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): September 27, 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)

Derecommencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

Derecommencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

TABLE OF CONTENTS

Item 8.01 Other Events Item 9.01. Financial Statements and Exhibits SIGNATURES EXHIBIT 10.01

Item 8.01 Other Events

Description

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

Item 9.01. Financial Statements and Exhibits

(c) Exhibits.

Exhibit

No.

10.01 Press Release dated September 27, 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: September 27, 2005

Exhibit		
No.	Description	

10.01 Press Release dated September 27, 2005

News Release

Company Contacts: John Kispert Chief Financial Officer (408) 875-6224 john.kispert@kla-tencor.com Cary Halsted (Investment Community) Vice President, Investor Relations (408) 875-4094 cary.halsted@kla-tencor.com Uma Subramaniam (Media) Director, Corporate Communications (408) 875-5473 uma.subramaniam@kla-tencor.com **Agency Contact:** Jane Evans-Ryan (Media) Business Press Director, MCA (650) 968-8900 jryan@mcapr.com

FOR IMMEDIATE RELEASE

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

SAN JOSE, Calif., Sept. 27, 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 December 1, 2005 to KLA-Tencor stockholders of record on November 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 <u>http://www.kla-tencor.com</u>

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