SECURITIES AND EXCHANGE COMMISSION WASHINGTON, DC 20549

FORM 11-K

ANNUAL REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

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ANNUAL REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 [NO FEE REQUIRED, EFFECTIVE OCTOBER 7, 1996]

For the fiscal year ended June 30, 2002

TRANSITION REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 [NO FEE REQUIRED]

For the transition period from to

Commission file number:

A. Full title of the plan and the address of the plan, if different from that of the issuer named below:

KLA-Tencor 401(k) Plan

B. Name of issuer of the securities held pursuant to the plan and the address of its principal executive office:

KLA Tencor Corporation 160 Rio Robles San Jose, CA 95134

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REQUIRED INFORMATION

The KLA-Tencor 401(k) Plan (the "Plan") is subject to the Employee Retirement Income Security Act of 1974, as amended ("ERISA"). Therefore, in lieu of the requirements of Items 1-3 of Form 11-K, the financial statements and schedules of the Plan for the two fiscal years ended June 30, 2002 and June 30, 2001, which have been prepared in accordance with the financial reporting requirements of ERISA, are attached hereto and incorporated herein by reference.

SIGNATURES

The Plan. Pursuant to the requirements of the Securities and Exchange Act of 1934, the trustees (or other persons who administer the KLA-Tencor 401(k) Plan) have duly caused this annual report to be signed on its behalf by the undersigned hereunto duly authorized.

		KLA-TENCOR 401(k) PLAN
		(Name of plan)
Date: December 20, 2002	Ву:	/s/ STUART J. NICHOLS
		(Signature)
	Title:	Vice President, General Counsel
		NCOR CORPORATION ON BEHALF OF THE PLAN STRATOR OF THE KLA-TENCOR 401(k) PLAN

KLA-Tencor 401(k) Plan Financial Statements June 30, 2002 and June 30, 2001

KLA-TENCOR 401(k) PLAN

Financial Statements and Supplemental Schedule June 30, 2002 and June 30, 2001

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INDEPENDENT ACCOUNTANTS' REPORT

To the Participants and Plan Administrator of the KLA-Tencor 401(k) Plan

We have audited the financial statements of the KLA-Tencor 401(k) Plan (the Plan) as of June 30, 2002 and 2001, and for the years then ended, as listed in the accompanying table of contents. These financial statements are the responsibility of the Plan's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by the Plan's management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the net assets available for benefits of the Plan as of June 30, 2002 and 2001, and the changes in net assets available for benefits for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

Our audits were performed for the purpose of forming an opinion on the basic financial statements taken as a whole. The supplemental schedule, as listed in the accompanying table of contents, is presented for the purpose of additional analysis and is not a required part of the basic financial statements but is supplementary information required by the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974. The supplemental schedule is the responsibility of the Plan's management. The supplemental schedule has been subjected to the auditing procedures applied in the audit of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

/s/ MOHLER, NIXON & WILLIAMS

MOHLER, NIXON & WILLIAMS Accountancy Corporation

Campbell, California October 22, 2002

KLA-TENCOR 401(k) PLAN

STATEMENTS OF NET ASSETS AVAILABLE FOR BENEFITS

	J	June 30,	
	2002	2001	
Assets:			
Investments, at fair value	\$292,053,235	\$328,036,931	
Participant loans	6,213,188	6,431,738	
Assets held for investment purposes	298,266,423	334,468,669	
Employer's contribution receivable	, ,	314,983	
Participants' contributions receivable	214,001	153,006	
Due from broker	71,443		
Total assets	298,551,867	334,936,658	
iabilities:	, ,	, , , , , , , , , , , , , , , , , , ,	
Excess contributions refundable		5,633	
Net assets available for benefits	\$298,551,867	\$334,931,025	
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KLA-TENCOR 401(k) PLAN

STATEMENTS OF CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS

	Years	
	June 2002	2001
dditions to net assets attributed to:		
Investment income:		
Dividends and interest	\$ 4,701,354	\$ 2,956,221
Net realized and unrealized depreciation in fair value of investments	(49,701,917)	(33,355,524)
	(45,000,563)	(30,399,303)
Contributions:		
Participants'	27,708,676	39,897,625
Employer's	4,189,808	19,170,479
	31,898,484	59,068,104
Total additions	(13,102,079)	28,668,801
eductions from net assets attributed to:		
Withdrawals and distributions	23,255,749	15,410,329
Administrative expenses	21,330	
Total deductions	23,277,079	15,410,329
Net increase (decrease) in net assets	(36,379,158)	13,258,472
et assets available for benefits:	224.224.225	224 (52 55
Beginning of year	334,931,025	321,672,553
End of year	\$298,551,867	\$334,931,025
ee notes to financial statements.		
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KLA-TENCOR 401(k) PLAN

NOTES TO FINANCIAL STATEMENTS JUNE 30, 2002 AND JUNE 30, 2001

NOTE 1 — THE PLAN AND ITS SIGNIFICANT ACCOUNTING POLICIES

General — The following description of the KLA-Tencor 401(k) Plan (the Plan) provides only general information. Participants should refer to the Plan document and the Summary Plan Description/Prospectus for the Plan for a more complete description of the Plan's provisions.

