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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549**

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**FORM 8-K**

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**CURRENT REPORT  
Pursuant To Section 13 or 15(d) of  
The Securities Exchange Act of 1934**

**Date of report (Date of earliest event reported): May 4, 2007**

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**KLA-TENCOR CORPORATION**

(Exact Name of Registrant as Specified in Charter)

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**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)

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

**N/A**  
(Former Name or Former Address, if Changed Since Last Report)

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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 has declared a quarterly cash dividend of 12 cents per share, payable on June 1, 2007 to stockholders of record on May 15, 2007.

**Item 9.01. Financial Statements and Exhibits.**

(d) Exhibits

<u>Exhibit Number</u>	<u>Description</u>
10.01	Press Release dated May 4, 2007

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**SIGNATURES**

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

**KLA-TENCOR CORPORATION**

Date: May 4, 2007

By: /s/ Jeffrey L. Hall  
Name: Jeffrey L. Hall  
Title: Chief Financial Officer

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**Exhibit Index**

<u>Exhibit Number</u>	<u>Description</u>
10.01	Press Release dated May 4, 2007

# News Release

**Company Contacts:** Jeffrey Hall  
Chief Financial Officer  
(408) 875-6800  
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Kyra Whitten (Media)  
Sr. Director, Corporate Communications  
(408) 875-7819  
Kyra.whitten@kla-tencor.com

**FOR IMMEDIATE RELEASE**

## **KLA-TENCOR DECLARES REGULAR CASH DIVIDEND FOR FOURTH QUARTER FISCAL YEAR 2007**

SAN JOSE, Calif., May 4, 2007—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 June 1, 2007 to KLA-Tencor stockholders of record on May 15, 2007.

**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 Global Select 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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