

## INITIAL STATEMENT OF 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

(Print or Type Responses)

1. Name and Address of Reporting Person* <b>Titinger Jorge</b> (Last) (First) (Middle) <b>C/O KLA-TENCOR CORPORATION, 160 RIO ROBLES</b> (Street) <b>SAN JOSE, CA 95130</b> (City) (State) (Zip)	2. Date of Event Requiring Statement (Month/Day/Year) <b>12/21/2006</b>	3. Issuer Name and Ticker or Trading Symbol <b>KLA TENCOR CORP [KLAC]</b>		
		4. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input type="checkbox"/> Director <input type="checkbox"/> 10% Owner <input checked="" type="checkbox"/> Officer (give title below) <input type="checkbox"/> Other (specify below) <b>SVP, Chief Admin. Officer</b>		5. 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		

### Table I - Non-Derivative Securities Beneficially Owned

1. Title of Security (Instr. 4)	2. Amount of Securities Beneficially Owned (Instr. 4)	3. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	4. Nature of Indirect Beneficial Ownership (Instr. 5)
Common Stock-Restricted Stock Units	37,600	D	

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

SEC 1473 (7-02)

**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.**

### Table II - Derivative Securities Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 4)	2. Date Exercisable and Expiration Date (Month/Day/Year)		3. Title and Amount of Securities Underlying Derivative Security (Instr. 4)		4. Conversion or Exercise Price of Derivative Security	5. Ownership Form of Derivative Security: Direct (D) or Indirect (I) (Instr. 5)	6. Nature of Indirect Beneficial Ownership (Instr. 5)
	Date Exercisable	Expiration Date	Title	Amount or Number of Shares			
Non-Qualified Stock Option (right to buy)	01/28/2004	01/28/2013	Common Stock	35,000	\$ 34.67	D	
Non-Qualified Stock Option (right to buy)	09/16/2006	09/16/2014	Common Stock	19,500	\$ 39.34	D	
Non-Qualified Stock Option (right to buy)	10/27/2004	08/02/2014	Common Stock	1,200	\$ 40.66	D	
Non-Qualified Stock Option (right to buy)	10/27/2004	04/26/2014	Common Stock	2,000	\$ 45.16	D	
Non-Qualified Stock Option (right to buy)	09/26/2006	09/26/2012	Common Stock	17,000	\$ 47.95	D	
Non-Qualified Stock Option (right to buy)	10/27/2004	10/27/2013	Common Stock	3,200	\$ 53.86	D	
Non-Qualified Stock Option (right to buy)	10/27/2004	01/27/2014	Common Stock	1,600	\$ 58.1	D	

## Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
Titinger Jorge C/O KLA-TENCOR CORPORATION 160 RIO ROBLES SAN JOSE, CA 95130			SVP, Chief Admin. Officer	

## Signatures

By: Jeffrey Hall For: Jorge Titinger	01/05/2007
<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 5(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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