ELECTRO SCIENTIFIC INDUSTRIES INC Form SC 13D/A

March 29, 2007

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

Schedule 13D Under the Securities Exchange Act of 1934 (Amendment No. 7)

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)

March 28, 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 Sections 240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box (TM).

NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (entities only) The D3 Family Fund, L.P. 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))S (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		
			585,202 Common shares (2.0%)		
	MBER OF HARES FICIALLY	8	SHARED VOTING POWER		
BENE			0		
	NED BY EACH PORTING	9	SOLE DISPOSITIVE POWER		
P	PORTING ERSON WITH		585,202		
		10	SHARED DISPOSITIVE POWER		
			0		
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON For the reporting person listed on this page, 585,202; for all reporting persons as a group, 3,405,884 shares (11.7%)				
12 CHECK BOX IF THE AGGREGATE AMOUNT (See Instructions)			THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES		
	(TM)				
13	3 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)				
	11.7%				
14 TYPE OF REPORTING PERSON (See Instructions)		CING PERSON (See Instructions)			
PN					

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1 NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (entities only)

The DIII Offshore Fund, L.P.

2	CHECK THE	APPI	ROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a) X (b) _		
3	SEC USE ONLY				
4	SOURCE OF	FUNI	DS (See Instructions)		
	WC				
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e)				
6	CITIZENSH	IP O	R PLACE OF ORGANIZATION		
	Bahamas				
		7	SOLE VOTING POWER		
			802,414 common shares (2.8%)		
	JMBER OF	8	SHARED VOTING POWER		
BENI	SHARES EFICIALLY		0		
	WNED BY EACH	9	SOLE DISPOSITIVE POWER		
REPORTING PERSON			802,414		
	WITH	10	SHARED DISPOSITIVE POWER		
			0		
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON For the reporting person listed on this page, 802,414; for all reporting persons as a group, 3,405,884 shares (11.7%)				
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (See Instructions)				
	(TM)				
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)				
	11.7%				
14	TYPE OF R	EPOR	LING PERSON		
	PN				

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1 NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (entities only)				
	The D3 Fa	amily Bulldog Fund, L.P.		
2	CHECK THE	HE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions	3) (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	CITIZENSH	SHIP OR PLACE OF ORGANIZATION		
	Washingto	con		
		7 SOLE VOTING POWER		
		2,018,268 common shares (6.9%)		
	JMBER OF SHARES	8 SHARED VOTING POWER		
	FICIALLY NED BY			
	EACH PORTING	9 SOLE DISPOSITIVE POWER		
	ERSON WITH	2,018,268		
		10 SHARED DISPOSITIVE POWER		
		0		
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON For the reporting person listed on this page, 2,018,268; for all reporting persons as a group, 3,405,884 shares (11.7%)			
12	2 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (See Instructions)			
	(TM)			
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)			
	11.7%			
14	TYPE OF F	REPORTING PERSON		
	PN			

1 NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (entities only)							
	Nierenber	g In	vestment Management Company, Inc.				
2	CHECK THE	APPI		(a) X (b) _			
3	SEC USE ONLY						
4	SOURCE OF	SOURCE OF FUNDS (See Instructions)					
WC							
5			DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED IEMS 2(d) or 2(e)	_			
6	CITIZENSHIP OR PLACE OF ORGANIZATION						
	Washingto	n 					
		7	SOLE VOTING POWER				
			0				
	JMBER OF	8	SHARED VOTING POWER				
BENE	SHARES EFICIALLY		3,405,884 shares (11.7%)				
	NED BY EACH	9	SOLE DISPOSITIVE POWER				
REPORTING PERSON			0				
	WITH		SHARED DISPOSITIVE POWER				
			3,405,884 shares				
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON For the reporting person listed on this page, 3,405,884; for all reporting persons as a group, 3,405,884 shares (11.7%)						
12	CHECK BOX (See Inst		THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHAF ions)	RES			
	(TM)						
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)						
	11.7%						
14	TYPE OF R	EPOR	IING 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 _____ SOURCE OF FUNDS (See Instructions) 4 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 Bahamas _____ 7 SOLE VOTING POWER 0 _____ NUMBER OF 8 SHARED VOTING POWER SHARES BENEFICIALLY 8 SHARES 802,414 common shares (2.8%) _____ EACH 9 SOLE DISPOSITIVE POWER REPORTING PERSON 0 WITH _____ 10 SHARED DISPOSITIVE POWER 802,414 common shares _____ AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 11 For the reporting person listed on this page, 802,414 for all reporting persons as a group, 3,405,884 shares (11.7%) _____ 12 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (See Instructions) (TM) _____ _____ 13 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 11.7%

