

As filed with the Securities and Exchange Commission on July 31, 2006

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

FORM S-8

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

ELECTRO-OPTICAL SCIENCES, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of incorporation or organization)

13-3986004
(I.R.S. Employer Identification No.)

**3 West Main Street, Suite 201
Irvington, New York**
(Address of principal executive offices)

10533
(Zip code)

1996 STOCK OPTION PLAN
2003 STOCK INCENTIVE PLAN
2005 STOCK INCENTIVE PLAN
(Full title of the plans)

Joseph V. Gulfo, M.D.
President and Chief Executive Officer
Electro-Optical Sciences, Inc.
3 West Main Street, Suite 201
Irvington, New York 10533
(Name and address of agent for service)

(914) 591-3783
(Telephone number, including area code, of agent for service)

Copies to:
VALERIE A. PRICE, ESQ.
Dreier LLP
499 Park Avenue
New York, New York 10022
(212) 328-6144

CALCULATION OF REGISTRATION FEE

Title of securities to be registered	Amount to be registered ⁽¹⁾	Proposed maximum offering price per share	Proposed maximum aggregate offering price	Amount of registration fee
Common Stock, \$0.001 par value	365,000 ⁽²⁾	\$ 6.02 ⁽³⁾	\$ 2,197,300 ⁽³⁾	\$ 235.11
Common Stock, \$0.001 par value	1,534,875 ⁽⁴⁾	\$ 3.05 ⁽⁵⁾	\$ 4,681,369 ⁽⁵⁾	\$ 500.91
Total	1,899,875			\$ 736.02

(1) In accordance with Rule 416 under the Securities Act of 1933, as amended, this registration statement shall be deemed to cover any additional securities that may from time to time be offered or issued to prevent dilution resulting from stock splits, stock dividends, recapitalizations or similar transactions.

(2) Shares available for grant, but not yet granted as of the date of this Registration Statement under the 2005 Stock Incentive Plan.

(3) Estimated pursuant to Rule 457(c) and (h). The offering price is estimated solely for purposes of calculating the registration fee.

(4) Shares subject to options outstanding as of the date of this registration statement.

(5) Represents the weighted average exercise price (rounded to the nearest cent) for such outstanding options pursuant to Rule 457(h). The offering price is estimated solely for purposes of calculating the registration fee.



TABLE OF CONTENTS

PART I

Item 1. Plan Information.

Item 2. Registrant Information and Employee Plan Annual Information.

PART II

Item 3. Incorporation of Documents by Reference.

Item 4. Description of Securities.

Item 5. Interests of Named Experts and Counsel.

Item 6. Indemnification of Directors and Officers.

Item 7. Exemption from Registration Claimed.

Item 8. Exhibits.

Item 9. Undertakings.

SIGNATURES

EX-5.1: OPINION OF DREIER LLP

EX-23.2: CONSENT OF EISNER LLP

PART I

INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

Item 1. Plan Information.

The documents containing the information specified in Item 1 of Form S-8 will be sent or given to participants as specified by Rule 428(b)(1) under the Securities Act of 1933, as amended (the "Securities Act"). In accordance with the rules and regulations of the Securities and Exchange Commission (the "Commission") and the instructions to Form S-8, such documents are not being filed with the Commission either as part of this Registration Statement on Form S-8 or as prospectuses or prospectus supplements pursuant to Rule 424 under the Securities Act.

Item 2. Registrant Information and Employee Plan Annual Information.

The documents containing the information specified in Item 2 of Form S-8 will be sent or given to participants as specified by Rule 428(b)(1) under the Securities Act. Such documents and the documents incorporated by reference herein pursuant to Item 3 of Part II hereof, taken together, constitutes a prospectus that meets the requirements of Section 10(a) of the Securities Act.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The following documents filed by Electro-Optical Sciences, Inc. (the "Registrant") with the Commission pursuant to the Securities Act and the Securities Exchange Act of 1934, as amended (the "Exchange Act"), are incorporated herein by reference:

- (a) The Registrant's annual report on Form 10-K for the year ended December 31, 2005, filed with the Commission pursuant to Section 13(a) or Section 15(d) of the Exchange Act on March 29, 2006;
- (b) The Registrant's quarterly report on Form 10-Q for the quarter ended March 31, 2006, filed with the Commission pursuant to Section 13(a) or Section 15(d) of the Exchange Act on May 10, 2006;
- (c) The Registrant's current reports on Form 8-K, filed with the Commission pursuant to Section 13(a) or Section 15(d) of the Exchange Act on January 31, 2006, March 6, 2006, April 27, 2006 and June 2, 2006; and
- (d) The description of the securities contained in the Registrant's registration statement on Form 8-A, filed with the Commission pursuant to Section 12(g) of the Exchange Act on August 8, 2005, including any amendment or report filed for the purpose of updating such description.

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

Item 4. Description of Securities.

Not applicable.

Item 5. Interests of Named Experts and Counsel.

Not applicable.

Table of Contents

Item 6. Indemnification of Directors and Officers.

