

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* KISPERT JOHN H <small>(Last) (First) (Middle)</small> C/O KLA-TENCOR CORPORATION, 160 RIO ROBLES <small>(Street)</small> SAN JOSE, CA 95130 <small>(City) (State) (Zip)</small>	2. Issuer Name and Ticker or Trading Symbol KLA TENCOR CORP [KLAC] 3. Date of Earliest Transaction (Month/Day/Year) 09/15/2005 4. If Amendment, Date Original Filed(Month/Day/Year)	5. Relationship of Reporting Person(s) to Issuer (Check all applicable) <small>Director _____ 10% Owner _____</small> <input checked="" type="checkbox"/> Officer (give title below) <small>Other (specify below) _____</small> Chief Financial Officer 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
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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	09/15/2005		M		1,000	A	\$ 10.63	1,000	D	
Common Stock	09/15/2005		S		1,000	D	\$ 50.5089	0	D	
Common Stock	09/15/2005		M		299	A	\$ 10.63	299	D	
Common Stock	09/15/2005		S		299	D	\$ 50.5089	0	D	
Common Stock	09/15/2005		M		2,534	A	\$ 10.63	2,534	D	
Common Stock	09/15/2005		S		2,534	D	\$ 50.5089	0	D	
Common Stock	09/15/2005		M		1,167	A	\$ 10.63	1,167	D	
Common Stock	09/15/2005		S		1,167	D	\$ 50.5089	0	D	
Common Stock	09/15/2005		M		1,875	A	\$ 33.75	1,875	D	
Common Stock	09/15/2005		S		1,875	D	\$ 50.5089	0	D	
Common Stock	09/15/2005		M		8,000	A	\$ 26.25	8,000	D	
Common Stock	09/15/2005		S		8,000	D	\$ 50.5089	0	D	
Common Stock	09/15/2005		M		8,000	A	\$ 32.75	8,000	D	
Common Stock	09/15/2005		S		8,000	D	\$ 50.5089	0	D	
Common Stock	09/15/2005		M		24,000	A	\$ 29.31	24,000	D	
Common Stock	09/15/2005		S		24,000	D	\$ 50.5089	0	D	
Common Stock	09/15/2005		M		6,875	A	\$ 37.05	6,875	D	
Common Stock	09/15/2005		S		6,875	D	\$ 50.5089	0	D	
Common Stock	09/15/2005		M		13,750	A	\$ 34.67	13,750	D	
Common Stock	09/15/2005		S		13,750	D	\$ 50.5089	0	D	
Common Stock								6,681	I	by Trust
Common Stock-Restricted Stock Units (1)								48,333	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	Amount or Number of Shares				
Non-Qualified Stock Option (right to buy)	\$ 10.63	09/15/2005		M			1,000	08/31/1999	08/31/2008	Common Stock	1,000	\$ 50.5089	4,000	D	
Non-Qualified Stock Option (right to buy)	\$ 10.63	09/15/2005		M			299	08/31/1999	08/31/2008	Common Stock	299	\$ 50.5089	3,701	D	
Non-Qualified Stock Option (right to buy)	\$ 10.63	09/15/2005		M			2,534	08/31/1999	08/31/2008	Common Stock	2,534	\$ 50.5089	1,167	D	
Non-Qualified Stock Option (right to buy)	\$ 10.63	09/15/2005		M			1,167	08/31/2002	08/31/2008	Common Stock	1,167	\$ 50.5089	0	D	
Non-Qualified Stock Option (right to buy)	\$ 26.25	09/15/2005		M			8,000	11/10/2001	11/10/2010	Common Stock	8,000	\$ 50.5089	1,000	D	
Non-Qualified Stock Option (right to buy)	\$ 29.31	09/15/2005		M			24,000	10/02/2002	10/02/2011	Common Stock	24,000	\$ 50.5089	14,000	D	
Non-Qualified Stock Option (right to buy)	\$ 32.75	09/15/2005		M			8,000	04/04/2002	04/04/2011	Common Stock	8,000	\$ 50.5089	2,667	D	
Non-Qualified Stock Option (right to buy)	\$ 33.75	09/15/2005		M			1,875	10/27/2000	10/27/2009	Common Stock	1,875	\$ 50.5089	0	D	
Non-Qualified Stock Option (right to buy)	\$ 34.67	09/15/2005		M			13,750	11/08/2003	01/28/2013	Common Stock	13,750	\$ 50.5089	11,250	D	

Non-Qualified Stock Option (right to buy)	\$ 37.05	09/15/2005							M			6,875	11/08/2003	11/08/2012	Common Stock	6,875	\$ 50.5089	5,625	D
Non-Qualified Stock Option (right to buy)	\$ 40.66												10/27/2004	08/02/2014	Common Stock	11,250		11,250	D
Non-Qualified Stock Option (right to buy)	\$ 41.79												09/21/2005	09/21/2014	Common Stock	75,000		75,000	D
Non-Qualified Stock Option (right to buy)	\$ 44.6875												08/13/2001	08/13/2010	Common Stock	8,658		8,658	D
Non-Qualified Stock Option (right to buy)	\$ 45.16												10/27/2004	04/26/2014	Common Stock	18,750		18,750	D
Non-Qualified Stock Option (right to buy)	\$ 51.229												11/08/2003	07/30/2013	Common Stock	12,500		12,500	D
Non-Qualified Stock Option (right to buy)	\$ 53.86												10/27/2004	10/27/2013	Common Stock	30,000		30,000	D
Non-Qualified Stock Option (right to buy)	\$ 58.10												10/27/2004	01/27/2014	Common Stock	15,000		15,000	D

Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
KISPERT JOHN H C/O KLA-TENCOR CORPORATION 160 RIO ROBLES SAN JOSE, CA 95130			Chief Financial Officer	

Signatures

By: Stuart J. Nichols For: John H. Kispert		09/19/2005
<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. 78f(a).

(1) Each restricted stock unit represents a contingent right to receive one share of KLAC common stock.

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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