

OMB APPROVAL
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**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

SCHEDULE 13G

**Under the Securities Exchange Act of 1934
(Amendment No. 2)***

AtriCure, Inc.

(Name of Issuer)

Common Stock, par value \$0.001 per share

(Title of Class of Securities)

04963C209

(CUSIP Number)

December 31, 2006

(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

- Rule 13d-1(b)
- Rule 13d-1(c)
- Rule 13d-1(d)

* 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 the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" 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).

1	NAMES OF REPORTING PERSONS: Charter Advisors Fund IV, L.P. I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY):	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS): (a) <input type="radio"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY:	
4	CITIZENSHIP OR PLACE OF ORGANIZATION: Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:	5	SOLE VOTING POWER: 0
	6	SHARED VOTING POWER: 1,383
	7	SOLE DISPOSITIVE POWER: 0
	8	SHARED DISPOSITIVE POWER: 1,383
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON: 1,383	
10	CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS): o	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9): 0.01%	
12	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS): PN	

CUSIP No. 04963C209

1	NAMES OF REPORTING PERSONS: Charter Entrepreneurs Fund IV, L.P. I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY):	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS): (a) <input type="radio"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY:	
4	CITIZENSHIP OR PLACE OF ORGANIZATION: Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:	5	SOLE VOTING POWER: 0
	6	SHARED VOTING POWER: 25,655
	7	SOLE DISPOSITIVE POWER: 0
	8	SHARED DISPOSITIVE POWER: 25,655
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON: 25,655	
10	CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS): <input type="radio"/>	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9): 0.21%	
12	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS): PN	

CUSIP No. 04963C209

1	NAMES OF REPORTING PERSONS: Charter Ventures IV Partners, LLC I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY):	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS): (a) <input type="radio"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY:	
4	CITIZENSHIP OR PLACE OF ORGANIZATION: Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:	5	SOLE VOTING POWER: 0
	6	SHARED VOTING POWER: 704,401
	7	SOLE DISPOSITIVE POWER: 0
	8	SHARED DISPOSITIVE POWER: 704,401
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON: 704,401	
10	CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS): <input type="radio"/>	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9): 5.78%	
12	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS): CO	

CUSIP No. 04963C209

1	NAMES OF REPORTING PERSONS: Charter Ventures IV, L.P. I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY):	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS): (a) <input type="radio"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY:	
4	CITIZENSHIP OR PLACE OF ORGANIZATION: Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:	5	SOLE VOTING POWER: 0
	6	SHARED VOTING POWER: 677,363
	7	SOLE DISPOSITIVE POWER: 0
	8	SHARED DISPOSITIVE POWER: 677,363
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON: 677,363	
10	CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS): <input type="radio"/>	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9): 5.56%	
12	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS): PN	

CUSIP No. 04963C209

1	NAMES OF REPORTING PERSONS: A. Barr Dolan I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY):	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS): (a) <input type="radio"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY:	
4	CITIZENSHIP OR PLACE OF ORGANIZATION: United States	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:	5	SOLE VOTING POWER: 0
	6	SHARED VOTING POWER: 704,401
	7	SOLE DISPOSITIVE POWER: 0
	8	SHARED DISPOSITIVE POWER: 704,401
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON: 704,401	
10	CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS): <input type="radio"/>	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9): 5.78%	
12	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS): IN	

Item 1.

(a) **Name of Issuer:**

AtriCure, Inc.

(b) **Address of Issuer's Principal Executive Offices:**

1240 Elko Drive, Sunnyvale, CA 94089

Item 2. (a) Name of Person Filing:

- (1) Charter Advisors Fund IV, L.P. ("CAF")
- (2) Charter Entrepreneurs Fund IV, L.P. ("CEF")
- (3) Charter Ventures IV Partners, LLC ("CV IV, LLC")
- (4) Charter Ventures IV, L.P. ("CV IV, L.P.")
- (5) A. Barr Dolan

CV IV, LLC is the General Partner of CAF, CEF and CV IV, L.P., and Mr. Dolan is the individual Manager of CV IV, LLC. The entities and persons named in this Item 2(a) are individually referred to herein as a "Reporting Person" and collectively as the "Reporting Persons."

(b) **Address of Principal Business Office, or, if none, Residence:**

Charter Venture Capital
525 University Avenue
Palo Alto, California 94301

(c) **Citizenship:**

Entities:

CAF – Delaware
CEF – Delaware
CV IV, LLC – Delaware
CV IV, L.P. – Delaware

Individuals:

Mr. Dolan – United States

(d) **Title of Class of Securities:**

Common Stock

(e) **CUSIP Number:**

04963C209

Item 3. If this statement is filed pursuant to §§240.13d-1(b) or 240.13d-2(b) or (c), check whether the person filing is a:

N/A

- (a) Broker or dealer registered under section 15 of the Act (15 U.S.C. 78o).
- (b) Bank as defined in section 3(a)(6) of the Act (15 U.S.C. 78c).
- (c) Insurance company as defined in section 3(a)(19) of the Act (15 U.S.C. 78c).