The Plan is a defined contribution plan that was established in 1982 by KLA-Tencor Corporation (the Company) to provide benefits to eligible employees, as defined in the Plan document. The Plan is currently designed to be qualified under the applicable requirements of the Internal Revenue Code of 1986, as amended (the Code) and the provisions of the Employee Retirement Income Security Act of 1974, as amended (ERISA).

Effective July 1, 2001, the Company amended and restated the Plan document in its entirety to incorporate provisions from federal laws passed since 1994, commonly known as GUST, and to make other desired changes.

Administration – The Company is the Administrator of the Plan. The Company has appointed a Plan Committee (the Committee) to manage the day-to-day operation and administration of the Plan. Effective April 1, 2002, the Company contracted with Fidelity Management Trust Company (Fidelity) to act as the Plan's custodian and trustee. Prior to April 1, 2002, the Company had contracted with Wells Fargo Bank (Wells Fargo) to act as the custodian and trustee. Substantially all expenses incurred for administering the Plan are paid by the Plan, unless the Company elects to pay such expenses.

Estimates — The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, and changes therein, and disclosure of contingent assets and liabilities. Actual results could differ from those estimates.

Basis of accounting — The financial statements of the Plan are prepared on the accrual method of accounting in accordance with accounting principles generally accepted in the United States of America.

Investments — Investments of the Plan are held by Fidelity and invested based solely upon instructions received from participants.

The Plan's investments in mutual funds and common stock are valued at fair value as of the last day of the Plan year, as measured by quoted market prices. Participant loans are valued at cost, which approximates fair value.

Income taxes — The Plan is intended to be a qualified plan under Section 401(a) of Code and related state statutes, and the trust, which is a part of the Plan, is intended to be exempt from tax under Section 501(a) of the Code. The Plan has been amended since receiving its latest favorable determination letter dated November 13, 1999. The Plan recently was restated, in its entirety, to incorporate provisions from federal laws passed since 1994, commonly known as GUST, and to make other desired changes. On June 28, 2002, the Company submitted the Plan, as restated, to the IRS for a new determination letter, which is expected to be received in due course.

Reconciliation of financial statements to Form 5500 - The differences between the information reported in the financial statements and the information reported in the Form 5500 arise primarily from presenting the financial statements on the accrual basis of accounting.

Risks and uncertainties — The Plan provides for various investment options in any combination of mutual funds and Company stock offered by the Plan. Investment securities are exposed to various risks, such as interest rate, market fluctuations and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in risks in the near term would materially affect participants' account balances and the amounts reported in the statements of net assets available for benefits and the statements of changes in net assets available for benefits.

NOTE 2 — RELATED PARTY AND PARTY-IN-INTEREST TRANSACTIONS

Certain Plan investments in Company common stock and mutual funds are managed by Fidelity. Purchases and sales of these funds are performed in the open market at fair value and qualify as party-in-interest transactions under ERISA regulations. These transactions are permitted under the provisions of the Plan and are specifically exempt from the prohibition of party-in-interest transactions under ERISA.

During the fiscal year ended June 30, 2001, the Plan was amended to permit participants to direct their investments to the KLA-Tencor Stock Fund so that they could invest in the common stock of the Company. In July 2002, the Committee limited investments in the KLA-Tencor Stock Fund to 25% of a participant's account. Aggregate investment in Company common stock through the KLA-Tencor Stock Fund at June 30 was as follows:

	June 30, 2002	June 30, 2001
Number of Shares	599,248	308,492
Fair Value	\$26,360,913	\$19,002,148

NOTE 3 — PARTICIPATION AND BENEFITS

Participant contributions — Effective August 2002, participants may elect to have the Company contribute from 1% to 25% of their eligible pre-tax compensation not to exceed the amount allowable under the Code. Prior to August 2002, participants could elect to have the Company

contribute from 1% to 15% of their eligible pre-tax compensation not to exceed the amount allowable under the Code. Participants who elect to have the Company contribute a portion of their eligible compensation to the Plan agree to accept an equivalent reduction in taxable compensation. Contributions withheld are invested in accordance with the participant's direction.

