

ELECTRO SCIENTIFIC INDUSTRIES INC
 Form 4
 May 24, 2010

FORM 4

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

OMB APPROVAL

OMB Number: 3235-0287
 Expires: January 31, 2005
 Estimated average burden hours per response... 0.5

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

1. Name and Address of Reporting Person *
 Nierenberg Investment Management Company, Inc.

2. Issuer Name and Ticker or Trading Symbol
 ELECTRO SCIENTIFIC INDUSTRIES INC [ESIO]

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

(Last) (First) (Middle)
 19605 NE 8TH STREET
 (Street)

3. Date of Earliest Transaction (Month/Day/Year)
 05/13/2010

Director 10% Owner
 Officer (give title below) Other (specify below)

CAMAS, WA 98607
 (City) (State) (Zip)

4. If Amendment, Date Original Filed(Month/Day/Year)

6. Individual or Joint/Group Filing(Check Applicable Line)
 Form filed by One Reporting Person
 Form filed by More than One Reporting Person

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)	4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)	5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Ownership (Instr. 4)		
				(A) or (D)	Price				
				Code	V	Amount			
Common Stock	05/13/2010		A	840 ⁽¹⁾	A	\$ 0	572,239 ⁽²⁾	I	By The D3 Family Fund, LP
Common Stock	05/13/2010		A	3,470 ⁽¹⁾	A	\$ 0	2,425,796 ⁽²⁾	I	By The D3 Family Bulldog Fund, LP
Common Stock	05/13/2010		A	380 ⁽¹⁾	A	\$ 0	233,715 ⁽²⁾	I	By The D3 Family Canadian Fund, LP

Common Stock	05/13/2010	A	810 ⁽¹⁾	A	\$ 0	592,734 ⁽²⁾	I	By The DIII Offshore Fund, LP
-----------------	------------	---	--------------------	---	------	------------------------	---	--

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB control number.

SEC 1474
(9-02)

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned
(e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)	5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)	6. Date Exercisable and Expiration Date (Month/Day/Year)	7. Title and Amount of Underlying Securities (Instr. 3 and 4)	8. Price of Derivative Security (Instr. 5)	9. Nu Deriv Secur Bene Own Follo Repo Trans (Instr
						Date Exercisable	Expiration Date	Title	Amount or Number of Shares
						Code	V	(A)	(D)

Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
Nierenberg Investment Management Company, Inc. 19605 NE 8TH STREET CAMAS, WA 98607	X	X		
Nierenberg Investment Management Offshore Inc. 19605 NE 8TH STREET CAMAS, WA 98607		X		
D3 Family Fund, LP 19605 NE 8TH STREET CAMAS, WA 98607		X		
D3 Family Bulldog Fund, LP 19605 NE 8TH STREET CAMAS, WA 98607		X		
		X		

D3 Family Canadian Fund, LP
 19605 NE 8TH STREET
 CAMAS, WA 98607

DIII Offshore Fund, LP
 19605 NE 8TH STREET
 CAMAS, WA 98607

X

Signatures

David Nierenberg	05/24/2010
__Signature of Reporting Person	Date
David Nierenberg, President, Nierenberg Investment Management Company, Inc. (NIMCO)	05/24/2010
__Signature of Reporting Person	Date
David Nierenberg, President, Nierenberg Investment Management Offshore, Inc. (NIMO)	05/24/2010
__Signature of Reporting Person	Date
David Nierenberg, President, NIMCO, General Partner of The D3 Family Fund, LP	05/24/2010
__Signature of Reporting Person	Date
David Nierenberg, President, NIMCO, General Partner of The D3 Family Bulldog Fund, LP	05/24/2010
__Signature of Reporting Person	Date
David Nierenberg, President, NIMCO, General Partner of The D3 Family Canadian Fund, LP	05/24/2010
__Signature of Reporting Person	Date
David Nierenberg, President, NIMO, General Partner of The DIII Offshore Fund, LP	05/24/2010
__Signature of Reporting Person	Date

Explanation of Responses:

- * If the form is filed by more than one reporting person, *see* Instruction 4(b)(v).
- ** Intentional misstatements or omissions of facts constitute Federal Criminal Violations. *See* 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).
- (1) Mr. Nierenberg has been granted 5,500 restricted stock units which are immediately vested in connection with his service on the Board of Directors of the Issuer on May 13, 2010.
- (2) Each of the reporting persons disclaims beneficial ownership of these securities except to the extent of the reporting person's pecuniary interest therein.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, *see* Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.