

(Print or Type Responses)

| | | | | | | | | | |
|---|---|--|-----------------------------------|--|--------|--|---|--|---|
| 1. Name and Address of Reporting Person* NICHOLS STUART J | | 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 _____ X Officer (give title below) Other (specify below) _____ VP and General Counsel | | | | | |
| (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) X Form filed by One Reporting Person 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 | | | | | | | | 1,753 | D |

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

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SEC 1474 (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 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) | \$ 41.79 | 09/21/2004 | | A | | 15,000 | | 09/21/2005 | 09/21/2014 | Common Stock | 15,000 | \$ 0 | 15,000 | D | |
| Non-Qualified Stock Option (right to buy) | \$ 26.25 | | | | | | | 11/10/2001 | 11/10/2010 | Common Stock | 4,300 | | 4,300 | D | |
| Non-Qualified Stock Option (right to buy) | \$ 29.31 | | | | | | | 10/02/2002 | 10/02/2011 | Common Stock | 12,000 | | 12,000 | D | |
| Non-Qualified Stock Option (right to buy) | \$ 32.75 | | | | | | | 04/04/2002 | 04/04/2011 | Common Stock | 6,000 | | 6,000 | D | |

| | | | | | | | | | | | | | | | |
|---|------------|--|--|--|--|--|--|------------|------------|--------------|--------|--|--------|---|--|
| Non-Qualified Stock Option (right to buy) | \$ 33.75 | | | | | | | 10/27/2000 | 10/27/2009 | Common Stock | 21,000 | | 21,000 | D | |
| Non-Qualified Stock Option (right to buy) | \$ 34.67 | | | | | | | 11/08/2003 | 01/28/2013 | Common Stock | 6,500 | | 6,500 | D | |
| Non-Qualified Stock Option (right to buy) | \$ 37.05 | | | | | | | 11/08/2003 | 11/08/2012 | Common Stock | 3,250 | | 3,250 | D | |
| Non-Qualified Stock Option (right to buy) | \$ 40.66 | | | | | | | 10/27/2004 | 08/02/2014 | Common Stock | 2,250 | | 2,250 | D | |
| Non-Qualified Stock Option (right to buy) | \$ 44.6875 | | | | | | | 08/13/2001 | 08/13/2010 | Common Stock | 12,000 | | 12,000 | D | |
| Non-Qualified Stock Option (right to buy) | \$ 45.16 | | | | | | | 10/27/2004 | 04/26/2014 | Common Stock | 3,750 | | 3,750 | D | |
| Non-Qualified Stock Option (right to buy) | \$ 51.229 | | | | | | | 11/08/2003 | 07/30/2013 | Common Stock | 3,250 | | 3,250 | D | |
| Non-Qualified Stock Option (right to buy) | \$ 53.86 | | | | | | | 10/27/2004 | 10/27/2013 | Common Stock | 6,000 | | 6,000 | D | |
| Non-Qualified Stock Option (right to buy) | \$ 58.10 | | | | | | | 10/27/2004 | 01/27/2014 | Common Stock | 3,000 | | 3,000 | D | |

Reporting Owners

| Reporting Owner Name / Address | Relationships | | | |
|--|---------------|-----------|------------------------|-------|
| | Director | 10% Owner | Officer | Other |
| NICHOLS STUART J C/O KLA-TENCOR CORPORATION 160 RIO ROBLES SAN JOSE, CA 95130 | | | VP and General Counsel | |

Signatures

| | |
|-------------------|------------|
| Stuart J. Nichols | 09/23/2004 |
|-------------------|------------|

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).

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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