UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, DC 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 22, 2003

KLA-Tencor Corporation (Exact name of registrant as specified in its charter)

000-09992 (Commission File Number)

Delaware

04-2564110 (I.R.S. Employer Identification No.)

(State or other jurisdiction of incorporation)

160 Rio Robles San Jose, California 95134 (Address of principal executive offices, with zip code)

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

 $$\rm N/A$$ (Former name or former address, if changed since last report)

Item 7. Financial Statements and Exhibits.

(c) Exhibits.

Exhibit Description

99.1 Press Release issued by KLA-Tencor Corporation dated October 22, 2003.

Item 12. Results of Operations and Financial Condition

On October 22, 2003, KLA-Tencor Corporation, (the "Company") is issuing a press release and holding a conference call regarding its financial results for the quarter ending September 30, 2003. A copy of the press release is furnished as Exhibit 99.1 to this Form 8-K.

The information in 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.

SIGNATURES

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.

LA-TENCOR CORPORATION

Date: October 22, 2003

By: /s/ John H. Kispert

John H. Kispert Executive Vice President and Chief Financial Officer

INDEX TO EXHIBITS

Exhibit Description 99.1 Press Release issued by KLA-Tencor Corporation dated October 22, 2003. KLA-Tencor Posts \$37 Million in Net Income on Revenue of \$318 Million for First Quarter of Fiscal Year 2004

SAN JOSE, Calif.--(BUSINESS WIRE)--Oct. 22, 2003--KLA-Tencor Corporation (NASDAQ: KLAC) today announced operating results for its first quarter of fiscal 2004, ended September 30, 2003. The company recorded net income of \$37 million and earnings per share of \$0.18 on revenue of \$318 million in the September quarter, each of which reflect a sequential quarter-to-quarter improvement over net income of \$29 million, earnings per share of \$0.15 and revenue of \$308 million in the June quarter. For the first quarter of last fiscal year, the company earned net income of \$51 million and earnings per share of \$0.26 on revenues of \$376 million.

According to Chief Executive Officer Ken Schroeder, "Leading-edge capacity remains very tight and planning for some of the larger fab projects is moving ahead. Although cautious sentiment still predominates among several of our customers, orders of long lead-time equipment appear to be rising in the industry, as some chipmakers take the first step to expanding their future capacity." Schroeder continued, "Abnormally low levels of equipment spending helped chipmakers weather the technology industry downturn, but are simply not a viable long-term business strategy. Chipmakers must invest in leading-edge technology and capacity in order to remain competitive as next-generation applications enter production."

KLA-Tencor reported that it ended the quarter with approximately six months of backlog at current shipping levels. Geographically, during the quarter, the strongest order activity originated from Taiwan, which was above its historical share. Korea, China, and Singapore were also above historical share while the United States and Europe fell below historical share during the quarter.

Gross margins improved from 49.0 percent in the June quarter to 51.1 percent in the September quarter. Improvements in manufacturing and service costs contributed to the increase in gross margins. Operating expenses increased slightly to \$125 million.

The company increased total cash, cash equivalents and marketable securities by \$79 million to \$1.57 billion, while the balance sheet remained free of long-term debt. Accounts receivable decreased by \$15 million to \$209 million, driven by continued strong collections. Inventory increased by \$15 million to \$274 million due to the ramp-up of product build plans.

Forward Looking Statements: Statements in this press release regarding the company's positioning for future industry growth, potential for changes in customer order patterns, upturn in customer business, current order backlog, and rising demand for semiconductor equipment 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: delays or cancellations of orders by customers; shipments or acceptances; inability by the company to meet its production and/or product development schedules; the demand for semiconductors; 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. Actual results could differ materially from those anticipated in forward-looking statements in this release as a result of certain factors, including those set forth in the risk factors described in the company's SEC filings.

About KLA-Tencor: KLA-Tencor is the world leader in yield management and process control solutions for semiconductor manufacturing and related industries. Headquartered in San Jose, Calif., with operations around the world, KLA-Tencor ranked #6 on S&P's 2002 index of the top 500 companies in the U.S. KLA-Tencor is traded on the Nasdaq National 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

September 30,	June 30,
2003	2003

(In thousands)

Cash, short-term investments and marketable securities Accounts receivable, net Inventories Land, property and equipment, net Other assets	20 27 37	8,607 3,907 7,178		,487,883 223,535 258,799 382,729 513,651
Total assets		3,742	\$2	,866,597
LIABILITIES AND STOCKHOLDERS' EQUITY				
Current liabilities: Accounts payable Deferred system profit Unearned revenue Other current liabilities	15 4 39	5,907 5,589		33,893 177,486 48,203 391,474
Total current liabilities	64	5,184		651,056
Stockholders' equity: Common stock and capital in excess of par value Retained earnings Accumulated other comprehensive income	1,43		1	814,968 ,396,886 3,687
Total stockholders' equity	2,30	8,558		,215,541
Total liabilities and stockholders' equity		3,742		,866,597

KLA-Tencor Corporation CONDENSED CONSOLIDATED UNAUDITED STATEMENTS OF OPERATIONS

	Three months ended September 30, 2003 2002		
(In thousands, except per share data)			
Revenues: Product Service	67 , 825	\$ 312,508 63,012	
Total revenues	317,970	375,520	
Costs and operating expenses: Costs of goods sold Research and development Selling, general and administrative Non-recurring acquisition, restructuring and other, net		186,344 70,853 70,441 (9,402)	
Total costs and operating expenses			
Income from operations Interest income and other, net	8,401	57,284 10,170	
Income before income taxes Provision for income taxes		67,454 16,189	
Net income	\$ 36,837	\$ 51,265 	
Earnings per basic share: Net income		\$ 0.27 	
Earning per diluted share: Net income	\$ 0.18	\$ 0.26 ======	
Weighted average number of shares; Basic	192,699	189 , 279	
Diluted		194,090	

CONTACT: KLA-Tencor Corporation John Kispert, 408-875-6224 (Chief Financial Officer) john.kispert@kla-tencor.com or (Investment Community) Cary Halsted, 408-875-4094 (VP, Investor Relations) cary.halsted@kla-tencor.com (Media) Kern Beare, 408/875-7039 (VP, Corporate Communications) kern.beare@kla-tencor.com