AtriCure, Inc. Form SC 13D/A December 19, 2012

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

SCHEDULE 13D (Rule 13d-101)

INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT TO § 240.13d-1(a) AND AMENDMENTS THERETO FILED PURSUANT TO § 240.13d-2(a)

UNDER THE SECURITIES EXCHANGE ACT OF 1934 (Amendment No. 2)*

AtriCure, Inc.

(Name of Issuer)

Common Stock, \$0.001 par value per share

(Title of Class of Securities)

04963C209

(CUSIP Number)

Michael R. Murphy Discovery Group I, LLC 191 North Wacker Drive Suite 1685 Chicago, Illinois 60606

Telephone Number: (312) 265-9600

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

December 17, 2012

(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 §§240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box. o

Note: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See §240.13d-7 for other parties to whom copies are to be sent.

*The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be filled for the purpose of
Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the
Act but shall be subject to all other provisions of the Act (however, see the Notes).

CUSIP No. 04963C209

	1.		Names of Reporting Persons. Discovery Equity Partners, L.P.
	2.		Check the Appropriate Box if a Member of a Group (See Instructions) (a) o (b) o
	3.		SEC Use Only
	4.		Source of Funds (See Instructions) WC
	5.		Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e) o
	6.		Citizenship or Place of Organization Illinois
Number of Shares 8. Beneficially Owned by Each 9. Reporting Person With		11.12.	Sole Voting Power None. Shared Voting Power 1,557,015 Sole Dispositive Power None. Shared Dispositive Power 1,557,015 Aggregate Amount Beneficially Owned by Each Reporting Person 1,557,015 Check if the Aggregate Amount in Row (11) Excludes Certain Shares
		13.	(See Instructions) o Percent of Class Represented by Amount in Row (11) 9.3%
		14.	Type of Reporting Person (See Instructions) PN

CUSIP No. 04963C209

	1.		Names of Reporting Persons. Discovery Group I, LLC			
	2.		Check the Appropriate Box if a Member of a Group (See Instructions) (a) o (b) o			
	3.		SEC Use Only			
	4.		Source of Funds (See Instructions) AF			
	5.		Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e) o			
	6.		Citizenship or Place of Organization Delaware			
Number of Shares 8. Beneficially Owned by Each 9. Reporting Person With		11. 12.	Sole Voting Power None. Shared Voting Power 1,640,738 Sole Dispositive Power None. Shared Dispositive Power 1,640,738 Aggregate Amount Beneficially Owned by Each Reporting Person 1,640,738 Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions) o			
		13.	Percent of Class Represented by Amount in Row (11) 9.8%			
		14.	Type of Reporting Person (See Instructions) IA			

CUSIP No. 04963C209

Number of Shares Beneficially Owned by Each Reporting Person With	1.		Names of Reporting Persons. Daniel J. Donoghue			
	2.		Check the Appropriate Box if a Member of a Group (See Instructions) (a) o (b) o			
	3.		SEC Use Only			
	4.		Source of Funds (See Instructions) AF			
	5.		Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e) o			
	6.		Citizenship or Place of Organization United States of America			
	9. 1		Sole Voting Power None. Shared Voting Power 1,640,738 Sole Dispositive Power None.			
	10.		Shared Dispositive Power 1,640,738			
		11.	Aggregate Amount Beneficially Owned by Each Reporting Person 1,640,738			
		12.	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions) o			
		13.	Percent of Class Represented by Amount in Row (11) 9.8%			
		14.	Type of Reporting Person (See Instructions) IN			

CUSIP No. 04963C209

	1.		Names of Rep Michael R. M	porting Persons. urphy		
Number of Shares Beneficially Owned by Each Reporting Person With	2.		Check the App (a) (b)	propriate Box if a Member of a Group (See Instructions) o o		
	3.		SEC Use Only	7		
	4.		Source of Fun AF	ds (See Instructions)		
	5.		Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e) o			
	6.		Citizenship or United States	Place of Organization of America		
	8.	Sole Votin None. Shared Vo 1,640,738	ng Power			
	9. h	Sole Dispositive Power None.				
	10.	1,640,738	spositive Power			
		11.		Aggregate Amount Beneficially Owned by Each Reporting Person 1,640,738		
		12.		Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions) o		
		13.		Percent of Class Represented by Amount in Row (11) 9.8%		
		14.		Type of Reporting Person (See Instructions) IN		

Item 1. Security and Issuer

This Amendment No. 2 to Schedule 13D ("Amendment No. 2") relates to the Common Stock, \$0.001 par value per share (the "Common Stock"), of AtriCure, Inc., a Delaware corporation (the "Company"), which has its principal executive offices at 6217 Centre Park Drive, West Chester, Ohio 45069. This Amendment No. 2 amends and supplements, as set forth below, the information contained in items 1, 3, 5 and 6 of the Schedule 13D filed by the Reporting Persons with respect to the Company on September 10, 2010, as amended by Amendment No. 1 thereto filed by the Reporting Persons with respect to the Company on September 27, 2010 (as so amended, the "Schedule 13D"). All capitalized terms used herein but not defined herein have the meanings set forth in the Schedule 13D. Except as amended by this Amendment No. 2, all information contained in the Schedule 13D is, after reasonable inquiry and to the best of the Reporting Persons' knowledge and belief, true, complete and correct as of the date of this Amendment No. 2.

