

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 13G

Under the Securities Exchange Act of 1934

Amendment No.: 2*

Name of Issuer: KLA-Tencor Corporation

Title of Class of Securities: Common Stock

CUSIP Number: 482480100

Date of Event Which Requires Filing of this Statement: 12/31/2009

Check the appropriate box to designate the rule pursuant to which this Schedule is filed.

- Rule 13d-1(b)
 Rule 13d-1(c)
 Rule 13d-1(d)

* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

CUSIP No.: 482480100

1. NAME OF REPORTING PERSON
S.S. OR I.R.S. IDENTIFICATION NO. OF ABOVE PERSON
Janus Capital Management LLC
EIN #75-3019302
2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP
a.
b.
3. SEC USE ONLY
4. CITIZENSHIP OR PLACE OF ORGANIZATION
Delaware

NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:

5. SOLE VOTING POWER
10,277,897**
6. SHARED VOTING POWER
2,323,047
7. SOLE DISPOSITIVE POWER
10,277,897**
8. SHARED DISPOSITIVE POWER
2,323,047
9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON
12,600,944**

10. CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES

Not applicable

11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

7.4%**

12. TYPE OF REPORTING PERSON

IA, HC

** See Item 4 of this filing

Item 1.

(a). Name of Issuer: KLA-Tencor Corporation ("KLA")

(b). Address of Issuer's Principal Executive Offices:

One Technology Drive
Milpitas, CA 95035

Item 2.

(a)-(c). Name, Principal Business Address, and Citizenship of Persons

Filing:

(1) Janus Capital Management LLC ("Janus Capital")
151 Detroit Street
Denver, Colorado 80206
Citizenship: Delaware

(d). Title of Class of Securities: Common Stock

(e). CUSIP Number: 482480100

Item 3.

This statement is filed pursuant to Rule 13d-1 (b) or 13d-2(b) and the person filing, Janus Capital, is an investment adviser in accordance with Section 240.13d-1(b)(ii)(E) as well as a parent holding company/control person in accordance with Section 240.13d-1(b)(ii)(G). See Item 4 for additional information.

Item 4. Ownership

The information in items 1 and 5 through 11 on the cover page(s) on Schedule 13G is hereby incorporated by reference.

Janus Capital has a direct 91.8% ownership stake in INTECH Investment Management ("INTECH") and a direct 77.8% ownership stake in Perkins Investment Management LLC ("Perkins"). Due to the above ownership structure, holdings for Janus Capital, Perkins and INTECH are aggregated for purposes of this filing. Janus Capital, Perkins and INTECH are registered investment advisers, each furnishing investment advice to various investment companies registered under Section 8 of the Investment Company Act of 1940 and to individual and institutional clients (collectively referred to herein as "Managed Portfolios").

As a result of its role as investment adviser or sub-adviser to the Managed Portfolios, Janus Capital may be deemed to be the beneficial owner of 10,277,897 shares or 6.0% of the shares outstanding of KLA Common Stock held by such Managed Portfolios. However, Janus Capital does not have the right to receive any dividends from, or the proceeds from the sale of, the securities held in the Managed Portfolios and disclaims any ownership associated with such rights.

As a result of its role as investment adviser or sub-adviser to the Managed Portfolios, INTECH may be deemed to be the beneficial owner of 2,323,047 shares or 1.4% of the shares outstanding of KLA Common Stock held by such Managed Portfolios. However, INTECH does not have the right to receive any dividends from, or the proceeds from the sale of, the securities held in the Managed Portfolios and disclaims any ownership associated with such rights.

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

