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

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SEC 1474 (9-02)

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

(Print or Type Responses)											
1. Name and Address of Reporting Person- Kirloskar Virendra A	2. Issuer Name an KLA TENCOR			e .	ol	5. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director 10% Owner					
(Last) (First) C/O KLA-TENCOR CORPORATI TECHNOLOGY DRIVE	3. Date of Earliest Transaction (Month/Day/Year) 01/18/2012						X_Officer (give title below)Other (specify below) SVP & Chief Accounting Officer				
(Street) MILPITAS, CA 95035	4. If Amendment, Date Original Filed(Month/Day/Year)						6. Individual or Joint/Group Filing(Check Applicable Line) _X_Form filed by One Reporting Person Form filed by More than One Reporting Person				
(City) (State)	(Zip)	1	Fable I - No	on-De	erivative S	Securiti	es Acqui	ired, Disposed of, or Beneficially Owned			
1.Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	Execution Date, if	(Instr. 8)	tion	4. Securi (A) or Di (Instr. 3, Amount	isposed	of (D)	5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	Ownership Form:	Beneficial Ownership	
Common Stock	01/18/2012		S <mark>(1)</mark>		13,166	D	\$ 50	297	D		
Common Stock	01/19/2012		М		760	А	\$ 40.66	1,057	D		
Common Stock	01/19/2012		S <mark>(1)</mark>		760	D	\$ 50.66	297	D		
Common Stock - Restricted Stock Units ⁽²⁾								27,650 <u>(3)</u>	D		

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

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB control number.

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned

(e.g., puts, calls, warrants, options, convertible securities)															
Security	Conversion		3A. Deemed Execution Date, if	4. Transact Code	tion)	5. Num of Deri Secu Acq (A) Disp of (I (Inst	vative wities uired or bosed D) r. 3,	6. Date Exer Expiration I (Month/Day	rcisable and Date	7. Title and Amount of Underlying Securities		Derivative Security (Instr. 5)	9. Number of Derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4)	Form of Derivative Security: Direct (D) or Indirect	11. Nature of Indirect Beneficial Ownership (Instr. 4)
				Code		4, ar (A)	(D)	Date Exercisable	Expiration Date	Title	Amount or Number of Shares				
Non- Qualified Stock Option (Right to Buy)	\$ 40.66	01/19/2012		М			760	<u>(4)</u>	08/02/2014	Common Stock	760	\$ 0	0	D	

Reporting Owners

				Relationships			
Reporting Owner Nan	Reporting Owner Name / Address		10% Owner	Officer	Other		
Kirloskar Virendra A C/O KLA-TENCOR CC ONE TECHNOLOGY I MILPITAS, CA 95035				SVP & Chief Accounting Officer			

Signatures

Brian M. Martin as Attorney-in-Fact for Virendra A. Kirloskar	01/20/2012
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).
- (1) This transaction was effected pursuant to a Rule 10b5-1 trading plan adopted by the Reporting Person on March 7, 2011.
- (2) Each restricted stock unit ("RSU") represents a contingent right to receive one share of KLA-Tencor common stock.
- (3) Does not include performance-based RSUs, if any, held by the Reporting Person for which an assessment has not yet been made 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.
- Represents a stock option granted on August 2, 2004, granting the Reporting Person the right to purchase up to 1,200 shares of KLA-Tencor common stock. 240 of the shares subject to (4) this stock option vested on the October 27, 2004, and 1/48 of the remaining 960 shares subject to this stock option vested on November 27, 2005 and each monthly anniversary thereafter until October 27, 2008.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

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