

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 13G

Under the Securities Exchange Act of 1934
(Amendment)

NAME OF ISSUER KLA-TENCOR CORPORATION

TITLE OF CLASS OF SECURITIES Common

CUSIP NUMBER 482480100

The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

Page 1 of 10 Pages

13G

CUSIP No. 482480100 Page 2 of 10 Pages

1. Name of reporting person
S.S. or I.R.S. identification no. of above person

Marsh & McLennan Companies, Inc.
36-2668272

2. Check the appropriate box if a member of a group*
(a) () (b) ()

3. SEC use only

4. Citizenship or place of organization

Delaware

5. Sole Voting Power

NONE

Number of shares) 6. Shared Voting Power
Beneficially)
Owned by each) NONE

Reporting) -----
Person with:) 7. Sole Dispositive Power

NONE

8. Shared Dispositive Power

NONE

9. Aggregate amount beneficially owned by each reporting person

NONE

10. Check box if the aggregate amount in row (9) excludes certain shares*

11. Percent of class represented by amount in row 9

NONE

12. Type of Reporting person*

HC

13G

CUSIP No. 482480100 Page 3 of 10 Pages

1. Name of reporting person
S.S. or I.R.S. identification no. of above person

Putnam Investments, LLC.
04-2539558

2. Check the appropriate box if a member of a group*
(a) () (b) ()

3. SEC use only

4. Citizenship or place of organization

Massachusetts

5. Sole Voting Power

NONE

Number of shares) -----
Beneficially) 6. Shared Voting Power
owned by each)

NONE
Reporting)
Person with:) -----

7. Sole Dispositive Power

NONE

8. Shared Dispositive Power

54,434

9. Aggregate amount beneficially owned by each reporting person

54,434

10. Check box if the aggregate amount in row (9) excludes certain shares*

11. Percent of class represented by amount in row 9

NONE

12. Type of Reporting person*

HC

13G

CUSIP No. 482480100 Page 4 of 10 Pages

1. Name of reporting person
S.S. or I.R.S. identification no. of above person

Putnam Investment Management, LLC.

2. Check the appropriate box if a member of a group*
(a) () (b) ()

3. SEC use only

4. Citizenship or place of organization

Massachusetts

5. Sole Voting Power

NONE

Number of shares) -----
Beneficially) 6. Shared Voting Power
Owned by each)
Reporting) NONE
Person with:) -----

7. Sole Dispositive Power

NONE

8. Shared Dispositive Power

6,117

9. Aggregate amount beneficially owned by each reporting person

6,117

10. Check box if the aggregate amount in row (9) excludes certain shares*

11. Percent of class represented by amount in row 9

NONE

12. Type of Reporting person*

IA

13G

1. Name of reporting person
S.S. or I.R.S. identification no. of above person

The Putnam Advisory Company, LLC.
04-6187127

2. Check the appropriate box if a member of a group*
(a) () (b) ()

3. SEC use only

4. Citizenship or place of organization

Massachusetts

5. Sole Voting Power

NONE

Number of shares) -----
Beneficially) 6. Shared Voting Power
Owned by each)
Reporting) NONE
Person with:) -----

7. Sole Dispositive Power

NONE

8. Shared Dispositive Power

48,317

9. Aggregate amount beneficially owned by each reporting person

48,317

10. Check box if the aggregate amount in row (9) excludes certain shares*

11. Percent of class represented by amount in row 9

NONE

12. Type of Reporting person*

IA

SECURITIES AND EXCHANGE COMMISSION
Washington, D. C. 20549

SCHEDULE 13G

Under the Securities Exchange Act of 1934

Item 1(a) Name of Issuer: KLA-TENCOR CORPORATION

Item 1(b) Address of Issuer's Principal Executive Offices:

160 Rio Robles, San Jose, CA 95134,

Item 2(a) Item 2(b)

Name of Person Filing: Address or Principal Office or, if
NONE, Residence:

Putnam Investments, LLC. One Post Office Square
("PI") Boston, Massachusetts 02109
on behalf of itself and:

*Marsh & McLennan Companies, Inc. 1166 Avenue of the Americas
("MMC") New York, NY 10036

Putnam Investment Management, LLC. One Post Office Square
("PIM") Boston, Massachusetts 02109

The Putnam Advisory Company, LLC. One Post Office Square
("PAC") Boston, Massachusetts 02109

Item 2(c) Citizenship: PI, PIM and PAC are limited liability companies
organized under Massachusetts law. The citizenship of other
persons identified in Item 2(a) is designated as follows:

 * Corporation - Delaware law
 ** Voluntary association known as Massachusetts business trust -
Massachusetts law