Participants are also allowed to make rollover contributions of amounts received from other tax-qualified employer-sponsored retirement plans. Such contributions are deposited in the appropriate investment funds in accordance with the participant's direction and the Plan's provisions.

Employer contributions — The Company is allowed to make matching contributions as defined in the Plan and as approved by the Board of Directors. In 2002 and 2001, the Company contributed an amount equal to 50% of each eligible participant's contribution, not to exceed \$1,000 per year. The Plan also allows for a discretionary profit sharing contribution each calendar quarter as determined by the Board of Directors. To be eligible to share in the allocation of the discretionary profit sharing contributions for a calendar quarter, an employee must be employed by the Company on the first and last days of the applicable quarter. During fiscal year ended June 30, 2001, the Company made discretionary profit sharing contributions of approximately \$15,000,000. The Company did not make any discretionary profit sharing contributions during the fiscal year ended June 30, 2002.

Vesting — Participants are fully vested in their accounts at all times. Employee salary deferral contributions and Company matching and discretionary profit sharing contributions are immediately vested.

Participant accounts — Each participant's account is credited with the participant's contribution, Plan earnings or losses and an allocation of the Company's contribution, if any. Allocation of the Company's discretionary profit sharing contribution is based on eligible compensation, as defined in the Plan.

Payment of benefits — Upon termination, the participant or his or her beneficiary may elect to leave his or her account balance in the Plan, or receive his or her total benefits in a lump sum amount equal to the value of the participant's interest in his or her account balance. The Plan provides for automatic lump sum distribution, upon termination of employment, of account balances that do not exceed \$5,000.

Loans to participants — Participants may borrow not less than \$1,000 and up to the lesser of \$50,000 or 50% of their account balance. The loans are secured by the participant's balance, bear interest at the available market financing rates and must be repaid within a five-year period, unless the loan is used for the purchase of a principal residence in which case the maximum repayment period is fifteen years. The specific terms and conditions of such loans are established by the Committee. Outstanding loans at June 30, 2002 carried interest rates, which ranged from 6.75% to 11.5%.

NOTE 4 – INVESTMENTS

The following table includes the fair values of investments and investment funds that represent 5% or more of the Plan's net assets at June 30:

	2002	2001
Wells Fargo Stable Asset Fund		\$ 32,447,402
Euro Pacific Growth Fund		20,679,006
Van Kampen American Cap Emerging Growth A Fund		23,974,716
Seligman Communication & Information Fund		23,420,680
Wells Fargo Bank S&P 500 Stock		20,392,679
Washington Mutual Investors Fund	\$ 45,367,119	48,829,307
Growth Fund of America A	44,880,680	59,602,749
New Perspective Fund A	22,230,118	26,829,110
Income Fund of America A	23,213,074	22,760,392
Fidelity Diversified International Fund	18,233,678	
Fidelity Mid Cap Stock Fund	15,889,908	
Fidelity Managed Income II Portfolio	33,126,850	
Fidelity Spartan U.S. Equity Index Fund	17,821,357	
KLA-Tencor Stock Fund	26,360,913	19,002,148
Cash		116,264
Other investments individually less than 5% of net assets	44,929,538	29,982,478
Participant loans	6,213,188	6,431,738
Assets held for investment purposes	\$298,266,423	\$334,468,669
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The Plan's investments (including gains and losses on investments bought and sold, as well as held during the year) appreciated (depreciated) in value as follows for the years ended June 30:

	2002	2001
Mutual funds	(\$46,588,063)	(\$44,099,926)
Common stock	(3,113,854)	10,744,402
	(\$49,701,917)	(\$33,355,524)

NOTE 5 — PLAN TERMINATION

The Company intends to continue the Plan indefinitely for the benefit of its participants; however, it reserves the right to terminate or modify the Plan at any time and for any reason, subject to the provisions of ERISA.

NOTE 6 — SUBSEQUENT EVENTS

In fiscal Plan year 2003, the Plan document will be amended to incorporate certain provisions of the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA).

During the period beginning on June 30, 2002 and ending on October 22, 2002, the Dow Jones Industrial Average and Nasdaq Composite indices decreased by approximately 8% and 12%, respectively; similarly, the Plan's asset may have significantly decreased in value.

