

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 or Section 30(h) of the
 Investment Company Act of 1940

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

(Print or Type Responses)

1. Name and Address of Reporting Person* YARBRO STAN			2. Issuer Name and Ticker or Trading Symbol KLA TENCOR CORP [KLAC]			5. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director _____ 10% Owner _____ <input checked="" type="checkbox"/> Officer (give title below) _____ Other (specify below) _____ <div style="border: 1px solid black; padding: 2px; width: fit-content; margin-left: 100px;">Group VP, Field Operations</div>		
(Last) (First) (Middle) C/O KLA-TENCOR CORPORATION, 160 RIO ROBLES			3. Date of Earliest Transaction (Month/Day/Year) 09/21/2004					
(Street) SAN JOSE, CA 95130			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								632	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)	
				Code	V	(A)	(D)	Date Exercisable	Expiration Date						Title
Non-Qualified Stock Option (right to buy)	\$ 41.79	09/21/2004		A		20,000		09/21/2005	09/21/2014	Common Stock	20,000	\$ 0	20,000	D	
Non-Qualified Stock Option (right to buy)	\$ 26.25							11/10/2005	11/10/2010	Common Stock	3,938		3,938	D	
Non-Qualified Stock Option (right to buy)	\$ 29.31							10/02/2002	10/02/2011	Common Stock	14,250		14,250	D	
Non-Qualified Stock Option (right to buy)	\$ 32.75							04/04/2002	04/04/2011	Common Stock	4,667		4,667	D	

Non-Qualified Stock Option (right to buy)	\$ 33.75							10/27/2000	10/27/2009	Common Stock	334		334	D	
Non-Qualified Stock Option (right to buy)	\$ 34.67							11/08/2003	01/28/2013	Common Stock	20,000		20,000	D	
Non-Qualified Stock Option (right to buy)	\$ 37.05							11/08/2003	11/08/2012	Common Stock	10,000		10,000	D	
Non-Qualified Stock Option (right to buy)	\$ 40.66							10/27/2004	08/02/2014	Common Stock	6,750		6,750	D	
Non-Qualified Stock Option (right to buy)	\$ 44.6875							08/13/2000	08/13/2010	Common Stock	3,243		3,243	D	
Non-Qualified Stock Option (right to buy)	\$ 45.16							10/27/2004	04/26/2014	Common Stock	11,250		11,250	D	
Non-Qualified Stock Option (right to buy)	\$ 51.229							11/08/2003	07/30/2013	Common Stock	10,000		10,000	D	
Non-Qualified Stock Option (right to buy)	\$ 53.86							10/27/2004	10/27/2013	Common Stock	18,000		18,000	D	
Non-Qualified Stock Option (right to buy)	\$ 58.10							10/27/2004	01/27/2014	Common Stock	9,000		9,000	D	

Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
YARBRO STAN C/O KLA-TENCOR CORPORATION 160 RIO ROBLES SAN JOSE, CA 95130			Group VP, Field Operations	

Signatures

By: Stuart J. Nichols For: Stan Yarbro	09/23/2004
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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).

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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