

**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 22, 2004

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)

(978) 256-1300

(Registrant's Telephone Number, Including Area Code)

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 5.03 AMENDMENTS TO ARTICLES OF INCORPORATION OR BYLAWS; CHANGE IN FISCAL YEAR

On September 22, 2004, the Board of Directors of Mercury Computer Systems, Inc. (the "Company") amended the Company's by-laws, effective as of the same date. This report contains a summary of the revisions made to the by-laws. The descriptions of the provisions of the by-laws are qualified in their entirety by reference to the by-laws, which are filed as an exhibit to this Current Report on Form 8-K.

Changes include the following:

Call of Meetings of Shareholders

The by-laws have been amended to provide that special meetings of the shareholders of the Company may be called upon the written application of holders of at least forty percent (40%) of all votes entitled to be cast at the proposed special meeting. The by-laws have similarly been amended to provide that holders of at least forty percent (40%) of the shares entitled to vote at a special meeting may apply to the supreme judicial or superior court to call a special meeting, in the event that none of the officers of the Company is able or willing to call a special meeting. The by-laws previously required thirty percent (30%) votes in both these cases.

Quorum and Adjournment

The by-laws have been amended to provide that the presiding officer at any meeting of the shareholders of the Company shall have the authority to reschedule or adjourn the meeting under the following circumstances: (a) if no quorum is present for the transaction of business; (b) if the Board of Directors determines that an adjournment is necessary or appropriate to enable the shareholders to consider fully information which the Board of Directors determines has not been made sufficiently or timely available to shareholders; or (c) if the Board of Directors determines that adjournment is otherwise in the best interests of the Company. The previous version of the by-laws contained no comparable provision.

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>
3.1	By-laws of Mercury Computer Systems, Inc. (Incorporated by reference to Exhibit 3.2 of Amendment No. 1 to the Company's annual report on Form 10-K/A for the fiscal year ended June 30, 2002)
3.2	Amendment to By-laws of Mercury Computer Systems, Inc. dated September 22, 2004. Filed herewith.

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: September 27, 2004

By: /s/ Joseph M. Hartnett

Joseph M. Hartnett
Vice President and Chief Accounting Officer

EXHIBIT INDEX

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3.2	Amendment to By-laws of Mercury Computer Systems, Inc. dated September 22, 2004. Filed herewith.

**Amendment to By-Laws of
Mercury Computer Systems, Inc.**

The By-laws of Mercury Computer Systems, Inc., a Massachusetts corporation, are hereby amended as follows:

1. Section 3.2. Section 3.2 of the By-laws is hereby amended by striking the words “thirty (30%) percent” in line 5 of said Section 3.2 and replacing it with “forty (40%) percent” and in line 8 of Section 3.2 again striking “thirty (30%) percent” and inserting “forty (40%) percent.”
2. Section 3.5. Section 3.5 of the By-laws is hereby amended by changing the title of Section 3.5 from “Quorum” to “Quorum and Adjournment” and by adding the following to the end of the first full paragraph of said Section 3.5:

“In addition, the presiding officer at any Shareholders Meeting shall have the authority to reschedule or adjourn any such meeting if (a) no quorum is present for the transaction of business; (b) the board of directors determines that an adjournment is necessary or appropriate to enable the shareholders to consider fully information which the board of directors determines has not been made sufficiently or timely available to shareholders; or (c) the board of directors determines that adjournment is otherwise in the best interests of the company.”

The foregoing is certified as an Amendment to the By-laws of Mercury Computer Systems, Inc. as adopted by the Board of Directors on September 22, 2004.

/s/ Anthony J. Medaglia, Jr.

Anthony J. Medaglia, Jr.
Secretary