

[GRAY CARY WARE & FREIDENRICH LETTERHEAD]

June 27, 1995

Securities and Exchange Commission  
Judiciary Plaza  
450 Fifth Street, N.W.  
Washington, D.C. 20549

Attention: Filing Desk

RE: CONFORMED COPY OF THE REGISTRATION STATEMENT ON FORM S-8 OF  
1,903,229 SHARES UNDER THE KLA INSTRUMENTS CORPORATION ASSUMED  
INDIVIDUAL METROLOGIX, INC. EMPLOYEE STOCK OPTION AGREEMENTS, THE  
SECOND AMENDED AND RESTATED 1981 EMPLOYEE STOCK PURCHASE PLAN AND  
THE 1982 STOCK OPTION PLAN

Ladies and Gentlemen:

Enclosed for EDGAR filing is a conformed copy of the above-referenced  
Registration Statement, Registration No. 33-88662, including Exhibits, which  
was filed on January 19, 1995. A cashier's check payable to the Securities and  
Exchange Commission for the registration fee was sent on January 18, 1995.

Very truly yours,

GRAY CARY WARE & FREIDENRICH  
A Professional Corporation

By: MARILYN N. TAKETA

-----  
Marilyn N. Taketa

Enclosures

cc: KLA Instruments Corporation

Registration No. 33-88662

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

FORM S-8

REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933

KLA INSTRUMENTS CORPORATION

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

<TABLE>

<S>

Delaware

<C>

04-2564110

-----  
(State or other jurisdiction  
of incorporation or organization)

-----  
(I.R.S. employer identification no.)

</TABLE>

160 Rio Robles  
San Jose, California 95134

-----  
(Address of principal executive offices) (Zip code)

KLA INSTRUMENTS CORPORATION  
ASSUMED INDIVIDUAL METROLOGIX, INC. EMPLOYEE STOCK OPTION AGREEMENTS

KLA INSTRUMENTS CORPORATION  
SECOND AMENDED AND RESTATED 1981 EMPLOYEE STOCK PURCHASE PLAN

KLA INSTRUMENTS CORPORATION 1982 STOCK OPTION PLAN

-----  
(Full title of the plan)

Kenneth Levy  
Chief Executive Officer  
KLA Instruments Corporation  
160 Rio Robles

-----  
 (Name and address of agent for service)

Telephone number, including area code, of agent for service: 408/434-4200

This registration statement, including all exhibits and attachments, contains 18 pages. The exhibit index may be found on page 13 of the consecutively numbered pages of the registration statement.

This registration statement shall hereafter become effective in accordance with Rule 462 promulgated under the Securities Act of 1933, as amended.

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 CALCULATION OF REGISTRATION FEE  
 -----

<TABLE>  
 <CAPTION>

Title of securities to be registered	Amount to be registered	Proposed maximum offering price per share	Proposed maximum aggregate offering price	Amount of registration fee
<S>	<C>	<C>	<C>	<C>
Assumed Individual Metrologix, Inc. Employee Stock Option Agreements				
-----				
Par Value \$0.001				
Common Stock	332	4.69(1)	1,557.08	0.54
	2897	15.70	45,482.90	15.68
Second Amended and Restated 1981 Employee Stock Purchase Plan				
-----				
Par Value \$0.001				
Common Stock	300,000	40.96(2)	12,288,000.00	4,237.27
1982 Stock Option Plan				
-----				
Par Value \$0.001				
Common Stock	1,600,000	48.19(3)	77,104,000.00	26,587.77
TOTAL	1,903,229		\$89,439,039.98	\$30,841.26

</TABLE>

(1) For shares subject to outstanding but unexercised options, the price is computed on the basis of the exercise price.

(2) Estimated pursuant to Rule 457 solely for purposes of calculating the registration fee. The price is based upon 85% of the average of the high and low prices of the Common Stock on January 12, 1995, as reported on the National Association of Securities Dealers Automated Quotations system.

(3) Estimated pursuant to Rule 457 solely for purposes of calculating the registration fee. The price is based upon the average of the high and low prices of the Common Stock on January 12, 1995, as reported on the National Association of Securities Dealers Automated Quotations system.

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PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference

KLA Instruments Corporation (the "Company") hereby incorporates by reference in this registration statement the following documents:

(a) The Company's latest annual report on Form 10-K filed pursuant to Sections 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), containing audited financial statements for the Company's latest fiscal year ended June 30, 1994, as filed with the Commission.

(b) All other reports filed pursuant to Section 13(a) or 15(d) of

the Exchange Act since the end of the latest fiscal year covered by the document referred to in (a) above.

(c) The description of the Company's Common Stock contained in the Company's Registration Statement on Form 8-A filed under the Exchange Act, including any amendment or report filed for the purpose of updating such description.

All documents subsequently filed by the Company pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act, prior to the filing of a post-effective amendment to this registration statement which indicates that all securities offered hereby have been sold or which deregisters all securities remaining unsold, shall be deemed to be incorporated by reference in this registration statement and to be a part hereof from the date of filing of such documents.

