CALDERONI ROBERT
Form 4/A
March 29, 2011

FORM 4

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

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

OMB APPROVAL

OMB Number:	3235-0287
Expires:	January 31, 2005
Estimated average burden hours per response...	0.5

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. *See* Instruction 1(b).

(Print or Type Responses)

1. Name and Address of Reporting Person *
CALDERONI ROBERT

(Last) (First) (Middle)

C/O KLA-TENCOR CORPORATION, ONE TECHNOLOGY DRIVE

(Street)

MILPITAS, CA 95035

(City) (State) (Zip)

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

3. Date of Earliest Transaction (Month/Day/Year)
11/03/2010

4. If Amendment, Date Original Filed(Month/Day/Year)
11/03/2010

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

__X__ Director _____ 10% Owner
_____ Officer (give title below) _____ Other (specify below)

6. Individual or Joint/Group Filing(Check Applicable Line)
_X_ Form filed by One Reporting Person
___ Form filed by More than One Reporting Person

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

1.Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)		4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)			5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)	Price			
Common Stock - Restricted Stock Units (1)	11/03/2010		A		2,772 (2)	A	$ 0	5,920	D	
Common Stock								8,417.627 (3)	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)

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)

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)		5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)		6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Title and Amount of Underlying Securities (Instr. 3 and 4)		8. Price of Derivative Security (Instr. 5)	9. Nu Deriv Secur Bene Owne 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
CALDERONI ROBERT C/O KLA-TENCOR CORPORATION ONE TECHNOLOGY DRIVE MILPITAS, CA 95035	X			

Signatures

Brian M. Martin as Attorney-in-Fact for Robert M. Calderoni	03/29/2011
**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) Each restricted stock unit represents a contingent right to receive one share of KLA-Tencor common stock.

(2) The restricted stock units will fully vest one year from date of grant and will be deliverable on such date.

(3) Amount has been revised to include an additional 113.627 shares of KLA-Tencor common stock acquired by Mr. Calderoni prior to the filing date of the original Form 4 pursuant to automatic reinvestments of dividends paid on KLA-Tencor common stock, which shares were not included in Mr. Calderoni's common stock holdings reported in the original Form 4. Pursuant to such dividend reinvestments, Mr. Calderoni acquired 41.225 shares of KLA-Tencor common stock on June 1, 2010 at a price of $30.21 per share, and 72.402 shares of KLA-Tencor common stock on September 1, 2010 at a price of $28.82 per share.

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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