#### KLA TENCOR CORP

Form 4

October 20, 2009

# FORM 4

### UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF

**SECURITIES** 

**OMB APPROVAL OMB** 3235-0287

Number:

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Check this box

obligations may continue. See Instruction

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

1(b).

(Print or Type Responses)

| 1. Name and Address of Reporting Person ** Kirloskar Virendra A |          |          | 2. Issuer Name <b>and</b> Ticker or Trading<br>Symbol<br>KLA TENCOR CORP [KLAC] | 5. Relationship of Reporting Person(s) to Issuer  (Check all applicable)                             |  |  |  |
|---|----------|----------|---|--|--|--|--|
| (Last)  | (First)  | (Middle) | 3. Date of Earliest Transaction   | · · · · · · · · · · · · · · · · · · ·  |  |  |  |
| C/O KLA-TENCOR<br>CORPORATION, ONE<br>TECHNOLOGY DRIVE          |          |          | (Month/Day/Year)<br>10/18/2009  | Director 10% Owner _X Officer (give title Other (specify below)  SVP & Chief Accounting Officer      |  |  |  |
| (Street)  |          |          | 4. If Amendment, Date Original  | 6. Individual or Joint/Group Filing(Check  |  |  |  |
| MILPITAS, 0   | CA 95035 |          | Filed(Month/Day/Year)   | Applicable Line) _X_ Form filed by One Reporting Person Form filed by More than One Reporting Person |  |  |  |

| (City)   | (State) (Z                              | Zip) Table                     | e I - Non-De | erivative    | Secur            | ities Acqu           | iired, Disposed of   | , or Beneficiall   | y Owned   |
|--|---|--------------------------------|--------------|--------------|------------------|----------------------|--|--|---|
| 1.Title of<br>Security<br>(Instr. 3)           | 2. Transaction Date<br>(Month/Day/Year) | 2. Transaction Date 2A. Deemed |              |              | ispose<br>4 and  | equired ed of (D) 5) | 5. Amount of<br>Securities<br>Beneficially<br>Owned<br>Following<br>Reported | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of<br>Indirect<br>Beneficial<br>Ownership<br>(Instr. 4) |
|  |   |                                | Code V       | Amount       | (A)<br>or<br>(D) | Price                | Transaction(s) (Instr. 3 and 4)  |  |   |
| Common<br>Stock                                | 10/18/2009                              |                                | A            | 3,050        | A                | <u>(1)</u>           | 7,497  | D  |   |
| Common<br>Stock                                | 10/18/2009                              |                                | F            | 1,091<br>(2) | D                | \$<br>35.58          | 6,406  | D  |   |
| Common<br>Stock -<br>Restricted<br>Stock Units |   |                                |              |              |                  |                      | 45,350 (4)   | D  |   |

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

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Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

| 1. Title of                          | 2.  | 3. Transaction Date |   | 4.                              | 5.   | 6. Date Exer        |                    | 7. Tit |  | 8. Price of                          | 9. Nu   |
|--------------------------------------|---|---------------------|---|---------------------------------|--|---------------------|--------------------|--------|--|--------------------------------------|---|
| Derivative<br>Security<br>(Instr. 3) | Conversion<br>or Exercise<br>Price of<br>Derivative<br>Security | (Month/Day/Year)    | Execution Date, if any (Month/Day/Year) | Transacti<br>Code<br>(Instr. 8) | ofNumber of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5) |                     |                    | Secur  | rlying                                 | Derivative<br>Security<br>(Instr. 5) | Deriv<br>Secur<br>Bene<br>Own<br>Follo<br>Repo<br>Trans<br>(Instr |
|                                      |   |                     |   | Code V                          | (A) (D)  | Date<br>Exercisable | Expiration<br>Date | Title  | Amount<br>or<br>Number<br>of<br>Shares |                                      |   |

## **Reporting Owners**

Reporting Owner Name / Address Relationships

Director 10% Owner Officer Other

Kirloskar Virendra A C/O KLA-TENCOR CORPORATION ONE TECHNOLOGY DRIVE MILPITAS, CA 95035

SVP & Chief Accounting Officer

# **Signatures**

Brian M. Martin as Attorney-in-Fact for Virendra A. Kirloskar

10/20/2009

\*\*Signature of Reporting Person

Date

## **Explanation of Responses:**

- \* If the form is filed by more than one reporting person, see Instruction 4(b)(v).
- \*\* Intentional misstatements or omissions of facts constitute Federal Criminal Violations. See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).
- On October 18, 2005, Mr. Kirloskar received a grant of restricted stock units ("RSUs") covering 6,100 shares of KLA-Tencor common stock. On October 18, 2009, Mr. Kirloskar vested in fifty percent (50%) of such RSUs.
  - Pursuant to the terms of the October 18, 2005 RSU grant, 1,091 shares of KLA-Tencor common stock were automatically withheld at vesting to cover required tax withholding. Because the vesting date of such RSUs occurred on a day on which the NASDAQ Stock
- (2) Market was closed for trading, the fair market value of KLA-Tencor common stock used for purposes of calculating the number of shares to be withheld was the closing price of KLA-Tencor common stock on the last completed trading day immediately prior to such vesting date.
- (3) Each RSU represents a contingent right to receive one share of KLA-Tencor common stock.

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Does not include performance-based RSUs, if any, held by the Reporting Person for which an assessment has not yet been made (4) regarding the achievement of the applicable performance goals. Any such holdings will be reported on Form 4 within two business days of the date such assessment is made.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, *see* Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.