FORM 4

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).

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 * COHEN AVI				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					
C/O KLA-TENCOR CORPORATION, 160 RIO ROBLES				3. Date of Earliest Transaction (Month/Day/Year) 12/16/2005							X Officer (give title below) Other (specify below) VP, Pattern Solutions Group						
(Street)				4. If Amendment, Date Original Filed(Month/Day/Year)							6. Individual or X_ Form filed by C Form filed by M	ne Reporting P	erson		ne)		
	SAN JOSE, CA 95130			Form								romi filed by iv	iore than One K	eporting Person			
(City))	(State)	(Zip)			Table	e I - No	on-I	Derivativ	e Securi	ities Acqui	red, Disposed o	of, or Benef	icially Own	ed		
(Instr. 3)		2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, any (Month/Day/Yea		(Instr.		on	4. Securities Acquior Disposed of (D) (Instr. 3, 4 and 5)		D)	5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)			Ownership Form: Direct (D)	7. Nature of Indirect Beneficial Ownership (Instr. 4)		
						Cod	ile .	V	Amount	(A) or (D)	Price				(I) (Instr. 4)		
Common	Stock		12/16/2005			M			7,500	A	\$ 22.25	10,122			D		
Common	Stock		12/16/2005			S			7,500	D	\$ 50.8944	2,622			D		
Common	Stock		12/16/2005			M]		2,500	A	\$ 10.63	5,122	5,122				
Common	Stock		12/16/2005			S			2,500	D	\$ 50.8944	2,622			D		
Common	Stock		12/16/2005			M]		2,813	A	\$ 10.63	5,435			D		
Common	Stock		12/16/2005			S			2,813	D	\$ 50.8944	2,622			D		
Common Stock 12/16/2005		12/16/2005			M	[10,000	A	\$ 10.63	12,622			D			
Common Stock 12/16/20		12/16/2005			S			10,000	D	\$ 50.8944	2,622			D			
Common Stock 12/16/2		12/16/2005			M]		10,000	A	\$ 10.63	12,622			D			
Common Stock 12/16		12/16/2005		S 10,000 D \$ 2,622			D										
Common	Stock		12/16/2005			M	1		22,000	A	\$ 10.63	24,622			D		
Common	Stock		12/16/2005			S			22,000	D	\$ 50.8944	2,622			D		
Common (Units (1)	Stock-Res	tricted Stock										33,333			D		
Reminder: R	Report on a se	eparate line for each	class of securities b	eneficiall	ly owned	directly	or indi	irectl	ly.								
							ii	n th	nis form	are no	t required	collection of to respond u of number.				2 1474 (9-02)	
			Table II			rities Ac	quirec	d, Di	isposed o	f, or Be	neficially (
	2.	3. Transaction	3A. Deemed	4.	5. 1	Number	6. Da	ate I	Exercisab		7. Title	e and Amount		9. Number		11. Natur	
Security	Conversion or Exercise	Date (Month/Day/Year)		Code	Sec	urities	(Mo		on Date Day/Year)	Securi		Derivative Security	Derivative Securities	Form o		
(Instr. 3)	Price of Derivative		(Month/Day/Year)	(Instr. 8		quired (A) Disposed)				(Instr.	3 and 4)	(Instr. 5)	Beneficially Owned	Deriva Securit		
	Security				of (In	D) str. 3, 4,								Following Reported	Direct or Indi		
					and	5)						Amount		Transaction (Instr. 4)	(s) (I) (Instr.	4)	
							Date Exer			piration	Title	or Number of					
				Code	V (A)	(D)						Shares					

Non-												
Qualified Stock Option (right to buy)	\$ 10.63	12/16/2005	M	2,500	08/31/1999	08/31/2008	Common Stock	2,500	\$ 50.8944	44,813	D	
Non- Qualified Stock Option (right to buy)	\$ 10.63	12/16/2005	M	2,813	08/31/1999	08/31/2008	Common Stock	2,813	\$ 50.8944	42,000	D	
Non- Qualified Stock Option (right to buy)	\$ 10.63	12/16/2005	М	10,000	08/31/1999	08/31/2008	Common Stock	10,000	\$ 50.8944	32,000	D	
Non- Qualified Stock Option (right to buy)	\$ 10.63	12/16/2005	М	10,000	08/31/1999	08/31/2008	Common Stock	10,000	\$ 50.8944	22,000	D	
Non- Qualified Stock Option (right to buy)	\$ 10.63	12/16/2005	М	22,000	08/31/1999	08/31/2008	Common Stock	22,000	\$ 50.8944	0	D	
Non- Qualified Stock Option (right to buy)	\$ 22.25	12/16/2005	М	7,500	04/30/1998	04/30/2007	Common Stock	7,500	\$ 50.8944	0	D	
Non- Qualified Stock Option (right to buy)	\$ 26.25				11/10/2001	11/10/2010	Common Stock	8,750		8,750	D	
Non- Qualified Stock Option (right to buy)	\$ 29.31				10/02/2002	10/02/2011	Common Stock	22,500		22,500	D	
Non- Qualified Stock Option (right to buy)	\$ 32.75				04/04/2002	04/04/2011	Common Stock	8,750		8,750	D	
Non- Qualified Stock Option (right to buy)	\$ 33.75				10/27/2000	10/27/2009	Common Stock	24,000		24,000	D	
Non- Qualified Stock Option (right to buy)	\$ 34.67				11/08/2003	01/28/2013	Common Stock	12,500		12,500	D	

Non- Qualified Stock Option (right to buy)	\$ 37.05			11/08/2003	11/08/2012	Common Stock	6,250	6,250	D	
Non- Qualified Stock Option (right to buy)	\$ 40.66			10/27/2004	08/02/2014	Common Stock	6,000	6,000	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	17,500	17,500	D	
Non- Qualified Stock Option (right to buy)	\$ 45.16			10/27/2004	04/26/2014	Common Stock	10,000	10,000	D	
Non- Qualified Stock Option (right to buy)	\$ 47.95			09/26/2006	09/26/2012	Common Stock	75,000	75,000	D	
Non- Qualified Stock Option (right to buy)	\$ 51.229			11/08/2003	07/30/2013	Common Stock	6,250	6,250	D	
Non- Qualified Stock Option (right to buy)	\$ 53.86			10/27/2004	10/27/2013	Common Stock	16,000	16,000	D	
Non- Qualified Stock Option (right to buy)	\$ 58.10			10/27/2004	01/27/2014	Common Stock	8,000	8,000	D	

Reporting Owners

		Relationships								
Reporting Owner Name / Address	Director	10% Owner	Officer	Other						
COHEN AVI C/O KLA-TENCOR CORPORATION 160 RIO ROBLES SAN JOSE, CA 95130			VP, Pattern Solutions Group							

Signatures

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).
- (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.

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.