Item 4. Description of Securities

The class of securities to be offered is registered under Section 12 of the Exchange Act.

Item 5. Interests of Named Experts and Counsel

Inapplicable.

Item 6. Indemnification of Directors and Officers

Delaware law authorizes corporations to eliminate the personal liability of directors to corporations and their stockholders for monetary damages for breach or alleged breach of the directors' "duty of care." While the relevant statute does not change directors' duty of care, it enables corporations to limit available relief to equitable remedies such as injunction or rescission. The statute has no effect on

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directors' duty of loyalty, acts or omissions not in good faith or involving intentional misconduct or knowing violations of law, illegal payment of dividends and approval of any transaction from which a director derives an improper personal benefit.

The Company has adopted provisions in its Certificate of Incorporation which eliminate the personal liability of its directors to the Company and its stockholders for monetary damages for breach or alleged breach of their duty of care. The By-Laws of the Company provide for indemnification of its directors, officers, employees and agents to the full extent permitted by the General Corporation Law of the State of Delaware, the Company's state of incorporation, including those circumstances in which indemnification would otherwise be discretionary under Delaware Law. Section 145 of the General Corporation Law of the State of Delaware provides for indemnification in terms sufficiently broad to indemnify such individuals, under certain circumstances, for liabilities (including reimbursement of expenses incurred) arising under the Securities Act.

Item 7. Exemption From Registration Claimed

Inapplicable.

Item 8. Exhibits

See Exhibit Index.

Item 9. Undertakings

(a) Rule 415 Offering

The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the registration statement is on Form S-3 or Form S-8, and the information required to be

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included in a post-effective amendment by those paragraphs is contained in periodic reports filed by the registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) Filing incorporating subsequent Exchange Act documents by reference

The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(h) Request for acceleration of effective date or filing of registration statement on Form S-8

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

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SIGNATURE

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Jose, State of California, on January 18, 1995.

KLA INSTRUMENTS CORPORATION

By: /s/ Kenneth Levy

-----  
Kenneth Levy, Chief Executive  
Officer

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POWER OF ATTORNEY

The officers and directors of KLA Instruments Corporation whose signatures appear below, hereby constitute and appoint Kenneth Levy and Kenneth L. Schroeder, and each of them, their true and lawful attorneys and agents, with full power of substitution, each with power to act alone, to sign and execute on behalf of the undersigned any amendment or amendments to this registration statement on Form S-8, and each of the undersigned does hereby

ratify and confirm all that each of said attorney and agent, or their or his substitutes, shall do or cause to be done by virtue hereof. Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons in the capacities indicated on January 18, 1995.

Signature	Title
<S>	<C>
/s/ Kenneth Levy	
Kenneth Levy	Chief Executive Officer, Director and Chairman of the Board (Principal Executive Officer)
/s/ Kenneth L. Schroeder	
Kenneth L. Schroeder	President, Chief Operating Officer and Director
/s/ Robert J. Boehlke	
Robert J. Boehlke	Vice President, Administration and Finance and Chief Financial Officer (Principal Financial and Accounting Officer)
Leo J. Chamberlain	Director
Robert E. Lorenzini	Director
Yoshio Nishi	Director
Samuel Rubinovitz	Director
Dag Tellefsen	Director

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Signature	Title
<S>	<C>
Kenneth Levy	Chief Executive Officer, Director and Chairman of the Board (Principal Executive Officer)
Kenneth L. Schroeder	President, Chief Operating Officer and

Director

-----  
Robert J. Boehlke Vice President, Administration and Finance  
and Chief Financial Officer (Principal  
Financial and Accounting Officer)

/s/ Leo J. Chamberlain  
-----  
Leo J. Chamberlain Director

-----  
Robert E. Lorenzini Director

-----  
Yoshio Nishi Director

-----  
Samuel Rubinovitz Director

-----  
Dag Tellefsen Director  
</TABLE>

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<TABLE>  
<CAPTION>  
Signature Title  
-----  
<S> <C>

-----  
Kenneth Levy Chief Executive Officer, Director and  
Chairman of the Board (Principal Executive  
Officer)

-----  
Kenneth L. Schroeder President, Chief Operating Officer and  
Director

-----  
Robert J. Boehlke Vice President, Administration and Finance  
and Chief Financial Officer (Principal  
Financial and Accounting Officer)

-----  
Leo J. Chamberlain Director

/s/ Robert E. Lorenzini  
-----  
Robert E. Lorenzini Director

-----  
Yoshio Nishi Director

-----  
Samuel Rubinovitz Director



Signature	Title
<S>	<C>
Kenneth Levy	Chief Executive Officer, Director and Chairman of the Board (Principal Executive Officer)
Kenneth L. Schroeder	President, Chief Operating Officer and Director
Robert J. Boehlke	Vice President, Administration and Finance and Chief Financial Officer (Principal Financial and Accounting Officer)
Leo J. Chamberlain	Director
Robert E. Lorenzini	Director
Yoshio Nishi	Director
/s/ Samuel Rubinovitz	
Samuel Rubinovitz	Director
Dag Tellefsen	Director

