meeting in person, however, to assure your representation at the meeting, as promptly as possible, please either sign and date the enclosed proxy card and return it in the enclosed envelope or follow the instructions on the enclosed proxy card to vote telephonically or via the Internet. Any stockholder attending the meeting may vote in person even if he or she returned a proxy.

KLA-TENCOR CORPORATION

PROXY STATEMENT

INFORMATION CONCERNING SOLICITATION AND VOTING

GENERAL

The enclosed Proxy is solicited on behalf of KLA-Tencor Corporation (the "Company") for use at the Annual Meeting of Stockholders to be held on Tuesday, November 16, 1999 at 11:00 a.m., Pacific Time, or at any adjournment(s) thereof (the "Annual Meeting"), for the purposes set forth herein and in the accompanying Notice of Annual Meeting of Stockholders. The Annual Meeting will be held at the Company's offices at One Technology Drive, Milpitas, California 95035. The Company's principal executive offices are located at 160 Rio Robles, San Jose, California 95134 and its telephone number is (408) 875-3000.

These proxy solicitation materials were mailed on or about October 15, 1999 to all stockholders entitled to vote.

RECORD DATE

Stockholders of record at the close of business on September 20, 1999 are entitled to notice of and to vote at the Annual Meeting. As of the record date 89,491,136 shares of the Company's Common Stock, \$0.001 par value, were issued and outstanding.

REVOCABILITY OF PROXIES

Any Proxy given pursuant to this solicitation may be revoked by the person giving it at any time before its use by delivering to the Company a written notice of revocation or a duly executed proxy bearing a later date or by attending the meeting and voting in person.

QUORUM; ABSTENTIONS; BROKER NON-VOTES

The required quorum for the transaction of business at the Annual Meeting is a majority of the votes eligible to be cast by holders of shares of Common Stock issued and outstanding on the record date. Shares that are voted "FOR," "AGAINST," "ABSTAIN" or "WITHHELD FROM" a matter are treated as being present at the Annual Meeting for purposes of establishing a quorum and are also treated as shares entitled to vote at the Annual Meeting (the "Votes Cast") with respect to such matter.

Abstentions will be counted for purposes of determining both (i) the presence or absence of a quorum for the transaction of business and (ii) the total number of Votes Cast with respect to a proposal (other than the election of directors). Accordingly, abstentions will have the same effect as a vote against the proposal.

Broker non-votes will be counted for purposes of determining the presence or absence of a quorum for the transaction of business, but will not be counted for purposes of determining the number of Votes Cast with respect to the particular proposal on which the broker has expressly not voted. Accordingly,

broker non-votes will not affect the outcome of the voting on a proposal that requires a majority of the Votes Cast.

VOTING AND SOLICITATION

On all matters to be voted upon, each share has one vote.

The cost of soliciting proxies will be borne by the Company. The Company has retained the services of Skinner & Co. to aid in the solicitation of proxies from brokers, bank nominees and other institutional owners. The Company estimates that it will pay Skinner & Co. a fee not to exceed \$5,000 for its services and will reimburse it for certain out of pocket expenses estimated to be \$45,000. In addition, the Company may reimburse brokerage firms and other persons representing beneficial owners of shares for their expenses in

forwarding solicitation material to such beneficial owners. Proxies may be solicited by certain of the Company's directors, officers and regular employees, without additional compensation, personally or by telephone or telegram.

DEADLINE FOR RECEIPT OF STOCKHOLDER PROPOSALS

Proposals of stockholders of the Company which are intended to be presented by such stockholders at the Company's annual meeting in 2000 must be received by the Company no later than June 17, 2000 and otherwise be in compliance with applicable laws and regulations in order that such proposals may be included in the proxy statement and form of proxy relating to that meeting.

The attached proxy card grants the proxy holders discretionary authority to vote on any matter raised at the Annual Meeting. If a stockholder intends to submit a proposal at the Company's annual meeting in 2000, which is not eligible for inclusion in the proxy statement and form of proxy relating to that meeting, the stockholder must give appropriate notice no later than August 31, 2000. If such stockholder fails to comply with the foregoing notice provision the Company intends to draft the proxy so that the proxy holders will be allowed to use their discretionary voting authority if the proposal is raised at the Company's annual meeting in 2000.

SECURITY OWNERSHIP

PRINCIPAL STOCKHOLDERS

As of September 20, 1999, the following persons were known to the Company to be beneficial owners of more than 5% of the Company's Common Stock:

<TABLE>
<CAPTION>

| NAME AND ADDRESS ----- | NUMBER OF SHARES OWNED ----- | PERCENTAGE TOTAL (1) ----- |
|---|------------------------------------|----------------------------------|
| <S> | <C> | <C> |
| The Prudential Insurance Company of America(2)..... 751 Broad Street Newark, NJ 07102 | 7,171,847 | 8.01% |
| Jennison Associates LLC(3)..... 466 Lexington Avenue New York, NY 10017 | 6,844,000 | 7.65% |
| Capital Guardian Trust Co.(4)..... 333 South Hope Street Los Angeles, CA 90071 | 5,971,900 | 6.67% |

</TABLE>

- -----
- (1) Based on 89,491,136 outstanding shares of Common Stock as of September 20, 1999.
 - (2) Based on information provided pursuant to Schedule 13G/A filed with the SEC on January 29, 1999. Prudential presently holds 21,600 shares of Common Stock of the Company for the benefit of its general account. In addition, Prudential may have direct or indirect voting and/or investment discretion over 7,150,247 shares, including 6,844,000 shares held by Jennison Associates LLC, a wholly-owned subsidiary of Prudential (See Note 3 below).
 - (3) Formerly Jennison Associates Capital Corp. Based on information provided pursuant to Schedule 13G/A filed with the SEC on February 11, 1999. Jennison Associates LLC. ("Jennison") is an institutional investor and is considered the beneficial owner only as a result of its position as manager of the funds which own the shares of Common Stock of the Company. Jennison is an autonomous, wholly-owned subsidiary of The Prudential Insurance Company of America ("Prudential"). As such, the shares of Common Stock reported by Jennison are also included in the shares of Common Stock reported by Prudential in its reporting obligations with the SEC. (See Note 2 above.)
 - (4) Based on information provided pursuant to Schedule 13G filed with the Securities and Exchange Commission (the "SEC") February 12, 1999. This share amount includes 1,559,530 shares held by Capital International Limited;

1,101,160 shares held by Capital International S.A. and 220,600 shares held by Capital International, Inc., affiliated entities of Capital Guardian Trust Co. (the "Reporting

Entity"). Previously, The Capital Group Companies, Inc., the parent holding company of the Reporting Entity and its listed affiliated entities, reported the beneficial ownership of all such shares. On July 9, 1998 it filed a Schedule 13G indicating that it retained no beneficial ownership of shares held by its independent investment management affiliates.

SECURITY OWNERSHIP OF MANAGEMENT

The following table sets forth the beneficial ownership of Common Stock of the Company as of September 20, 1999 (the most recent practicable date) by all directors and nominees (naming them), each of the named executive officers set forth in the Summary Compensation Table and by all directors and current executive officers as a group:

<TABLE>
<CAPTION>

| NAME ---- | AMOUNT OWNED ----- | APPROXIMATE PERCENTAGE OWNED* ----- |
|--|--------------------------|--|
| <S> | <C> | <C> |
| Kenneth Levy(1)..... | 1,823,644 | 2.04% |
| Kenneth L. Schroeder(2)..... | 385,024 | ** |
| James W. Bagley(3)..... | 25,936 | ** |
| Edward W. Barnholt(4)..... | 11,798 | ** |
| Leo J. Chamberlain(5)..... | 34,359 | ** |
| Richard J. Elkus, Jr.(6)..... | 56,457 | ** |
| Dean O. Morton(7)..... | 20,936 | ** |
| Samuel Rubinovitz(8)..... | 10,364 | ** |
| Jon D. Tompkins(9)..... | 54,108 | ** |
| Dag Tellefsen(10)..... | 21,498 | ** |
| Lida Urbanek(11)..... | 672,752 | ** |
| Robert J. Boehlke(12)..... | 34,757 | ** |
| Gary E. Dickerson(13)..... | 43,848 | ** |
| Arthur P. Schnitzer(14)..... | 163,328 | ** |
| All directors and executive officers as a group (22 persons)(15)..... | 3,515,810 | 3.93% |

</TABLE>

* Based on 89,491,136 outstanding shares of the Common Stock of the Company as of September 20, 1999.

** Less than 1%.

- (1) Includes 356,942 shares, options for which are presently exercisable or will become exercisable within 60 days of September 20, 1999 and 231,000 shares which are held in trust for the benefit of Mr. Levy's children.
- (2) Includes 303,942 shares, options for which are presently exercisable or will become exercisable within 60 days of September 20, 1999.
- (3) Includes 25,936 shares, options for which are presently exercisable or will become exercisable within 60 days of September 20, 1999.
- (4) Includes 11,798 shares, options for which are presently exercisable or will become exercisable within 60 days of September 20, 1999.
- (5) Includes 12,362 shares, options for which are presently exercisable or will become exercisable within 60 days of September 20, 1999.
- (6) Includes 6,457 shares, options for which are presently exercisable or will become exercisable within 60 days of September 20, 1999.
- (7) Includes 15,936 shares, options for which are presently exercisable or will become exercisable within 60 days of September 20, 1999.
- (8) Includes 6,364 shares, options for which are presently exercisable or will become exercisable within 60 days of September 20, 1999.

- (9) Includes 43,517 shares, options for which are presently exercisable or will become exercisable within 60 days of September 20, 1999.
- (10) Includes 20,399 shares, options for which are presently exercisable or will become exercisable within 60 days of September 20, 1999.
- (11) Includes 9,133 shares, options for which are presently exercisable or will

become exercisable within 60 days of September 20, 1999, 646,907 shares held in trust and 16,712 shares held by a family foundation.

- (12) Includes 30,193 shares, options for which are presently exercisable or will become exercisable within 60 days of September 20, 1999.
- (13) Includes 42,841 shares, options for which are presently exercisable or will become exercisable within 60 days of September 20, 1999.
- (14) Includes 157,797 shares, options for which are presently exercisable or will become exercisable within 60 days of September 20, 1999.
- (15) Includes 1,188,198 shares, options for which are presently exercisable or will become exercisable within 60 days of September 20, 1999.

PROPOSAL ONE

TO ELECT FOUR CLASS I DIRECTORS TO SERVE FOR A THREE YEAR TERM AND UNTIL THEIR SUCCESSORS ARE ELECTED.

NOMINEES

The Company has a classified board of eleven directors consisting of four Class I directors (Kenneth Levy, Samuel Rubinovitz, Jon D. Tompkins and Lida Urbanek), three Class II directors (Leo J. Chamberlain, Richard J. Elkus, Jr. and Dag Tellefsen) and four Class III directors (James W. Bagley, Edward W. Barnholt, Dean O. Morton and Kenneth L. Schroeder). The Class II directors and the Class III directors will serve until the annual meetings of stockholders to be held in 2000 and 2001 respectively, or until their respective successors are duly elected and qualified. At each annual meeting of stockholders, directors are elected for a full term of three years to succeed those directors whose terms expire at the annual meeting.

The terms of the Class I directors will expire on the date of the Annual Meeting. Accordingly, all of the Class I directors of the Board of Directors are to be elected at the Annual Meeting. The nominees for election by the stockholders to these four positions are Kenneth Levy, Samuel Rubinovitz, Jon D. Tompkins and Lida Urbanek. If elected, the nominees will serve as directors until the Company's annual meeting of stockholders in 2002, or until their successors are elected and qualified. If any of the nominees declines to serve or becomes unavailable for any reason, or if a vacancy occurs before the election, the proxies may be voted for such substitute nominees as management may designate. The proxy holders also have been advised that in the event any of the nominees shall not be available for election, a circumstance that is not currently expected, they may vote for the election of substitute nominees in accordance with their judgment. If additional persons are nominated for election as directors, the proxy holders intend to vote all proxies received by them in such a manner as will assure the election of as many of the nominees as possible and, in such event, the specific nominees to be voted for will be determined by the proxy holders.

If a quorum is present and voting, the four nominees for Class I directors receiving the highest number of votes will be elected as Class I directors. Abstentions and shares held by brokers that are not present, but not voted because the brokers were prohibited from exercising discretionary authority, i.e., "broker non-votes," will be counted as present in determining if a quorum is present.

The following table sets forth certain information with respect to the Company's Board of Directors.

<TABLE>
<CAPTION>

| NAME OF DIRECTOR ----- | AGE --- | POSITION ----- | DIRECTOR SINCE ----- |
|---------------------------|------------|---------------------------------------|----------------------------|
| <S> | <C> | <C> | <C> |
| Kenneth Levy..... | 56 | Chairman of the Board | 1975 |
| Kenneth L. Schroeder..... | 53 | President and Chief Executive Officer | 1991 |
| James W. Bagley..... | 60 | Director | 1997 |
| Edward W. Barnholt..... | 56 | Director | 1995 |
| Leo J. Chamberlain..... | 69 | Director | 1982 |
| Richard J. Elkus, Jr..... | 64 | Director | 1997 |
| Dean O. Morton..... | 67 | Director | 1997 |
| Samuel Rubinovitz..... | 69 | Director | 1990 |
| Dag Tellefsen..... | 57 | Director | 1978 |
| Jon D. Tompkins..... | 59 | Director | 1997 |
| Lida Urbanek..... | 56 | Director | 1997 |

</TABLE>

Kenneth Levy is a co-founder of KLA-Tencor and since July 1, 1999 has been Chairman of the Board and a Director. From July 1, 1998 until June 30, 1999, he was Chief Executive Officer and a Director. From April 30, 1997 until June 30,

1998 he was Chairman of the Board and a Director. From 1975 until April 30, 1997 he was Chairman of the Board, Chief Executive Officer and a Director. He currently serves on the boards of directors of Ultratech Stepper, Inc., SpeedFam-IPEC, Inc. and is a Director Emeritus of SEMI, an industry trade association.

Kenneth L. Schroeder has been President and Chief Executive Officer and a Director of KLA-Tencor since July 1, 1999. From November 1991 until June 30, 1999, he was President and Chief Operating Officer and a Director. Mr. Schroeder has been with the Company for 16 years and has held a variety of senior management positions. He currently serves on the board of directors of GaSonics International and SEMI.

James W. Bagley has been a Director of the Company since April 1997. He was a Director of Tencor from June 1993 until April 1997. He has been Chief Executive Officer and a Director of Lam Research Corporation since August 1997. From May 1996 until August 1997 he was Chairman of the Board and Chief Executive Officer of OnTrak Systems, Inc. until its merger with Lam Research Corporation in August 1997. From January 1994 until October 1995 he was Vice Chairman and Chief Operating Officer of Applied Materials, Inc., and Vice Chairman from November 1995 until May 1996. From December 1987 until December 1993, Mr. Bagley was President and Chief Operating Officer of Applied Materials, Inc. Mr. Bagley currently serves on the boards of directors of Teradyne, Inc., Kulicke & Soffa Industries, Inc., Micron Technology, Inc., and SEMI/SEMATECH.

Edward W. Barnholt has been a Director of the Company since 1995. Mr. Barnholt joined the Hewlett Packard Company in December 1966. From 1990 to 1997, he was the General Manager of the Test and Measurement Organization and from February 1998 to March 1999 he was the General Manager of the Measurement Organization. Mr. Barnholt was elected a Vice President of the Hewlett Packard Company in July 1988, a Senior Vice President in November 1993 and an Executive Vice President in November 1996. Since May 1999, Mr. Barnholt has been President and Chief Executive Officer of Agilent Technologies, Inc.

Leo J. Chamberlain has been a Director of the Company since 1982. He is a private investor.

Richard J. Elkus, Jr. has been a Director of the Company since April 1997. He was Executive Vice President and Vice Chairman of the board of directors of Tencor from February 1994 until April 1997. He currently serves on the boards of directors of Voyan Technology, SOPRA, Barcelona Design and Lam Research Corporation.

Dean O. Morton has been a Director of the Company since April 1997. From June 1993 until April 1997 he was a Director of Tencor. In October 1992, Mr. Morton retired as Executive Vice President, Chief Operating Officer and a Director of the Hewlett-Packard Company, where he held various positions from 1960 until his retirement. Mr. Morton currently serves as Chairman of the Board of Centigram Communications

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Corporation and as a member of the boards of directors of ALZA Corporation, The Clorox Company and BEA Systems Inc. Mr. Morton is also a trustee of the Metropolitan Series Fund and State Street Research Funds Group and Portfolios Inc.

Samuel Rubinovitz has been a Director of the Company since 1990. He previously served as a Director from October 1979 to January 1989. He currently serves as Chairman of the Board of LTX Corporation and also serves on the boards of directors of Richardson Electronics, Ltd. and Kronos, Inc.

Dag Tellefsen has been a Director of the Company since 1978. He is the general partner and President and Managing Director of Glenwood Ventures I and II, venture capital funds and the general partner and Managing Director of Vision Capital. He currently serves on the boards of directors of Iwerks Entertainment Corporation and Metorex International.

Jon D. Tompkins has been a Director since April 1997. He was Chairman of the Board from July 1998 to June 30, 1999, when he retired his position as Chairman of the Board. Mr. Tompkins has continued to serve as a Director on the Board. From April 1997 until July 1998 he was Chief Executive Officer and a Director of KLA-Tencor. From April 1991 until April 1997 he was President and Chief Executive Officer of Tencor prior to its merger with KLA. He was a Director of Tencor from 1991 until April 1997 and was appointed Chairman of the board of directors of Tencor in November 1993. He currently serves on the boards of directors of Cymer, Electro Scientific Industries, Credence Systems, Levelite, Logic Vision, and the Community Foundation of Silicon Valley.

Lida Urbanek has been a Director of KLA-Tencor since April 30, 1997. She is a private investor. She was a Director of Tencor from August 1991 until April 30, 1997.

There are no family relationships between or among any directors or executive officers of the Company.

BOARD MEETINGS AND COMMITTEES

The Board of Directors of the Company held six meetings during the fiscal year ended June 30, 1999. The Board of Directors has an Audit Committee, a Compensation Committee and a Nominating Committee.

The Audit Committee, which consists of Mr. Elkus, Mr. Rubinovitz and Mr. Tellefsen, held three meetings during the last fiscal year. The Audit Committee recommends engagement of the Company's independent accountants, and is primarily responsible for approving the services performed by the Company's independent accountants, and for reviewing and evaluating the Company's accounting principles and its system of internal accounting controls. The Compensation Committee, which consists of Mr. Bagley, Mr. Chamberlain and Mrs. Urbanek, held three meetings during the last fiscal year. The Compensation Committee reviews and approves the Company's executive compensation policy and makes recommendations concerning the Company's employee benefit plans. The Nominating Committee, which consists of Mr. Barnholt, Mr. Levy and Mr. Morton did not hold a meeting during the last fiscal year. A unanimous group of the disinterested members of the board of directors nominated the four Class I directors for election. The Nominating Committee is primarily responsible for identifying and evaluating the qualifications of all candidates for election to the Board of Directors. The Nominating Committee will consider nominations recommended by stockholders. Stockholders wishing to submit nominations must notify the Company of their intent to do so and provide the Company with certain information set forth in the Company's bylaws on or before the date on which stockholder proposals must be received by the Company to be included in the proxy statement for the annual meeting.

During the fiscal year ended June 30, 1999, all incumbent Directors attended at least 75% of the meetings of the Board of Directors and meetings of the committees of the Board on which they served.

COMPENSATION OF DIRECTORS

Members of the Board of Directors who are not employees of the Company receive benefits under the 1998 Outside Director Plan ("1998 Director Plan"), which was approved by the stockholders at the 1998 Annual Meeting of Stockholders. Under this plan each non-employee Director ("Outside Director") receives

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an annual fee of \$15,000 and \$1,000 for each meeting they attend (\$500 if participation is by telephone), plus expenses. Committee members receive \$500 per committee meeting they attend (\$250 if participation is by telephone). Each Outside Director also receives a nonstatutory option to purchase 10,000 shares of Common Stock as of the date on which such director first becomes an Outside Director (the "First Option"). Accordingly, none of the existing directors will be granted a First Option. In addition, each Outside Director is automatically granted a nonstatutory option to purchase an additional 5,000 shares of Common Stock on the date of the subsequent annual meetings on which he or she remains an Outside Director (the "Subsequent Option"). The term of options granted under the 1998 Director Plan may not exceed 10 years. The 1998 Director Plan provides that the exercise price shall be equal to the fair market value of the Common Stock on the date of grant of the option. Options granted under the 1998 Director Plan become exercisable immediately upon the date of grant.

REQUIRED VOTE

Directors shall be elected by a plurality of the votes of the shares of the Company's Common Stock entitled to vote and represented in person or by proxy at the Annual Meeting. Votes against, votes withheld and broker non-votes have no legal effect on the election of directors because such elections are by a plurality.

MANAGEMENT RECOMMENDS A VOTE FOR EACH OF THE CLASS I
NOMINEES LISTED ABOVE.

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PROPOSAL TWO

TO RATIFY THE APPOINTMENT OF PRICEWATERHOUSECOOPERS LLP AS THE INDEPENDENT ACCOUNTANTS OF THE COMPANY FOR THE FISCAL YEAR ENDING JUNE 30, 2000.

The Board of Directors has selected PricewaterhouseCoopers LLP, independent accountants, to audit the consolidated financial statements of the Company for its 2000 fiscal year and recommends that the stockholders vote for ratification of such appointment. If there is a negative vote on such ratification, the Board of Directors will reconsider its selection. Representatives of PricewaterhouseCoopers LLP are expected to be present at the Annual Meeting with the opportunity to make a statement if they desire to do so, and are expected to be available to respond to appropriate questions.

EXECUTIVE COMPENSATION

The following table shows, as to the person who served as Chief Executive Officer during the fiscal year ended June 30, 1999 and each of the five other most highly compensated executive officers whose salary plus bonus exceeded \$100,000, information concerning all reportable compensation awarded to, earned by or paid to each for services to the Company in all capacities during the fiscal year ended June 30, 1999, as well as such compensation for each such individual for the Company's previous two fiscal years.

