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SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 8-K

CURRENT REPORT

PURSUANT TO SECTION 13 OR 15(d) OF  
THE SECURITIES EXCHANGE ACT OF 1934

DATE OF REPORT (DATE OF EARLIEST EVENT REPORTED): MARCH 19, 2001

KLA-TENCOR CORPORATION

(EXACT NAME OF REGISTRANT AS SPECIFIED IN ITS CHARTER)

|          |   |     |                                      |
|----------|---|-----|--------------------------------------|
| <TABLE>  |   |     |                                      |
| <S>      | DELAWARE  | <C> | 000-09992                            |
|          | (STATE OR OTHER JURISDICTION OF<br>INCORPORATION OR ORGANIZATION) |     | (COMMISSION FILE NUMBER)             |
| </TABLE> |   | <C> | 04-2564110                           |
|          |   |     | (I.R.S. EMPLOYER IDENTIFICATION NO.) |

160 RIO ROBLES  
SAN JOSE, CALIFORNIA 95134

(ADDRESS, INCLUDING ZIP CODE, OF PRINCIPAL EXECUTIVE OFFICES)

REGISTRANT'S TELEPHONE NUMBER, INCLUDING AREA CODE:

(408) 468-4200

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ITEM 5. OTHER EVENTS.

Reference is made to the press release issued to the public by the Registrant on March 19, 2001, the text of which is attached hereto as an exhibit, for a description of the events reported pursuant to this Form 8-K.

ITEM 7. FINANCIAL STATEMENTS AND EXHIBITS.

- (a) Not applicable.
- (b) Not applicable.
- (c) Exhibits.

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99.1 Text of Press Release dated March 19, 2001.

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Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

KLA-TENCOR CORPORATION  
a Delaware corporation

Dated: March 20, 2001

By: /s/ Stuart J. Nichols

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Stuart J. Nichols  
Vice President, General Counsel

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EXHIBIT INDEX

| <TABLE><br><S><br>Exhibit Number<br>----- | <C><br>Description<br>-----                 |
|---|---|
| 99.1                                      | Text of Press Release dated March 19, 2001. |

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KLA-TENCOR ANNOUNCES DECREASE IN 3RD QUARTER 2001 REVENUE AND EPS EXPECTATIONS  
SAN JOSE, Calif.--(BUSINESS WIRE)--March 19, 2001--KLA-Tencor announced today that it expects its financial results for the 3rd Quarter ending March 31, 2001 to be below the expectations provided in its earnings conference call on January 17th, 2001. KLA-Tencor is scheduled to release its 3rd Quarter results after the close of market on Wednesday, April 18th, 2001.

"Business fundamentals for the semiconductor industry have continued to deteriorate throughout the quarter," stated Ken Schroeder, president and chief executive officer. "Excess semiconductor chip inventory caused by slowing end-market demand across the majority of semiconductor segments and slowing global economic growth have led our customers to defer equipment deliveries on pre-existing orders and delay order plans for additional capital equipment spending. We expect revenue and earnings per share to be below the guidance provided in the 2nd Quarter earnings conference call."

Revenue for the quarter is expected to be 8-10% below the \$570-\$580 million guidance and earnings per share excluding non-recurring charges is also expected to be below the \$0.58 guidance provided in the 2nd quarter earnings conference call on January 17th 2001.

Schroeder continued, "Though the extent and duration of this cyclical industry downturn is unclear, the company will maintain its commitments in research and development to support its key strategic programs. However, we will continue to take the necessary steps to reduce our expense structure in other areas to reflect lower anticipated revenue."

Forward Looking Statements: The following statements in this press release are forward-looking statements, and are subject to the Safe Harbor provisions created by the Private Securities Litigation Reform Act of 1995: statements regarding the revenue and earnings per share guidance, changes in the market outlook generally, and the company's future intentions regarding expense reduction and spending level commitments. These forward-looking statements are based on current information and expectations, and involve a number of risks and uncertainties. Actual results may differ materially from those projected in such statements due to various factors, including but not limited to: changes in anticipated orders by customers; the timing of shipments or acceptances; changes in the company's overall expense structure; and new and enhanced product offerings by competitors. For other factors that may cause actual results to differ from those projected, please refer to the company's Form 10-K, Forms 10-Q and other filings with the Securities and Exchange Commission.

KLA-Tencor Corporation is the world leader in yield management and process control solutions for semiconductor manufacturing and related industries. The Company offers a broad portfolio of systems for inspection, metrology, and data analysis, as well as yield management services. KLA-Tencor is traded on the Nasdaq National Market under the symbol KLAC. Additional information on the Company is available on the Internet at [www.kla-tencor.com](http://www.kla-tencor.com).