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): October 25, 2007

KLA-TENCOR CORPORATION

(Exact name of registrant specified in its charter)

Delaware (State or other jurisdiction of incorporation) 000-09992 (Commission File Number) 04-2564110 (I.R.S. Employer Identification No.)

One Technology Drive, Milpitas, California (Address of principal executive offices)

95035 (Zip Code)

Registrant's telephone, including area code: (408) 875-3000

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

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 (see ral Instruction A.2. below):
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 October 25, 2007, KLA-Tencor Corporation issued a press release regarding selected operating results for its first quarter of fiscal year 2008, which ended September 30, 2007. 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 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

Description

Number 99.1 Text of press release issued by KLA-Tencor Corporation dated October 25, 2007.

SIGNATURES

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

Date:

October 25, 2007

KLA-TENCOR CORPORATION

By: /s/ Jeffrey L. Hall
Name: Jeffrey L. Hall
Title: Chief Financial Officer

EXHIBIT INDEX

Exhibit No. 99.1 T

Description
Text of press release issued by KLA-Tencor Corporation dated October 25, 2007.

News Release

Company Contacts:

Jeff Hall Chief Financial Officer (408) 875-6800 jeff.hall@kla-tencor.com

Charles Lewis (media) Director, Public Relations (408) 875-9037 charles.lewis@kla-tencor.com

FOR IMMEDIATE RELEASE

KLA-TENCOR REPORTS FISCAL 2008 FIRST QUARTER RESULTS

SAN JOSE, Calif., October 25, 2007—KLA-Tencor Corporation (NASDAQ: KLAC) today announced operating results for its first quarter of fiscal 2008, which ended on September 30, 2007. The Company reported GAAP net income of \$88 million and GAAP earnings per diluted share of \$0.46 on revenue of \$693 million for the quarter ended September 30, 2007, which included stock-based compensation and other charges discussed below, compared to GAAP net income of \$147 million or \$0.75 per diluted share on revenue of \$736 million in the fourth quarter of fiscal 2007, and GAAP net income of \$136 million or \$0.67 per diluted share on revenue of \$629 million in the first quarter of fiscal 2007.

Net income for the first quarter of fiscal 2008 reflects \$91 million in charges, as follows:

- Stock-based compensation related charges of \$28 million, compared to \$26 million for the fourth quarter of fiscal 2007 and \$37 million for the first quarter of fiscal 2007.
- Discrete tax expenses of \$47 million for US tax associated with implementation of our global manufacturing strategy. There were no such charges associated with our manufacturing strategy in either the fourth quarter of fiscal 2007 or the first quarter of fiscal 2007.
- Acquisition-related charges of \$12 million for amortization of intangible assets relating to the acquisitions completed by the Company in fiscal 2007. Acquisition-related charges, including impairment of intangibles and in-process R&D, were \$38 million for the fourth quarter of fiscal 2007 and \$1 million for the first quarter of fiscal 2007.
- Severance charges of \$2 million related to a worldwide reduction in force, compared to \$11 million for the fourth quarter of fiscal 2007. There were no severance charges for the first quarter of fiscal 2007.
- Restatement-related charges of \$2 million for shareholder litigation and related matters. Restatement-related charges were \$1 million for the fourth quarter of fiscal 2007 and \$3 million for the first quarter of fiscal 2007.

"KLA-Tencor delivered solid operational execution and extended our market leadership position in the quarter," said Rick Wallace, CEO of KLA-Tencor. "We continued to reduce costs and improve operating leverage, while maintaining our aggressive pace of investment and innovation in delivering the next-generation yield management solutions our customers require to meet their mission-critical production challenges as they invest in new technologies."

KLA-Tencor ended the first quarter of fiscal year 2008 with approximately eight months of product-related shipment and revenue backlog. The geographic breakdown of system orders in the quarter was:

	Percent of Orders	
	Current	Historical
Region	Quarter	Average
United States	14%	25%
Japan	46%	25%
Taiwan	13%	20%
Korea, China, & Singapore	19%	20%
Europe	8%	10%

KLA-Tencor's financial position remained strong with cash and investments of \$1.3 billion. Accounts receivable increased by \$37 million compared to the prior quarter to \$619 million on strong shipments.

KLA-Tencor will discuss its fiscal 2008 first quarter results, along with its outlook for the second quarter of fiscal 2008, on a conference call today beginning at 2:00 p.m. Pacific Daylight Time. A web cast of the call will be available at: www.kla-tencor.com.

Forward Looking Statements: Statements in this press release other than historical facts, such as statements regarding the benefit to customers of KLA-Tencor's products 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; 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 the Company's Annual Report on Form 10-K for the year ended June 30, 2007, 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).

About KLA-Tencor: KLA-Tencor is the world's leading supplier of process control and yield management solutions for the semiconductor and related microelectronics industries. Headquartered in San Jose, Calif., 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 on the Internet at http://www.kla-tencor.com

KLA-Tencor Corporation Condensed Consolidated Unaudited Balance Sheets

(In thousands)	September 30, 2007	June 30, 2007
ASSETS		
Current assets:		
Cash and investments	1,282,933	1,710,629
Accounts receivable, net	618,959	581,500
Inventories	500,286	535,370
Other current assets	415,428	425,272
Total current assets	2,817,606	3,252,771
Land, property and equipment, net	379,189	382,240
Goodwill	311,330	311,856
Purchased intangibles, net	167,626	175,432
Other assets	516,349	500,950
Total assets	\$ 4,192,100	\$4,623,249
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 119,050	\$ 92,165
Deferred system profit	208,046	201,747
Unearned revenue	54,188	52,304
Other current liabilities	578,540	659,346
Total current liabilities	959,824	1,005,562
Non-current liabilities		
Income tax payable	87,444	_
Unearned revenue	51,665	46,950
Other non-current liabilities	35,659	20,695
Total liabilities	1,134,592	1,073,207
Stockholders' equity:		
Common stock and capital in excess of par value	651,720	967,886
Retained earnings	2,385,949	2,570,751
Accumulated other comprehensive income	19,839	11,405
Total stockholders' equity	3,057,508	3,550,042
Total liabilities and stockholders' equity	\$ 4,192,100	\$4,623,249

KLA-Tencor Corporation Condensed Consolidated Unaudited Statements Of Operations

		Three months ended			
(In thousands except per share data)		ember 30, 2007	September 30, 2006		
Revenues:					
Product	\$	578,432	\$	530,927	
Service		114,588		98,436	
Total revenues		693,020		629,363	
Costs and operating expenses:					
Cost of revenues*		305,893		270,119	
Engineering, research and development*		99,344		99,293	
Selling, general and administrative*		110,505		105,961	
Total costs and operating expenses		515,742		475,373	
Income from operations		177,278		153,990	
Interest income and other, net		17,474		22,457	
Income before income taxes and minority interest		194,752		176,447	
Provision for income taxes*		106,594		41,368	
Income before minority interest		88,158	<u></u>	135,079	
Minority interest		_		843	
Net income	<u>\$</u>	88,158	\$	135,922	
Net income per share:					
Basic	\$	0.47	\$	0.68	
Diluted	\$	0.46	\$	0.67	
Weighted average number of shares:					
Basic		187,789		199,416	
Diluted		193,043		203,323	
* includes the following amounts related to equity awards:					
Costs of revenues	\$	6,253	\$	8,587	
Engineering, research and development	\$	8,592	\$	11,705	
Selling, general and administrative	\$	13,238	\$	16,755	
Provision for income taxes	\$	(8,475)	\$	(11,389)	