
**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): September 12, 2008

Mercury Computer Systems, Inc.

(Exact Name of Registrant as Specified in 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

Not Applicable

(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 5.02 Departure of Directors or Principal Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers.

(a), (c), (d), and (e): Not applicable.

(b): On September 12, 2008, Dr. Gordon B. Baty and Sherman N. Mullin, directors of Mercury Computer Systems, Inc. (the "Company"), indicated their intentions to retire from the Company's Board of Directors and not to stand for re-election as directors at the Company's 2008 annual meeting of shareholders, expected to be held in November 2008.

A copy of the press release announcing Dr. Baty's and Mr. Mullin's decisions to retire and not to stand for re-election is attached hereto as Exhibit 99.1 and incorporated by reference herein.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits.

<u>Exhibit No.</u>	<u>Description</u>
99.1	Press Release issued by Mercury Computer Systems, Inc. on September 18, 2008.

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.

Dated: September 18, 2008

MERCURY COMPUTER SYSTEMS, INC.

By: /s/ Alex A. Van Adzin

Alex A. Van Adzin
Vice President, General Counsel,
and Corporation Secretary

EXHIBIT INDEX

<u>Exhibit No.</u>	<u>Description</u>
99.1	Press Release issued by Mercury Computer Systems, Inc. on September 18, 2008.



News Release

FOR IMMEDIATE RELEASE

Mercury Computer Systems Announces Two Board Directors to Retire

CHELMSFORD, Mass. – September 18, 2008 – Mercury Computer Systems, Inc. (NASDAQ: MRCY) today announced that after many years of service, two of the Company’s directors – Dr. Gordon B. Baty and Sherman N. Mullin – have notified the Company of their intentions to retire from its Board of Directors and not to stand for re-election. Each has indicated that he will continue to serve as a director until the end of his term, which expires at the Company’s annual shareholders’ meeting on November 17, 2008.

Baty has been a member of the Board of Directors since 1983. He is a member of the Board’s Audit Committee and Nominating and Governance Committee. Mullin has served as Board member since 1994, and is on the Board’s Compensation Committee and Nominating and Governance Committee.

“We are pleased to have served on Mercury’s Board for many years and contribute to Mercury’s evolution into a recognized technology leader in unique high-performance, embedded computing systems,” said Baty and Mullin jointly.

Mark Aslett, President and CEO of Mercury Computer Systems, said, “Both Gordon and Sherm made major contributions to Mercury, and on behalf of our Board of Directors and shareholders, I want to thank them for their outstanding service and many years of support.”

Mercury Computer Systems, Inc. – Where Challenges Drive Innovation™

Mercury Computer Systems (www.mc.com, NASDAQ: MRCY) provides embedded computing systems and software that combine image, signal, and sensor processing with information management for data-intensive applications. With deep expertise in optimizing algorithms and software and in leveraging industry-standard technologies, we work closely with customers to architect comprehensive, purpose-built solutions that capture, process, and present data for defense electronics, homeland security, and other computationally challenging commercial markets. Our dedication to performance excellence and collaborative innovation continues a 25-year history in enabling customers to gain the competitive advantage they need to stay at the forefront of the markets they serve.

199 Riverneck Road, Chelmsford, Massachusetts 01824-2820 U.S.A.
978-256-1300 • Fax 978-256-3599 • www.mc.com

Mercury is based in Chelmsford, Massachusetts, and serves customers worldwide through a broad network of direct sales offices, subsidiaries, and distributors.

Forward-Looking Safe Harbor Statement

This press release contains certain forward-looking statements, as that term is defined in the Private Securities Litigation Reform Act of 1995, including those relating to the board of directors. You can identify these statements by our use of the words “may,” “will,” “should,” “plans,” “expects,” “anticipates,” “continue,” “estimate,” “project,” “intend,” and similar expressions. These forward-looking statements involve risks and uncertainties that could cause actual results to differ materially from those projected or anticipated. Such risks and uncertainties include, but are not limited to, general economic and business conditions, including unforeseen weakness in the Company’s markets, effects of continued geo-political unrest and regional conflicts, competition, changes in technology and methods of marketing, delays in completing engineering and manufacturing programs, changes in customer order patterns, changes in product mix, continued success in technological advances and delivering technological innovations, continued funding of defense programs, the timing of such funding, changes in the U.S. Government’s interpretation of federal procurement rules and regulations, market acceptance of the Company’s products, shortages in components, production delays due to performance quality issues with outsourced components, inability to fully realize the expected benefits from acquisitions or delays in realizing such benefits, challenges in integrating acquired businesses and achieving anticipated synergies, and difficulties in retaining key customers. These risks and uncertainties also include such additional risk factors as are discussed in the Company’s recent filings with the U.S. Securities and Exchange Commission, including its Annual Report on Form 10-K for the fiscal year ended June 30, 2008. The Company cautions readers not to place undue reliance upon any such forward-looking statements, which speak only as of the date made. The Company undertakes no obligation to update any forward-looking statement to reflect events or circumstances after the date on which such statement is made.

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Contact:

Robert Hult, CFO
Mercury Computer Systems, Inc.
978-967-1990

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