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): July 29, 2004

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

000-09992 (Commission File Number)

Delaware 04-2564110
----(State or other jurisdiction of incorporation) (I.R.S. Employer Identification No.)

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)

 $$\mathrm{N}/\mathrm{A}$$ (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 July 29, 2004.
- Item 12. Results of Operations and Financial Condition

On July 29, 2004, KLA-Tencor Corporation issued a press release regarding its financial results for the quarter ended June 30, 2004. 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.

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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

Date: July 29, 2004 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 July 29, 2004.

KLA-Tencor Reports Earnings of \$244 Million on Revenues of \$1.5 Billion for Fiscal Year 2004; Fourth Quarter Earnings and Revenues Reach New Highs for the Fiscal Year

SAN JOSE, Calif.--(BUSINESS WIRE)--July 29, 2004--KLA-Tencor Corporation (Nasdaq:KLAC) today announced operating results for its fourth quarter and 2004 fiscal year ended June 30, 2004. The company reported strong gains for both the quarter and full fiscal year. For the quarter, the company reported net income of \$96 million and earnings per diluted share of \$0.48 on revenues of \$450 million, which represented an increase on both a sequential and year-over-year basis. Revenues rose 16 percent from \$390 million in the prior quarter and 46 percent from \$308 million compared to the same period last year. Net income was also significantly higher, increasing from \$66 million or \$0.33 per diluted share in the prior quarter and \$29 million or \$0.15 per diluted share in the fourth quarter of fiscal 2003. For the full 2004 fiscal year, KLA-Tencor reported net income of \$244 million or \$1.21 per diluted share on revenues of \$1.5 billion versus net income of \$137 million or \$0.70 per diluted share on revenues of \$1.5 billion in its 2003 fiscal year.

"Our strong financial performance for both the quarter and the year is the direct result of our customers' escalating investments in process control to help them stay on Moore's law and become the low cost producer of advanced chips," stated Ken Schroeder, President and Chief Executive Officer of KLA-Tencor. "This trend is intensifying with each new device generation since process control helps semiconductor manufacturers speed technology ramps, increase manufacturing yields and lower their capital costs by extending the life of their existing process toolsets. As a result, process control continues to represent a larger portion of our customers' capital budgets."

During the quarter, orders for wafer inspection systems rose sharply, while demand for reticle inspection and metrology systems remained strong. Geographically, Japan and Taiwan represented the largest sequential order increases and were above their historical average share of total orders. The U.S. was within its historical average, while Europe, Korea, China and Singapore were below their historical averages.

Gross margins improved during the quarter, rising another two percent sequentially to 58 percent compared to 56 percent in the third quarter. This improvement was primarily driven by cost reduction initiatives. Cash, cash equivalents and marketable securities increased by \$156 million to \$1.88 billion. Accounts receivable increased \$10 million to \$373 million on higher product shipments. Inventory increased by \$27 million to \$337 million, as the company continued to ramp production to meet customer demand.

Forward Looking Statements: Statements in this press release regarding customers' escalating investments in process control and trend of escalating investments in process control 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 and new and enhanced product offerings by competitors. For other factors that may cause actual results to differ materially 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

	June 30, 2004	June 30, 2003
(In thousands)		
ASSETS		
Cash, short-term investments and marketable securities	\$ 1,876,356	\$1,487,883
Accounts receivable, net	372,773	223,535
Inventories	337,414	258 , 799
Land, property and equipment, net	376,052	382,729
Other assets	576,584	513,651

Total assets	\$ 3,539,179 ========	\$2,866,597 =======
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities: Accounts payable Deferred system profit Unearned revenue Other current liabilities	284,813 57,318	\$ 33,893 177,486 48,203 391,474
Total current liabilities	911,629	651,056
Stockholders' equity: Common stock and capital in excess of par value Retained earnings Accumulated other comprehensive income	1,640,587	814,968 1,396,886 3,687
Total stockholders' equity	2,627,550	2,215,541
Total liabilities and stockholders equity	\$ 3,539,179 	\$2,866,597 ======

KLA-Tencor Corporation CONDENSED CONSOLIDATED UNAUDITED STATEMENTS OF OPERATIONS

	Jun 2004	e 30, 2003	2004	ne 30, 2003		
(In thousands, except per share data)						
Revenues: Product Service			\$1,200,160 296,558	\$1,060,142 262,907		
Total revenues			1,496,718			
Costs and operating expenses:	187 / 188	157 202	670 013	671 505		
Costs of goods sold Research and development	77,110	64,084	280,641	671,505 268,291		
Selling, general and administrative Non-recurring acquisition restructuring		57 , 855	248,706	253,933		
and other, net				(9,402)		
Total costs and operating expenses	328,863		1,199,360			
Income from operations	121,575	29,082	297,358	138,722		
Interest income and other, net	6,716	9 , 552	27,358	41,796		
Income before income taxes	128,291	38,634	324,716	180,518		
Provision for income taxes	32,124	9 , 275	81,015	43,327		
Net income			\$ 243,701	\$ 137,191 ======		
Basic earning per share:						
Net income			\$ 1.25	\$ 0.72		
Diluted earnings per share:						
Net income			\$ 1.21			
Weighted average number of shares: Basic			194,976			
Diluted	201,669	196,630	201,799	194,785		
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CONTACT: KLA-Tencor

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