Item 2(d) Title of Class of Securities: Common

Item 2(e) Cusip Number: 482480100

Page 6 of 10 Pages

Item 3. If this statement is filed pursuant to Rules 13d-1(b), or 13d-2(b),
check whether the person filing is a:

(a) () Broker or Dealer registered under Section 15 of the Act

(b) () Bank as defined in Section 3(a)(6) of the Act

(c) () Insurance Company as defined in Section 3(a)(19) of the Act

(d) () Investment Company registered under Section 8 of the Investment
Company Act

(e) (X) Investment Adviser registered under Section 203 of the Investment
Advisers Act of 1940

(f) () Employee Benefit Plan, Pension Fund which is subject to the provisions of the Employee Retirement Income Security Act of 1974 or Endowment Fund; see (Section 240.13d-1(b)(1)(ii)(F))

(g) (X) Parent Holding Company, in accordance with Section 240.13d-1(b)(ii)(G)

(h) () Group, in accordance with Section 240.13d-1(b)(1)(ii)(H)

Page 7 of 10 Pages

<TABLE><CAPTION>

Item 4.

Ownership.

<S>	<C>	<C>	<C>	<C>
	M&MC	PIM*	PAC	PI
	-----	-----	---	----
	(Parent holding company to PI)	(Investment advisers & subsidiaries of PI)	(Parent company to PIM and PAC)	

(a) Amount Beneficially

Owned: NONE 6,117 + 48,317 = 54,434

(b) Percent of Class: NONE NONE + NONE = NONE

(c) Number of shares as to which such person has:

(1) sole power to vote or to direct the vote; (but see Item 7) NONE NONE NONE NONE

(2) shared power to vote or to direct the vote; (but see Item 7) NONE NONE NONE NONE

(3) sole power to dispose or to direct the disposition of; (but see Item 7) NONE NONE NONE NONE

(4) shared power to dispose or to direct the disposition of; (but see Item 7) NONE ALL ALL ALL

Page 8 of 10 Pages

</TABLE>

Item 5. Ownership of Five Percent or Less of a Class.

If this statement is being filed to report the fact that as of the date thereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following (X).

Item 6. Ownership of More than Five/Ten Percent on Behalf of Another Person:

No persons other than the persons filing this Schedule 13G have an economic interest in the securities reported on which relates to more than five percent of the class of securities. Securities reported on this Schedule 13G as being beneficially owned by M&MC and PI consist of securities beneficially owned by subsidiaries of PI which are registered investment advisers, which in turn include securities beneficially owned by clients of such investment advisers, which clients may include investment companies registered under the Investment Company Act and/or employee benefit plans, pension funds, endowment funds or other institutional clients.

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on By the Parent Holding Company.

PI, which is a wholly-owned subsidiary of M&MC, wholly owns two registered investment advisers: Putnam Investment Management, LLC., which is the investment adviser to the Putnam family of mutual funds and The Putnam Advisory Company, LLC., which is the investment adviser to Putnam's institutional clients. Both subsidiaries have dispositive power over the shares as investment managers, but each of the mutual fund's trustees have voting power over the shares held by each fund, and The Putnam Advisory Company, LLC. has shared voting power over the shares held by the institutional clients. Pursuant to Rule 13d-4, M&MC and PI declare that the filing of this Schedule 13G shall not be deemed an admission by either or both of them that they are, for the purposes of Section 13(d) or 13(g) the beneficial owner of any securities covered by this Section 13G, and further state that neither of them have any power to vote or dispose of, or direct the voting or disposition of, any of the securities covered by this Schedule 13G.

Item 8. Identification and Classification of Members of the Group:
Not applicable.

Item 9. Notice of Dissolution of Group:
Not applicable.

Item 10. Certification.

Page 9 of 10 Pages

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were acquired in the ordinary course of business, were not acquired for the purpose of and do not have the effect of changing or influencing the control of the issuer of such securities and were not acquired in connection with or as a participant in any transaction having such purposes or effect.

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

PUTNAM INVESTMENTS, LLC.

/s/Gregory L. Pickard

BY: -----
Signature

Name/Title: Gregory L. Pickard
Assistant Vice President and Associate Counsel

Date: February 13, 2001

For this and all future filings, reference is made to Power of Attorney dated May 3, 2000, with respect to duly authorized signatures on behalf of Marsh & McLennan Companies, Inc., Putnam Investments, LLC., Putnam Investment Management, LLC., The Putnam Advisory Company, LLC. and any Putnam Fund wherever applicable.

For this and all future filings, reference is made to an Agreement dated June 28, 1990, with respect to one filing of Schedule 13G on behalf of said entities, pursuant to Rule 13d-1(f)(1).

Page 10 of 10 Pages