SUMMARY COMPENSATION TABLE

| | | | | | LONG-TERM COMPENSATION | | |
|--|------|-------------|-----------|------------------------------------|---------------------------|------------------------------------|-------------------|
| | | | | | AWARDS | PAYOUTS | |
| | | | | | RESTRICTED STOCK AWARD(S) | SECURITIES UNDERLYING OPTIONS/SARS | LTIP PAYOUTS (\$) |
| NAME AND PRINCIPAL POSITION AS OF SEPTEMBER 20, 1999 | YEAR | SALARY (\$) | BONUS | OTHER ANNUAL COMPENSATION (\$ (1)) | AWARD(S) (\$ (2)) | OPTIONS/SARS (#) (3) | LTIP PAYOUTS (\$) |
| <S> | <C> | <C> | <C> | <C> | <C> | <C> | <C> |
| Kenneth Levy(6)... | 1999 | \$456,097 | \$429,597 | \$ N/A | -0- | 102,136 | -0- |
| Chairman of the Board | 1998 | \$467,769 | \$262,314 | \$ N/A | -0- | 62,500 | -0- |
| | 1997 | \$402,122 | \$334,277 | \$ N/A | -0- | 162,500 | -0- |
| Kenneth L. Schroeder(7)... | 1999 | \$445,723 | \$420,492 | \$ N/A | -0- | 102,136 | -0- |
| President and | 1998 | \$455,992 | \$256,757 | \$ N/A | -0- | 62,500 | -0- |
| Chief Executive Officer | 1997 | \$384,231 | \$332,800 | \$ N/A | -0- | 162,500 | -0- |
| Jon D. Tompkins(8)... | 1999 | \$291,478 | \$214,797 | \$ N/A | -0- | 50,809 | -0- |
| Director | 1998 | \$467,769 | \$262,314 | \$ N/A | -0- | -0- | -0- |
| | 1997 | \$389,589 | \$396,462 | \$ N/A | -0- | 100,000 | -0- |
| Gary E. Dickerson(9)... | 1999 | \$304,387 | \$189,587 | \$ N/A | -0- | 62,882 | -0- |
| Chief Operating Officer | 1998 | \$312,115 | \$161,364 | \$ N/A | -0- | 42,500 | -0- |
| | 1997 | \$260,631 | \$129,441 | \$ N/A | -0- | 82,500 | -0- |
| Robert J. Boehlke... | 1999 | \$289,892 | \$191,133 | \$ N/A | -0- | 54,435 | -0- |
| Executive Vice President | 1998 | \$297,115 | \$116,708 | \$ N/A | -0- | 33,500 | -0- |
| and Chief Financial Officer | 1997 | \$257,908 | \$143,587 | \$ N/A | -0- | 73,500 | -0- |
| Arthur P. Schnitzer... | 1999 | \$294,443 | \$214,414 | \$ N/A | -0- | 54,435 | -0- |
| Executive Vice President, | 1998 | \$285,500 | \$129,902 | \$ N/A | -0- | 33,500 | -0- |
| Customer Group | 1997 | \$256,616 | \$133,697 | \$ N/A | -0- | 73,500 | -0- |

<CAPTION>

| NAME AND PRINCIPAL POSITION AS OF SEPTEMBER 20, 1999 | ALL OTHER COMPENSATION (\$ (5)) |
|--|---------------------------------|
|--|---------------------------------|

| | |
|-----------------------------|----------|
| <S> | <C> |
| Kenneth Levy(6)... | \$10,005 |
| Chairman of the Board | \$44,430 |
| | \$72,158 |
| Kenneth L. Schroeder(7)... | \$ 9,804 |
| President and | \$43,545 |
| Chief Executive Officer | \$71,452 |
| Jon D. Tompkins(8)... | \$ 5,977 |
| Director | \$44,430 |
| | \$ 1,500 |
| Gary E. Dickerson(9)... | \$ 6,844 |
| Chief Operating Officer | \$29,984 |
| | \$50,197 |
| Robert J. Boehlke... | \$ 6,541 |
| Executive Vice President | \$28,604 |
| and Chief Financial Officer | \$49,911 |
| Arthur P. Schnitzer... | \$ 6,761 |
| Executive Vice President, | \$26,494 |
| Customer Group | \$47,842 |

</TABLE>

(1) The amounts paid during the fiscal year to the named executive officers were less than the lesser of (a) \$50,000 or (b) 10% of the executive officers total reported salary and bonus.

(2) The Company has not granted any restricted stock rights.

- (3) The Company has not granted any stock appreciation rights. Fiscal 1999 Stock Option Grants do not reflect the October 1999 Stock Option Repricing. See "Option/SAR Grants" table.
- (4) The Company does not have any Long Term Incentive Plans as that term is defined in the regulations.
- (5) "All Other Compensation" is itemized as follows:
- For fiscal 1999, Mr. Levy received \$7,129 in cash profit sharing; \$475 in profit sharing was contributed by the Company to the 401(k) Plan; \$1,901 was contributed by the Company to the Excess Profit Stock Plan; \$500 was contributed by the Company as a matching contribution to the 401(k) Plan.
 - For fiscal 1999, Mr. Schroeder received \$6,978 in cash profit sharing; \$475 in profit sharing was contributed by the Company to the 401(k) Plan; \$1,851 was contributed by the Company to the Excess Profit Stock Plan; \$500 was contributed by the Company as a matching contribution to the 401(k) Plan.
 - For fiscal 1999, Mr. Tompkins received \$4,108 in cash profit sharing; \$475 in profit sharing was contributed by the Company to the 401(k) Plan; \$894 was contributed by the Company to the Excess Profit Stock Plan; \$500 was contributed by the Company as a matching contribution to the 401(k) Plan.
 - For fiscal 1999, Mr. Dickerson received \$4,758 in cash profit sharing; \$494 in profit sharing was contributed by the Company to the 401(k) Plan; \$1,092 was contributed by the Company to the

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Excess Profit Stock Plan; \$500 was contributed by the Company as a matching contribution to the 401(k) Plan.

- For fiscal 1999, Mr. Boehlke received \$4,531 in cash profit sharing; \$519 in profit sharing was contributed by the Company to the 401(k) Plan; \$991 was contributed by the Company to the Excess Profit Stock Plan; \$500 was contributed by the Company as a matching contribution to the 401(k) Plan.
 - For fiscal 1999, Mr. Schnitzer received \$4,696 in cash profit sharing; \$518 in profit sharing was contributed by the Company to the 401(k) Plan; \$1,047 was contributed by the Company to the Excess Profit Stock Plan; \$500 was contributed by the Company as a matching contribution to the 401(k) Plan.
- (6) Mr. Levy was named Chairman of the Board effective July 1, 1999. From July 1, 1998 until July 1, 1999, Mr. Levy was Chief Executive Officer. During fiscal 1997, Mr. Levy was Chief Executive Officer until April 30, 1997 when, as a result of the merger of Tencor Instruments ("Tencor") into a wholly-owned subsidiary of the Company (the "Merger"), he became Chairman of the Board of Directors and remained in that position until July 1, 1998.
- (7) Mr. Schroeder was named President and Chief Executive Officer effective July 1, 1999. From 1991 until June 30, 1999, he served as President and Chief Operating Officer.
- (8) Mr. Tompkins retired from his position as Chairman of the Board effective July 1, 1999. He was previously President and Chief Executive Officer of Tencor until April 1997. As a result of the Merger he became Chief Executive Officer of the Company effective April 30, 1997 and remained in that position until July 1, 1998, when he became Chairman of the Board. The compensation described in this Summary Compensation Table reflects certain amounts that were paid during the period prior to the Merger when Tencor was an independent, publicly traded company. Tencor reported its results on a calendar year basis, while the Company reports its results based on a June 30 year end.
- (9) Mr. Dickerson was named Chief Operating Officer effective July 1, 1999. From 1997 until July 1, 1999, Mr. Dickerson served as Executive Vice President of the Customer Group.

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STOCK OPTION GRANTS AND EXERCISES

The following tables set forth the stock options granted to the named executive officers under the Company's stock option plans and the options exercised by such named executive officers during the fiscal year ended June 30, 1999.

The Option/SAR Grant Table sets forth hypothetical gains or "option spreads" for the options at the end of their respective ten-year terms, as calculated in accordance with the rules of the Securities and Exchange

Commission. Each gain is based on an arbitrarily assumed annualized rate of compound appreciation of the market price at the date of grant of 5% and 10% from the date the option was granted to the end of the option term. Actual gains, if any, on option exercises are dependent on the future performance of the Company's Common Stock and overall market conditions.

