

**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) August 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))
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Item 1.01 Entry into a Material Definitive Agreement.

On August 12, 2005, Mercury Computer Systems, Inc. (the "Company") granted 24,000 shares of restricted stock under the Company's 1997 Stock Option Plan to the following executive officers of the Company: Robert E. Hult, Senior Vice President and Chief Financial Officer (7,500 shares); Barry S. Isenstein, Vice President and General Manager, Defense Electronics Group (4,500 shares); Mark F. Skalabrin, Vice President and General Manager, OEM Solutions Group (4,500 shares); and Didier M.C. Thibaud, Senior Vice President, Defense & Commercial Businesses (7,500 shares). These shares of restricted stock vest in full on August 12, 2009, provided that the grantee remains an employee of the Company as of that date.

In addition, on the same date, the Company granted 20,644 shares of restricted stock under the 1997 Stock Option Plan in connection with the Company's Long-Term Incentive Plan to the following executive officers of the Company: James R. Bertelli, President and Chief Executive Officer (6,526 shares); Douglas F. Flood, Vice President, Corporate Development (1,820 shares); Mr. Hult (2,497 shares); Mr. Isenstein (2,098 shares); Craig Lund, Vice President, Chief Technology Officer (1,953 shares); Craig A. Saline, Senior Vice President, Organizational Development and Human Resources (1,554 shares); Mr. Skalabrin (2,098 shares); and Mr. Thibaud (2,098 shares). These shares of restricted stock vest in four equal annual installments commencing on August 12, 2006, provided that the grantee remains an employee of the Company or, in the case of Mr. Bertelli, either an employee or a director of the Company, as of each such date.

The form of Restricted Stock Award Agreement with respect to the above-referenced grants is filed herewith as Exhibit 10.1 and incorporated herein by reference.

Item 9.01. Financial Statements and Exhibits.

(c) Exhibits. The following exhibits are filed with this Current Report on Form 8-K:

<u>Exhibit No.</u>	<u>Description</u>
10.1	Form of Restricted Stock Award Agreement under the Mercury Computer Systems, Inc. 1997 Stock Option Plan

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: August 17, 2005

By: /s/ Robert E. Hult

Robert E. Hult
Senior Vice President and
Chief Financial Officer

EXHIBIT INDEX

<u>Exhibit No.</u>	<u>Description</u>
10.1	Form of Restricted Stock Award Agreement under the Mercury Computer Systems, Inc. 1997 Stock Option Plan

RESTRICTED STOCK AWARD AGREEMENT
 UNDER THE MERCURY COMPUTER SYSTEMS, INC.
 1997 STOCK OPTION PLAN

Name of Grantee: _____

No. of Shares: _____

Grant Date: _____

Final Acceptance Date: _____

Pursuant to the Mercury Computer Systems, Inc. 1997 Stock Option Plan (the "Plan") as amended through the date hereof, Mercury Computer Systems, Inc. (the "Company") hereby grants a Restricted Stock Award (an "Award") to the Grantee named above. Upon acceptance of this Award, the Grantee shall receive the number of shares of Common Stock, par value \$0.01 per share (the "Stock"), of the Company specified above, subject to the restrictions and conditions set forth herein and in the Plan.

1. Acceptance of Award. The Grantee shall have no rights with respect to this Award unless he or she shall have accepted this Award prior to the close of business on the Final Acceptance Date specified above by (i) signing and delivering to the Company a copy of this Award Agreement and (ii) delivering to the Company a stock power endorsed in blank. Upon acceptance of this Award by the Grantee, certificates evidencing the shares of Restricted Stock so accepted shall be issued and delivered to the Grantee, and the Grantee's name shall be entered as the stockholder of record on the books of the Company. Thereupon, the Grantee shall have all the rights of a shareholder with respect to such shares, including voting and dividend rights, subject, however, to the restrictions and conditions specified in Paragraph 2 below.

2. Restrictions and Conditions.

(a) Certificates evidencing the shares of Restricted Stock granted herein shall bear an appropriate legend, as determined by the Administrator in its sole discretion, to the effect that such shares are subject to restrictions as set forth herein and in the Plan.

(b) Shares of Restricted Stock granted herein may not be sold, assigned, transferred, pledged or otherwise encumbered or disposed of by the Grantee prior to vesting.

(c) [If the Grantee ceases to serve the Company as both employee and director] [If the Grantee's employment with the Company and its Subsidiaries is voluntarily or involuntarily terminated] for any reason (including death) prior to vesting of shares of Restricted Stock granted herein, all non-vested shares shall be automatically forfeited to the Company.

3. Vesting of Restricted Stock. The restrictions and conditions in Paragraph 2 of this Agreement shall lapse on the Vesting Date or Dates specified in the following schedule. If a series of Vesting Dates is specified, then the restrictions and conditions in Paragraph 2 shall lapse only with respect to the number of shares of Restricted Stock specified as vested on such date.

Number of Shares of Restricted Stock Vested	Vesting Date
_____ (__%)	_____
_____ (__%)	_____
_____ (__%)	_____
_____ (__%)	_____
_____ (__%)	_____

Subsequent to such Vesting Date or Dates, the shares of Stock on which all restrictions and conditions have lapsed shall no longer be deemed Restricted Stock.

4. Dividends. Dividends on Shares of Restricted Stock shall be paid currently to the Grantee.

5. Incorporation of Plan. Notwithstanding anything herein to the contrary, this Agreement shall be subject to and governed by all the terms and conditions of the Plan, including the powers of the Administrator set forth in Section 3 of the Plan. Capitalized terms in this Agreement shall have the meaning specified in the Plan, unless a different meaning is specified herein.

6. Transferability. This Agreement is personal to the Grantee, is non-assignable and is not transferable in any manner, by operation of law or otherwise, other than by will or the laws of descent and distribution.

7. Tax Withholding. The Grantee shall, not later than the date as of which the receipt of this Award becomes a taxable event for Federal income tax purposes, pay to the Company or make arrangements satisfactory to the Administrator for payment of any Federal, state, and local taxes required by law to be withheld on account of such taxable event. The Grantee may elect to have the required minimum tax withholding obligation satisfied, in whole or in part, by (i) authorizing the Company to withhold from shares of Stock to be issued, or (ii) transferring to the Company, a number of shares of Stock with an aggregate Fair Market Value that would satisfy the withholding amount due.

8. Miscellaneous.

(a) Notice hereunder shall be given to the Company at its principal place of business, and shall be given to the Grantee at the address set forth below, or in either case at such other address as one party may subsequently furnish to the other party in writing.

(b) This Agreement does not confer upon the Grantee any rights with respect to continuation of employment by the Company or any Subsidiary.

MERCURY COMPUTER SYSTEMS, INC.

By: _____

Title: _____

The foregoing Agreement is hereby accepted and the terms and conditions thereof hereby agreed to by the undersigned.

Dated: _____

Grantee's Signature

Grantee's name and address:

