

SCHEDULE 14A
(RULE 14A-101)

INFORMATION REQUIRED IN PROXY STATEMENT

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>
<input type="checkbox"/> Preliminary Proxy Statement	<input type="checkbox"/> Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e) (2))

<input checked="" type="checkbox"/> Definitive Proxy Statement
<input type="checkbox"/> Definitive Additional Materials
<input type="checkbox"/> Soliciting Material Pursuant to Rule 14a-11(c) or Rule 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):

No fee required.

Fee computed on table below per Exchange Act Rules 14a-6(i)(1) 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 10, 2000

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 Friday, November 10, 2000 at 11:00 a.m., local time, at the Company's offices located at One Technology Drive, Milpitas, California 95035, for the following purposes:

1. To elect three Class II directors to each serve for a three year term and until their successors are duly elected.
2. To approve an amendment to the Certificate of Incorporation to increase the number of shares of Common Stock reserved for issuance thereunder by

250,000,000 shares to 500,000,000 shares.

3. To ratify the appointment of PricewaterhouseCoopers LLP as independent accountants of the Company for the fiscal year ending June 30, 2001.
4. To transact such other business as may properly come before the meeting or any adjournment or adjournment 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 27, 2000 are entitled to notice of, and to vote at the meeting and any adjournment thereof.

Sincerely,

/s/ Larry W. Sonsini
Larry W. Sonsini
Secretary

San Jose, California
October 6, 2000

YOUR VOTE IS IMPORTANT

ALL STOCKHOLDERS ARE CORDIALLY INVITED TO ATTEND THE MEETING IN PERSON, HOWEVER, TO ASSURE YOUR REPRESENTATION AT THE MEETING, YOU ARE REQUESTED TO COMPLETE, 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.

2000 ANNUAL MEETING OF STOCKHOLDERS
OF
KLA-TENCOR CORPORATION

TO BE HELD ON NOVEMBER 10, 2000

PROXY STATEMENT

INFORMATION CONCERNING SOLICITATION AND VOTING

GENERAL

The enclosed Proxy is solicited on behalf of the Board of Directors of KLA-Tencor Corporation (the "Company") for use at the Annual Meeting of Stockholders to be held on Friday, November 10, 2000 at 11:00 a.m., local 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 6, 2000 to all stockholders entitled to vote.

RECORD DATE

Only stockholders of record at the close of business on September 27, 2000 are entitled to notice of and to vote at the Annual Meeting. As of September 27, 2000 187,416,678 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 Morrow & Co. to aid in the solicitation of proxies from brokers, bank nominees and other institutional owners. The Company estimates that it will pay Morrow & Co a fee not to exceed \$5,000 for its services and will reimburse it for certain out of pocket expenses estimated to be \$4,000. 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 2001 must be received by the Company no later than June 8, 2001 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 2001, 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 22, 2001. If such a 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 2001.

SECURITY OWNERSHIP

PRINCIPAL STOCKHOLDERS

As of September 27, 2000, 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>
FMR Corp.(2)..... 82 Devonshire Street Boston, MA 02109	21,956,837	11.72%
Capital Research and Management Company(3)..... 333 Hope Street Los Angeles, CA 90071	14,490,000	7.73%
Capital Group International, Inc.(4)..... 11100 Santa Monica Blvd. Los Angeles, CA 90025	13,294,880	7.09%
Putnam Investments, Inc.(5)..... One Post Office Square Boston, MA 02109	9,745,800	5.20%

(1) Based on 187,416,678 outstanding shares of Common Stock as of September 27, 2000.

(2) The number of shares owned is based on information provided pursuant to Schedule 13G filed with the SEC on September 11, 2000. FMR Corp. is a parent holding company and includes shares held by Fidelity Management & Research Company, Fidelity Management Trust Company and Fidelity International Limited.

(3) The number of shares owned is based on information provided pursuant to Schedule 13G filed with the Securities and Exchange Commission (the "SEC") on February 11, 2000.

(4) The number of shares owned is based on information provided pursuant to

- (5) The number of shares owned is based on information provided pursuant to Schedule 13G filed with the SEC on February 17, 2000. This share amount includes 4,539,970 shares held by Putnam Investment Management, Inc. and 332,930 shares held by The Putnam Advisory Company, Inc.

SECURITY OWNERSHIP OF MANAGEMENT

The following table sets forth the beneficial ownership of Common Stock of the Company as of September 27, 2000 by all directors and nominees, 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).....	3,547,750	1.89%
Kenneth L. Schroeder(2).....	903,491	**
Edward W. Barnholt(3).....	40,460	**
H. Raymond Bingham(4).....	20,000	**
Robert T. Bond(5).....	20,000	**
Richard J. Elkus, Jr.(6).....	125,416	**
Dean O. Morton(7).....	29,188	**
Jon D. Tompkins(8).....	90,759	**
Lida Urbanek(9).....	1,661,212	**
Gary E. Dickerson(10).....	90,199	**
Dennis J. Fortino(11).....	63,279	**
Edward C. Grady(12).....	84,516	**
Samuel A. Harrell(13).....	56,645	**
John H. Kispert(14).....	26,679	**
Maureen Lamb(15).....	6,909	**
Stuart J. Nichols(16).....	11,012	**
Neil Richardson(17).....	38,370	**
Arthur P. Schnitzer(18).....	206,189	**
Richard P. Wallace(19).....	33,924	**
All directors and executive officers as a group (19 persons) (20).....	7,055,998	3.76%

</TABLE>

* Based on 187,416,678 outstanding shares of the Common Stock of the Company as of September 27, 2000.

** Less than 1%.

- (1) Includes 582,390 shares, options for which are presently exercisable or will become exercisable within 60 days of September 27, 2000 and 462,000 shares which are held in trust for the benefit of Mr. Levy's children.
- (2) Includes 651,049 shares, options for which are presently exercisable or will become exercisable within 60 days of September 27, 2000.
- (3) Includes 40,460 shares, options for which are presently exercisable or will become exercisable within 60 days of September 27, 2000.
- (4) Includes 20,000 shares, options for which are presently exercisable or will become exercisable within 60 days of September 27, 2000.
- (5) Includes 20,000 shares, options for which are presently exercisable or will become exercisable within 60 days of September 27, 2000.
- (6) Includes 25,416 shares, options for which are presently exercisable or will become exercisable within 60 days of September 27, 2000.

- (7) Includes 24,372 shares, options for which are presently exercisable or will become exercisable within 60 days of September 27, 2000.
- (8) Includes 66,117 shares, options for which are presently exercisable or will become exercisable within 60 days of September 27, 2000.
- (9) Includes 30,974 shares, options for which are presently exercisable or will become exercisable within 60 days of September 27, 2000 and 303,000 shares which she holds as custodian for her children.
- (10) Includes 86,384 shares, options for which are presently exercisable or will become exercisable within 60 days of September 27, 2000.

- (11) Includes 54,508 shares, options for which are presently exercisable or will become exercisable within 60 days of September 27, 2000.
- (12) Includes 77,497 shares, options for which are presently exercisable or will become exercisable within 60 days of September 27, 2000.
- (13) Includes 53,328 shares, options for which are presently exercisable or will become exercisable within 60 days of September 27, 2000.
- (14) Includes 23,785 shares, options for which are presently exercisable or will become exercisable within 60 days of September 27, 2000.
- (15) Includes 4,765 shares, options for which are presently exercisable or will become exercisable within 60 days of September 27, 2000.
- (16) Includes 10,759 shares, options for which are presently exercisable or will become exercisable within 60 days of September 27, 2000.
- (17) Includes 31,852 shares, options for which are presently exercisable or will become exercisable within 60 days of September 27, 2000.
- (18) Includes 192,834 shares, options for which are presently exercisable or will become exercisable within 60 days of September 27, 2000.
- (19) Includes 25,930 shares, options for which are presently exercisable or will become exercisable within 60 days of September 27, 2000.
- (20) Includes 2,022,420 shares, options for which are presently exercisable or will become exercisable within 60 days of September 27, 2000.

PROPOSAL ONE

TO ELECT THREE CLASS II DIRECTORS TO EACH SERVE FOR A
THREE YEAR TERM AND UNTIL THEIR SUCCESSORS ARE DULY ELECTED.

NOMINEES

The Company has a classified board comprised of nine director positions consisting of three Class I directors (Kenneth Levy, Jon D. Tompkins and Lida Urbanek), three incumbent Class II directors (Richard J. Elkus, Jr., H. Raymond Bingham and Robert T. Bond) and three incumbent Class III directors (Edward W. Barnholt, Dean O. Morton, and Kenneth L. Schroeder). The Class III directors and the Class I directors will serve until the annual meetings of stockholders to be held in 2001 and 2002 respectively, or until their respective successors are duly elected and qualified. At each annual meeting, directors are elected for a full term of three years to succeed those directors whose terms expire at the annual meeting.

The term of one of the three Class II directors will expire on the date of the Annual Meeting. Earlier in the year, Leo J. Chamberlain resigned as a Class II director. Samuel Rubinovitz, a Class I director, and James W. Bagley, a Class III director, also resigned earlier in the year. A majority vote of the directors in office appointed H. Raymond Bingham and Robert T. Bond following the resignations of Mr. Chamberlain and Mr. Rubinovitz. Following that meeting, Dag Tellefsen, a Class II director passed away. Pursuant to the

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authority granted under Article II, Section 2 of the Company's Bylaws, the Board unanimously adopted a resolution reducing the total number of authorized directors of the Company from eleven to nine.

Three Class II directors of the Board of Directors are to be elected at the Annual Meeting. The nominees for election by the stockholders to these three positions are Richard J. Elkus, Jr., H. Raymond Bingham and Robert T. Bond. If elected, the nominees will serve as directors until the Company's annual meeting of stockholders in 2003, or until their successors are elected and qualified. If any of the nominees declines to serve or becomes unavailable for any reason, or 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 three nominees for Class II directors receiving the highest number of votes will be elected as Class II 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.....	57	Chairman of the Board	1975
Kenneth L. Schroeder.....	54	President and Chief Executive Officer	1991
Edward W. Barnholt.....	57	Director	1995
H. Raymond Bingham.....	54	Director	2000
Robert T. Bond.....	57	Director	2000
Richard J. Elkus, Jr.	65	Director	1997
Dean O. Morton.....	68	Director	1997
Jon D. Tompkins.....	60	Director	1997
Lida Urbanek.....	55	Director	1997

</TABLE>

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

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 1998 until June 30, 1999 he was the Chief Executive Officer and a Director. From April 30, 1997 until June 30, 1998 he was Chairman of the Board. From 1975 until April 30, 1997 he was Chairman of the Board and Chief Executive Officer. 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. He currently serves on the boards of directors of GaSonics International and SEMI, an industry trade association.

Edward W. Barnholt has been a Director of the Company since 1995. Since May 1999, he has been President and Chief Executive Officer and a director of Agilent Technologies, Inc. Mr. Barnholt served as General Manager of Hewlett-Packard's Measurement Organization from 1998 to 1999, which included Hewlett-Packard's Electronic Instruments Group, the Microwave and Communications Group, the Communications Test Solutions Group, the Automated Test Group, the Chemical Analysis Group, the Components Group and the Medical Products Group. From 1990 to 1998, he served as General Manager of Hewlett-Packard's Test and Measurement Organization. He was elected a Senior Vice President of Hewlett-Packard in 1993 and an Executive Vice President in 1996.

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H. Raymond Bingham has been a Director of the Company since August 2000. He has been President and Chief Executive Officer of Cadence Design Systems, Inc. since April 1999. Mr. Bingham has been a director of Cadence since November 1997. From 1993 to April 1999, Mr. Bingham served as Executive Vice President and Chief Financial Officer of Cadence. Prior to joining Cadence, Mr. Bingham was Executive Vice President and Chief Financial Officer of Red Lion Hotels and Inns, an owner and operator of a chain of hotels, for eight years. Mr. Bingham is a director of Legato Systems, Inc., Onyx Software Corporation, TenFold Corporation and a director and Chairman of Integrated Measurement Systems, Inc.

Robert T. Bond has been a Director of the Company since August 2000. From April 1996 to January 1998, Mr. Bond served as Chief Operating Officer of Rational Software Corporation. Prior to that, he held various executive positions at Rational Software Corporation. Mr. Bond was employed by Hewlett-Packard Company from 1967 to 1983 and held various management positions during his tenure there. He is on the Advisory Board of Cyntric Corporation and is also a director. He also serves on the Advisory Board of Grid Data Corporation.

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. Since 1996 he has been the Chairman of the Board and a director of Voyan Technology. He currently serves on the boards of directors of Sopra, S.A., a semiconductor equipment company, Lam Research Corporation, and Virage Logic Corp.

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 Hewlett-Packard Company. Mr. Morton held various positions at Hewlett-Packard Company from 1960 until his retirement. Mr. Morton currently serves on the boards of directors of ALZA Corporation, The Clorox Company, BEA Systems Inc., Cepheid Inc., and Pharsight Corporation. Mr. Morton is also a trustee of the Metropolitan Series Fund and State Street Research Funds Group

and Portfolios Inc.

Jon D. Tompkins has been a Director of the Company since April 1997. He was Chairman of the Board from July 1998 to June 1999, when he retired his position as Chairman of the Board. Mr. Tompkins has continued to serve as a Director. 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, Inc., Electro Scientific Industries, Inc., Credence Systems, Corp., and Community Foundation of Silicon Valley.

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

For additional information required by this item see "Compliance with Section 16(a) of the Securities Exchange Act of 1934" in the Proxy Statement, which is incorporated herein by reference.

BOARD MEETINGS AND COMMITTEES

The Board of Directors of the Company held a total of five meetings during the fiscal year ended June 30, 2000. The Board of Directors has an Audit Committee, a Compensation Committee and a Nominating Committee.

The Audit Committee, which consists of Mr. Morton, Mr. Elkus and Mr. Bingham, held six 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. Barnholt, Mrs. Urbanek and Mr. Bond, held one meeting during the last fiscal year. The Compensation Committee reviews and approves the Company's executive compensation policy and makes recommendations concerning the Company's

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employee benefit plans. The Nominating Committee, which consists of Mr. Barnholt, Mr. Morton, Mr. Levy and Mr. Schroeder held no formal meetings during the last fiscal year. A unanimous group of the disinterested members of the board of directors nominated the three Class II 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 to be included in the proxy statement for the stockholder meeting must be received by the Company.

During the fiscal year ended June 30, 2000, all incumbent Directors, except for Mr. Bagley, attended at least 75% of the aggregate number of 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 an annual fee of \$20,000 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 20,000 shares of Common Stock as of the date on which such director first becomes an Outside Director (the "First Option"). In addition, each Outside Director is automatically granted a nonstatutory option to purchase an additional 10,000 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 due to the fact that such elections are by a plurality.

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

PROPOSAL TWO

APPROVAL OF AN AMENDMENT TO THE CERTIFICATE OF INCORPORATION TO INCREASE THE NUMBER OF SHARES OF COMMON STOCK RESERVED FOR ISSUANCE THEREUNDER BY 250,000,000 SHARES TO 500,000,000 SHARES.

GENERAL

On August 15, 2000, the Board of Directors approved an amendment (the "Amendment") to the Certificate of Incorporation to increase the number of authorized shares of Common Stock from 250,000,000 shares to

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500,000,000 shares. Under the Amendment, subject to stockholder approval, Article Four of the Certificate of Incorporation would be amended and restated to read as follows:

"FOURTH: The aggregate number of shares of stock which the corporation shall have authority to issue shall be 501,000,000 shares, with the par value of each of such shares being \$0.001. These shares shall be divided into the following classes:

- (1) 500,000,000 shares shall be designated as Common Stock; and
- (2) 1,000,000 shares shall be designated as Preferred Stock.

The Board of Directors is authorized, subject to any limitations prescribed by law, to provide for the issuance of shares of Preferred Stock in series, and by filing a certificate pursuant to the applicable law of the State of Delaware, to establish from time to time the number of shares to be included in each such series, and to fix the designation, powers, preferences, and rights of the shares of each such series, and any qualifications, limitations or restrictions thereof. The number of authorized shares of Preferred Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority of the then outstanding shares of Common Stock, without a vote of the holders of the Preferred Stock, or of any series thereof, unless a vote of any such holders is required pursuant to the certificate or certificates establishing the series of Preferred Stock."

As of September 27, 2000, there were 251,000,000 shares of Common Stock authorized, of which approximately 187,416,678 shares were issued and outstanding and approximately 4,861,843 of which were reserved for issuance under the Company's stock benefit plans, leaving only approximately 58,721,479 authorized shares of Common Stock available for future issuance.

Although the Company has no specific plans to use the additional authorized shares of its Common Stock other than as described above, the Board of Directors believes that it is prudent to increase the number of authorized shares of Common Stock to the proposed level in order to provide a reserve of shares available for issuances in connection with possible future actions. Such actions may include increases in the number of shares available for issuance pursuant to the Company's stock option plans, stock splits or stock dividends if the Board of Directors were to determine that such would be desirable to facilitate a broader base of stockholders. The Company's Board of Directors also believes that the increased number of shares will provide the flexibility to effect other possible actions including, but not limited to, financings, corporate mergers, acquisitions of property, employee benefit plans and other general corporate matters. Having such additional authorized Common Stock available for issuance in the future would allow the Board of Directors to issue shares of Company Common Stock without the delay and expense associated with seeking stockholder approval. Elimination of such delays and expense occasioned by the necessity of obtaining stockholder approval will better enable the Company to, among other things, engage in financing transactions and acquisitions as well as to take advantage of changing market and financial conditions on a more competitive basis as determined by the Company's Board.

The increase in the authorized number of shares of Common Stock could have an anti-takeover effect. Shares of authorized and unissued Common Stock could (within the limits imposed by applicable law) be issued in one or more transactions that would make a takeover of the Company more difficult, and therefore less likely. Any such issuance of additional stock could have the effect of diluting the earnings per share and book value per share of outstanding shares of Common Stock, and such additional shares could be used to dilute the stock ownership or voting rights of persons seeking to obtain control of the Company.

In addition, the Company has previously adopted certain measures that may have the effect of helping it to resist an unfriendly takeover attempt,

including the KLA-Tencor Rights Plan ("Rights Plan"), providing for the distribution of rights to purchase additional shares of Company Stock in the event of certain attempts to acquire control of the Company. The increase in the authorized number of shares facilitates the issuance of shares in the event the provisions of the Rights Plan are triggered.

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The increase in authorized Common Stock will not have any immediate effect on the rights of existing stockholders. To the extent that the additional authorized shares are issued in the future, they will decrease the existing stockholders' percentage equity ownership and, depending on the price at which they are issued, could be dilutive to the existing stockholders.

The stockholders are being asked to approve such amendment. The affirmative vote of the holders of a majority of the shares of Common Stock issued and outstanding on the Record Date will be required to approve the amendment of the Certificate of Incorporation. The effect of an abstention and broker non-vote is the same as that of a vote against the proposal.

THE BOARD OF DIRECTORS RECOMMENDS A VOTE FOR APPROVAL OF THE AMENDMENT TO THE CERTIFICATE OF INCORPORATION TO INCREASE THE NUMBER OF SHARES OF COMMON STOCK RESERVED FOR ISSUANCE THEREUNDER BY 250,000,000 SHARES TO 500,000,000 SHARES.

PROPOSAL THREE

TO RATIFY THE APPOINTMENT OF PRICEWATERHOUSECOOPERS LLP AS THE INDEPENDENT ACCOUNTANTS OF THE COMPANY FOR THE FISCAL YEAR ENDING JUNE 30, 2001.

The Board of Directors has selected PricewaterhouseCoopers LLP, independent accountants, to audit the consolidated financial statements of the Company for its 2001 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.

THE BOARD OF DIRECTORS RECOMMENDS A VOTE FOR THE RATIFICATION OF THE APPOINTMENT OF PRICEWATERHOUSECOOPERS LLP AS THE INDEPENDENT ACCOUNTANTS OF THE COMPANY FOR THE FISCAL YEAR ENDING JUNE 30, 2001.

EXECUTIVE COMPENSATION

The following table shows, as to the person who served as Chief Executive Officer during the fiscal year ended June 30, 2000 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, 2000, as well as such compensation for each such individual for the Company's previous two fiscal years.

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SUMMARY COMPENSATION TABLE

<TABLE>
<CAPTION>

NAME AND PRINCIPAL POSITION	YEAR	ANNUAL COMPENSATION		OTHER ANNUAL COMPENSATION (\$ (2))	LONG-TERM COMPENSATION			
		SALARY (\$)	BONUS (1)		AWARDS		PAYOUTS	
					RESTRICTED STOCK AWARD (S) (\$ (3))	SECURITIES UNDERLYING OPTIONS/ SARS (#) (4)	LTIP PAYOUTS (\$ (5))	ALL OTHER (\$ (6))
<S>	<C>	<C>	<C>	<C>	<C>	<C>	<C>	<C>
Kenneth Levy.....	2000	\$341,483	\$502,196	\$N/A	-0-	90,000	-0-	\$79,681
Chairman of the Board	1999	\$456,097	\$429,597	\$N/A	-0-	102,136	-0-	\$10,005
	1998	\$467,769	\$262,314	\$N/A	-0-	62,500	-0-	\$44,430
Kenneth L. Schroeder.....	2000	\$505,246	\$737,827	\$N/A	-0-	150,000	-0-	\$95,600
President &	1999	\$445,723	\$420,492	\$N/A	-0-	102,136	-0-	\$ 9,804
Chief Executive Officer	1998	\$455,992	\$256,757	\$N/A	-0-	62,500	-0-	\$43,545
Gary E. Dickerson.....	2000	\$366,288	\$418,371	\$N/A	-0-	100,000	-0-	\$58,504
Chief Operating Officer	1999	\$304,387	\$189,587	\$N/A	-0-	62,882	-0-	\$ 6,844
	1998	\$312,115	\$161,364	\$N/A	-0-	42,500	-0-	\$29,984
Robert J. Boehlke.....	2000	\$317,364	\$337,422	\$N/A	-0-	60,000	-0-	\$55,303
Chief Financial Officer(7)	1999	\$289,892	\$191,133	\$N/A	-0-	54,435	-0-	\$ 6,541
	1998	\$297,115	\$116,708	\$N/A	-0-	33,500	-0-	\$28,604
Arthur P. Schnitzer.....	2000	\$338,499	\$347,824	\$N/A	-0-	50,000	-0-	\$55,656

Executive Vice President,	1999	\$294,443	\$214,414	\$N/A	-0-	54,435	-0-	\$ 6,761
Customer Group	1998	\$285,500	\$129,902	\$N/A	-0-	33,500	-0-	\$26,494
Jon D. Tompkins.....	2000	\$482,573	\$705,578	\$N/A	-0-	10,000	-0-	\$43,392
Director(8)	1999	\$291,478	\$214,797	\$N/A	-0-	50,809	-0-	\$ 5,977
	1998	\$467,769	\$262,314	\$N/A	-0-	-0-	-0-	\$44,430

</TABLE>

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- (1) This includes bonus amounts paid under the Company's Outstanding Corporate Performance Executive Bonus Plan. Certain amounts to be paid pursuant to this plan are deferred and paid to the executive after one year, provided that such executive is still employed with the Company.
- (2) 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.
- (3) The Company has not granted any restricted stock rights.
- (4) The Company has not granted any stock appreciation rights.
- (5) The Company does not have any Long Term Incentive Plans as that term is defined in the regulations.
- (6) "All Other Compensation" is itemized as follows:
 - In fiscal year 2000, Mr. Levy received \$20,758 in cash profit sharing; \$6,919 in profit sharing was contributed by the Company to the 401(k) Plan; \$51,004 was contributed by the Company to the Excess Profit Stock Plan; \$1,000 was contributed by the Company as a matching contribution to the 401(k) Plan.
 - In fiscal year 2000, Mr. Schroeder received \$33,225 in cash profit sharing; \$11,075 in profit sharing was contributed by the Company to the 401(k) Plan; \$50,300 was contributed by the Company to the Excess Profit Stock Plan; \$1,000 was contributed by the Company as a matching contribution to the 401(k) Plan.
 - In fiscal year 2000, Mr. Dickerson received \$24,401 in cash profit sharing; \$8,134 in profit sharing was contributed by the Company to the 401(k) Plan; \$24,969 was contributed by the Company to the Excess Profit Stock Plan; \$1,000 was contributed by the Company as a matching contribution to the 401(k) Plan.
 - In fiscal year 2000, Mr. Boehlke received \$21,117 in cash profit sharing; \$7,039 in profit sharing was contributed by the Company to the 401(k) Plan; \$26,147 was contributed by the Company to the Excess Profit Stock Plan; \$1,000 was contributed by the Company as a matching contribution to the 401(k) Plan.
 - In fiscal year 2000, Mr. Schnitzer received \$22,173 in cash profit sharing; \$7,391 in profit sharing was contributed by the Company to the 401(k) Plan; \$25,092 was contributed by the Company to the

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Excess Profit Stock Plan; \$1,000 was contributed by the Company as a matching contribution to the 401(k) Plan.

- In fiscal year 2000, Mr. Tompkins received \$31,794 in cash profit sharing; \$10,598 in profit sharing was contributed by the Company to the 401(k) Plan; \$1,000 was contributed by the Company as a matching contribution to the 401(k) Plan.
- (7) Mr. Boehlke retired as Chief Financial Officer of the Company effective June 30, 2000.
 - (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 Instruments until April 1997. As a result of the merger of Tencor Instruments into a wholly-owned subsidiary of the Company, 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. Mr. Tompkins is paid salary and bonus pursuant to an agreement with the Company, the terms of which are set forth in "Certain Transactions."

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, 2000.

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	OPTIONS/SARS GRANTED (#)	INDIVIDUAL GRANTS			POTENTIAL REALIZABLE VALUE ASSUMED ANNUAL RATES OF STOCK PRICE APPRECIATION FOR OPTION TERM	
		PERCENT OF TOTAL OPTIONS/SARS GRANTED TO EMPLOYEES IN FISCAL YEAR	EXERCISE OR BASE PRICE (\$/SHARE)	EXPIRATION DATE	5%	10%
					<C>	<C>
<S>	<C>	<C>	<C>	<C>	<C>	<C>
Kenneth Levy.....	90,000	1.10%	\$33.750	10/27/09	\$1,910,267	\$4,840,993
Kenneth L. Schroeder.....	150,000	1.84%	\$33.750	10/27/09	\$3,183,779	\$8,068,321
Gary E. Dickerson.....	100,000	1.22%	\$33.750	10/27/09	\$2,122,519	\$5,378,881
Robert J. Boehlke.....	60,000	0.73%	\$33.750	10/27/09	\$1,273,512	\$3,227,328
Arthur P. Schnitzer...	50,000	0.61%	\$33.750	10/27/09	\$1,061,260	\$2,689,440
Jon D. Tompkins.....	10,000	0.12%	\$33.750	10/27/09	\$ 212,252	\$ 537,888

</TABLE>

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- (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 OF UNEXERCISED, IN-THE-MONEY OPTIONS HELD AT FISCAL YEAR END(2)	
			EXERCISABLE	UNEXERCISABLE	EXERCISABLE	UNEXERCISABLE
			<C>	<C>	<C>	<C>
<S>	<C>	<C>	<C>	<C>	<C>	<C>
Kenneth Levy.....	336,000	\$21,622,853	500,593	379,407	\$29,315,978	\$22,219,022
Kenneth L. Schroeder....	270,000	\$13,930,567	550,593	493,407	\$32,244,103	\$25,732,772
Gary E. Dickerson.....	249,599	\$11,730,114	28,458	283,343	\$ 1,666,572	\$16,593,274
Robert J. Boehlke.....	185,000	\$ 8,606,460	21,611	203,013	\$ 1,265,594	\$11,888,949
Arthur P. Schnitzer.....	330,832	\$19,846,073	150,987	193,013	\$ 8,842,176	\$11,303,324
Jon D. Tompkins.....	82,872	\$ 5,540,055	25,529	151,599	\$ 1,495,042	\$ 8,878,016

</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 \$58.563 per share as of June 30, 2000.

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 OF UNEXERCISED, IN-THE-MONEY OPTIONS HELD AT FISCAL YEAR END (2)	
			EXERCISABLE	UNEXERCISABLE	EXERCISABLE	UNEXERCISABLE
<S>	<C>	<C>	<C>	<C>	<C>	<C>
Kenneth Levy(3).....	-0-	-0-	-0-	-0-	-0-	-0-
Kenneth L. Schroeder(3)...	-0-	-0-	-0-	-0-	-0-	-0-
Gary E. Dickerson(3).....	-0-	-0-	-0-	-0-	-0-	-0-
Robert J. Boehlke(3).....	-0-	-0-	-0-	-0-	-0-	-0-
Arthur P. Schnitzer(3)....	-0-	-0-	-0-	-0-	-0-	-0-
Jon D. Tompkins.....	71,488	\$2,644,687	41,676	-0-	\$2,440,651	-0-

(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 \$58.563 per share as of June 30, 2000.

(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. The information under this table is inapplicable to them.

REPORT OF THE COMPENSATION COMMITTEE ON EXECUTIVE COMPENSATION

COMPENSATION COMMITTEE

The Committee is comprised of three of the 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, a management incentive plan 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.

CHIEF EXECUTIVE OFFICER COMPENSATION

For fiscal year 2000, Kenneth L. Schroeder served as Chief Executive Officer. In setting Mr. Schroeder's compensation for fiscal year 2000, 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. Base salary for Mr. Schroeder for fiscal year 2001 has been set at \$564,267.13, based on the recommendations provided by the Company's Human Resources Compensation staff and options to purchase 52,385 shares of the Common Stock of the Company were granted to Mr. Schroeder, with standard four year vesting terms. For fiscal 2000 a bonus of \$647,486.86 was paid to Mr. Schroeder, based on the formula approved by the Compensation Committee and the Board of Directors last year.

EXECUTIVE OFFICER COMPENSATION

The Committee's approach is based upon a 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 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 officer 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. For fiscal year 2000 the Incentive Plan set goals for profitability,

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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 that 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 of the fiscal year. The other 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 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"). During fiscal year 2000, the Company continued to utilize its PMCS Program which encourages teamwork through the Company. Each participant in the PMCS Program receives a stock option upon the achievement of certain revenue goals from customers outlined 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 depends on 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. The Committee does not plan to continue this program during fiscal year 2001.