OPTION/SAR(1) GRANTS IN LAST FISCAL YEAR

KLA-TENCOR CORPORATION 1982 STOCK OPTION PLAN(2)

<TABLE>
<CAPTION>

| NAME | INDIVIDUAL GRANTS | | | | POTENTIAL REALIZABLE VALUE ASSUMED ANNUAL RATES OF STOCK PRICE APPRECIATION FOR OPTION TERM | |
|--------------------------|-----------------------------|--|---|--------------------|--|-------------|
| | OPTIONS/SARS GRANTED (#) | PERCENT OF TOTAL OPTIONS/ SARS GRANTED TO EMPLOYEES IN FISCAL YEAR | EXERCISE OR BASE PRICE (\$/SHARE) | EXPIRATION DATE | 5% | 10% |
| | | | | | | |
| <S> | <C> | <C> | <C> | <C> | <C> | <C> |
| Kenneth Levy..... | 102,136 | 1.34% | \$21.2500 | 8/31/2008 | \$1,364,947 | \$3,459,042 |
| | 110,364 | 1.45% | \$33.9375 | 10/23/2008 | \$2,355,511 | \$5,969,328 |
| Kenneth L. Schroeder.... | 102,136 | 1.34% | \$21.2500 | 8/31/2008 | \$1,364,947 | \$3,459,042 |
| | 110,364 | 1.45% | \$33.9375 | 10/23/2008 | \$2,355,511 | \$5,969,328 |
| Jon D. Tompkins..... | 50,809 | 0.67% | \$21.2500 | 8/31/2008 | \$ 679,012 | \$1,720,750 |
| | 74,191 | 0.97% | \$33.9375 | 10/23/2008 | \$1,583,467 | \$4,012,816 |
| Gary E. Dickerson..... | 62,882 | 0.82% | \$21.2500 | 8/31/2008 | \$ 840,355 | \$2,129,627 |
| | 69,618 | 0.92% | \$33.9375 | 10/23/2008 | \$1,485,864 | \$3,765,473 |
| Robert J. Boehlke..... | 54,435 | 0.71% | \$21.2500 | 8/31/2008 | \$ 727,470 | \$1,843,552 |
| | 49,065 | 0.64% | \$33.9375 | 10/23/2008 | \$1,047,200 | \$2,653,810 |
| Arthur P. Schnitzer..... | 54,435 | 0.71% | \$21.2500 | 8/31/2008 | \$ 727,470 | \$1,843,552 |
| | 49,065 | 0.64% | \$33.9375 | 10/23/2008 | \$1,047,200 | \$2,653,810 |

</TABLE>

(1) The Company has not granted any stock appreciation rights.

(2) The material terms of the grants (other than those set forth in the table) are: (a) The exercise price of the options is the fair market value of Common Stock as of the date of grant; (b) The options vest on a four year schedule with 25% after one year and the remaining option shares vesting 1/36 per month for the remainder of the vesting term; (c) To the extent unexercised, the options lapse after ten years; (d) The options are non-transferrable and are only exercisable during the period of employment of the optionee and for 30 days following termination of employment, subject to limited exceptions in the cases of certain terminations, death or permanent disability of the optionee.

AGGREGATED OPTION/SAR EXERCISES IN LAST FISCAL YEAR AND YEAR-END VALUE(1)

KLA-TENCOR CORPORATION 1982 STOCK OPTION PLAN

<TABLE>
<CAPTION>

| NAME | NUMBER OF SHARES ACQUIRED ON EXERCISE | VALUE REALIZED | TOTAL NUMBER OF UNEXERCISED OPTIONS HELD AT FISCAL YEAR END | | TOTAL VALUE (2) OF UNEXERCISED, IN-THE-MONEY OPTIONS HELD AT FISCAL YEAR END | |
|------------------------------|---|-------------------|---|---------------|---|---------------|
| | | | EXERCISABLE | UNEXERCISABLE | EXERCISABLE | UNEXERCISABLE |
| <S> | <C> | <C> | <C> | <C> | <C> | <C> |
| Kenneth Levy..... | 40,000 | \$2,012,500 | 304,833 | 258,167 | \$16,552,652 | \$9,857,167 |
| Kenneth L. Schroeder..... | 20,000 | \$1,121,250 | 296,833 | 258,167 | \$16,029,152 | \$9,857,167 |
| Jon D. Tompkins..... | -0- | -0- | -0- | 125,000 | -0- | \$4,511,827 |
| Gary E. Dickerson.... | -0- | -0- | 64,532 | 166,168 | \$ 2,961,776 | \$6,349,717 |
| Robert J. Boehlke.... | 40,000 | \$1,832,239 | 46,311 | 128,501 | \$ 2,108,386 | \$4,981,969 |
| Arthur P. Schnitzer..... | -0- | -0- | 183,915 | 128,501 | \$ 9,887,300 | \$5,039,642 |

</TABLE>

(1) The Company has not granted any stock appreciation rights.

(2) Total value of vested options based on fair market value of Company's Common Stock of \$64.88 per share as of June 30, 1999.

AGGREGATED OPTION/SAR EXERCISES IN LAST FISCAL YEAR AND YEAR-END VALUE(1)

TENCOR INSTRUMENTS 1993 EQUITY INCENTIVE PLAN

<TABLE>
<CAPTION>

| NAME | NUMBER OF SHARES ACQUIRED ON EXERCISE | VALUE REALIZED | TOTAL NUMBER OF UNEXERCISED OPTIONS HELD AT FISCAL YEAR END | | TOTAL VALUE (2) OF UNEXERCISED, IN-THE-MONEY OPTIONS HELD AT FISCAL YEAR END | |
|-------------------------|---|-------------------|---|---------------|---|---------------|
| | | | EXERCISABLE | UNEXERCISABLE | EXERCISABLE | UNEXERCISABLE |
| <S> | <C> | <C> | <C> | <C> | <C> | <C> |
| Kenneth Levy..... | -0- | -0- | -0- | -0- | -0- | -0- |
| Kenneth L. Schroeder... | -0- | -0- | -0- | -0- | -0- | -0- |
| Jon D. Tompkins..... | 75,368 | \$2,399,548 | 38,581 | 18,001 | \$1,822,952 | \$850,547 |
| Gary E. Dickerson..... | -0- | -0- | -0- | -0- | -0- | -0- |
| Robert J. Boehlke..... | -0- | -0- | -0- | -0- | -0- | -0- |
| Arthur P. Schnitzer.... | -0- | -0- | -0- | -0- | -0- | -0- |

</TABLE>

- - - - -

- (1) The Company has not granted any stock appreciation rights.
- (2) Total value of vested options based on fair market value of Company's Common Stock of \$64.88 per share as of June 30, 1999.
- (3) Messrs. Levy, Schroeder, Boehlke, Dickerson and Schnitzer have been executive officers of the Company and accordingly have never received options under the Tencor Instruments 1993 Equity Incentive Plan. Accordingly, the information under this table is inapplicable to them.

TEN-YEAR OPTION REPRICINGS TABLE

On August 31, 1998, employees of the Company, excluding certain executive officers, holding options with exercise prices of \$28.00 or higher were granted the opportunity to surrender those options and receive new options having an exercise price of \$21.25, the fair market value of the Company's stock on that date, and begin a new vesting schedule. In addition, on October 31, 1998, certain executive officers were granted the opportunity to surrender options and receive a reduced number of options having an exercise price of \$33.94, the market price on that date, and begin a new vesting schedule. The following table provides certain information regarding the repricing of options held by any person who served as an executive officer of the Company during the last 10 completed fiscal years.

