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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): September 20, 2007**

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**KLA-TENCOR CORPORATION**

(Exact name of registrant specified in its charter)

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

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

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

**One Technology Drive, Milpitas, California**  
(Address of principal executive offices)

**95035**  
(Zip Code)

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

**Former address of principal executive offices:**  
**160 Rio Robles, San Jose, California 95134**  
(Former name and 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 5.02 Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers.**

In its meeting held on September 20, 2007, the independent members of the Board of Directors of KLA-Tencor Corporation (the “Company”) approved an amendment to the Company’s Executive Severance Plan (the “Plan”) to correct the formula used for calculating the “Prorated Annual Incentive” payable to Plan participants upon certain events of termination of employment, so that the proration of the applicable bonus amount will be calculated on the basis of the number of days elapsed in the Company’s fiscal year (as opposed to the calendar year, as previously and erroneously drafted). The amendment replaced the term “calendar year” with the term “fiscal year” in the definition of “Prorated Annual Incentive.”

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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.

Date: September 25, 2007

**KLA-TENCOR CORPORATION**

By: /s/ JEFFREY L. HALL

Name: Jeffrey L. Hall

Title: Chief Financial Officer