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 serves to align the interests of employees with those of stockholders.

Grants of stock options to executive officers are based upon each executive officer's relative position, 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 will provide value to the executive officers only when the price of the Company's Common Stock increases over the exercise price.

APPROVAL OF FISCAL YEAR 2001 BONUS PLAN AND OUTSTANDING CORPORATE PERFORMANCE PLAN

The Committee approved a fiscal year 2001 bonus plan incentive formula which is based on two components of equal weight. The first component is performance against certain financial objectives and the second is achievement of certain 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 Outstanding Corporate Performance 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

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granted under the Stock Option Plan will be dependent upon the achievement of certain revenue targets from specified customers.

MEMBERS OF THE COMPENSATION COMMITTEE

Edward W. Barnholt
Robert T. Bond
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 graph following 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 TECHNOLOGY INDEX*

[PERFORMANCE GRAPH]

<TABLE>
<CAPTION>

	1995	1996	1997	1998	1999	2000
<S>	<C>	<C>	<C>	<C>	<C>	<C>
KLA-Tencor Corporation	100.00	60.19	126.21	71.68	167.96	303.23
The Nasdaq-US Index	100.00	127.07	155.88	205.14	292.18	432.23
Hambrecht & Quist Technology Index	100.00	116.57	151.92	192.17	310.59	543.13

</TABLE>

* Assumes \$100 invested on June 30, 1995. The Company's fiscal year end is June 30.

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CERTAIN 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 was 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 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.

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. These individuals and entities are required by SEC regulations to furnish the Company with copies of all Section 16(a) forms they file. During the fiscal year ending June 30, 2000, the following individuals failed to timely file the number of reports and transactions, respectively, set forth in the parenthetical following each individual. James W. Bagley (2,5); Edward W. Barnholt (1,1); Robert J. Boehlke, (3,11); Gary E. Dickerson, (2,9); Richard J. Elkus, (1,1); Dennis J. Fortino, (2,3); Edward C. Grady, (1,1); Samuel A. Harrell, (3,19); John H. Kispert, (1,1); Dean O. Morton, (2,9); Neil Richardson, (2,11); Jon D. Tompkins, (2,3); Arthur P. Schnitzer, (1,1); Kenneth L. Schroeder, (2,3); Lida Urbanek, (1,1); and Richard P. Wallace, (2,13). All of these reports were filed late because of a processing error at the Company. These reports were immediately filed upon discovery of the processing error. In addition, all of the transactions reported were for same-day exercises and sales of stock options, each of which for purposes hereunder was counted as a separate transaction, or for the grant of additional stock options.

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 6, 2000

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0729-PS-00

PROXY

KLA-TENCOR CORPORATION

Proxy for 2000 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 John H. Kispert, 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 27, 2000, 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 Friday, November 10, 2000, 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) 10K for the year ending June 30, 2000.

SEE REVERSE
SIDE

CONTINUED AND TO BE SIGNED ON REVERSE SIDE

SEE REVERSE
SIDE

VOTE BY TELEPHONE

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).
3. Enter your 14-digit Voter Control Number located on you Proxy Card above your name.
4. Follow the recorded instructions.

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

VOTE BY INTERNET

Follow these four easy steps:

1. Read the accompanying Proxy Statement/Prospectus and Proxy Card.
2. Go to the Website
<http://www.eproxyvote.com/klac>
3. Enter your 14-digit Voter Control Number located on you 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

[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 PROPOSALS 2 & 3.

1. To elect three Class II directors to each serve for a three year term and until their successors are duly elected.

NOMINEES: (01) Richard J. Elkus, Jr., (02) H. Raymond Bingham and
(03) Robert T. Bond

FOR WITHHELD
[] []

[] _____
For all nominees except as noted above

2. To approve an amendment to the Certificate of Incorporation to increase the number of shares of common stock reserved for issuance thereunder by 250,000,000 shares to 500,000,000 shares.

FOR AGAINST ABSTAIN
[] [] []

3. To ratify the appointment of PricewaterhouseCoopers LLP as independent accountants of the Company for the fiscal year ending June 30, 2001.

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		MARK HERE	
FOR ADDRESS	[]	IF YOU PLAN	[]
CHANGE AND		TO ATTEND	
NOTE AT LEFT		THE MEETING	

Please sign exactly as you 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: _____