Murphy Michael R Form 4 January 03, 2011

FORM 4

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF

SECURITIES

OMB 3235-0287

OMB APPROVAL

Number:

5. Relationship of Reporting Person(s) to

(Check all applicable)

10% Owner

Issuer

January 31,

2005

0.5

Expires: Estimated average

burden hours per

response...

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations

may continue.

See Instruction

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

2. Issuer Name and Ticker or Trading

AtriCure, Inc. [ATRC]

3. Date of Earliest Transaction

Symbol

(M. 41/D) /SZ

1(b).

(Last)

(Print or Type Responses)

Discovery Group I, LLC

1. Name and Address of Reporting Person *

(First)

(Middle)

191 N. WACKER DRIVE SUITE 1685,			(Month/Day/Year) 12/28/2010				DirectorX 10% Owner Officer (give title Other (specify below)				
	(Street)	4. If <i>i</i>	Amendment, I	Date Origin	nal		6. Individual or Joint/Group Filing(Check				
CHICAGO, IL 60606			Month/Day/Ye	ear)			Applicable Line) Form filed by One Reporting Person _X_ Form filed by More than One Reporting Person				
(City) (State) (Zip) 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, i any (Month/Day/Year	Code (Instr. 8)	(A) or		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 Indirect Beneficial Ownership (Instr. 4)			
Common Stock	12/28/2010		P	Amount 9,159 (1)	(D)	Price \$ 10.2673 (2)	1,438,238	I	By Discovery Equity Partners, L.P. (1)		
Common Stock	12/28/2010		Р	1,541 (3)	A	\$ 10.2673	245,278	I	By Pleiades Investment Partners - D, L.P (3)		
Common Stock	12/29/2010		P	600 (1)	A	\$ 10.2083 (4)	1,438,838	I	By Discovery Equity		

							Partners, L.P. (1)
Common Stock	12/30/2010	P	100 (1) A	\$ 10.2	1,438,938	I	By Discovery Equity Partners, L.P. (1)
Common Stock	12/31/2010	P	1,000 A	\$ 10.2	1,439,938	I (1)	By Discovery Equity Partners, L.P. (1)

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. Transact Code (Instr. 8)	5. orNumber of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)	.	ate	7. Title Amou Under Securi (Instr.	nt of lying	8. Price of Derivative Security (Instr. 5)	9. Nu Deriv Secun Bene Own Follo Repo Trans (Instr
				Code V	(A) (D)	Date Exercisable	Expiration Date	Title	Amount or Number of Shares		

Reporting Owners

Reporting Owner Name / Address	Relationships						
<u>.</u>	Director	10% Owner	Officer	Othe			
Discovery Group I, LLC 191 N. WACKER DRIVE SUITE 1685 CHICAGO, IL 60606		X					
Donoghue Daniel J C/O DISCOVERY GROUP I, LLC 191 N. WACKER DRIVE SUITE 1685		X					

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CHICAGO, IL 60606

Murphy Michael R C/O DISCOVERY GROUP I, LLC 191 N. WACKER DRIVE SUITE 1685 CHICAGO, IL 60606

X

Signatures

Michael R. Murphy, Managing
Partner
01/03/2011

**Signature of Reporting Person Date

Daniel J. Donoghue 01/03/2011

**Signature of Reporting Person Date

Micahel R. Murphy 01/03/2011

**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).

Discovery Group I, LLC is the General Partner of Discovery Equity Partners, L.P., which is a discretionary client of the reporting person,

- (1) that owns the reported securities. The reporting person disclaims beneficial ownership of the reported securities except to the extent of its pecuniary interest therein
- This transaction was executed in multiple trades at prices ranging from \$10.20 to \$10.27. The price reported above reflects the weighted average purchase price. The reporting person hereby undertakes to provide upon request to the SEC staff, the issuer or a security holder of the issuer full information regarding the number of shares and prices at which the transaction was effected
- Discovery Group I, LLC is an investment manager for Pleiades Investment Partners D, L.P., which is a discretionary client of the reporting person, that owns the reported securities. The reporting person disclaims beneficial ownership of the reported securities except to the extent of its pecuniary interest therein.
- This transaction was executed in multiple trades at prices ranging from \$10.20 \$10.22. The price reported above reflects the weighted average purchase price. The reporting person hereby undertakes to provide upon request to the SEC staff, the issuer or a security holder of the issuer full information regarding the number of shares and prices at which the transaction was effected."

Remarks:

Michael R. Murphy and Daniel J. Donoghue are managing members of Discovery Group I, LLC, and each disclaims beneficial securities except to the extent of his 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.

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