

SCHEDULE 13G

Amendment No. 6
KLA-Tencor Corporation
Common Stock
Cusip #482480100

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Item 1: Reporting Person - FMR LLC
Item 4: Delaware
Item 5: 130,296
Item 6: 0
Item 7: 5,991,770
Item 8: 0
Item 9: 5,991,770
Item 11: 3.581%
Item 12: HC

Cusip #482480100
Item 1: Reporting Person - Edward C. Johnson 3d
Item 4: United States of America
Item 5: 0
Item 6: 0
Item 7: 5,991,770
Item 8: 0
Item 9: 5,991,770
Item 11: 3.581%
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 LLC

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 LLC, 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: 5,991,770

(b) Percent of Class: 3.581%

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

(i) sole power to vote or to direct the vote: 130,296

(ii) shared power to vote or to direct the vote: 0

(iii) sole power to dispose or to direct the disposition of: 5,991,770

(iv) shared power to dispose or to direct the disposition of: 0

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

If this statement is being filed to report the fact that as of the date hereof, the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following (X).

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

Not applicable

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

See attached Exhibit A.

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. Certifications.

Inasmuch as the reporting persons are no longer the beneficial owners of more than five percent of the number of shares outstanding, the reporting persons have no further reporting obligation under Section 13(d) of the Securities and Exchange Commission thereunder, and the reporting persons have no obligation to amend this Statement if any material change occurs in the facts set forth herein. I also certify that, to the best of my knowledge and belief, FIL Limited and its various non-U.S. investment management subsidiaries included on this Schedule 13G are subject to a regulatory scheme substantially comparable to the regulatory scheme applicable to the functionally equivalent U.S. institutions. I also undertake to furnish to the Commission staff, upon request, information that would otherwise be disclosed in a Schedule 13D with respect to FIL Limited and its various non-U.S. investment management subsidiaries included on this Schedule 13G.

Signature

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

May 09, 2012
Date

/s/ Scott C. Goebel
Signature

Scott C. Goebel
Duly authorized under Power of Attorney
effective as of June 1, 2008 by and on behalf of FMR LLC
and its direct and indirect subsidiaries

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 LLC and an investment adviser registered under Section 203 of the Investment Advisers Act of 1940, is the beneficial owner of 5,861,074 shares or 3.503% 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.

Edward C. Johnson 3d and FMR LLC, through its control of Fidelity, and the funds each has sole power to dispose of the 5,861,074 shares owned by the Funds.

Members of the family of Edward C. Johnson 3d, Chairman of FMR LLC, are the predominant owners, directly or through trusts, of Series B voting common shares of FMR LLC, representing 49% of the voting power of FMR LLC. The Johnson family group and all other Series B shareholders have entered into a shareholders' voting agreement under which all Series B voting common shares will be voted in accordance with the majority vote of Series B voting common shares. Accordingly, through their ownership of voting common shares 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 LLC.

Neither FMR LLC nor Edward C. Johnson 3d, Chairman of FMR LLC, 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.

Fidelity Management Trust Company, 82 Devonshire Street, Boston, Massachusetts 02109, a wholly-owned subsidiary of FMR LLC and a bank as defined in Section 3(a)(6) of the Securities Exchange Act of 1934, is the beneficial owner of 54,657 shares or 0.033% 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 LLC, through its control of Fidelity Management Trust Company, each has sole dispositive power over 54,657 shares and sole power to vote or to direct the voting of 54,657 shares of Common Stock owned by the institutional account(s) as reported above.

Strategic Advisers, Inc., 82 Devonshire Street, Boston, MA 02109, a wholly-owned subsidiary of FMR LLC and an investment adviser registered under Section 203 of the Investment Advisers Act of 1940, provides investment advisory services to individuals. As such, FMR LLC's beneficial ownership includes 75,273 shares, or 0.045%, of the Common Stock outstanding of KLA-Tencor Corporation, beneficially owned through Strategic Advisers, Inc.

Pyramis Global Advisors Trust Company ("PGATC"), 900 Salem Street, Smithfield, Rhode Island, 02917, an indirect wholly-owned subsidiary of FMR LLC and a bank as defined in Section 3(a)(6) of the Securities Exchange Act of 1934, is the beneficial owner of 400 shares or 0.000% of the outstanding Common Stock of the KLA-Tencor Corporation as a result of its serving as investment manager of institutional accounts owning such shares.

Edward C. Johnson 3d and FMR LLC, through its control of Pyramis Global Advisors Trust Company, each has sole dispositive power over 400 shares and sole power to vote or to direct the voting of 0 shares of Common Stock owned by the institutional accounts managed by PGATC as reported above.

FIL Limited ("FIL"), Pembroke Hall, 42 Crow Lane, Hamilton, Bermuda, and various foreign-based subsidiaries provide investment advisory and management services to a number of non-U.S. investment companies and certain institutional investors. FIL, which is a qualified institution under section 240.13d-1(b)(1)(ii), is the beneficial owner of 366 shares or 0.000% of the Common Stock outstanding of the

Company.

Partnerships controlled predominantly by members of the family of Edward C. Johnson 3d, Chairman of FMR LLC and FIL, or trusts for their benefit, own shares of FIL voting stock. While the percentage of total voting power represented by these shares may fluctuate as a result of changes in the total number of shares of FIL voting stock outstanding from time to time, it normally represents more than 25% and less than 50% of the total votes which may be cast by all holders of FIL voting stock. FMR LLC and FIL are separate and independent corporate entities, and their Boards of Directors are generally composed of different individuals.

FMR LLC and FIL are of the view that they are not acting as a "group" for purposes of Section 13(d) under the Securities Exchange Act of 1934 (the "1934" Act) and that they are not otherwise required to attribute to each other the "beneficial ownership" of securities "beneficially owned" by the other corporation within the meaning of Rule 13d-3 promulgated under the 1934 Act. Therefore, they are of the view that the shares held by the other corporation need not be aggregated for purposes of Section 13(d). However, FMR LLC is making this filing on a voluntary basis as if all of the shares are beneficially owned by FMR LLC and FIL on a joint basis.

SCHEDULE 13G - TO BE INCLUDED IN
STATEMENTS

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

The undersigned persons, on May 09, 2012, agree and consent to the joint filing on their behalf of this Schedule 13G in connection with their beneficial ownership of the Common Stock of KLA-Tencor Corporation at April 30, 2012.

FMR LLC

By /s/ Scott C. Goebel
Scott C. Goebel

Duly authorized under Power of Attorney effective as of June 1, 2008, by and on behalf of FMR LLC and its direct and indirect subsidiaries

Edward C. Johnson 3d

By /s/ Scott C. Goebel
Scott C. Goebel

Duly authorized under Power of Attorney effective as of June 1, 2008, by and on behalf of Edward C. Johnson 3d

Fidelity Management & Research Company

By /s/ Scott C. Goebel
Scott C. Goebel

Senior V.P. and General Counsel