
UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 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): August 4, 2005

KLA-TENCOR CORPORATION

(Exact name of registrant as specified in its charter)

DELAWARE
(State or other jurisdiction
of incorporation)

000-09992
(Commission File Number)

04-2564110
(IRS Employer
Identification No.)

160 Rio Robles
San Jose, California
95134 (Address of principal executive offices, including zip code)

(408) 875-3000 (Registrant's telephone number, including area code)

N/A
(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
 - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
 - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
 - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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Item 8.01 Other Events

The Board of Directors of KLA-Tencor Corporation (the "Company") has declared a quarterly cash dividend of 12 cents per share, payable on September 1, 2005 to stockholders of record on August 15, 2005.

Item 9.01. Financial Statements and Exhibits

(c) Exhibits.

<u>Exhibit No.</u>	<u>Description</u>
10.01	Press Release dated August 4, 2005

SIGNATURES

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

By: /s/ John H. Kispert
JOHN H. KISPERT
EXECUTIVE VICE PRESIDENT AND CHIEF FINANCIAL
OFFICER

Date: **August 4, 2005**

EXHIBIT INDEX

<u>Exhibit No.</u>	<u>Description</u>
10.01	Press Release dated August 4, 2005

News Release

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FOR IMMEDIATE RELEASE

KLA-TENCOR DECLARES REGULAR CASH DIVIDEND FOR FIRST QUARTER FISCAL YEAR 2006

SAN JOSE, Calif., Aug. 4, 2005 — KLA-Tencor Corporation (NASDAQ: KLAC) today announced that its board of directors has declared a quarterly cash dividend of \$.12 per share on its common stock payable on September 1, 2005 to KLA-Tencor stockholders of record on August 15, 2005.

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 was named one of the Best Managed Companies in America for 2005 by *Forbes Magazine* and is the only company in the semiconductor industry to receive the accolade for this year. KLA-Tencor is traded on the Nasdaq National Market under the symbol KLAC. Additional information about the company is available on the Internet at <http://www.kla-tencor.com>

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