

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

SCHEDULE 13D

Under the Securities Exchange Act of 1934

(Amendment No. ___)*

Micrion Corporation
(Name of Issuer)

Common Stock
(Title of Class of Securities)

59479P 102
(CUSIP Number)

Christopher Stoddart, Treasurer
KLA Instruments Corporation
160 Rio Robles, San Jose, CA 95134
(Name, Address and Telephone Number of Person Authorized to Receive Notices and Communications)

with a copy to:

Alan B. Kalin, Esq.
Graham & James LLP
600 Hansen Way
Palo Alto, CA 94304-1043

May 7, 1996
(Date of Event Which Requires Filing of this Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition which is the subject of this Schedule 13D, and is filing this schedule because of Rule 13d-1(b)(3) or (4), check the following box [].

Check the following box if a fee is being paid with this statement [x]. (A fee is not required only if the filing person: (1) has a previous statement on file reporting beneficial ownership of more than five percent of the class of securities described in Item 1; and (2) has filed no amendment subsequent thereto reporting beneficial ownership of five percent or less of such class. See Rule 13d-7).

Note: Six copies of this statement, including all exhibits, should be filed with the Commission. See Rule 13d-1(a) for other parties to whom copies are to be sent.

* 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).

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CUSIP No. 59479P 102

- (1) Names of Reporting Persons/S.S. or I.R.S. Identification Nos. of Above Persons
KLA Instruments Corporation/TIN No. 04-2564110
- (2) Check the Appropriate Box if a Member of a Group (See Instructions)
 - (a)
 - (b) x See Item 5(b)(ii)
- (3) SEC Use Only

- (4) Source of Funds (See Instructions) 00
- (5) Check if Disclosure of Legal Proceeding Is Required Pursuant to Items 2(d) or 2(e)
- (6) Citizenship or Place of Organization Delaware
- | | | | |
|---|------|--------------------------|---------|
| Shares Beneficially Owned by Each Reporting Person With | (7) | Sole Voting Power | 244 |
| | (8) | Shared Voting Power | 0 |
| | (9) | Sole Dispositive Power | 215,244 |
| | (10) | Shared Dispositive Power | 0 |
- (11) Aggregate Amount Beneficially Owned by Each Reporting Person 215,244
- (12) Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)
- (13) Percent of Class Represented by Amount in Row 11 5.34%
- (14) Type of Reporting Person (See Instructions) CO

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INTRODUCTION.

This Statement constitutes the initial filing of KLA Instruments Corporation ("KLA"). Effective May 7, 1996, KLA and Kenneth Levy, on the one hand, and Micrion Corporation (the "Issuer") and certain of its affiliates and other persons, on the other hand, entered into a settlement agreement to settle certain litigation claims each party has against the other (the "Settlement Agreement"). Pursuant to the terms of the Settlement Agreement, Micrion received an aggregate of 215,000 shares of Common Stock of the Issuer from the Issuer and one of its affiliates. Together with its prior ownership of 244 shares of the Micrion Common Stock (as defined below), KLA now is the beneficial owner of 215,244 shares of Micrion Common Stock, representing 5.34% of the 4,027,189 shares of Common Stock which the Issuer informed KLA were outstanding on May 7, 1996.

ITEM 1. SECURITY AND ISSUER:

This Statement relates to the Common Stock, par value \$0.01 per share (the "Micrion Common Stock"), of the Issuer. The Micrion Common Stock trades on the NASDAQ National Market. The Issuer's principal executive offices are located at One Corporation Way, Peabody, MA 01960-7990. The Issuer's telephone number is (508) 531-6464.

ITEM 2. IDENTITY AND BACKGROUND:

(a-c) This Statement is filed by KLA with respect to shares of Micrion Common Stock held or beneficially owned by KLA. The principal business address of KLA is KLA Instruments Corporation, 160 Rio Robles, San Jose, CA 95161-9055. The principal business of KLA is the design, manufacture, marketing and service of yield management and process monitoring systems for the semiconductor industry. KLA is a Delaware corporation.

The attached Exhibit 1 provides the following information with respect to each director and executive officer of KLA: (i) name; (ii) residence or business address, (iii) present principal occupation or employment and the name, principal business and address of any corporation or other organization in which such employment is conducted, and (iv) citizenship.

