

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549**

FORM 8-K

**CURRENT REPORT
Pursuant to Section 13 or 15(d) of the
Securities Exchange Act of 1934**

Date of report (Date of earliest event reported) July 12, 2005

Mercury Computer Systems, Inc.

(Exact Name of Registrant as Specified in Its Charter)

Massachusetts
(State or Other Jurisdiction
of Incorporation)

000-23599
(Commission File Number)

04-2741391
(IRS Employer
Identification No.)

199 Riverneck Road, Chelmsford, Massachusetts
(Address of Principal Executive Offices)

01824
(Zip Code)

Registrant's telephone number, including area code (978) 256-1300

N/A
(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 8.01 Other Events

On July 12, 2005, Mercury Computer Systems, Inc. (“Mercury”) entered into an agreement to purchase Echotek Corporation (“Echotek”) for approximately \$49 million, subject to certain post-closing adjustments. The transaction is structured as the merger of an acquisition subsidiary of Mercury with and into Echotek. As a result, Echotek will become a wholly-owned subsidiary of Mercury. The acquisition, which is expected to close in the third quarter of calendar 2005, remains subject to closing conditions. Echotek is a privately-held company located in Huntsville, Alabama, that develops and sells data acquisition products.

The purchase price will be payable in a combination of cash and shares of Mercury common stock, with such shares of common stock representing approximately 10% of the total purchase price. The shares will be valued based on the average price of Mercury’s common stock during a twenty-day trading period prior to the closing. In connection with the issuance of Mercury common stock in this transaction and based upon certain information obtained by Mercury, Mercury is relying on an exemption from registration provided under Section 4(2) of the Securities Act of 1933, as amended. As of the date of the agreement, the shares to be issued in the transaction represented less than 1% of Mercury’s outstanding shares of common stock.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

MERCURY COMPUTER SYSTEMS, INC.

Dated: July 14, 2005

By: /s/ Joseph M. Hartnett

Joseph M. Hartnett
Vice President, Controller and
Chief Accounting Officer