- (d) o Investment company registered under section 8 of the Investment Company Act of 1940 (15 U.S.C. 80a-8).
- (e) o An investment adviser in accordance with §240.13d-1(b)(1)(ii)(E);
- (f) o An employee benefit plan or endowment fund in accordance with §240.13d-1(b)(1)(ii)(F);
- (g) o A parent holding company or control person in accordance with §240.13d-1(b)(1)(ii)(G);
- (h) o A savings associations as defined in Section 3(b) of the Federal Deposit Insurance Act (12 U.S.C. 1813);
- (i) o A church plan that is excluded from the definition of an investment company under section 3(c)(14) of the Investment Company Act of 1940 (15 U.S.C. 80a-3);
- (j) o Group, in accordance with §240.13d-1(b)(1)(ii)(J).

Item 4. Ownership

See rows 5 through 11 of the cover page for each Reporting Person. The ownership percentages are based on 12,183,158 shares of Common Stock of the Issuer reported to be outstanding as of November 1, 2006 in a Form 10-Q filed with the SEC on November 13, 2006.

As of December 31, 2006:

- (i) CAF is the record holder of 1,383 shares of Common Stock;
- (ii) CEF is the record holder of 25,655 shares of Common Stock; and
- (iii) CV IV, L.P. is the record holder of 677,363 shares of Common Stock.

CV IV, LLC is the General Partner of CAF, CEF and CV IV, L.P. and Mr. Dolan is the individual Manager of CV IV, LLC. By virtue of such relationships, CV IV, LLC and Mr. Dolan may each be deemed to be the beneficial owners of the shares of Common Stock held by CAF, CEF and CV IV, L.P.

Each Reporting Person expressly disclaims beneficial ownership except to the extent of his or its pecuniary interest therein, of any shares of Common Stock, except in the case of (i) CAF for the 1,383 shares which it holds of record, (ii) CEF for the 25,655 shares it holds of record, and (iii) CV IV, L.P. for the 677,363 shares it holds of record.

Item 5. Ownership of Five Percent or Less of a Class:

Not Applicable.

Item 6. Ownership of More than Five Percent on Behalf of Another Person:

Not Applicable.

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on By the Parent Holding Company:

Not Applicable.

Item 8. Identification and Classification of Members of the Group:

Not Applicable.

Item 9. Notice of Dissolution of Group:

Not Applicable.

Item 10. Certification:

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

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.

Date: February 9, 2007

Charter Advisors Fund IV, L.P.

By: Charter Ventures IV Partners, LLC, its General Partner

By: /s/ A. Barr Dolan

Name: A. Barr Dolan

Title: Managing Member

Charter Entrepreneurs Fund IV, L.P.

By: Charter Ventures IV Partners, LLC, its General Partner

By: /s/ A. Barr Dolan

Name: A. Barr Dolan

Title: Managing Member

Charter Ventures IV Partners, LLC

By: /s/ A. Barr Dolan

Name: A. Barr Dolan

Title: Managing Member

Charter Ventures IV, LLP

By: Charter Ventures IV Partners, LLC, its General Partner

By: /s/ A. Barr Dolan

Name: A. Barr Dolan

Title: Managing Member

/s/ A. Barr Dolan

A. Barr Dolan, an individual

Attention: Intentional misstatements or omissions of fact constitute Federal criminal violations (See 18 U.S.C. 1001)

EXHIBIT I
JOINT FILING AGREEMENT

In accordance with Rule 13d-1(k)(1) under the Securities Exchange Act of 1934, as amended, the undersigned agree that only one statement containing the information required by the Schedule 13G (Amendment No. 2) need be filed by each of the undersigned with respect to the ownership by each of the undersigned of shares of stock of AtriCure, Inc. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original.

Date: February 9, 2007

Charter Advisors Fund IV, L.P.

By: Charter Ventures IV Partners, LLC, its General Partner

By: /s/ A. Barr Dolan

Name: A. Barr Dolan

Title: Managing Member

Charter Entrepreneurs Fund IV, L.P.

By: Charter Ventures IV Partners, LLC, its General Partner

By: /s/ A. Barr Dolan

Name: A. Barr Dolan

Title: Managing Member

Charter Ventures IV Partners, LLC

By: /s/ A. Barr Dolan

Name: A. Barr Dolan

Title: Managing Member

Charter Ventures IV, LLP

By: Charter Ventures IV Partners, LLC, its General Partner

By: /s/ A. Barr Dolan

Name: A. Barr Dolan

Title: Managing Member

/s/ A. Barr Dolan

A. Barr Dolan, an individual