Section 145 of the Delaware General Corporation Law (the “DGCL”) vests corporations with the power to indemnify their officers and directors in terms sufficiently broad to permit the Registrant, under certain circumstances to indemnify its officers and directors from liabilities (including reimbursement of expenses incurred) arising under the Securities Act. Section 102(b)(7) of the DGCL permits a corporation to include in its certificate of incorporation provisions expanding the scope of indemnification beyond that specifically provided by the current law.

As permitted by the DGCL, the Registrant’s fourth amended and restated certificate of incorporation includes a provision that eliminates the personal liability of its directors for monetary damages for breach of their fiduciary duty as a director to the fullest extent permitted under the DGCL. In addition, the Registrant’s third amended and restated bylaws provide that the Registrant shall indemnify its directors and officers and may indemnify its employees and other agents to the extent permitted under the DGCL.

Section 145 of the DGCL also empowers corporations to purchase and maintain insurance on behalf of any person who is or was an officer or director of such corporation against liability asserted against or incurred by him or her in any such capacity, whether or not such corporation would have the power to indemnify such officer or director against such liability under the provisions of Section 145 of the DGCL.

As permitted by the Registrant’s fourth amended and restated certificate of incorporation and third amended and restated bylaws, the Registrant has obtained insurance on behalf of its directors and officers against any liability arising out of his or her actions in such capacity, regardless of whether the Registrant has the power to indemnify such individual against such liability under the provisions of the DGCL.

The Registrant has entered into indemnification agreements with its directors and officers to provide such directors and officers additional contractual assurances regarding the scope of the indemnification set forth in the Registrant’s fourth amended and restated certificate of incorporation and third amended and restated bylaws and to provide additional procedural protections. At present, there is no pending litigation or proceeding involving a director, officer or employee of the Registrant regarding which indemnification is sought.

Reference is also made to Section 7(b) of the Underwriting Agreement for the Registrant’s initial public offering dated as of October 28, 2005 (substantially in the form filed as an exhibit to the Registrant’s Registration Statement on Form S-1, as amended (File No. 333-125517) on September 27, 2005 and cross referenced below), which provides for the indemnification of officers, directors and controlling persons of the Registrant against certain liabilities. The indemnification provision in the Registrant’s fourth amended and restated certificate of incorporation, third amended and restated bylaws and the indemnification agreements entered into or to be entered into between the Registrant and each of its directors and officers may be sufficiently broad to permit indemnification of the Registrant’s directors and officers for liabilities arising under the Securities Act.

See also the undertakings set out in response to Item 9 hereof.

Reference is made to the following documents filed as exhibits to the Registrant’s Registration Statement on Form S-1, as amended (File No. 333-125517) regarding relevant indemnification provisions described above and elsewhere in the Registrant’s Registration Statement on Form S-1, as amended:

<u>Exhibit Document</u>	<u>Number</u>
Form of Underwriting Agreement	1.1
Fourth Amended and Restated Certificate of Incorporation	3.1
Third Amended and Restated Bylaws	3.2
Form of Indemnification Agreement for directors and executive officers	10.1

Item 7. Exemption from Registration Claimed.

Not applicable.

Table of Contents

Item 8. Exhibits.

- (a) The following exhibits are filed herewith:

EXHIBIT INDEX

<u>Exhibit Number</u>	<u>Exhibit Title</u>
1.1	Form of Underwriting Agreement (1)
3.1	Fourth Amended and Restated Certificate of Incorporation (2)
3.2	Third Amended and Restated Bylaws (3)
4.1	Specimen Stock Certificate (3)
4.2	Second Amended and Restated Investor's Rights Agreement dated as of October 26, 2004 (4)
5.1	Opinion of Dreier LLP regarding legality of the securities being registered
10.1	Form of Indemnification Agreement for directors and executive officers (3)
10.2	1996 Stock Option Plan (4)
10.3	2003 Stock Incentive Plan, as amended (4)
10.4	2005 Stock Incentive Plan (3)
23.1	Consent of Counsel (included in Exhibit 5.1)
23.2	Consent of Eisner LLP, Independent Registered Public Accounting Firm
24.1	Power of Attorney (included on the signature pages of this Registration Statement)

-
- (1) Incorporated by reference to Registrant's Registration Statement on Form S-1, as amended (File No. 333-125517), as filed on September 27, 2005.
- (2) Incorporated by reference to Registrant's Registration Statement on Form S-1, as amended (File No. 333-125517), as filed on July 15, 2005.
- (3) Incorporated by reference to Registrant's Registration Statement on Form S-1, as amended (File No. 333-125517), as filed on August 8, 2005.
- (4) Incorporated by reference to Registrant's Registration Statement on Form S-1, as amended (File No. 333-125517), as filed on June 3, 2005.

Item 9. Undertakings.

- (a) The undersigned Registrant hereby undertakes:

(1) To file, during any periods 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;

(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. Notwithstanding the foregoing, any increase or decrease in the volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low and high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;

Table of Contents

(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 (ii) of this Item 9 do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission 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) The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, 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) Insofar as indemnification for liabilities arising under the Securities Act 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 Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of the 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 hereby, 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 Securities Act and will be governed by the final adjudication of such issue.