(d) Neither KLA nor, to the best of its knowledge, any of KLA's directors and executive officers named in Exhibit 1 has, during the last five years, been convicted in a criminal proceeding (excluding traffic violations or similar misdemeanors).

(e) Neither KLA nor, to the best of its knowledge, any of KLA's directors and executive officers named in Exhibit 1 was, during the last five years, a party to a civil proceeding of a judicial or administrative body of competent jurisdiction and as a result of such proceeding was or is subject to a judgment, decree or final order enjoining

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future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violation with respect to such laws.

(f) KLA is a Delaware corporation. The citizenship of each of KLA's directors and executive officers is set forth on Exhibit 1.

ITEM 3. SOURCE AND AMOUNT OF FUNDS AND OTHER CONSIDERATION.

Prior to the Settlement Agreement, KLA owned an aggregate of 710,808 shares of preferred stock of the Issuer (the "Original Shares"), which were converted into 367 shares of Preferred Stock through a series of refinancing transactions which occurred during the period of June through August 1993 (the "Refinancing"). As of the effective date of the Issuer's registration statement with respect to its initial public offering of Micrion Common Stock (the "Micrion IPO"), those 367 shares of Preferred Stock represented 244 shares of Micrion Common Stock. The Original Shares were purchased for the purpose of investment for an aggregate consideration of \$3,535,000, using funds from the working capital of KLA.

In connection with the Settlement Agreement, KLA received an aggregate of 215,000 shares of Micrion Common Stock (the "Settlement Shares") from the Issuer and one of its affiliates on May 7, 1996. The consideration for the Settlement Shares was the release and dismissal of certain claims of KLA against the Issuer and certain of its affiliates and other persons, as provided in the Settlement Agreement. In addition, the Issuer and such affiliates and other persons released and dismissed certain claims against KLA and Kenneth Levy. The Settlement Shares consisted of newly issued shares of Micrion Common Stock delivered by the Issuer and shares of Micrion Common Stock held by one of the Issuer's affiliates.

Samuel A. Harrell ("Mr. Harrell"), Senior Vice President, Strategic Business Development, of KLA, acquired 30,000 shares of preferred stock of Micrion (the "Harrell Shares") prior to the Micrion IPO, which, as of the effective date of the Micrion IPO, represented 10 shares of Micrion Common Stock. Mr. Harrell purchased the Harrell Shares for investment purposes, using his personal funds.

ITEM 4. PURPOSE OF TRANSACTION.

(i) The purpose of the acquisition of the Original Shares by KLA was for investment, and the purchase of the Original Shares was not made for the purpose of acquiring control of the Issuer. The Settlement Shares were acquired by KLA in exchange for the release of claims based on the diminution in the value of KLA's interest in the Original Shares, as described in Item 3 of this Statement. The issuance and transfer of the Settlement Shares was intended to restore the ownership interest of KLA in the Issuer to its condition as it existed immediately prior to the Refinancing. In the Settlement Agreement, KLA advised the Issuer that KLA deems the Settlement Shares to be a part of KLA's ownership interest in the Issuer prior to the Refinancing.

(ii) Mr. Harrell purchased the Harrell Shares for investment.

(iii) Neither KLA nor, to the best of its knowledge, any of its directors or officers named in Exhibit 1, has any plans or proposals which relate to, or could result in, any of the matters referred to in paragraphs (a) through (j), inclusive, of Item 4 of the Instructions for Schedule 13D. KLA and the directors and officers named in Exhibit 1 may, at any time and from time to time, review or reconsider their position with respect to the Issuer, and may form plans or proposals with respect to any of such matters, but none of them has a present intention of doing so.

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ITEM 5. INTEREST IN SECURITIES OF THE ISSUER

(a) (i) KLA is the beneficial owner of 215,244 shares of Micrion Common Stock, representing 5.34% of the outstanding shares of Micrion Common Stock. Each individual executive officer and director of KLA named in Exhibit 1 disclaims all beneficial interest in the 215,244 shares of Micrion Common Stock which are the subject of this Statement.

(ii) Mr. Harrell is the beneficial owner of the Harrell Shares, representing less than 0.01% of the Micrion Common Stock. KLA disclaims all beneficial interest in the Harrell Shares.

(b) (i) KLA has the sole power to dispose of all of the Micrion

Common Stock owned by it, and the sole power to vote the Original Shares.

