ELECTRO SCIENTIFIC INDUSTRIES INC Form SC 13D/A

April 12, 2007

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

SCHEDULE 13D Under the Securities Exchange Act of 1934 (Amendment No. 8)

ELECTRO SCIENTIFIC INDUSTRIES INC. (ESIO)

(Name of Issuer)

Common Stock

(Title of Class of Securities)

285229100

(CUSIP Number)

David Nierenberg The D3 Family Funds 19605 NE 8th Street Camas, WA 98607 (360) 604-8600

With a copy to:

Henry Lesser, Esq. DLA Piper US LLP 2000 University Avenue East Palo Alto, CA 94303 (650) 833-2000

(Name, Address and Telephone Number of Person Authorized to Receive Notices and Communications)

April 10, 2007

(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 that is the subject of this Schedule 13D and is filing this schedule because of ss.ss. 240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box  $|_{-}|$ .

1 NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (entities only) The D3 Family Fund, L.P.

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	dgar Filing: ELECTRO SCIENTIFIC INDUSTRIES INC - Form SC 13D/		
2		ior a) b)	
3	SEC USE ONLY		
4	SOURCE OF FUNDS (See Instructions) WC		
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e)  _		
6	CITIZENSHIP OR PLACE OF ORGANIZATION Washington		
	7 SOLE VOTING POWER 593,762 Common shares (2.0%)		
NUMB SHA BENEFI OWNE EA	CIALLY O D BY		
REPOR PER WI	TING9SOLE DISPOSITIVE POWERSON593,762		
	10 SHARED DISPOSITIVE POWER 0		
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON For the reporting person listed on this page, 593,762; f reporting persons as a group, 3,456,884 shares (11.8%)	or	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES C SHARES (See Instructions)  _	ERT	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 11.8%		
14	TYPE OF REPORTING PERSON (See Instructions) PN		
	2		
1	NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (entities only)		
	The DIII Offshore Fund, L.P.		

3	SEC USE ON	ILY	
4	SOURCE OF FUNDS (See Instructions) WC		
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e)  _		
6	CITIZENSHI Bahamas	P OR P	LACE OF ORGANIZATION
		7	SOLE VOTING POWER 814,414 common shares (2.8%)
NUMBE SHAR BENEFIC OWNED	RES CIALLY D BY	8	SHARED VOTING POWER 0
EAC REPORI PERS WII	TING SON	9	SOLE DISPOSITIVE POWER 814,414
		10	SHARED DISPOSITIVE POWER 0
11	For the r	eporti	BENEFICIALLY OWNED BY EACH REPORTING PERSON ng person listed on this page, 814,414; for all s as a group, 3,456,884 shares (11.8%)
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAI SHARES (See Instructions)  _		
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 11.8%		
14	TYPE OF RE PN	PORTIN	G PERSON
			3
1 NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (entities			
	The D3 Fam	ily Bu	lldog Fund, L.P.
2		-	RIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a)  X  (b)  _

\_\_\_\_\_ 4 SOURCE OF FUNDS (See Instructions) WC \_\_\_\_\_ \_\_\_\_\_ 5 CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e) |\_| \_\_\_\_\_ 6 CITIZENSHIP OR PLACE OF ORGANIZATION Washington \_\_\_\_\_ \_\_\_\_\_ 7 SOLE VOTING POWER 2,048,708 common shares (7.0%) NUMBER OF -----8 SHARED VOTING POWER SHARES BENEFICIALLY 0 OWNED BY EACH \_\_\_\_\_ REPORTING 9 SOLE DISPOSITIVE POWER PERSON 2,048,708 WITH \_\_\_\_\_ SHARED DISPOSITIVE POWER 10 0 \_\_\_\_\_ 11 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON For the reporting person listed on this page, 2,048,708; for all reporting persons as a group, 3,456,884 shares (11.8%) CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN 12 SHARES (See Instructions) |\_| \_\_\_\_\_ 13 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 11.8% \_\_\_\_\_ 14 TYPE OF REPORTING PERSON ΡN \_\_\_\_\_

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1 NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (entities only) Nierenberg Investment Management Company, Inc.
2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a) |X| (b) |\_|
3 SEC USE ONLY

4	SOURCE OF FUNDS (See Instructions) WC			
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e)  _			
6	CITIZENSHIP OR PLACE OF ORGANIZATION Washington			
	7 SOLE VOTING POWER 0			
NUMBER SHARES BENEFICIA OWNED B EACH	8 SHARED VOTING POWER LLY 3,456,884 shares (11.8%)			
REPORTIN PERSON WITH				
	10 SHARED DISPOSITIVE POWER 3,456,884 shares			
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON For the reporting person listed on this page, 3,456,884; for all reporting persons as a group, 3,456,884 shares (11.8%)			
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (See Instructions)  _			
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 11.8%			
14	TYPE OF REPORTING PERSON PN			
	5			
1	NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (entities only)			
Nierenberg Investment Management Offshore, Inc.				
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a)  X  (b)  _			
3	SEC USE ONLY			
4	SOURCE OF FUNDS (See Instructions) WC			

