

FORM 5

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

OMB APPROVAL

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

ANNUAL STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

Form 3 Holdings Reported
 Form 4 Transactions Reported

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

1. Name and Address of Reporting Person* BARNHOLT EDWARD W			2. Issuer Name and Ticker or Trading Symbol KLA TENCOR CORP [klac]			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 type="checkbox"/> Other (specify below)			
(Last)	(First)	(Middle)	3. Statement for Issuer's Fiscal Year Ended (Month/Day/Year) 06/30/2004						
160 RIO ROBLES			4. If Amendment, Date Original Filed(Month/Day/Year)			6. Individual or Joint/Group Reporting (check applicable line) <input checked="" type="checkbox"/> Form Filed by One Reporting Person <input type="checkbox"/> Form Filed by More than One Reporting Person			
(Street)									
SAN JOSE, CA 95134									
(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 at end of Issuer's Fiscal Year (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
				Amount	(A) or (D)	Price			

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 2270 (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 at End of Issuer's Fiscal Year (Instr. 4)	10. Ownership Form of Derivative Security: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)
					(A)	(D)	Date Exercisable	Expiration Date					
Non-Qualified Stock Option	\$ 10.63						04/25/1997	10/25/2006	Common Stock	10,000	10,000	D	
Non-Qualified Stock Option	\$ 11.66						09/21/1999	09/21/2008	Common Stock	5,000	5,000	D	
Non-Qualified Stock Option	\$ 17.59						11/17/1998	11/17/2008	Common Stock	5,832	5,832	D	
Non-Qualified Stock Option	\$ 23.28						09/20/2000	09/20/2005	Common Stock	10,000	10,000	D	
Non-Qualified Stock Option	\$ 26.25						11/10/2000	11/10/2010	Common Stock	10,000	10,000	D	
Non-Qualified Stock Option	\$ 34.94						09/19/1998	09/19/2007	Common Stock	5,000	5,000	D	

Non-Qualified Stock Option	\$ 37.05					11/08/2002	11/08/2012	Common Stock	10,000		10,000	D	
Non-Qualified Stock Option	\$ 46.28					11/16/1999	11/16/1999	Common Stock	10,000		10,000	D	
Non-Qualified Stock Option	\$ 47.23					11/09/2001	11/09/2011	Common Stock	10,000		10,000	D	
Non-Qualified Stock Option	\$ 59.44					11/05/2003	11/05/2013	Common Stock	10,000		10,000	D	

Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
BARNHOLT EDWARD W 160 RIO ROBLES SAN JOSE, CA 95134	X			

Signatures

Edward W. Barnholt		08/11/2004
<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).

Remarks:

Form 5 filed to voluntarily report all holdings. No transactions to report.

Note: File three copies of this Form, one of which must be manually signed. If space provided 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.