

---

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549**

**SCHEDULE 13D**

**Under the Securities Exchange Act of 1934  
(Amendment No. 3)**

**AMTECH SYSTEMS, INC.**

(Name of Issuer)

Common Stock, \$.01 par value  
(Title of Class of Securities)

032332-50-4  
(CUSIP Number)

David W. Stempel, Esq.  
Bradley Arant Boult Cummings LLP  
1600 Division Street, Suite 700  
Nashville, Tennessee 37203  
(615) 252-4632  
(Name, Address and Telephone Number of Person  
Authorized to Receive Notices and Communications)

September 2, 2010  
(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 Rule 13d-1(e), 13d-1(f) or 13d-1(g), check the following box .

NOTE: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See Rule 13d-7(b) 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 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.

---

---

|  |  |                                    |
|--|--|------------------------------------|
| <b>1</b>   | NAMES OF REPORTING PERSONS:<br>Richard L. Scott<br>IRS Identification Nos. of above persons (entities only):         |                                    |
| <b>2</b>   | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP<br>(a) <input type="checkbox"/><br>N/A (b) <input type="checkbox"/> |                                    |
| <b>3</b>   | SEC USE ONLY   |                                    |
| <b>4</b>   | SOURCE OF FUNDS:<br>PF   |                                    |
| <b>5</b>   | CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e)<br><input type="checkbox"/>      |                                    |
| <b>6</b>   | CITIZENSHIP OR PLACE OF ORGANIZATION:<br>United States   |                                    |
| NUMBER OF<br>SHARES<br>BENEFICIALLY<br>OWNED BY<br>EACH<br>REPORTING<br>PERSON | <b>7</b>   | SOLE VOTING POWER:<br>693,881      |
|  | <b>8</b>   | SHARED VOTING POWER:<br>-0-        |
|  | <b>9</b>   | SOLE DISPOSITIVE POWER:<br>693,881 |
|  | <b>10</b>  | SHARED DISPOSITIVE POWER:<br>-0-   |
| <b>11</b>  | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON:<br>693,881   |                                    |
| <b>12</b>  | CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES:<br><input type="checkbox"/>                       |                                    |
| <b>13</b>  | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11):<br>7.7%  |                                    |
| <b>14</b>  | TYPE OF REPORTING PERSON:<br>IN  |                                    |

This Amendment No. 3 amends the Schedule 13D filed by Richard L. Scott ("Reporting Person") on July 28, 2008, as amended on September 30, 2008 and February 20, 2009 (the "Schedule 13D"), with respect to shares of the Common Stock, \$.01 par value ("Common Stock"), of Amtech Systems, Inc., an Arizona corporation (the "Issuer"). Capitalized terms used but not defined herein shall have the respective meanings ascribed to such terms in the Schedule 13D.

The following Items are hereby amended and restated in their entirety to read as follows:

**Item 5. Interest in Securities of the Issuer**

The 693,881 shares of Common Stock represent 7.7% of the outstanding Common Stock of the Issuer, based on the outstanding shares of Issuer Common Stock set forth on the Issuer's most recent Form 10Q.

The Reporting Person has sole voting and dispositive power with respect to the Common Stock.

The Reporting Person purchased the following shares of Common Stock of the Issuer in open market transactions during the past 60 days:

| Purchase Date | No. of Shares | Price Per Share |
|---------------|---------------|-----------------|
| 9/2/2010      | 64,000        | \$15.3918       |
| 9/3/2010      | 28,000        | \$16.3339       |
| 9/7/2010      | 14,700        | \$16.7871       |

The Common Stock was purchased by Amtech Investments, LLC, a member managed limited liability company of which Reporting Person is the controlling member.

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.

DATED: September 8, 2010

/s/ Richard L. Scott  
Richard L. Scott