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 Number:

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OMB APPROVAL

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Check this box

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 may continue. 30(h) of the Investment Company Act of 1940 See Instruction

1(b).

(City)

Stock Units

(3)

(Print or Type Responses)

1. Name and Address of Reporting Person * Kirloskar Virendra A

2. Issuer Name and Ticker or Trading Symbol KLA TENCOR CORP [KLAC]

5. Relationship of Reporting Person(s) to

Issuer

below)

(Last) (First) (Middle)

(State)

3. Date of Earliest Transaction (Month/Day/Year)

10/18/2009

Director 10% Owner X_ Officer (give title Other (specify

(Check all applicable)

C/O KLA-TENCOR CORPORATION, ONE **TECHNOLOGY DRIVE**

4. If Amendment, Date Original

SVP & Chief Accounting Officer

6. Individual or Joint/Group Filing(Check

(Street)

(Zip)

Filed(Month/Day/Year) Applicable Line) _X_ Form filed by One Reporting Person Form filed by More than One Reporting

MILPITAS, CA 95035

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

1.Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	3. Transaction Code (Instr. 8)	4. Securion(A) or D (Instr. 3,	ispose	ed of (D)	5. Amount of Securities Beneficially Owned Following	6. Ownership Form: Direct (D) or Indirect (I)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
		Code V	Amount	(A) or (D)	Price	Reported Transaction(s) (Instr. 3 and 4)	(Instr. 4)	
Common Stock	10/18/2009	A	3,050	A	<u>(1)</u>	7,497	D	
Common Stock	10/18/2009	F	1,091 (2)	D	\$ 35.58	6,406	D	
Common Stock - Restricted						45,350 <u>(4)</u>	D	

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

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SEC 1474 (9-02)

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 Security (Instr. 3)	Conversion or Exercise Price of Derivative Security	(Month/Day/Year)	Execution Date, if any (Month/Day/Year)	Transacti Code (Instr. 8)	ofNumber of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)			Secur	rlying	Derivative Security (Instr. 5)	Deriv Secur Bene Own Follo Repo Trans (Instr
				Code V	(A) (D)	Date Exercisable	Expiration Date	Title	Amount or Number of 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.

Reporting Owners 2

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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.