POWER OF ATTORNEY

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Signature	Title
<S>	<C>
Kenneth Levy	Chief Executive Officer, Director and Chairman of the Board (Principal Executive Officer)
Kenneth L. Schroeder	President, Chief Operating Officer and Director
Robert J. Boehlke	Vice President, Administration and Finance and Chief Financial Officer (Principal Financial and Accounting Officer)



-----  
Leo J. Chamberlain                    Director  
  
-----  
Robert E. Lorenzini                   Director  
  
-----  
Yoshio Nishi                           Director  
  
-----  
Samuel Rubinovitz                   Director  
/s/ Dag Tellefsen  
-----  
Dag Tellefsen                         Director  
</TABLE>

EXHIBIT INDEX

<TABLE>  
<CAPTION>

	Sequentially Numbered Page
	-----<C>
<S>    <C>	<C>
4.1    Restated Certificate of Incorporation of KLA Instruments Corporation, a Delaware corporation, and amendments thereto, is incorporated by reference to the exhibit to the Company's registration statement on Form S-8 (No. 33-42982; filed effective September 26, 1991)	--
4.2    Bylaws, as amended, of KLA Instruments Corporation, a Delaware corporation, are incorporated by reference to the exhibits to the Company's annual report on Form 10-K (filed effective September 25, 1991)	--
4.3    Stockholders Rights Plan is incorporated by reference to the Company's report on Form 8-A (filed effective March 23, 1989)	--
5       Opinion re legality	14
23.1   Consent of Counsel (included in Exhibit 5)	--
23.2   Consent of Independent Accountants	17
24     Power of Attorney (included in signature pages to this registration statement)	--

</TABLE>

EXHIBIT 5

OPINION RE LEGALITY

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[GRAY CARY WARE & FREIDENRICH LETTERHEAD]

January 18, 1995

Securities and Exchange Commission  
450 Fifth Street, N.W.  
Washington, D.C. 20549

RE: KLA INSTRUMENTS CORPORATION - REGISTRATION STATEMENT ON FORM  
S-8 REGISTERING SHARES ISSUABLE UNDER CERTAIN INDIVIDUAL STOCK  
OPTION AGREEMENTS, THE SECOND AMENDED AND RESTATED 1981  
EMPLOYEE STOCK PURCHASE PLAN AND THE 1982 STOCK OPTION PLAN

Ladies and Gentlemen:

As legal counsel for KLA Instruments Corporation, a Delaware corporation (the "Company"), we are rendering this opinion in connection with the registration under the Securities Act of 1933, as amended, of up to 1,903,229 shares of the Common Stock, \$0.001 par value, of the Company which may be issued pursuant to the exercise of options and purchase rights granted under the 37 individual Metrologix, Inc. Employee Stock Option Agreements assumed by KLA Instruments Corporation (the "Agreements"), the KLA Instruments Corporation Second Amended and Restated 1981 Employee Stock Purchase Plan and the 1982 Stock Option Plan (collectively the "Plans").

We have examined all instruments, documents and records which we deemed relevant and necessary for the basis of our opinion hereinafter expressed. In such examination, we have assumed the genuineness of all signatures and the authenticity of all documents submitted to us as originals and the conformity to the originals of all documents submitted to us as copies.

We are admitted to practice only in the State of California and we express no opinion concerning any law other than the law of the State of California, the corporation laws of the State of Delaware and the federal law of the United States.

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Securities and Exchange Commission  
Page 2

As to matters of Delaware corporation law, we have based our opinion solely upon our examination of such laws and the rules and regulations of the authorities administering such laws, all as reported in standard, unofficial compilations. We have not obtained opinions of counsel licensed to practice in jurisdictions other than the State of California.

Based on such examination, we are of the opinion that the 1,903,229 shares of Common Stock which may be issued upon exercise of options and purchase rights granted under the Agreements and the Plans are duly authorized shares of the Company's Common Stock, and, when issued against payment of the purchase price therefor in accordance with the provisions of the Agreements and the Plans, will be validly issued, fully paid and non-assessable.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement referred to above and the use of our name wherever it appears in said Registration Statement.

Respectfully submitted,

/s/ Gray Cary Ware & Freidenrich

GRAY CARY WARE & FREIDENRICH  
A Professional Corporation

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EXHIBIT 23.2

CONSENT OF INDEPENDENT ACCOUNTANTS

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EXHIBIT 23.2

CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of our report dated July 26, 1994, which appears on page 24 of the 1994 Annual Report to Stockholders of KLA Instruments Corporation, which is incorporated in KLA Instruments Corporation's Annual Report on Form 10-K for the year ended June 30, 1994. We also consent to the incorporation by reference of our report on the Financial Statement Schedules, which appears on page 20 of such Annual Report on form 10-K.

/s/ Price Waterhouse LLP

Price Waterhouse LLP

San Jose, California  
January 13, 1995

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