

---

**UNITED STATES  
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): August 9, 2007**

---

**KLA-TENCOR CORPORATION**

(Exact name of registrant specified in its charter)

---

**Delaware**  
(State or other jurisdiction of incorporation)

**000-09992**  
(Commission File Number)

**04-2564110**  
(I.R.S. Employer Identification No.)

**160 Rio Robles, San Jose, California**  
(Address of principal executive offices)

**95134**  
(Zip Code)

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

(Former name and 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))
-

---

**Item 8.01 Other Events.**

On August 9, 2007, KLA-Tencor Corporation (the "Company") issued a news release that the Board declared a cash dividend of \$0.15 per share on its common stock, an increase from \$0.12 per share. Such dividend shall be payable on September 1, 2007, to stockholders of record as of the close of business on August 20, 2007.

The Company further announced that its Board has approved an additional 10 million share repurchase. The 10 million share repurchase authorization is in addition to previous authorizations.

**Item 9.01 Financial Statements and Exhibits.**

(d) Exhibits

The following exhibit is filed herewith:

<u>Exhibit Number</u>	<u>Description</u>
99.1	Text of news release issued by KLA-Tencor Corporation dated August 9, 2007.

---

**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.

Date: August 9, 2007

**KLA-TENCOR CORPORATION**

By: /s/ Jeffrey L. Hall

Name: Jeffrey L. Hall

Title: Chief Financial Officer

## News Release

**Company Contacts:**

Jeffrey Hall  
Chief Financial Officer  
(408) 875-6800  
Jeff.hall@kla-tencor.com

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 FIRST QUARTER FISCAL YEAR 2008 AND ANNOUNCES AN ADDITIONAL 10 MILLION SHARE REPURCHASE PROGRAM**

Milpitas, Calif., August 9, 2007—KLA-Tencor Corporation (NASDAQ: KLAC) today announced that its Board of Directors has declared a quarterly cash dividend of \$0.15 per share on its common stock, an increase from \$0.12 per share, payable on September 1, 2007 to KLA-Tencor stockholders of record on August 20, 2007.

KLA-Tencor further announced that its Board of Directors has approved an additional 10 million share repurchase. The 10 million share repurchase authorization is in addition to previous authorizations.

**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>.