UNITED STATES 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): 01/12/2009

KLA-TENCOR CORPORATION

(Exact name of registrant as specified in its charter)

Commission File Number: 000-09992

Delaware

(State or other jurisdiction of incorporation)

04-2564110 (IRS Employer Identification No.)

One Technology Drive, Milpitas, California 95035 (Address of principal executive offices, including zip code)

(408) 875-3000

(Registrant's telephone number, including area code)

N/A

(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

[] Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

[] Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

[] Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

[] Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 2.02. Results of Operations and Financial Condition

On January 12, 2009, KLA-Tencor Corporation (the "Company") issued a press release announcing revisions to the Company's previously issued financial outlook for the second quarter of fiscal 2009 ended December 31, 2008, reflecting further deterioration of the condition of the semiconductor and related industries.

In the press release, the Company also announced that it is in the process of conducting its annual evaluation of the value of its goodwill and intangible assets for potential impairment. Based on the result to date of the Company's continuing evaluation, the Company currently anticipates incurring a material non-cash impairment charge on certain of its goodwill and intangible assets in the second quarter of fiscal 2009. The Company also expects that, in addition to the impairment charge described in the preceding sentence, its financial statements for the quarter ended December 31, 2008 will reflect an increase in inventory reserves (driven by declines in the Company's product build plans and service inventory usage) and an increase in reserves for potential losses relating to heightened risk of non-payment of accounts receivable as certain customers face financial difficulty. The actual amounts of such impairment charge and reserve increases will be communicated along with the announcement of the Company's results for the quarter ended December 31, 2008.

A copy of the press release is furnished as Exhibit 99.1 to this Current Report on Form 8-K.

The information in Item 2.02 of this Current Report on Form 8-K and the exhibit attached hereto shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities under that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended, or the Exchange Act, regardless of any general incorporation language in such filing.

Item 9.01. Financial Statements and Exhibits

(d) Exhibits

The following exhibit is furnished herewith:

Exhibit No. Description

99.1 Text of press release issued by KLA-Tencor Corporation dated January 12, 2009

Signature(s)

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

Date: January 12, 2009

By: /s/ Brian M. Martin

Brian M. Martin Senior Vice President and General Counsel

Exhibit Index

Exhibit No.	Description
EX-99.1	Text of press release issued by KLA-Tencor Corporation dated January 12, 2009

FOR IMMEDIATE RELEASE

Investor Relations: Ed Lockwood Sr. Director, Investor Relations (408) 875-9529 ed.lockwood@kla-tencor.com

Media Relations: Meggan Powers Sr. Director, Corporate Communications (408) 875-8733 meggan.powers@kla-tencor.com

KLA-TENCOR PROVIDES UPDATED GUIDANCE AND ANNOUNCES LIVE WEBCAST OF EARNINGS CALL FOR FISCAL 2009 SECOND QUARTER

MILPITAS, Calif.-January 12, 2009-KLA-Tencor Corporation (NASDAQ: KLAC) today revised its previously issued financial outlook for the second quarter of fiscal 2009 ended December 31, 2008, reflecting further deterioration of the condition of the semiconductor and related industries.

"Global economic uncertainty, weak consumer demand, and turbulent financial markets have led our customers to scale back production operations and reduce capital expenditures. Business conditions in our markets have deteriorated sharply in recent weeks, leading to unanticipated shortfall in quarterly new orders, revenues and earnings for KLA-Tencor, with weak services revenue a key contributing factor to that result," commented Rick Wallace, president and CEO of KLA-Tencor. "We cannot predict the severity or duration of this economic downturn. In light of these conditions, we recently announced actions we are taking that are intended to optimize our cost structure and lower our break-even level, while maintaining our strategic focus and strong financial position. We will continue to evaluate further cost savings as conditions merit."

KLA-Tencor now expects that its performance for the quarter ended December 31, 2008 will be as follows:

- -- New Bookings: \$235 \$245 million
- -- Revenue: \$390 \$400 million

KLA-Tencor is in the process of conducting its annual evaluation of the value of its goodwill and intangible assets for potential impairment. Based on the result to date of the company's continuing evaluation, KLA-Tencor currently anticipates incurring a material non-cash impairment charge on certain of its goodwill and intangible assets in the second quarter of fiscal 2009. KLA-Tencor is unable to provide an estimate of its GAAP or Non-GAAP earnings per share until the completion of the ongoing evaluation of the value of its goodwill and intangible assets, but expects that it will report a loss from operations for the quarter, even before taking into account the impairment charge described above.

KLA-Tencor expects that the loss for the second quarter of fiscal 2009, in addition to being impacted by lower revenues, will reflect (1) as noted above, a material non-cash charge resulting from the impairment of the company's goodwill and intangible assets, (2) an increase in inventory reserves, driven by declines in KLA-Tencor's product build plans and service inventory usage, and (3) an increase in reserves for potential losses relating to heightened risk of non-payment of accounts receivable as certain customers face financial difficulty. The actual amounts of such impairment charge and reserve increases will be communicated along with the announcement of KLA-Tencor's results for the quarter ended December 31, 2008.

KLA-Tencor today also announced that the company will provide a live webcast of its upcoming second quarter fiscal 2009 earnings call, scheduled for Thursday, January 29, 2009, at 2:00 p.m. (PST). The webcast will be available on KLA-Tencor's We bsite at <u>http://www.kla-tencor.com</u>, on the Investors page.

Forward-Looking Statements:

Statements in this press release other than historical facts, such as statements regarding KLA-Tencor's anticipated bookings, revenues and earnings/loss for the quarter ended December 31, 2008, the existence, materiality or amounts of charges related to impairment, inventory reserves or other reserves expected to be taken for the quarter ended December 31, 2008, anticipated market conditions, the duration of the current economic downturn, anticipated steps designed to reduce KLA-Tencor's costs, and the success of and costs associated with such efforts, KLA-Tencor's ability to sustain its current market position in the future, and demand for KLA-Tencor's products, are forward-looking statements, and are subject to the Safe Harbor provisions created by the Private Securities Litigation Reform Act of 1995. 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: the demand for semiconductors; the financial condition of the global capital markets and the general macroeconomic environment; new and enhanced product offerings by competitors; cancellation of orders by customers; and changing customer demands. For other factors that may cause actual results to differ materially from

those projected and anticipated in forward-looking statements in this release, please refer to KLA-Tencor's Annual Report on Form 10-K for the year ended June 30, 2008, subsequently filed Quarterly Reports on Form 10-Q and other filings with the Securities and Exchange Commission (including, but not limited to, the risk factors described therein). KLA-Tencor assumes no obligation to, and does not currently intend to, update these forward-looking statements.

About KLA-Tencor:

KLA-Tencor Corporation is the world's leading supplier of process control and yield management solutions for the semiconductor and related nanoelectronics industries. Headquartered in Milpitas, California, the company has sales and service offices around the world. An S&P 500 company, KLA-Tencor is traded on the NASDAQ Global Select Market under the symbol KLAC. Additional information about the company is available at *http://www.kla-tencor.com*. (KLAC-F)