

# 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 * <b>BARNHOLT EDWARD W</b>		2. Issuer Name and Ticker or Trading Symbol <b>KLA TENCOR CORP [KLAC]</b>		5. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> Director <input type="checkbox"/> 10% Owner <input type="checkbox"/> Officer (give title below) <input checked="" type="checkbox"/> Other (specify below) <b>Chairman of the Board</b>	
(Last)	(First)	(Middle)	3. Date of Earliest Transaction (Month/Day/Year) <b>01/29/2013</b>		
C/O KLA-TENCOR CORPORATION, ONE TECHNOLOGY DRIVE					
(Street)			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
MILPITAS, CA 95035					
(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	01/29/2013		M		2,500	A	\$ 40.68	6,309	D	
Common Stock	01/29/2013		S		2,500	D	\$ 55.353 (1)	3,809	D	
Common Stock	01/29/2013		M		1,250	A	\$ 51.98	5,059	D	
Common Stock	01/29/2013		S		1,250	D	\$ 55.375 (2)	3,809	D	
Common Stock	01/29/2013		M		1,250	A	\$ 47.86	5,059	D	
Common Stock	01/29/2013		S		1,250	D	\$ 55.366 (3)	3,809	D	
Common Stock	01/29/2013		M		1,250	A	\$ 41.45	5,059	D	
Common Stock	01/29/2013		S		1,250	D	\$ 55.351 (4)	3,809	D	
Common Stock	01/29/2013		M		1,250	A	\$ 50.39	5,059	D	
Common Stock	01/29/2013		S		1,250	D	\$ 55.333 (5)	3,809	D	
Common Stock	01/29/2013		M		1,875	A	\$ 50.39	5,684	D	
Common Stock	01/29/2013		S		1,875	D	\$ 55.353 (6)	3,809	D	
Common Stock								39,167	I	By Trust (7)
Common Stock - Restricted Stock Units (8)								3,836	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. 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 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)
				Code	V	(A)	(D)	Date Exercisable	Expiration Date	Title	Amount or Number of Shares				
Non-Qualified Stock Option (Right to Buy)	\$ 40.68	01/29/2013		M			2,500	(9)	10/18/2014	Common Stock	2,500	\$ 0	0	D	
Non-Qualified Stock Option (Right to Buy)	\$ 51.98	01/29/2013		M			1,250	(10)	01/31/2013	Common Stock	1,250	\$ 0	0	D	
Non-Qualified Stock Option (Right to Buy)	\$ 47.86	01/29/2013		M			1,250	(11)	05/02/2013	Common Stock	1,250	\$ 0	0	D	
Non-Qualified Stock Option (Right to Buy)	\$ 41.45	01/29/2013		M			1,250	(12)	08/01/2013	Common Stock	1,250	\$ 0	0	D	
Non-Qualified Stock Option (Right to Buy)	\$ 50.39	01/29/2013		M			1,250	(13)	02/14/2014	Common Stock	1,250	\$ 0	0	D	
Non-Qualified Stock Option (Right to Buy)	\$ 50.39	01/29/2013		M			1,875	(14)	02/14/2014	Common Stock	1,875	\$ 0	0	D	

## Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
BARNHOLT EDWARD W C/O KLA-TENCOR CORPORATION ONE TECHNOLOGY DRIVE MILPITAS, CA 95035	X			Chairman of the Board

## Signatures

Brian M. Martin as Attorney-in-Fact for Edward W. Barnholt		01/31/2013
<small>Signature of Reporting Person</small>		<small>Date</small>

## 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 executed in multiple trades at prices ranging from \$55.351 to \$55.354. The price reported above reflects the weighted-average sales price. The Reporting Person hereby undertakes to provide upon request to the SEC staff, the issuer or a security holder of the issuer, full information regarding the number of shares and prices at which the transaction was effected.

(2) This transaction was executed in multiple trades at prices ranging from \$55.374 to \$55.376. The price reported above reflects the weighted-average sales price. The Reporting Person hereby undertakes to provide upon request to the SEC staff, the issuer or a security holder of the issuer, full information regarding the number of shares and prices at which the transaction was effected.

(3) This transaction was executed in multiple trades at prices ranging from \$55.362 to \$55.374. The price reported above reflects the weighted-average sales price. The Reporting Person hereby undertakes to provide upon request to the SEC staff, the issuer or a security holder of the issuer, full information regarding the number of shares and prices at which the transaction was effected.

(4) This transaction was executed in multiple trades at prices ranging from \$55.334 to \$55.352. The price reported above reflects the weighted-average sales price. The Reporting Person hereby undertakes to provide upon request to the SEC staff, the issuer or a security holder of the issuer, full information regarding the number of shares and prices at which the transaction was effected.

(5) This transaction was executed in multiple trades at prices ranging from \$55.331 to \$55.336. The price reported above reflects the weighted-average sales price. The Reporting Person hereby undertakes to provide upon request to the SEC staff, the issuer or a security holder of the issuer, full information regarding the number of shares and prices at which the transaction was effected.

(6) This transaction was executed in multiple trades at prices ranging from \$55.35 to \$55.356. The price reported above reflects the weighted-average sales price. The Reporting Person hereby undertakes to provide upon request to the SEC staff, the issuer or a security holder of the issuer, full information regarding the number of shares and prices at which the transaction was effected.

(7) By The Barnholt Family Trust dated January 8, 1987, of which the Reporting Person is a trustee and beneficiary.

(8) Each restricted stock unit ("RSU") represents a contingent right to receive one share of KLA-Tencor common stock.

(9) Represents a stock option granted on October 18, 2004, granting the Reporting Person the right to purchase up to 2,500 shares of KLA-Tencor common stock. All of the shares subject to this stock option vested immediately and were exercisable on October 18, 2004.

(10) Represents a stock option granted on January 31, 2006, granting the Reporting Person the right to purchase up to 1,250 shares of KLA-Tencor common stock. All of the shares subject to this stock option vested immediately and were exercisable on January 31, 2006.

(11) Represents a stock option granted on May 2, 2006, granting the Reporting Person the right to purchase up to 1,250 shares of KLA-Tencor common stock. All of the shares subject to this stock option vested immediately and were exercisable on May 2, 2006.

(12) Represents a stock option granted on August 1, 2006, granting the Reporting Person the right to purchase up to 1,250 shares of KLA-Tencor common stock. All of the shares subject to this stock option vested immediately and were exercisable on August 1, 2006.

(13) Represents a stock option granted on February 14, 2007, granting the Reporting Person the right to purchase up to 1,250 shares of KLA-Tencor common stock. All of the shares subject to this stock option vested immediately and were exercisable on February 14, 2007.

(14) Represents a stock option granted on February 14, 2007, granting the Reporting Person the right to purchase up to 1,875 shares of KLA-Tencor common stock. All of the shares subject to this stock option vested immediately and were exercisable on February 14, 2007.

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.