Kennedy Patricia J Form 4 February 10, 2012

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF

SECURITIES

OMB Number:

3235-0287

Expires:

January 31, 2005

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subject to Section 16. Form 4 or Form 5 obligations may continue.

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if no longer

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

See Instruction

1(b).

(Print or Type Responses)

1. Name and Address of Reporting Person * 5. Relationship of Reporting Person(s) to 2. Issuer Name and Ticker or Trading Kennedy Patricia J Issuer Symbol AtriCure, Inc. [ATRC] (First) (Middle) (Last) 3. Date of Earliest Transaction

(Month/Day/Year)

6217 CENTRE PARK DRIVE 02/09/2012

(Zip)

Director 10% Owner X_ Officer (give title Other (specify below) below) VP, GM, International

(Street) 4. If Amendment, Date Original Filed(Month/Day/Year)

Applicable Line) _X_ Form filed by One Reporting Person Form filed by More than One Reporting

6. Individual or Joint/Group Filing(Check

(Check all applicable)

Person

WEST CHESTER, OH 45069

(State)

(City)

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned 1. Title of 2. Transaction Date 2A. Deemed 3. 4. Securities Acquired 5. Amount of 6. Ownership 7. Nature of Security (Month/Day/Year) Execution Date, if Transaction(A) or Disposed of (D) Securities Form: Direct Indirect (Instr. 3) Code (Instr. 3, 4 and 5) Beneficially (D) or Beneficial (Month/Day/Year) Owned Indirect (I) Ownership (Instr. 8) Following (Instr. 4) (Instr. 4) Reported (A) Transaction(s) (Instr. 3 and 4) Code V Amount (D) Price Common 02/09/2012 F 683 (1) D 17,271 D 11.05 Stock

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

Persons who respond to the collection of SEC 1474 information contained in this form are not (9-02)required to respond unless the form displays a currently valid OMB control number.

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

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1. Title of Derivative	2. Conversion	3. Transaction Date (Month/Day/Year)		4. Transactio	5. orNumber	6. Date Exerc Expiration D		7. Title at Amount of		8. Price of Derivative	9. Nu Deriv
Security (Instr. 3)	or Exercise Price of Derivative Security	(monda, Day, Teal)	(Month/Day/Year)	Code (Instr. 8)	of (Month/Day/Ye Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)			Underlying Securities (Instr. 3 and 4)		Security (Instr. 5)	Secur Bene Owne Follo Repo Trans (Instr
				Code V	(A) (D)	Date Exercisable	Expiration Date	or Title Nu of	nount umber uares		

Reporting Owners

Reporting Owner Name / Address Relationships

Director 10% Owner Officer Other

Kennedy Patricia J 6217 CENTRE PARK DRIVE WEST CHESTER, OH 45069

VP, GM, International

Signatures

/s/ Julie A. Piton as Attorney-in-Fact for Patricia J. Kennedy

02/10/2012

**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).
- (1) The Reporting Person has elected to transfer these shares to the Company to satisfy the tax withholding obligation incurred upon the vesting and release of shares previously acquired pursuant to a Restricted Stock Award.

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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