5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e)		
6 CITIZENSHIP O Bahamas		HIP OR PL	JACE OF ORGANIZATION
		7	SOLE VOTING POWER 0
NUMBER SHARES BENEFICIA OWNED B	LLY	8	SHARED VOTING POWER 814,414 common shares (2.8%)
EACH REPORTIN PERSON WITH	•	9	SOLE DISPOSITIVE POWER 0
		10	SHARED DISPOSITIVE POWER 814,414 common shares
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON For the reporting person listed on this page, 814,414 for all reporting persons as a group, 3,456,884 shares (11.8%)		
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (See Instructions)  _		
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 11.8%		
14	TYPE OF REPORTING PERSON PN		

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This Amendment No. 8 to Schedule 13D (this "Amendment") amends the below-indicated items from the Schedule 13D previously filed by or on behalf of the undersigned parties (the "Reporting Persons") (the "Schedule 13D"), by supplementing such Items with the information below:

Item 4. Purpose of Transaction

We are pleased with ESIO's announcement on April 10 that it booked strong orders in its third fiscal quarter and that its board approved a \$50 million share repurchase program. We expressed our enthusiasm for these developments during the company's conference call.

The concerns which we had expressed in our prior 13D amendment related to ESIO's balance sheet management, financial strategy, and investor communications. ESIO's announcements on April 10 were responsive to our concerns. Though the initial size of the company's share repurchase program is smaller than we had proposed, we recognize the deliberation which has gone into the board's decision, appreciate the change in their direction, and view their initial commitment as tangible and substantial. As we said during the conference call, we view ESIO's commitment to repurchasing shares as being shareholder-friendly

and accretive. We hope and trust that the program will be carried out effectively and expeditiously and that it will have the intended impact on ESIO's return on equity. Evidently ESIO's board anticipates this as well. If our thinking proves right, then we also hope that the company will continue with an enlarged and ongoing share repurchase program in the future.

As we have said before, we have been patient, supportive, and constructive shareholders of ESIO for a long time. The company's April 10 announcement has refreshed our patience. As long term investors, we are now prepared to wait and watch the company's performance. We recognize that boosting ROE into the mid-teens, through repurchases and improving operating performance, will take time. At present, we do not anticipate nominating our own alternate board candidates at the company's 2007 annual shareholder meeting.

The previous statements as to the views of the Reporting Persons regarding their investment in ESIO represent solely their own analyses and judgments, based on publicly-available information and their own internal evaluation thereof. Those statements are not intended, and should not be relied on, as investment advice to any other investor or prospective investor. To the extent those statements reflect assessments of possible future developments, those assessments are inherently subject to the uncertainties associated with all assessments of future events; actual developments may materially differ as a result of circumstances affecting ESIO and/or extrinsic factors such as developments in the company's industry and the economic environment. The Reporting Persons reserve the right to change their internal evaluation of this investment in the future, as well as to increase or decrease their investment depending on their evaluation, without further amending their Schedule 13D except as required by applicable rules.

Item 5. Interest in Securities of the Issuer

(a, b) The Reporting Persons, in the aggregate, beneficially own 3,456,884 common shares, constituting approximately 11.8% of the outstanding shares.

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(c) Since Amendment No. 7 to Schedule 13D, the following purchases of Shares were made by D3 Family Funds in open market transactions:

Fund	Trade Date	Quantity	Price
D3 Family Fund, LP	3/29/2007	8,560	18.79
D3 Family Bulldog Fund, LP	3/29/2007	30,440	18.79
DIII Offshore Fund, LP	3/29/2007	12,000	18.79

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### SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, each of the undersigned certifies that the information set forth in the Statement is true, complete and correct.

D3 Family Fund, L.P., and D3 Bulldog Fund, L.P.

By: Nierenberg Investment Management Company, Inc.

	Its: General Partner
April 12, 2007	By: /s/ David Nierenberg
	David Nierenberg, President
	DIII Offshore Fund, L.P.
	By: Nierenberg Investment Management Offshore, Inc.
	Its: General Partner
April 12, 2007	By: /s/ David Nierenberg
	David Nierenberg, President
	Nierenberg Investment Management Company, Inc.
April 12, 2007	By: /s/ David Nierenberg
	David Nierenberg, President
	Nierenberg Investment Management Offshore, Inc.
April 12, 2007	By: /s/ David Nierenberg
	David Nierenberg, President