#### UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

OMB APPROVAL 3235-0287 OMB Number: Estimated average burden hours per response... 0.5

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)

### 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 *<br>ELKUS RICHARD J JR          |   |  | 2. Issuer Name and Ticker or Trading Symbol KLA TENCOR CORP [KLAC] |   |        |             |                   |                                      | 5. Relationship of Reporting Person(s) to Issuer (Check all applicable)  X Director 10% Owner |   |                                |  |  |                        |   |  |                          |
|--|---|--|--|---|--------|-------------|-------------------|--------------------------------------|---|---|--------------------------------|--|--|------------------------|---|--|--------------------------|
| (Last) (First) (Middle)<br>C/O KLA-TENCOR CORPORATION, 160 RIO<br>ROBLES |   |  | 3. Date of Earliest Transaction (Month/Day/Year) 08/02/2005        |   |        |             |                   |                                      |   |   | Officer (give                  | e title below)   |  | er (specify belo       | w)  |  |                          |
| (Street)   |   |  | 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 |                                |  |  |                        | ie)   |  |                          |
| SAN JOS  | E, CA 951   | .30  |  |   |        |             |                   |                                      |   |   |                                |  |  |                        | erson<br>Reporting Person   |  |                          |
| (City  | ")  | (State)                                    | (Zip)  |   |        | 1           | [able             | I - Non-D                            | eriv  | ative Securition  | es Acqu                        | ired, l  | Disposed                               | of, or Benef           | icially Own   | ed   |                          |
| (Instr. 3) Date  |   |  | 2. Transaction<br>Date<br>(Month/Day/Year                          | 2A. Deeme<br>Execution I<br>any<br>(Month/Day |        | Date, if Co |                   | ransaction<br>le<br>tr. 8)           | (A  | Securities Accase of Disposed 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2                               | of (D) Owned Follow            |  | ed Follows<br>saction(s)               |                        |   | 6. Ownership Form: Direct (D) or Indirect (I)                            | Beneficial<br>Ownership  |
|  |   |  |  |   |        |             | C                 | Code V                               | Aı  | mount (D)   | Price                          |  |  |                        | Ć   |  |                          |
| Common   | Stock   |  |  |   |        |             |                   |                                      |   |   |                                | 65,0   | 00                                     |                        |   | D  |                          |
| Reminder: F  | Report on a so  | eparate line for each                      |  | · Derivat                                     | tive S | Securitie   | es Ac             | Perso<br>in thi<br>displ             | ons<br>is fo<br>lays  | who respon<br>orm are not r<br>a currently<br>ed of, or Bene<br>vertible secur                    | equire<br>valid O<br>eficially | d to r   | espond (<br>ontrol n                   | unless the             |   | ed SEC   | 1474 (9-02)              |
| 1. Title of<br>Derivative<br>Security<br>(Instr. 3)                      | 2.<br>Conversion<br>or Exercise<br>Price of<br>Derivative<br>Security | 3. Transaction<br>Date<br>(Month/Day/Year) | 3A. Deemed<br>Execution Date, if<br>any<br>(Month/Day/Year)        | 4.<br>Transac<br>Code                         | ction  | 5. Num      | tive<br>ies<br>ed | 6. Date Ex<br>Expiration<br>(Month/D | xerci<br>1 Dat  | sable and<br>te   | 7. Titl<br>of Un<br>Secur      | 7. Title and Amount<br>of Underlying<br>Securities<br>(Instr. 3 and 4) |  | Derivative<br>Security | 9. Number of<br>Derivative<br>Securities<br>Beneficially<br>Owned<br>Following<br>Reported<br>Transaction(s<br>(Instr. 4) | Ownersh<br>Form of<br>Derivativ<br>Security:<br>Direct (D<br>or Indirect | Ownership (Instr. 4)  D) |
|  |   |  |  | Code  | V      | (A)         | (D)               | Date<br>Exercisable                  | le  | Expiration<br>Date  | Title                          |  | Amount<br>or<br>Number<br>of<br>Shares |                        |   |  |                          |
| Non-<br>Qualified<br>Stock<br>Option<br>(right to<br>buy)                | \$ 51.35  | 08/02/2005                                 |  | A   |        | 2,500       |                   | 08/02/20                             | 005   | 08/02/2015  | Com                            | mon<br>ock   | 2,500                                  | \$ 0                   | 2,500   | D  |                          |
| Non-<br>Qualified<br>Stock<br>Option<br>(right to<br>buy)                | \$ 40.24  |  |  |   |        |             |                   | 05/11/20                             | 005   | 05/11/2015  | Com<br>Sto                     |  | 2,500                                  |                        | 2,500   | D  |                          |
| Non-<br>Qualified<br>Stock<br>Option<br>(right to<br>buy)                | \$ 40.68  |  |  |   |        |             |                   | 10/18/20                             | 004   | 10/18/2014  | Com<br>Sto                     | mon<br>ock   | 2,500                                  |                        | 2,500   | D  |                          |
| Non-<br>Qualified<br>Stock<br>Option<br>(right to<br>buy)                | \$ 44.76  |  |  |   |        |             |                   | 01/25/20                             | 005   | 01/25/2015  | Com<br>Sto                     |  | 2,500                                  |                        | 2,500   | D  |                          |

| Non-      |                      |  |  |  |            |            |        |        |        |   | i |
|-----------|----------------------|--|--|--|------------|------------|--------|--------|--------|---|---|
| Qualified |                      |  |  |  |            |            |        |        |        |   | i |
| Stock     | \$ 59.44             |  |  |  | 11/05/2003 | 11/05/2013 | Common | 10.000 | 10,000 | D | i |
| Option    | \$ 33. <del>44</del> |  |  |  | 11/03/2003 | 11/03/2013 | Stock  | 10,000 | 10,000 | D |   |
| (right to |                      |  |  |  |            |            |        |        |        |   | ı |
| buy)      |                      |  |  |  |            |            |        |        |        |   | i |

## **Reporting Owners**

|  |          | Relationsh   | Relationships |       |  |  |
|--|----------|--------------|---------------|-------|--|--|
| Reporting Owner Name / Address   | Director | 10%<br>Owner | Officer       | Other |  |  |
| ELKUS RICHARD J JR<br>C/O KLA-TENCOR CORPORATION<br>160 RIO ROBLES<br>SAN JOSE, CA 95130 | X        |              |               |       |  |  |

# Signatures

| By: Stuart J. Nichols For: Richard Elkus | s, Jr. | 08/03/2005 |  |  |
|--|--------|------------|--|--|
| **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.

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.