

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 8-K

CURRENT REPORT

PURSUANT TO SECTION 13 OR 15(D) OF
THE SECURITIES EXCHANGE ACT OF 1934

DATE OF REPORT (DATE OF EARLIEST EVENT REPORTED): NOVEMBER 7, 2000

KLA-TENCOR CORPORATION

(EXACT NAME OF REGISTRANT AS SPECIFIED IN ITS CHARTER)

<TABLE>		
<S>	<C>	<C>
DELAWARE	000-09992	04-2564110
(STATE OR OTHER JURISDICTION OF INCORPORATION OR ORGANIZATION)	(COMMISSION FILE NUMBER)	(I.R.S. EMPLOYER IDENTIFICATION NO.)
</TABLE>		

160 RIO ROBLES
SAN JOSE, CALIFORNIA 95134

(ADDRESS, INCLUDING ZIP CODE, OF PRINCIPAL EXECUTIVE OFFICES)

REGISTRANT'S TELEPHONE NUMBER, INCLUDING AREA CODE:

(408) 468-4200

ITEM 5. OTHER EVENTS.

Reference is made to the press release issued to the public by the Registrant on November 7, 2000, the text of which is attached hereto as an exhibit, for a description of the events reported pursuant to this Form 8-K.

ITEM 7. FINANCIAL STATEMENTS AND EXHIBITS.

- (a) Not applicable.
- (b) Not applicable.
- (c) Exhibits.

99.1 Text of Press Release dated November 7, 2000.

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Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

KLA-TENCOR CORPORATION
a Delaware corporation

Dated: December 15, 2000

By: /s/ John Kispert

John Kispert
Chief Financial Officer

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EXHIBIT INDEX

<TABLE>	
<CAPTION>	
Exhibit Number	Description
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<S>	<C>
99.1	Text of Press Release dated November 7, 2000.
</TABLE>	

KLA TENCOR

PRESS RELEASE

KLA-TENCOR ANNOUNCES CONTINUATION OF SYSTEMATIC
REPURCHASE PLAN FOR COMMON STOCK

SAN JOSE, Calif., Nov. 7, 2000 - KLA-Tencor Corp. (Nasdaq: KLAC), today announced that it is continuing its systematic plan to repurchase its shares. The plan permits annual share repurchases of up to 8,900,000 shares of its common stock on the open market. This repurchase plan is a continuing, systematic plan, the purpose of which is to offset dilution created by the company's employee stock option and stock purchase plans.

ABOUT KLA-TENCOR: KLA-Tencor is the world leader in yield management and process control solutions for semiconductor manufacturing and related industries. Headquartered in San Jose, Calif., the company has sales and service offices around the world. An S&P 500 company, KLA-Tencor is traded on the Nasdaq National Market under the symbol KLAC.

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