<TABLE>
<CAPTION>

| NAME AND POSITION, EXECUTIVE OFFICERS DURING OR FISCAL YEAR 1999 | DATE | NUMBER OF SECURITIES UNDERLYING | MARKET PRICE OF STOCK | WEIGHTED | LENGTH ORIGINAL TERM REMAINING | DATE OF REPRICING AMENDMENT |
|---|------------|---------------------------------------|-----------------------------|-----------|---|-----------------------------------|
| | | | | | | |
| <S> | <C> | <C> | <C> | <C> | <C> | <C> |
| Kenneth Levy..... | 10/26/1990 | 228,700 | \$ 3.5000 | \$ 5.8667 | \$ 3.5000 | 7 years 51 days |
| Chairman of the Board | 10/23/1998 | 110,364 | \$33.9375 | \$51.8672 | \$33.9375 | 8 years 231 days |
| Kenneth L. Schroeder..... | 8/14/1992 | 300,000 | \$ 3.7500 | \$ 4.8125 | \$ 3.7500 | 9 years 82 days |
| President and Chief Executive Officer | 10/23/1998 | 110,364 | \$33.9375 | \$50.6779 | \$33.9375 | 8 years 224 days |
| Gary E. Dickerson..... | 10/23/1998 | 69,618 | \$33.9375 | \$50.7698 | \$33.9375 | 8 years 102 days |
| Chief Operating Officer | 10/23/1998 | 74,191 | \$33.9375 | \$44.5000 | \$33.9375 | 8 years 189 days |
| Jon D. Tompkins..... | 10/23/1998 | 74,191 | \$33.9375 | \$44.5000 | \$33.9375 | 8 years 189 days |
| Director | | | | | | |
| Robert J. Boehlke..... | 8/2/1989 | 66,306 | \$ 5.1250 | \$ 5.8824 | \$ 5.1250 | 8 years 290 days |

| | | | | | | |
|--|------------|---------|-----------|-----------|-----------|-------------|
| Executive Vice President and days | 10/26/1990 | 195,406 | \$ 3.5000 | \$ 6.0025 | \$ 3.5000 | 3 years 300 |
| Chief Financial Officer days | 10/23/1998 | 49,065 | \$33.9375 | \$51.8210 | \$33.9375 | 8 years 231 |
| Arthur P. Schnitzer..... days | 10/26/1990 | 44,490 | \$ 3.5000 | \$ 5.5268 | \$ 3.5000 | 7 years 139 |
| Executive Vice President, days | 10/23/1998 | 49,065 | \$33.9375 | \$51.8210 | \$33.9375 | 8 years 231 |
| Customer Group Edward C. Grady..... days | 10/23/1998 | 26,745 | \$33.9375 | \$43.8914 | \$33.9375 | 8 years 178 |
| Executive Vice President, Wafer Inspection Group Samuel A. Harrell..... days | 10/23/1998 | 57,338 | \$33.9375 | \$44.9110 | \$33.9375 | 8 years 178 |
| Senior Vice President, Strategic Business Development Neil Richardson..... days | 10/23/1998 | 46,184 | \$33.9375 | \$50.6779 | \$33.9375 | 8 years 224 |
| Executive Vice President, E-Beam Inspection and Metrology Group Frederick A. Ball..... days | 8/31/1998 | 20,000 | \$21.2500 | \$44.5000 | \$21.2500 | 8 years 242 |
| Vice President, Mergers and Acquisitions FORMER EXECUTIVE OFFICERS Robert Anderson..... days | 10/26/1990 | 5,904 | \$ 3.5000 | \$ 5.6250 | \$ 3.5000 | 8 years 266 |
| Former Chairman of the Board Patrick H. Lamey, Jr..... days | 8/2/1989 | 48,084 | \$ 5.1250 | \$ 8.1768 | \$ 5.1250 | 8 years 255 |
| Former Vice President, General days | 10/26/1990 | 99,784 | \$ 3.5000 | \$ 5.4498 | \$ 3.5000 | 8 years 42 |
| Manager KLASIC Division Dannie K. Martz..... days | 8/2/1989 | 26,400 | \$ 5.1250 | \$ 5.9394 | \$ 5.1250 | 9 years 13 |
| Former Vice President, days | 10/26/1990 | 56,800 | \$ 3.5000 | \$ 5.3955 | \$ 3.5000 | 8 years 255 |
| General Manager ATS Division John W. Mathews..... days | 10/26/1990 | 116,506 | \$ 3.5000 | \$ 5.8244 | \$ 3.5000 | 6 years 273 |
| Former Vice President, General Manager Technology Division Michael D. McCarver..... days | 10/26/1990 | 94,000 | \$ 3.5000 | \$ 5.8999 | \$ 3.5000 | 7 years 147 |
| Former Vice President, General Manager RAPID Division </TABLE> | | | | | | |

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<TABLE>
<CAPTION>

WEIGHTED

| OF OPTION AT OR | NAME AND POSITION, EXECUTIVE OFFICERS DURING FISCAL YEAR 1999 | DATE | NUMBER OF SECURITIES UNDERLYING OPTIONS REPRICED OR AMENDED | MARKET PRICE OF STOCK AT TIME OF REPRICING (\$) | EXERCISE PRICE AT TIME OF REPRICING | NEW EXERCISE PRICE | LENGTH |
|--|---|---------|--|--|---|--------------------------|--|
| | | | | | | | ORIGINAL TERM REMAINING DATE OF REPRICING AMENDMENT |
| | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| <S> | <C> | <C> | <C> | <C> | <C> | <C> | <C> |
| Paul Sandland..... days | 10/26/1990 | 132,618 | \$ 3.5000 | \$ 5.8764 | \$ 3.5000 | 7 years 96 | |
| Former Vice President, Chief Technical Officer William Turner..... days | 10/26/1990 | 22,368 | \$ 3.5000 | \$ 5.3497 | \$ 3.5000 | 7 years 297 | |
| Former Vice President, Controller Dan Vilenski..... days | 10/26/1990 | 20,600 | \$ 3.5000 | \$ 5.6371 | \$ 3.5000 | 8 years 190 | |
| Former Vice President, General Manager KLA Israel </TABLE> | | | | | | | |

Compensation Committee

The Committee is comprised of three independent, non-employee members of the Board of Directors, none of whom have interlocking relationships as defined by the Securities and Exchange Commission. The Committee sets and administers the policies governing annual compensation of executive officers, considers their performance and makes recommendations regarding their cash compensation and stock options to the full Board of Directors. The Committee periodically reviews its approach to executive compensation and makes changes as appropriate.

Compensation Philosophy

The Committee of the Board of Directors establishes the overall executive compensation strategies of the Company and approves compensation elements for the Chairman of the Board, the Chief Executive Officer and other executive officers. The goals of the Company's compensation policy are to attract, retain and reward executive officers who contribute to the overall success of the Company by offering compensation that is competitive in the industry, to motivate executive officers to achieve the Company's business objectives and to align the interests of executive officers with the long term interests of stockholders. The Company currently uses salary, management incentive plans and stock options to meet these goals.

The compensation philosophy of the Committee is to provide a comprehensive compensation package for each executive officer that is well suited to support accomplishment of the Company's business strategies, objectives and initiatives. For incentive-based compensation, the Committee considers the desirability of structuring such compensation arrangements so as to qualify for deductibility under Section 162(m) of the Internal Revenue Code. As the Committee applies this compensation philosophy in determining appropriate executive compensation levels and other compensation factors, the Committee reaches its decisions with a view towards the Company's overall financial performance.

Executive Officer Compensation

The Committee's approach is based upon its belief that a substantial portion of aggregate annual compensation for executive officers should be contingent upon the Company's performance and an individual's contribution to the Company's success. In addition, the Committee strives to align the interests of the Company's executive officers with the long-term interests of stockholders through stock option grants that can result in ownership of the Company's Common Stock. The Committee endeavors to structure each executive officer's overall compensation package to be consistent with this approach and to enable the Company to attract, retain and reward personnel who contribute to the success of the Company.

The Company provides its executive officers with a compensation package consisting of base salary, variable incentive pay and participation in benefit plans generally available to other employees. The Committee considers market information from published survey data provided to the Committee by the

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Company's human resources staff. The market data consists primarily of base salary and total cash compensation rates, as well as incentive bonus and stock programs of other companies considered by the Committee to be peers in the Company's industry.