14 TYPE OF REPORTING PERSON

PN

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This Amendment No. 7 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 losing patience with ESIO as its share price weakens. In our view, the company continues to depress its return on equity (ROE), by failing to make its excess cash work harder and smarter for its shareholders, and its share price, through ineffective communication with the financial community. We have commented on both of these issues in our prior 13D filings in December 2006 and January 2007 and in conversations with ESIO representatives. From what we can discern today, little seems to be changing. If our perception happens to be wrong, it could be because the process of change at ESIO is slow and invisible, in which case we believe the burden is now fairly on ESIO to prove us wrong with concrete action and persuasive communication.

On January 22 ESIO issued a press release reaffirming its commitment to shareholder value and stating that it was considering various suggestions it had received. Since then, however, the company has announced nothing.

In response to that statement, we amended our Schedule 13D to indicate, among other things, that we were prepared to be patient while the Company evaluated our proposal, a similar proposal from its largest stockholder and other input it obtained. However, we have grown tired of waiting, particularly while ESIO's share price declines. Therefore, if ESIO does not publicly commit to tangible and substantial actions to both improve ROE and upgrade the effectiveness of its financial communications, we may conclude that we have no alternative but to consider nominating our own candidates for election to ESIO's board of directors, in opposition to the two incumbent outside directors up for re-election this year, as permitted in May 2007 under ESIO's bylaws.

When we advocate "tangible and substantial" actions to boost ROE, specifically we are seeking ESIO's commitment to repurchase at least 6,000,000 of its shares as soon as possible and an ongoing commitment to repurchase at least 1,000,000 more shares annually from free cash flow, asset monetization, and cash reserves. We believe other ESIO shareholders would share this preference for a large repurchase, rather than the large special dividend, which we had originally suggested.

We view the company's sluggish share price, its unacceptably low ROE, and its ineffectual financial communications as causes for shareholder concern and engagement. The thoughtfulness which ESIO has demonstrated recently in technology, product development, cost reduction, and sales and marketing does not seem to be replicated in the important areas of balance sheet management, financial strategy, and investor communications. Despite our high regard for ESIO's CEO, our respect for members of the company's board, and our enthusiasm for ESIO's technology, products, competitive position, and organic growth prospects, we are frustrated that ESIO has failed to convert these business assets, and the company's obvious

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financial assets, into higher ROE and a stronger share price by the kinds of actions advocated by its two largest shareholders.

We have been patient, supportive, and constructive for a long time, longer than many other professional investors might have been, out of respect for ESIO's board and management and out of a desire not to cause unnecessary confrontation in the Portland business community in which we live and work. But time is running out and the time for action is now.

By reporting the information contained in this Amendment, the Reporting Persons do not intend to solicit, nor are they soliciting, proxies or consents from, nor seeking or requesting any other action by, any of the other stockholders of ESIO. The Reporting Persons have made no decisions as to whether or not they may in the future solicit proxies from any of the other stockholders on any matter that might be brought before the stockholders nor as to whether or not any such solicitation, if made, would be effected as an exempt solicitation under the proxy rules of the Securities and Exchange Commission.

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 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 3,405,884 common shares, constituting approximately 11.7% of the outstanding shares.

(c) Since Amendment No. 6 to Schedule 13D, the following purchases of Shares were made by D3 Family Funds in open market transactions:

FUND	TRADE DATE	QUANTITY	PRICE
DIII Offshore Fund, LP	3/27/2007	25,000	18.75
D3 Family Bulldog Fund, LP	3/28/2007	3,270	18.55
DIII Offshore Fund, LP	3/28/2007	3,260	18.55

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				
March 29, 2007	By: /s/ David Nierenberg				
	David Nierenberg, President				
	DIII Offshore Fund, L.P.				
	By: Nierenberg Investment Management Offshore, Inc.				
	Its: General Partner				
March 29, 2007	By: /s/ David Nierenberg				
	David Nierenberg, President				
	Nierenberg Investment Management Company, Inc.				
March 29, 2007	By: /s/ David Nierenberg				
	David Nierenberg, President				
	Nierenberg Investment Management Offshore, Inc.				
March 29, 2007	By: /s/ David Nierenberg				
	David Nierenberg, President				