

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

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

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

OMB APPROVAL	
OMB Number:	3235-0287
Estimated average burden hours per response:	0.5

1. Name and Address of Reporting Person* <u>Preiss Frederick</u> (Last) (First) (Middle) 6217 CENTRE PARK DRIVE (Street) WEST CHESTER OH 45069 (City) (State) (Zip)	2. Issuer Name and Ticker or Trading Symbol <u>AtriCure, Inc. [ATRC]</u>	5. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director 10% Owner <input checked="" type="checkbox"/> Officer (give title below) Other (specify below) <u>Vice President Operations</u>
	3. Date of Earliest Transaction (Month/Day/Year) 06/14/2011	
4. If Amendment, Date of Original Filed (Month/Day/Year)		

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 Indirect Beneficial Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)	Price			
Common Stock	06/14/2011		M		14,687	A	\$9.5	38,687	D	
Common Stock	06/14/2011		M		3,680	A	\$5.6	42,367	D	
Common Stock	06/14/2011		M		21,052	A	\$11.63	63,419	D	
Common Stock	06/14/2011		S		39,419	D	\$14.07 ⁽¹⁾	24,000	D	

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 Securities Underlying Derivative Security (Instr. 3 and 4)	8. Price of Derivative Security (Instr. 5)	9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4)	10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)	
				Code	V	(A)	(D)	Date Exercisable	Expiration Date						Title
Stock Option (right to buy)	\$5.6	06/14/2011		M			3,680	02/17/2011 ⁽²⁾	02/17/2020	Common Stock	3,680	\$0.00	18,320	D	
Stock Option (right to buy)	\$9.5	06/14/2011		M			14,687	06/20/2008 ⁽³⁾	06/20/2017	Common Stock	14,687	\$0.00	313	D	
Stock Option (right to buy)	\$11.63	06/14/2011		M			21,052	06/03/2006 ⁽⁴⁾	06/20/2017	Common Stock	21,052	\$0.00	0	D	

Explanation of Responses:

- This transaction was executed in multiple trades at prices ranging from \$14.00 to \$14.30 per share. 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.
- These options were granted on February 17, 2010 and are exercisable cumulatively at a rate of 25% on February 17, 2011 (one year from grant date), and the remaining 75% thereafter vests and is exercisable in equal monthly installments on the same day of the month over the following three years.
- These options were granted on June 20, 2007 and are exercisable cumulatively at a rate of 25% on June 20, 2008 (one year from grant date), and the remaining 75% thereafter vests and is exercisable in equal monthly installments on the same day of the month over the following three years.
- These options were granted on June 3, 2005 and are exercisable cumulatively at a rate of 25% per annum beginning on June 3, 2006 (one year from grant date).

/s/ Frederick C. Preiss 06/16/2011
 ** Signature of Reporting Person Date

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

* 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).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

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 Number.