

DENTINGER MARK P

Form 4

November 12, 2010

FORM 4**UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

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

**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

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(Print or Type Responses)

1. Name and Address of Reporting Person *
DENTINGER MARK P

(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)
11/11/2010

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

5. Relationship of Reporting Person(s) to
Issuer

(Check all applicable)

____ Director _____ 10% Owner
X Officer (give title _____ Other (specify
below) below)
EVP & Chief Financial Officer

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)
Common Stock	11/11/2010		A	20,000	A <u>11</u>	21,723	D
Common Stock	11/11/2010		F	9,045 <u>(2)</u>	D \$ 36.96	12,678	D
Common Stock - Restricted Stock Units <u>(3)</u>						121,150 <u>(4)</u>	D

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

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(9-02)

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. Number of Derivative Securities Beneficially Owned Following Transaction (Instr. 10)
				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
DENTINGER MARK P C/O KLA-TENCOR CORPORATION ONE TECHNOLOGY DRIVE MILPITAS, CA 95035	EVP & Chief Financial Officer

Signatures

Brian M. Martin as Attorney-in-Fact for Mark P.
Dentinger

11/12/2010

__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) On November 11, 2008, Mr. Dentinger received a grant of restricted stock units ("RSUs") covering 40,000 shares of KLA-Tencor common stock. On November 11, 2010, Mr. Dentinger vested in fifty percent (50%) of such RSUs.

(2) Pursuant to the terms of the November 11, 2008 RSU grant, 9,045 shares of KLA-Tencor common stock were automatically withheld at vesting to cover required tax withholding. 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 as reported on the NASDAQ Stock Market on such vesting date.

(3) Each RSU represents a contingent right to receive one share of KLA-Tencor common stock.

(4)

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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 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.

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