(ii) Pursuant to the terms of the Irrevocable Proxy, a copy of which is attached hereto as Exhibit 2, the holder of the Irrevocable Proxy has the sole power to vote all of the Settlement Shares held by KLA. Pursuant to the terms of the Settlement Agreement, the holder of the Irrevocable Proxy is filing a separate Schedule 13D which sets forth the information with respect to the holder of the Irrevocable Proxy requested in Item 2 of Schedule 13D.

(iii) Mr. Harrell has the sole power to vote and to dispose of all of the Harrell Shares.

(c) During the past 60 days, neither KLA nor, to the best of its knowledge, any of its directors or executive officers named in Exhibit 1 has effected any transaction with respect to the Micrion Common Stock, except for KLA's acquisition of the Settlement Shares pursuant to the terms of the Settlement Agreement.

(d) (i) No person other than KLA is known to have the right to receive or the power to direct the receipt of dividends from or the proceeds of sale of the Original Shares and the Settlement Shares.

(ii) No person other than Mr. Harrell is known to have the right to receive or the power to direct the receipt of dividends from other proceeds of sale of the Harrell Shares.

(e) Inapplicable.

ITEM 6. CONTRACTS, ARRANGEMENTS, UNDERSTANDINGS OR RELATIONSHIPS WITH RESPECT TO SECURITIES OF THE ISSUER.

KLA has the right to request the Issuer to register all of the Settlement Shares pursuant to a registration statement on Form S-3 or an equivalent form as promptly as is practicable following KLA's written request. KLA delivered a letter requesting registration of all of the Settlement Shares to the Issuer on May 7, 1996. Consequently, under the Settlement Agreement, the Issuer is obligated to file a registration statement for the resale of the Settlement Shares with the Securities and Exchange Commission as soon as is practicable, but in no event later than May 22, 1996.

The Settlement Shares are subject to an Irrevocable Proxy in favor of Nicholas P. Economou, for so long as Mr. Economou is the President of Micrion Corporation, and thereafter, in favor of any person acting as the President of Micrion Corporation.

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Other than as set forth above, neither KLA nor any of its executive officers and directors is a party to any contracts, arrangements, understandings or relationships (legal or otherwise) with respect to any securities of the Issuer.

ITEM 7. MATERIAL TO BE FILED AS EXHIBITS.

Exhibit 1. Directors and Executive Officers of KLA

Exhibit 2. Irrevocable Proxy

SIGNATURE

After reasonable inquiry and to the best of its knowledge and belief, the undersigned certify that the information set forth in this Statement is true, complete and correct.

KLA INSTRUMENTS CORPORATION

/s/ CHRISTOPHER STODDART

(Signature)

Christopher Stoddart, Treasurer

(Name and Title)

May 17, 1996

(Date)

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EXHIBIT 1

DIRECTORS AND EXECUTIVE OFFICERS OF KLA INSTRUMENTS CORPORATION

<TABLE> <CAPTION> Name and Business Address -----	Position/Occupation -----	Citizenship -----
<S> Kenneth Levy KLA Instruments Corporation 160 Rio Robles San Jose, CA 95134	<C> Chairman of the Board of Directors and Chief Executive Officer	<C> U.S.A.
Kenneth Schroeder KLA Instruments Corporation 160 Rio Robles San Jose, CA 95134	President, Chief Operating Officer and Director	U.S.A.
Robert J. Boehlke KLA Instruments Corporation 160 Rio Robles San Jose, CA 95134	Vice President of Finance and Administration, Chief Financial Officer and Assistant Secretary	U.S.A.
Frank Brienzo KLA Instruments Corporation 160 Rio Robles San Jose, CA 95134	Vice President, Asia Operations	U.S.A.
Virginia J. Demars KLA Instruments Corporation 160 Rio Robles San Jose, CA 95134	Vice President, Human Resources	U.S.A.
Gary E. Dickerson KLA Instruments Corporation 160 Rio Robles San Jose, CA 95134	Vice President, Wafer Inspection	U.S.A.
Samuel Harrell KLA Instruments Corporation 160 Rio Robles San Jose, CA 95134	Senior Vice President, Strategic Business Development	U.S.A.
Michael N. Morrissey KLA Instruments Corporation 160 Rio Robles San Jose, CA 95134	Group Vice President, Customer Group	U.S.A.