For the Company's previous fiscal year, the Committee reviewed and recommended a compensation structure which had as an important component the substantial economic and business challenges in the semiconductor and semiconductor capital equipment industries worldwide.

Base Salary. Salaries for executive officers are set with reference to salaries for comparable positions among other companies in the Company's industry or in industries that employ individuals of similar education and background to the executive officers based on data provided by the Company's human resources staff.

Management Incentive Plan. Each year since fiscal 1979, the Company has adopted a management incentive plan (the "Incentive Plan") which provides for payments to officers and key employees based on the financial performance of the Company or the relevant business unit, and on the achievement of the person's individual performance objectives. The Incentive Plan is approved by the Committee and submitted to the Board of Directors for ratification. The Incentive Plan sets goals for profitability, achievement of measurable objectives aimed at strategic corporate goals and achievement of objectives relating to managing the ratio of assets to sales.

Outstanding Corporate Performance Executive Bonus Plan. The Company continued to utilize its incentive plan (the "Outstanding Corporate Performance Plan") which allows for an additional bonus in years when the Company achieves certain levels of profitability and growth. For those executive officers who do not manage operating divisions, the matrix is based on the Company's pre-tax

margin and the growth of the Company compared to a peer group. The target percentage for the Outstanding Corporate Performance Plan is the same target percentage as utilized in determining the Incentive Plan bonus. For those executive officers who manage operating divisions, the matrix is based on certain specified growth objectives for that division, the Company's net operating margin and a comparison of the Company's aggregate revenues over the prior 36 months against a target group of public U.S. companies over the same period.

Half of each annual amount under the Outstanding Corporate Performance Plan is payable at the end the fiscal year. The other of half of each annual amount payable under the plan is contributed by the Company to the Executive Deferred Savings Plan (the "EDSP") that vests over a one year period. At the end of the one year period, the executive officer has the choice of taking a cash payment or leaving the contribution in the EDSP. If the executive officer leaves during that one year period, the contribution by the Company is forfeited. Although the executive officer is eligible to participate in both the Company's profit sharing plan and the Outstanding Corporate Performance Plan, any amounts contributed by the Company pursuant to the Outstanding Corporate Performance Plan will be reduced by the amount of profit sharing paid during the fiscal year.

Process Module Control Solutions Program (the "PMCS Program"). The Company has initiated a new incentive program for fiscal year 2000. The PMCS Program is intended to encourage teamwork throughout the Company. Each participant in the PMCS Program shall receive a stock option upon the achievement of certain revenue goals from customers set forth on a list of potential capital equipment investment opportunities in the semiconductor industry. The percentage of achievement of the revenue goal determines the number of stock options received, which in turn is dependent upon the salary and performance level of the participant. The stock option grants are made at the end of the fiscal year, after the determination of the level of goal achieved.

Long-term Incentives. Longer term incentives are provided through the Stock Option Plan and the Excess Profit Stock Plan, each of which reward executive officers through the growth in value of the Company's Common Stock. The Committee believes that employee equity ownership is highly motivating, provides a major incentive for employees to build stockholder value and aligns the interests of employees with those of stockholders.

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Grants of stock options to executive officers are based upon each executive officer's responsibilities, historical and expected contributions to the Company, and the executive officer's existing stock ownership and previous option grants, with primary weight given to the executive officer's relative rank and responsibilities. Stock options are granted at market price on the date of grant and provide value to the executive officers only when the price of the Company's Common Stock increases over the exercise price.

In August, 1998, following a sharp, sustained drop in the price of the Company's Common Stock, the Committee became concerned about the retention and continued motivation of employees holding "under-water" stock options, with exercise prices higher and, in many cases, significantly higher than market levels. After reviewing the matter, the Committee unanimously recommended to the Board of Directors that the Company reprice stock options on August 31, 1998. Employees of the Company, excluding certain executive officers, holding options with exercise prices of \$28.00 or higher were offered the opportunity to surrender those options and receive new options having an exercise price of \$21.25, the fair market value of the Company's stock on that date, with a new vesting schedule from the date of grant. In addition, the Committee also realized that the Company was at a competitive disadvantage for retention of certain of its executive officers holding options with exercise prices in excess of the then-current market levels and on October 31, 1998, those executive officers were offered the opportunity to surrender options and receive a reduced number of options having an exercise price of \$33.94, the market price on that date. These repriced options began a new vesting schedule from the date of grant. All independent members of the Board of Directors approved the repricing offers. Kenneth Levy, the Company's Chief Executive Officer, Kenneth Schroeder, the Company's President and Chief Operating Officer, and Jon Tompkins, the Company's Chairman of the Board, abstained from the vote. The offer to reprice stock options was not made to the Company's non-employee directors, all of whom hold stock options under the Company's Outside Director Plan. A table showing the options held by executive officers who elected to accept the repricing offer is set forth under "Executive Compensation and Other Matters -- Ten-Year Option Repricings Table."

In recommending the option repricing, the Committee and the Board of Directors were primarily motivated by a desire to preserve the Company's talented employee base in a highly competitive employment environment during a period when falling stock prices had substantially eliminated the retention value of the Company's equity incentives. Recognizing the variety of alternative opportunities and intense competition for employees and executives from both established companies and emerging high-technology companies, the Board of Directors concluded that repricing under-water options was in the best interest

of the Company.

Approval of Fiscal Year 2000 Bonus Plan, Outstanding Corporate Performance Plan and the PMCS Program

The Committee approved a fiscal year 2000 bonus plan incentive formula which is based on two components of equal weight. The first component is performance against specified financial objectives and the second is achievement of non-financial strategic objectives. The bonuses for the Chairman of the Board, the Chief Executive Officer, the Chief Operating Officer and the Chief Financial Officer are based on the performance of the managers reporting to the executive officers. The Committee also approved the fiscal year Outstanding Corporate Performance Plan which is based on a matrix of the Company's net operating margin and certain growth objectives. The Plan does not require any contributions by the Company until the Company achieves a Pre-Tax Margin Factor of 14%. The Pre-Tax Margin Factor is calculated by taking the pre-tax, pre-profit sharing income, excluding non-recurring charges, and dividing it by total revenue. Under the PMCS Program, certain of the stock options which would be granted under Stock Option Plan will be dependent upon the achievement of certain revenue targets from specified customers.

Chief Executive Officer Compensation

For fiscal year 1999, Kenneth Levy served as Chief Executive Officer. In setting Mr. Levy's compensation for fiscal year 1999, the Committee considered the Company's revenue and profit in the prior fiscal year, the Company's market capitalization and data from comparable companies supplied by the Company's compensation consultants. During fiscal year 1999, due to the downturn in the semiconductor industry, the executive officers of the Company, including Mr. Levy, voluntarily decreased their base salaries by 10% for six

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months. As a result of this decrease, Mr. Levy was paid \$456,097 in salary for fiscal 1999. Mr. Levy's target bonus for fiscal 1999 was 100% of his annual base salary. The Company's results during this industry downturn, coupled with the formula approved by the Committee and the Board, resulted in a bonus to Mr. Levy of \$429,597, or 94% of his reduced salary.

MEMBERS OF THE
COMPENSATION COMMITTEE

James W. Bagley
Leo J. Chamberlain
Lida Urbanek

COMPENSATION COMMITTEE INTERLOCKS AND INSIDER PARTICIPATION

The members of the Compensation Committee are set forth in the preceding section. There are no members of the Compensation Committee who were officers or employees of the Company or any of its subsidiaries during the fiscal year, formerly officers of the Company, or had any relationship otherwise requiring disclosure hereunder.

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PERFORMANCE GRAPH

The stock price performance shown on the following graph is not necessarily indicative of future price performance.

