

SCHEDULE 13G

Amendment No. 2  
KLA Tencor Corporation  
Common Stock  
Cusip # 482480100

Cusip # 482480100  
Item 1: Reporting Person - FMR Corp.  
Item 4: Commonwealth of Massachusetts  
Item 5: 1,189,653  
Item 6: None  
Item 7: 11,127,753  
Item 8: None  
Item 9: 11,127,753  
Item 11: 12.809%  
Item 12: HC

Cusip # 482480100  
Item 1: Reporting Person - Edward C. Johnson 3d  
Item 4: United States of America  
Item 5: None  
Item 6: None  
Item 7: 11,127,753  
Item 8: None  
Item 9: 11,127,753  
Item 11: 12.809%  
Item 12: IN

Cusip # 482480100  
Item 1: Reporting Person - Abigail P. Johnson  
Item 4: United States of America  
Item 5: None  
Item 6: None  
Item 7: 11,127,753  
Item 8: None  
Item 9: 11,127,753  
Item 11: 12.809%  
Item 12: IN

SCHEDULE 13G - TO BE INCLUDED IN STATEMENTS  
FILED PURSUANT TO RULE 13d-1(b) or 13d-2(b)

Item 1(a). Name of Issuer:

KLA Tencor Corporation

Item 1(b). Name of Issuer's Principal Executive Offices:

160 Rio Robles  
San Jose, CA 95134

Item 2(a). Name of Person Filing:

FMR Corp.

Item 2(b). Address or Principal Business Office or, if None, Residence:

82 Devonshire Street, Boston, Massachusetts 02109

Item 2(c). Citizenship:

Not applicable

Item 2(d). Title of Class of Securities:

Common Stock

Item 2(e). CUSIP Number:

482480100

Item 3. This statement is filed pursuant to Rule 13d-1(b) or 13d-2(b) and the

person filing, FMR Corp., is a parent holding company in accordance with Section 240.13d-1(b)(ii)(G). (Note: See Item 7).

Item 4. Ownership

(a) Amount Beneficially Owned:

11,127,753

(b) Percent of Class:

12.809%

(c) Number of shares as to which such person has:

(i) sole power to vote or to direct the vote:

1,189,653

(ii) shared power to vote or to direct the vote:

None

(iii) sole power to dispose or to direct the disposition of:

11,127,753

(iv) shared power to dispose or to direct the disposition of:

None

Item 5. Ownership of Five Percent or Less of a Class.

Not applicable.

Item 6. Ownership of More than Five Percent on Behalf of Another Person.

Various persons have the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of, the common stock of KLA Tencor Corporation. No one person's interest in the common stock of KLA Tencor Corporation is more than five percent of the total outstanding common stock.

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on By the Parent Holding Company.

See attached Exhibit(s) A, B, and C.

Item 8. Identification and Classification of Members of the Group.

Not applicable, see attached Exhibit A.

Item 9. Notice of Dissolution of Group.

Not applicable.

Item 10. Certification.

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were acquired in the ordinary course of business and were not acquired for the purpose of and do not have the effect of changing or influencing the control of the issuer of such securities and were not acquired in connection with or as a participant in any transaction having such purpose or effect.

Signature

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this Schedule 13G in connection with FMR Corp.'s beneficial ownership of the common stock of KLA Tencor Corporation at September 30, 1998 is true, complete and correct.

October 9, 1998

Date

/s/Francis V. Knox  
Signature

Francis V. Knox

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Pursuant to the instructions in Item 7 of Schedule 13G, Fidelity Management & Research Company ("Fidelity"), 82 Devonshire Street, Boston, Massachusetts 02109, a wholly-owned subsidiary of FMR Corp. and an investment adviser registered under Section 203 of the Investment Advisers Act of 1940, is the beneficial owner of 9,974,500 shares or 11.482% of the common stock outstanding of KLA Tencor Corporation ("the Company") as a result of acting as investment adviser to various investment companies registered under Section 8 of the Investment Company Act of 1940, and as a result of acting as sub-adviser to Fidelity American Special Situations Trust ("FASST").

FASST is a unit trust established and authorized by the Department of Trade and Industry under the laws of England. The investment adviser of FASST is Fidelity Investment Services Limited, an English company and a subsidiary of Fidelity International Limited ("FIL").

Edward C. Johnson 3d, FMR Corp., through its control of Fidelity, and the funds each has sole power to dispose of the 9,909,100 shares owned by the Funds.

Neither FMR Corp. nor Edward C. Johnson 3d, Chairman of FMR Corp., has the sole power to vote or direct the voting of the shares owned directly by the Fidelity Funds, which power resides with the Funds' Boards of Trustees. Fidelity carries out the voting of the shares under written guidelines established by the Funds' Boards of Trustees.

FIL, FMR Corp., through its control of Fidelity, and FASST each has sole power to vote and to dispose of the 65,400 shares held by FASST.

Fidelity Management Trust Company, 82 Devonshire Street, Boston, Massachusetts 02109, a wholly-owned subsidiary of FMR Corp. and a bank as defined in Section 3(a)(6) of the Securities Exchange Act of 1934, is the beneficial owner of 1,100,053 shares or 1.266% of the common stock outstanding of the Company as a result of its serving as investment manager of the institutional account(s).

Edward C. Johnson 3d and FMR Corp., through its control of Fidelity Management Trust Company, each has sole dispositive power over 1,100,053 shares and sole power to vote or to direct the voting of 1,071,053 shares, and no power to vote or to direct the voting of 29,000 shares of common stock owned by the institutional account(s) as reported above.

Members of the Edward C. Johnson 3d family and trusts for their benefit are the predominant owners of Class B shares of common stock of FMR Corp., representing approximately 49% of the voting power of FMR Corp. Mr. Johnson 3d owns 12.0% and Abigail Johnson owns 24.5% of the aggregate outstanding voting stock of FMR Corp. Mr. Johnson 3d is Chairman of FMR Corp. and Abigail P. Johnson is a Director of FMR Corp. The Johnson family group and all other Class B shareholders have entered into a shareholders' voting agreement under which all Class B shares will be voted in accordance with the majority vote of Class B shares. Accordingly, through their ownership of voting common stock and the execution of the shareholders' voting agreement, members of the Johnson family may be deemed, under the Investment Company Act of 1940, to form a controlling group with respect to FMR Corp.

Fidelity International Limited, Pembroke Hall, 42 Crowlane, Hamilton, Bermuda, and various foreign-based subsidiaries provide investment advisory and management services to a number of non-U.S. investment companies (the "International Funds") and certain institutional investors. Fidelity International Limited is the beneficial owner of 118,600 shares or 0.137% of the common stock outstanding of the Company, which includes 65,400 shares or 0.075% of the common stock outstanding of the Company owned by FASST. Additional information with respect to the beneficial ownership of Fidelity International Limited is shown on Exhibit B, page 9.

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FILED PURSUANT TO RULE 13d-1(b) or 13d-2(b)

Pursuant to instructions in Item 7 of Schedule 13G, this Exhibit has been prepared to identify Fidelity International Limited, Pembroke Hall, 42 Crow