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<TABLE> <CAPTION> Name and Business Address -----	Position/Occupation -----	Citizenship -----
<S> Neil Richardson KLA Instruments Corporation 160 Rio Robles San Jose, CA 95134	<C> Vice President, Metrology	<C> U.S.A.
Magnus O.W. Ryde KLA Instruments Corporation 160 Rio Robles San Jose, CA 95134	Vice President, U.S. and European Sales Organizations	Sweden
Arthur P. Schnitzer KLA Instruments Corporation 160 Rio Robles San Jose, CA 95134	Group Vice President, Wafer and Reticle Inspection	U.S.A.
Christopher Stoddart KLA Instruments Corporation 160 Rio Robles San Jose, CA 95134	Treasurer	U.S.A.
Bin-Ming Ben Tsai KLA Instruments Corporation 160 Rio Robles San Jose, CA 95134	Vice President and Chief Technical Officer	U.S.A.
William Turner KLA Instruments Corporation 160 Rio Robles San Jose, CA 95134	Vice President and Corporate Controller	U.S.A. and Canada
Nicholas Szabo KLA Instruments Corporation 160 Rio Robles	Director of Legal Affairs and Assistant Secretary	U.S.A.

San Jose, CA 95134

Edward W. Barnholt Hewlett-Packard Company 5301 Stevens Creek Boulevard Santa Clara, CA 95052	Director of KLA, General Manager, Test and Measurement, Hewlett-Packard Company	U.S.A.
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Leo J. Chamberlain P.O. Box 204 Captain Cook, HI 96704	Director of KLA, Retired	U.S.A.
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Robert E. Lorenzini Sun Power Corporation 430 Indio Way Sunnyvale, CA 94086	Director of KLA, Chairman, Sun Power Corporation	U.S.A.
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<TABLE>
<CAPTION>

Name and Business Address -----	Position/Occupation -----	Citizenship -----
<S> Yoshio Nishi Texas Instruments, Inc. 13536 North Central Expressway Dallas, TX 75243	<C> Director of KLA, Director of Research and Development, Vice President of the Semiconductor Group, Texas Instruments, Inc.	<C> U.S.A.
Samuel Rubinovitz 3 Bowser Road Lexington, MA 02173	Director of KLA, Retired	U.S.A.
Dag Tellefsen Glenwood Management 3000 Sand Hill Road Building Four, Suite 230 Menlo Park, CA 94025	Director of KLA, Venture Capitalist	Norway

</TABLE>

EXHIBIT 2

IRREVOCABLE PROXY

KNOW ALL BY THESE PRESENTS that KLA INSTRUMENTS CORPORATION (the "Stockholder") does hereby make, constitute and appoint NICHOLAS P. ECONOMOU ("Economou"), or, in the event that Economou is no longer serving as President of Micrion Corporation, the person who is then serving as the President of Micrion Corporation (the "Corporation"), for it and in its stead to act as its proxy in respect of the 215,000 shares of Common Stock, no par value, or such other number of shares then owned by the Stockholder (the "Shares"), of the Corporation acquired by the Stockholder in connection with the settlement of certain litigation in the Essex County Superior Court, Salem, Massachusetts, entitled KLA Instruments Corporation v. Micrion Corporation, et al., Civil Action No. 93-2942A, giving and granting Economou (or any successor) full power and authority to (i) vote all of the Shares beneficially owned by the Stockholder, either in person or by proxy, or give written consent in lieu of voting thereof, (ii) waive any notice of any regular or special meeting of stockholders of the Corporation and (iii) call meetings of stockholders of the Corporation, as the Stockholder might or could do if personally present with full power of substitution, appointment and revocation.

At all times hereafter, the Stockholder shall have the right to transfer the Shares, in whole or in part, to any third party not controlling, controlled by, or under common control with the Stockholder, and upon such sale or transfer the transferred shares shall no longer be subject to this irrevocable proxy.

This proxy is coupled with an interest (which interest includes, among other things, the settlement of the above-referenced litigation and the agreements between the Corporation, of which Economou is the President, and the Stockholder in connection therewith), is irrevocable and shall be binding upon the Stockholder and its representatives, successors and assigns.

IN WITNESS WHEREOF, the undersigned has executed this irrevocable proxy as of May 7, 1996.

KLA INSTRUMENTS CORPORATION

By: /s/

Name: Christopher Stoddart
Title: Treasurer

Accepted as of the date hereof

/s/

Nicholas P. Economou
President of Micrion Corporation