Table of Contents

<u>Name</u>	<u>Title</u>	<u>Date</u>
<u>/s/ George C. Chryssis</u> GEORGE C. CHRYSSIS	Director	July 31, 2006
<u>/s/ Dan W. Lufkin</u> DAN W. LUFKIN	Director	July 31, 2006
<u>/s/ Gerald Wagner, Ph.D.</u> GERALD WAGNER, PH.D.	Director	July 31, 2006

EXHIBIT INDEX

<u>Exhibit Number</u>	<u>Exhibit Title</u>
1.1	Form of Underwriting Agreement (1)
3.1	Fourth Amended and Restated Certificate of Incorporation (2)
3.2	Third Amended and Restated Bylaws (3)
4.1	Specimen Stock Certificate (3)
4.2	Second Amended and Restated Investor's Rights Agreement dated as of October 26, 2004 (4)
5.1	Opinion of Dreier LLP regarding legality of the securities being registered
10.1	Form of Indemnification Agreement for directors and executive officers (3)
10.2	1996 Stock Option Plan (4)
10.3	2003 Stock Incentive Plan, as amended (4)
10.4	2005 Stock Incentive Plan (3)
23.1	Consent of Counsel (included in Exhibit 5.1)
23.2	Consent of Eisner LLP, Independent Registered Public Accounting Firm
24.1	Power of Attorney (included on the signature pages of this Registration Statement)

-
- (1) Incorporated by reference to Registrant's Registration Statement on Form S-1, as amended (File No. 333-125517), as filed on September 27, 2005.
 - (2) Incorporated by reference to Registrant's Registration Statement on Form S-1, as amended (File No. 333-125517), as filed on July 15, 2005.
 - (3) Incorporated by reference to Registrant's Registration Statement on Form S-1, as amended (File No. 333-125517), as filed on August 8, 2005.
 - (4) Incorporated by reference to Registrant's Registration Statement on Form S-1, as amended (File No. 333-125517), as filed on June 3, 2005.

[DREIER LLP LETTERHEAD]

July 31, 2006

Electro-Optical Sciences, Inc.
3 West Main Street
Suite 201
Irvington, New York 10533

Ladies and Gentlemen:

At your request, we have examined the Registration Statement on Form S-8 filed by Electro-Optical Sciences, Inc., a Delaware corporation (the "Company"), with the Securities and Exchange Commission (the "Commission") on July 31, 2006 in connection with the registration under the Securities Act of 1933, as amended, of an aggregate of 1,899,875 shares of the Company's common stock, par value \$0.001 per share (the "Shares"), issuable under the Company's 1996 Stock Option Plan, 2003 Stock Incentive Plan and 2005 Stock Incentive Plan (the "Plans"). As your counsel in connection with this transaction, we have examined the proceedings proposed to be taken in connection with said sale and issuance of the Shares.

As counsel for the Company, we have examined originals or copies, certified or otherwise identified to our satisfaction, of such documents, corporate records, certificates of public officials and other instruments as we have deemed necessary for the purposes of rendering this opinion. In our examination, we have assumed the genuineness of all signatures, the authenticity and completeness of all documents submitted to us as originals and the conformity to originals and completeness of all documents submitted to us as copies.

In connection with our opinion expressed below, we have assumed that the registration will apply to the Shares and will not have been modified or rescinded and that there will not have occurred any change in law affecting the validity of the issuance of the Shares.

We are admitted to practice law in the State of New York, and we render this opinion only with respect to, and express no opinion herein concerning the application or effect of the laws of any jurisdiction other than, the existing laws of the United States of America and of the Delaware General Corporation Law, and reported judicial decisions relating thereto.

Based on the foregoing and subject to compliance with applicable state securities laws, it is our opinion that the Shares are duly authorized, and, when issued and sold in the manner and for the consideration described in the Registration Statement and in accordance with the Plans, the resolutions adopted by the Board of Directors of the Company or a committee thereof, will be legally and validly issued, fully paid and nonassessable.

We consent to the use of this opinion as an exhibit to the Registration Statement and further consent to all references to us, if any, in the Registration Statement, the Prospectus constituting a part thereof and any amendments thereto. This opinion is intended solely for use in connection with issuance and sale of the Shares and is not to be relied upon for any other purpose. We assume no obligation to advise you of any fact, circumstance, event or change in the law or the facts that may hereafter be brought to our attention whether or not such occurrence would affect or modify the opinions expressed herein.

Very truly yours,

/s/ DREIER LLP

DREIER LLP

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement on Form S-8 of Electro-Optical Sciences, Inc. of our report dated March 17, 2006 (March 24, 2006 as to the second paragraph of Note 15) with respect to the financial statements of Electro-Optical Sciences, Inc. included in its Annual Report (Form 10-K) for the year ended December 31, 2005 filed with the Securities and Exchange Commission.

/s/ Eisner LLP
New York, New York
July 31, 2006