



11. Aggregate Amount Beneficially Owned by Each Reporting Person:  
648,562\*
12. Check if the Aggregate Amount in Row (11) Excludes Certain Shares  
(See Instructions): Not Applicable
13. Percent of Class Represented by Amount in Row (11): 4.9%\*
14. Type of Reporting Person (See Instructions): IA, IN

\* This is a joint filing by Austin W. Marxe (?Marxe?) and David M. Greenhouse (?Greenhouse?). Marxe and Greenhouse share sole voting and investment power over 572,826 shares of Common Stock owned by Special Situations Fund III QP, L.P. and 75,736 shares of Common Stock owned by Special Situations Fund III, L.P. See Items 2 and 4 of this Schedule for additional information.

Page 3 of 6 Pages

Item 1. Security and Issuer:

- (a) Electro-Optical Sciences, Inc.  
(b) 3 West Main Street, Suite 201, Irving, New York 10533

Item 2. (a) Name of Person Filing:

The persons filing this report are Austin W. Marxe (?Marxe?) and David M. Greenhouse (?Greenhouse?), who are the controlling principals of AWM Investment Company, Inc. (?AWM?), the general partner of MGP Advisers Limited Partnership (?MGP?), the general partner of and investment adviser to Special Situations Fund III, L.P. (?SSF3?) and general partner of Special Situations Fund III QP, L.P. (SSFQP). AWM serves as the investment adviser to SSFQP, (SSF3 and SSFQP will hereafter be referred to as, the ?Funds?). The principal business of each Fund is to invest in equity and equity-related securities and other securities of any kind or nature.

(b) Address of Principal Business Office or, if none, Residence:

The principal business address for Marxe and Greenhouse is 527 Madison Avenue, Suite 2600, New York, NY 10022.

(c) Citizenship:

Austin W. Marxe and David M. Greenhouse are United States citizens.

(d) Title of Class of Securities: Common Stock, no par value.

(e) CUSIP Number: 285192100.

Item 3. If this statement is filed pursuant to §240.13d-1(b) or 240.13d-2(b), check whether the person filing is a: Not Applicable

- (a)  Broker or Dealer registered under section 15 of the Act;  
(b)  Bank as defined in section 3(a) (6) of the Act;  
(c)  Insurance Company as defined in section 3(a) (19) of the Act;  
(d)  Investment Company registered under section 8 of the Investment Company Act of 1940;  
(e)  An Investment Adviser in accordance with §240.13d-1(b)(I)(ii)(E);  
(f)  An employee benefit plan or endowment fund in accordance with §240.13d-1(b)(I)(ii)(F);

Page 4 of 6 Pages

(g)  A parent holding company or control person in accordance with §240.13d-

1(b)(1)(ii)(G);

(h)  A savings association as defined in Section 3(b) of the Federal Deposit Insurance

Act;

(i)  A church plan that is excluded from the definition of an investment company under section 3(c)(14) of the Investment Company Act of 1940;

(j)  Group, in accordance with §240.13d-1(b)(1)(ii)(J).

Item 4. Ownership:

(a) Amount Beneficially Owned: Messrs. Marx and Greenhouse beneficially own a total of 648,562 shares of Common Stock. This amount includes 572,826 shares of Common Stock owned by SSFQP and 75,736 shares of Common Stock owned by SSF3.

(b) Percent of Class: Messrs. Marx and Greenhouse beneficially own 4.9% of the shares outstanding. SSFQP owns 4.3% of the outstanding shares and SSF3 owns 0.6% of the outstanding shares.

(c) Number of Shares as to which the person has:

(i) Sole power to vote or to direct the vote: 0

(ii) Shared power to vote or to direct the vote: 648,562

(iii) Sole power to dispose or to direct the disposition of: 0

(iv) Shared power to dispose or to direct the disposition of:  
648,562

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: Not Applicable.

Item 8. Identification and Classification of Members of the Group: Not applicable

Item 9. Notices of Dissolution of Group: Not applicable.

Page 5 of 6 Pages

Item 10. Certification:

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

Dated: February 2, 2007

/s/ Austin W. Marx  
AUSTIN W. MARXE

/s/David M Greenhouse

Attention: Intentional misstatements or omissions of fact constitute Federal criminal violations (See 18 U.S.C. 1001).

Page 6 of 6 Pages

JOINT FILING AGREEMENT

Austin W. Marxe and David M. Greenhouse hereby agree that the Schedule 13G to which this agreement is attached is filed on behalf of each of them.

/s/\_Austin W. Marxe  
Austin W. Marxe

/s/\_David M. Greenhouse  
David M. Greenhouse

- -6-

S5313/1  
1319328.02