

FORM 5

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

OMB APPROVAL	
OMB Number:	3235-0362
Estimated average burden hours per response...	1.0

- Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).
- Form 3 Holdings Reported
- Form 4 Transactions Reported

ANNUAL 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

1. Name and Address of Reporting Person* SCHROEDER KENNETH L		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 checked="" type="checkbox"/> Officer (give title below) <input type="checkbox"/> Other (specify below) Chief Executive Officer					
(Last) (First) (Middle)		3. Statement for Issuer's Fiscal Year Ended (Month/Day/Year) 06/30/2004							
C/O KLA-TENCOR CORPORATION, 160 RIO ROBLES									
(Street)		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					
SAN JOSE, CA 95130									
(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			
Common Stock	06/30/2004		J(1)	500	A	\$ 31.756	161,938	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 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 (right to buy)	\$ 10.63						08/31/1999	08/31/2008	Common Stock	79,272	79,272	D	
Non-Qualified Stock Option (right to buy)	\$ 16.97						10/23/1999	10/23/2008	Common Stock	220,728	220,728	D	
Non-Qualified Stock Option (right to buy)	\$ 26.25						11/10/2001	11/10/2010	Common Stock	37,900	37,900	D	

Non-Qualified Stock Option (right to buy)	\$ 29.31						10/02/2002	10/02/2011	Common Stock	341,100		341,100	D
Non-Qualified Stock Option (right to buy)	\$ 32.75						04/04/2002	04/04/2011	Common Stock	37,900		37,900	D
Non-Qualified Stock Option (right to buy)	\$ 33.75						10/27/2000	10/27/2009	Common Stock	150,000		150,000	D
Non-Qualified Stock Option (right to buy)	\$ 34.67						11/08/2003	01/28/2013	Common Stock	62,900		62,900	D
Non-Qualified Stock Option (right to buy)	\$ 37.05						11/08/2003	11/08/2012	Common Stock	31,450		31,450	D
Non-Qualified Stock Option (right to buy)	\$ 44.6875						08/13/2000	08/13/2010	Common Stock	75,800		75,800	D
Non-Qualified Stock Option (right to buy)	\$ 45.16						10/27/2004	04/26/2014	Common Stock	37,500		37,500	D
Non-Qualified Stock Option (right to buy)	\$ 51.229						11/08/2003	07/30/2013	Common Stock	31,450		31,450	D
Non-Qualified Stock Option (right to buy)	\$ 53.86						10/27/2004	10/27/2013	Common Stock	60,000		60,000	D
Non-Qualified Stock Option (right to buy)	\$ 58.10						10/27/2006	01/27/2014	Common Stock	30,000		30,000	D

Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other

SCHROEDER KENNETH L C/O KLA-TENCOR CORPORATION 160 RIO ROBLES SAN JOSE, CA 95130	X		Chief Executive Officer	
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Signatures

By: Stuart J. Nichols For: Kenneth L. Schroeder		08/12/2004
<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).
- (1) Voluntary reporting of ESPP shares Purchased on 6/30/2004.

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.