SUPPLEMENTAL SCHEDULE

KLA-TENCOR 401(k) PLAN EIN: 04-2564110

PLAN #001

SCHEDULE OF ASSETS HELD FOR INVESTMENT PURPOSES JUNE 30, 2002

Fidelity Management Trust Company: Growth Fund of America A Income Fund of America A New Perspective Fund A Washington Mutual Investors Fund A PIMCO Total Return Fund I Nations International Value Fund Inv. A Fremont Institutional U.S. Micro Cap Fund Sterling Small Cap Value Institutional Fund * Fidelity Select Electronics Portfolio * Fidelity Diversified International Fund * Fidelity Mid Cap Stock Fund Mutual Fund * Fidelity Mid Cap Stock Fund Mutual Fund * Fidelity Managed Income II Portfolio Mutual Fund * Mutual Fund * Fidelity Managed Income II Portfolio Mutual Fund * Mutual Fund		\$ 44,880,680 23,213,074 22,230,118 45,367,119
Income Fund of America A New Perspective Fund A Washington Mutual Investors Fund A PIMCO Total Return Fund I Nations International Value Fund Inv. A Fremont Institutional U.S. Micro Cap Fund Sterling Small Cap Value Institutional Fund * Fidelity Select Electronics Portfolio # Fidelity Diversified International Fund * Fidelity Mid Cap Stock Fund Mutual Fund * Mutual Fund * Mutual Fund * Mutual Fund		23,213,074 22,230,118
New Perspective Fund A Mutual Fund Washington Mutual Investors Fund A Mutual Fund PIMCO Total Return Fund I Mutual Fund Nations International Value Fund Inv. A Mutual Fund Fremont Institutional U.S. Micro Cap Fund Mutual Fund Sterling Small Cap Value Institutional Fund Mutual Fund * Fidelity Select Electronics Portfolio Mutual Fund * Fidelity Diversified International Fund Mutual Fund * Fidelity Mid Cap Stock Fund Mutual Fund Mutual Fund Mutual Fund		22,230,118
Washington Mutual Investors Fund A PIMCO Total Return Fund I Nations International Value Fund Inv. A Mutual Fund Fremont Institutional U.S. Micro Cap Fund Sterling Small Cap Value Institutional Fund Mutual Fund * Fidelity Select Electronics Portfolio Mutual Fund * Fidelity Diversified International Fund Mutual Fund * Fidelity Mid Cap Stock Fund Mutual Fund Mutual Fund Mutual Fund		, ,
PIMCO Total Return Fund I Nations International Value Fund Inv. A Fremont Institutional U.S. Micro Cap Fund Sterling Small Cap Value Institutional Fund Mutual Fund * Fidelity Select Electronics Portfolio Mutual Fund * Fidelity Diversified International Fund Mutual Fund * Fidelity Mid Cap Stock Fund Mutual Fund * Mutual Fund		45,367,119
Nations International Value Fund Inv. A Mutual Fund Fremont Institutional U.S. Micro Cap Fund Mutual Fund Sterling Small Cap Value Institutional Fund Mutual Fund * Fidelity Select Electronics Portfolio Mutual Fund * Fidelity Diversified International Fund Mutual Fund * Fidelity Mid Cap Stock Fund Mutual Fund		
Fremont Institutional U.S. Micro Cap Fund Sterling Small Cap Value Institutional Fund Mutual Fund Fidelity Select Electronics Portfolio Mutual Fund Fidelity Diversified International Fund Mutual Fund Fidelity Mid Cap Stock Fund Mutual Fund		14,305,192
Sterling Small Cap Value Institutional Fund Mutual Fund Fidelity Select Electronics Portfolio Mutual Fund Fidelity Diversified International Fund Mutual Fund Fidelity Mid Cap Stock Fund Mutual Fund		1,114,681
 Fidelity Select Electronics Portfolio Fidelity Diversified International Fund Fidelity Mid Cap Stock Fund Mutual Fund Mutual Fund 		14,310,857
* Fidelity Diversified International Fund Mutual Fund * Fidelity Mid Cap Stock Fund Mutual Fund		1,359,703
* Fidelity Mid Cap Stock Fund Mutual Fund		13,839,105
7 1		18,233,678
* Fidelity Managed Income II Portfolio Mutual Fund		15,889,908
		33,126,850
* Fidelity Spartan U.S. Equity Index Fund Mutual Fund		17,821,357
* KLA-Tencor Stock Fund Common stock		26,360,913
* Participant loans Interest rates range from 6.75% to 11.5%		6,213,188
	Total	\$298,266,423

^{*} Party-in-interest

CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the incorporation by reference in the Registration Statement on Form S-8 (Nos. 333-60866, 333-49766 and 333-46598) of KLA-Tencor Corporation of our report dated October 22, 2002, relating to the financial statements of the KLA-Tencor 401(k) Plan which appears in this Form 11-K.

/s/ MOHLER, NIXON & WILLIAMS

MOHLER, NIXON & WILLIAMS Accountancy Corporation

Campbell, California Date: December 20, 2002