Item 3. Source and Amount of Funds or Other Consideration

Item 3 of the Schedule 13D is hereby amended to read in its entirety as follows:

The total purchase price for the 1,640,738 shares of Common Stock beneficially owned by Discovery Group and Messrs. Donoghue and Murphy as of December 18, 2012 was approximately \$11,967,183 and the total purchase price for the 1,557,015 shares of Common Stock beneficially owned by Discovery Equity Partners as of such date was approximately \$11,510,337. The source of such funds was the assets of Discovery Equity Partners and another private investment partnership (collectively, the "Partnerships") over which Discovery Group exercises discretionary investment management authority, including proceeds of margin loans under margin loan facilities maintained in the ordinary course of business by the Partnerships with a broker on customary terms and conditions. The Partnerships are the legal owner of all of the Common Stock beneficially owned by Discovery Group and Messrs. Donoghue and Murphy.

Item 5. Interest in Securities of the Issuer

Item 5 of the Schedule 13D is hereby amended to read in its entirety as follows:

The information concerning percentages of ownership set forth below is based on 16,675,146 shares of Common Stock reported outstanding as of October 29, 2012 in the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2012.

Discovery Equity Partners beneficially owns 1,557,015 shares of Common Stock as of December 18, 2012, which represents 9.3% of the outstanding Common Stock.

Discovery Group beneficially owns 1,640,738 shares of Common Stock as of December 18, 2012, which represents 9.8% of the outstanding Common Stock.

Mr. Donoghue beneficially owns 1,640,738 shares of Common Stock as of December 18, 2012, which represents 9.8% of the outstanding Common Stock.

Mr. Murphy beneficially owns 1,640,738 shares of Common Stock as of December 18, 2012, which represents 9.8% of the outstanding Common Stock.

Discovery Group is the sole general partner of Discovery Equity Partners and has sole discretionary investment authority with respect to the other Partnership's investment in the Common Stock. Messrs.

Donoghue and Murphy are the sole managing members of Discovery Group. As a consequence, Discovery Group and Messrs. Donoghue and Murphy may be deemed to share beneficial ownership of all of the shares of Common Stock owned by both of the Partnerships, while Discovery Equity Partners shares beneficial ownership with Discovery Group and Messrs. Donoghue and Murphy of only the shares of Common Stock owned by it.

The transactions in Common Stock effected by the Reporting Persons during the past 60 days are set out in Exhibit 1 hereto.

No person other than the Partnerships is known to any Reporting Person to have the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of, any of the shares of Common Stock reported herein.

Item 6. Contracts, Arrangements, Understandings or Relationships with Respect to Securities of the Issuer

Item 6 of the Schedule 13D is hereby amended to read in its entirety as follows:

There are no contracts, arrangements, understandings or relationships (legal or otherwise) between or among any of the Reporting Persons and any other person with respect to any securities of the Company other than the governing documents of Discovery Group and the Partnerships, the margin loan facilities referred to under Item 3 above, the Joint Filing Agreements of the Reporting Persons with respect to the Schedule 13D that were included as exhibits thereto, the Joint Filing Agreement of the Reporting Persons with respect to this Amendment No. 2 included as Exhibit 2 to this Amendment No. 2, and the Powers of Attorney granted by Messrs. Donoghue and Murphy with respect to reports under Section 13 of the Securities Exchange Act of 1934, as amended, which Powers of Attorney are included as Exhibit 3 and Exhibit 4, respectively, to this Amendment No. 2.

Item 7. Material to Be Filed as Exhibits

Exhibit 1: List of transactions effected by the Reporting Persons in the Company's Common Stock during the 60-day period preceding this filing.

Exhibit 2: Joint Filing Agreement dated as of December 19, 2012, by and among Discovery Equity Partners; Discovery Group; Daniel J. Donoghue; and Michael R. Murphy.

Exhibit 3: Power of Attorney of Daniel J. Donoghue, dated as of April 28, 2008.

Exhibit 4: Power of Attorney of Michael R. Murphy, dated as of April 28, 2008.

Signature

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

December 19, 2012 Date

DISCOVERY GROUP I, LLC, for itself and as general partner of DISCOVERY EQUITY PARTNERS, L.P.

By: Michael R. Murphy* Signature

Michael R. Murphy, Managing Member Name/Title

Daniel J. Donoghue*
Signature

Daniel J. Donoghue Name/Title

Michael R. Murphy*
Signature

Michael R. Murphy Name/Title

*By: /s/ Mark Buckley
Mark Buckley
Attorney-in-Fact for Daniel
J. Donoghue
Attorney-in-Fact for Michael
R. Murphy

Exhibit Index

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