

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

SCHEDULE 13G

Under the Securities Exchange Act of 1934

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).

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CUSIP No. 482480100

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- - - - -  
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

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

Putnam Investments, Inc.  
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 )

55,300

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

NONE

8. Shared  
Dispositive Power

4,872,900

9. Aggregate amount beneficially owned by each reporting person

4,872,900

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

11. Percent of class represented by amount in row 9

5.4%

12. Type of Reporting person\*

HC

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CUSIP No. 482480100

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

Putnam Investment Management, Inc.  
04-2471937

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 Person with: )

NONE

7. Sole

Dispositive Power

NONE

8. Shared Dispositive

Power

4,539,970

9. Aggregate amount beneficially owned by each reporting person

4,539,970

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

11. Percent of class represented by amount in row 9

5.0%

12. Type of Reporting person\*

IA

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

The Putnam Advisory Company, Inc.  
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 Owned by each Reporting Person with: ) 6. Shared Voting Power

55,300

7. Sole

Dispositive Power

NONE

8. Shared

Dispositive Power

332,930

9. Aggregate amount beneficially owned by each reporting person

332,930

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

11. Percent of class represented by amount in row 9

0.4%

12. Type of Reporting person\*

IA

SECURITIES AND EXCHANGE COMMISSION  
Washington, D. C. 20549

SCHEDULE 13G

Under the Securities Exchange Act of 1934  
(Amendment No. 1)

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, Inc. ("PI") on behalf of itself and:	One Post Office Square Boston, Massachusetts 02109
*Marsh & McLennan Companies, Inc. ("MMC")	1166 Avenue of the Americas New York, NY 10036
Putnam Investment Management, Inc. ("PIM")	One Post Office Square Boston, Massachusetts 02109
The Putnam Advisory Company, Inc. ("PAC")	One Post Office Square Boston, Massachusetts 02109

Item 2(c) Citizenship: PI, PIM and PAC are corporations 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

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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)

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<TABLE><CAPTION>

Item 4.

Ownership.

<S>

<C> M&MC ----- (Parent holding	<C> PIM* ----- (Investment advisers	<C> PAC ----- (Parent company	<C> PI ----- (Parent company
---	--	--	---------------------------------------

	company to PI)	& subsidiaries of PI)	to PIM and PAC)
(a) Amount Beneficially Owned:	NONE	4,539,970 +	332,930 = 4,872,900
(b) Percent of Class:	NONE	5.0%	+ 0.4% = 5.4%
(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	55,300 55,300
(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

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</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 ( ).

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, Inc., which is the investment adviser to the Putnam family of mutual funds and The Putnam Advisory Company, Inc., 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, Inc. 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.

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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, INC.

/s/Andrew J. Hachey

BY: -----  
Signature

Name/Title: Andrew J. Hachey  
Assistant Vice President and  
Regulatory Compliance Counsel

Date: February 7, 2000

For this and all future filings, reference is made to Power of Attorney dated April 30, 1999, with respect to duly authorized signatures on behalf of Marsh & McLennan Companies, Inc., Putnam Investments, Inc., Putnam Investment Management, Inc., The Putnam Advisory Company, Inc. 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).

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