COMPARISON OF FIVE YEAR CUMULATIVE TOTAL RETURN AMONG KLA-TENCOR CORPORATION, THE NASDAQ -- US INDEX AND THE HAMBRECHT & QUIST PERFORMANCE GRAPH TECHNOLOGY INDEX*

<TABLE>
<CAPTION>

HAMBRECHT & QUIST

TECHNOLOGY INDEX

KLA-TENCOR CORPORATION

THE NASDAQ-US INDEX

| | ----- | ----- | ----- |
|--------|--------|--------|--------|
| <S> | <C> | <C> | <C> |
| 1994 | 100.00 | 100.00 | 100.00 |
| 1995 | 206.00 | 133.48 | |
| 1996 | 124.00 | 171.38 | |
| 1997 | 260.00 | 208.42 | |
| 1998 | 147.67 | 274.43 | |
| 1999 | 346.00 | 392.51 | |
| 553.56 | | | |

</TABLE>

* Assumes \$100 invested on June 30, 1994. The Company's fiscal year end is June 30.

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

In connection with the merger between KLA Instruments Corporation and Tencor Instruments (effective April 30, 1997) the Company entered into identical employment arrangements, subsequently amended, with Kenneth Levy, Jon D. Tompkins and Kenneth L. Schroeder, all executive officers of the Company. The arrangements, as amended, provide that certain benefits would be paid if certain events took place after April 30, 1997. The purpose of these arrangements is to retain the services of Messrs. Levy, Tompkins and Schroeder to ensure the continued smooth transition associated with the Merger. The terms of those arrangements provide that if an individual were to leave the Company after April 30, 1998, subject to releasing the Company from all claims, and in connection with working part-time for 36 months, he will receive (i) his base salary for the first 24 months of part-time employment, (ii) a mutually agreeable level of compensation per month for the final 12 months of part-time employment, (iii) an annual bonus (based on an achievement of 100% of bonus objectives) in the fiscal year of his transition to part-time employment, (iv) a bonus paid in the fiscal year following the payment of the annual bonus above, (based on achievement of 100% of his individual bonus objectives) and (v) a pro-rated bonus for the fiscal year in which part-time employment ended. During the periods of part-time employment, all options to exercise stock of the Company, which were granted more than 12 months prior to the termination of full-time employment will continue to vest. The same

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benefits shall be payable in the event the Company terminates his employment without cause. If he is terminated for cause (defined as (i) gross negligence or willful misconduct in connection with the performance of duties, (ii) conviction of or plea of nolo contendere to any felony, or (iii) the embezzlement or misappropriation of Company property) then he will receive a lump-sum payment equal to 25% of his base salary.

During the last fiscal year, the Company entered into a Separation Agreement (the "Agreement") with Graham J. Siddall, an executive officer of the Company at the time the Agreement was executed. Mr. Siddall is no longer an executive officer of the Company. Pursuant to the Agreement, Mr. Siddall shall be a part-time employee of the Company until June 30, 2001 and is entitled to receive bonuses as long as he does not work with another corporation. In addition, Mr. Siddall's options granted prior to April 30, 1997 will continue to vest during the part-time employment period provided that he does not work for one or more of a defined set of competitors of the Company.

COMPLIANCE WITH SECTION 16(A) OF THE SECURITIES EXCHANGE ACT OF 1934

Section 16(a) of the Exchange Act requires the Company's executive officers, directors, and persons who own more than ten percent of a registered class of the Company's equity securities to file reports of ownership and changes in ownership with the SEC. Executive officers, directors and greater than ten percent stockholders are required by SEC regulations to furnish the Company with copies of all Section 16(a) forms they file. Frederick A. Ball, an executive officer of the Company filed a Form 4 for the month ending November 10, 1998, three days after the due date.

OTHER MATTERS

The Company knows of no other matters to be submitted to the stockholders at the Annual Meeting. If any other matters properly come before the Annual Meeting, it is the intention of the persons named in the enclosed form of Proxy to vote the shares they represent as the Board of Directors may recommend.

THE BOARD OF DIRECTORS

October 15, 1999

19

729-PS-99

DETACH HERE

PROXY

KLA-TENCOR CORPORATION

PROXY FOR 1999 ANNUAL MEETING OF STOCKHOLDERS

THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS

The undersigned, revoking all prior proxies, hereby appoints Kenneth Levy and Robert J. Boehlke, and each of them, as Proxies with full power of

substitution, to represent and vote as designated in this proxy any and all shares of the common stock of KLA-Tencor Corporation (the "Company"), held or owned by or standing in the name of the undersigned on the Company's books on September 20, 1999, at the Annual Meeting of Stockholders of the Company to be held at the Company's offices at One Technology Drive, Milpitas, California 95035, at 11:00 a.m. local time on Tuesday, November 16, 1999, and any continuation or adjournment thereof, with all powers the undersigned would possess if personally present at the meeting.

The undersigned hereby directs and authorizes said Proxies and each of them, or their substitute or substitutes, to vote as specified with respect to the proposals listed on the reverse side, or, if no specification is made, to vote in favor thereof.

The undersigned hereby further confers upon said Proxies, and each of them, or their substitute or substitutes, discretionary authority to vote with respect to all other matters that may properly come before the meeting or any continuation or adjournment thereof.

The undersigned hereby acknowledges receipt of: (a) Notice of Annual Meeting of Stockholders of the Company, (b) accompanying Proxy Statement, and (c) Annual Report to Stockholders for the year ending June 30, 1999.

SEE REVERSE SIDE CONTINUED AND TO BE SIGNED ON REVERSE SIDE SEE REVERSE SIDE

VOTE BY TELEPHONE VOTE BY INTERNET

Call Toll-Free on a Touch-Tone Phone
1-877-PRX-VOTE (1-877-779-8683).

Follow these four easy steps:

1. Read the accompanying Proxy Statement/Prospectus and Proxy Card
2. Call the toll-free number 1-877-PRX VOTE (1-877-779-8683). For shareholders residing outside the United States call collect on a touch tone phone 1-201-536-8073
3. Enter your 14-digit Voter Control Number located on your Proxy Card above your name.
4. Follow the recorded instructions.

YOUR VOTE IS IMPORTANT!
Call 1-877-PRX-VOTE anytime!

Follow these four easy steps:

1. Read the accompanying Proxy Statement/Prospectus and Proxy Card
2. Call the toll-free number <http://www.eproxyvote.com/klac>
3. Enter your 14-digit Voter Control Number located on your Proxy Card above your name.
4. Follow the instructions provided.

YOUR VOTE IS IMPORTANT!
Go to <http://www.eproxyvote.com/klac> anytime!

DO NOT RETURN YOUR PROXY CARD IF YOU ARE VOTING BY TELEPHONE OR INTERNET

DETACH HERE

[X] Please mark
votes as in
this example.

THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS OF THE COMPANY, THE BOARD OF DIRECTORS RECOMMENDS A VOTE FOR THE NOMINEES FOR DIRECTOR AND FOR PROPOSAL 2.

1. To elect the Class I directors to serve for a three year term and until their successors are elected.

NOMINEES: (01) Kenneth Levy, (02) Samuel Rubinovitz, (03) Jon D. Tompkins
and (04) Lida Urbanek

FOR WITHHELD
[] []

[] _____
For all nominees except as noted above

2. To ratify the appointment of PricewaterhouseCoopers LLP as independent accountants of the Company for the fiscal year ending June 30, 2000.

FOR AGAINST ABSTAIN
[] [] []

In their discretion, the proxy holders are authorized to vote on all such other

matters as may properly come before the meeting or any adjournment thereof.

MARK HERE IF YOU PLAN TO ATTEND THE MEETING []

MARK HERE FOR ADDRESS CHANGE AND NOTE AT LEFT []

Please sign exactly as your name appears on your stock certificate(s), date and return this Proxy promptly in the reply envelope provided. Please correct your address before returning this Proxy. Persons signing in a fiduciary capacity should so indicate. If shares are held by joint tenants or as community property, both should sign.

Signature: _____ Date: _____ Signature: _____ Date: _____