

FORM 4

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

OMB APPROVAL	
OMB Number:	3235-0287
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).

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 * WALLACE RICHARD P		2. Issuer Name and Ticker or Trading Symbol KLA TENCOR CORP [KLAC]		5. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input type="checkbox"/> Director <input type="checkbox"/> 10% Owner <input checked="" type="checkbox"/> Officer (give title below) <input type="checkbox"/> Other (specify below) Chief Executive Officer	
(Last) (First) (Middle) C/O KLA-TENCOR CORPORATION, ONE TECHNOLOGY DRIVE		3. Date of Earliest Transaction (Month/Day/Year) 08/06/2008			
(Street) MILPITAS, CA 95035		4. If Amendment, Date Original Filed(Month/Day/Year)		6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person <input type="checkbox"/> Form filed by More than One Reporting Person	
(City) (State) (Zip)					

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) (2)	08/06/2008		A		52,291 (2)	A	\$ 0	255,902 (4)	D	
Common Stock - Restricted Stock Units (1) (3)	08/06/2008		A		25,000 (3)	A	\$ 0	280,902 (4)	D	
Common Stock								5,324 (5)	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 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 Reported Transaction(s) (Instr. 4)	10. Ownership Form of Derivative Security: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)
						Date Exercisable	Expiration Date					

Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
WALLACE RICHARD P C/O KLA-TENCOR CORPORATION ONE TECHNOLOGY DRIVE MILPITAS, CA 95035	X		Chief Executive Officer	

Signatures

Brian M. Martin as Attorney-in-Fact for Richard P. Wallace	08/07/2008
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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.

On August 8, 2007, Mr. Wallace was granted restricted stock units covering up to 62,500 shares of KLA-Tencor common stock, subject to both performance-vesting and service-vesting requirements. Following the completion of KLA-Tencor's audited financial statements for the 2008 fiscal year, KLA-Tencor's Board of Directors determined

(2) on August 6, 2008 the level at which the corporate performance goals were attained and, based on that assessment, determined that the number of shares subject to the restricted stock units is 52,291. Mr. Wallace will vest in fifty percent (50%) of the restricted stock units upon his completion of two years of service with KLA-Tencor measured from the grant date (August 8, 2007) and will vest in the remaining fifty percent (50%) upon his completion of an additional two years of service thereafter. The shares of common stock will be issued as the restricted stock units vest.

(3) On August 13, 2007, Mr. Wallace was granted supplemental restricted stock units covering up to 25,000 shares of KLA-Tencor common stock, subject to both performance-vesting and service-vesting requirements. Following the completion of KLA-Tencor's 2008 fiscal year, KLA-Tencor's Board of Directors determined on August 6, 2008 the level at which Mr. Wallace's performance goals were attained and, based on that assessment, determined that the number of shares subject to the supplemental restricted stock units is 25,000. Mr. Wallace will vest in fifty percent (50%) of the restricted stock units upon his completion of two years of service with KLA-Tencor measured from the grant date (August 13, 2007) and will vest in the remaining fifty percent (50%) upon his completion of an additional two years of service thereafter. The shares of common stock will be issued as the restricted stock units vest.

(4) Does not include performance-based restricted stock units, 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. In addition, the aggregate number of shares of KLA-Tencor common stock subject to restricted stock units held by Mr. Wallace that was reported in Table I, Column 5 of his Form 4 filed on August 10, 2007 was incorrectly reported as 203,661; the correct number was 203,611.

(5) Includes 600 shares acquired under the KLA-Tencor Employee Stock Purchase Plan on June 30, 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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