

KLA TENCOR CORP
 Form 4
 December 13, 2004

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

OMB APPROVAL

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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

(Print or Type Responses)

1. Name and Address of Reporting Person *
 BARNHOLT EDWARD W

(Last) (First) (Middle)

C/O KLA-TENCOR CORPORATION, 160 RIO ROBLES

(Street)

SAN JOSE, CA 95130

(City) (State) (Zip)

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

3. Date of Earliest Transaction (Month/Day/Year)
 12/10/2004

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

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

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

6. Individual or Joint/Group Filing(Check Applicable Line)

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 Ownership (Instr. 4)
				Code	V	Amount			
Common Stock	12/10/2004		M			10,000		D	
Common Stock	12/10/2004		S			\$ 0		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)

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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 Security (Instr. 3 and 4)	
				Code	V (A) (D)	Date Exercisable	Expiration Date	Title	Amount or Number of Shares
Non-Qualified Stock Option (right to buy)	\$ 23.28	12/10/2004		M	10,000	09/20/2000	09/20/2005	Common Stock	10,000
Non-Qualified Stock Option (right to buy)	\$ 10.63					04/25/1997	10/25/2006	Common Stock	10,000
Non-Qualified Stock Option (right to buy)	\$ 11.66					09/21/1999	09/21/2008	Common Stock	5,000
Non-Qualified Stock Option (right to buy)	\$ 17.59					11/17/1998	11/17/2008	Common Stock	5,000
Non-Qualified Stock Option (right to buy)	\$ 26.25					11/10/2000	11/10/2010	Common Stock	10,000
Non-Qualified Stock Option (right to buy)	\$ 34.94					09/19/1998	09/19/2007	Common Stock	5,000
Non-Qualified Stock Option (right to buy)	\$ 37.05					11/08/2002	11/08/2012	Common Stock	10,000
Non-Qualified Stock Option (right to buy)	\$ 40.68					10/18/2004	10/18/2014	Common Stock	2,000
Non-Qualified Stock Option (right to buy)	\$ 46.28					11/16/1999	11/16/2009	Common Stock	10,000
Non-Qualified Stock Option (right to buy)	\$ 47.23					11/09/2001	11/09/2011	Common Stock	10,000
Non-Qualified Stock Option	\$ 59.44					11/05/2003	11/05/2013	Common Stock	10,000

(right to buy)

Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
BARNHOLT EDWARD W C/O KLA-TENCOR CORPORATION 160 RIO ROBLES SAN JOSE, CA 95130	X			

Signatures

By: Stuart J. Nichols For: Edward W.
Barnholt

12/13/2004

__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).

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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