UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 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) April 21, 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) ${\bf r}$

ck 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 isions (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 2.02. Results of Operations and Financial Condition.

On April 21, 2005, Mercury Computer Systems, Inc. (the "Company") issued a press release regarding its financial results for the quarter ended March 31, 2005. The Company's press release is attached as Exhibit 99.1 to this Current Report on Form 8-K and incorporated by reference herein.

The information in this Current Report on Form 8-K and the Exhibit attached hereto shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934 (the "Exchange Act") or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933 or the Exchange Act, regardless of any general incorporation language in such filing.

Item 9.01. Financial Statements and Exhibits.

(c) Exhibits.

Exhibit No.	Description
99.1	Press Release, dated April 21, 2005, of Mercury Computer Systems, Inc.

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.

Date: April 21, 2005

By: /s/ JOSEPH M. HARTNETT

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

EXHIBIT INDEX

Exhibit No.	Description
99.1	Press Release, dated April 21, 2005, of Mercury Computer Systems, Inc.

Mercury Computer Systems Reports Third Quarter 2005 EPS of \$0.34

Reports Record Revenues of \$64.3 Million

Backlog Expands to \$110.4 Million

Company Guides Revenue to Top of Range

CHELMSFORD, Mass. — April 21, 2005 — Mercury Computer Systems, Inc. (NASDAQ: MRCY) reported results for its third quarter ended March 31, 2005. Third quarter revenues were \$64.3 million, an increase of 42% compared to \$45.4 million for the same period last year, and a new quarterly record for the Company.

- Operating income was \$11.4 million, representing 17.7% of revenues.
- Third quarter net income was \$8.2 million, an increase of 29.4% compared to \$6.3 million for the same period last year. Third quarter net income was 12.7% of revenues.
- Earnings per share were \$0.34 for the third quarter.
- Cash flows from operating activities were \$13.6 million in the third quarter. Cash and marketable securities balance at the end of the quarter was \$226.1 million.

"We are pleased with the strong results posted for the third quarter, in our defense and commercial businesses," said Jay Bertelli, president and chief executive officer of Mercury Computer Systems, Inc. "On the strength of our backlog, particularly in our defense business unit, we anticipate full-year revenues to be at the top end of previous expectations, or \$245 million."

Backlog

The Company's total backlog at the end of the quarter was \$110.4 million, up \$8.2 million from

the beginning of the quarter. Of the total backlog, \$100.1 million represents shipments scheduled over the next 12 months. The book-to-bill ratio for the third quarter exceeded one.

Defense Electronics

Defense Electronics revenues were \$36.5 million, an increase of \$9.8 million from the same quarter last year, primarily due to strength in signals intelligence and defense technologies segments. On a sequential basis, Defense Electronics revenues grew \$3.3 million as a result of the timing of program-related revenues.

Imaging and Visualization Solutions

Revenues for Imaging and Visualization Solutions of \$11.4 million were up \$2.0 million from the same quarter last year, based primarily on contribution from the TGS acquisition. Sequentially, revenues declined \$3.8 million from the second quarter, due to fluctuations in OEM customer order patterns.

OEM Solutions

OEM Solutions revenues were \$14.2 million, which were up \$4.9 million from last year's revenues for the same quarter. This growth reflects revenues from applications serving the semiconductor market. Sequentially, revenues for this business unit were up \$3.8 million, driven primarily by the semiconductor segment.

Momentum Computer business unit

The Momentum Computer business unit reported revenues of \$2.2 million during the third quarter. As Momentum was acquired in December 2004, this quarter represented the unit's first full quarter operating as a business unit of Mercury Computer Systems, Inc.

Business Outlook

This section presents our current expectations and estimates given current visibility, on our business outlook. It is possible that actual performance will differ materially from the ranges and estimates given—either on the upside or on the downside. Investors should consider all of the risks, including those listed in the Safe Harbor Statement below, with respect to these estimates, and make themselves aware of the risk factors that may impact the Company's actual performance.

In the fourth quarter of fiscal year 2005, revenues are expected to be approximately \$66.0 million. At this revenue level, the Company anticipates earnings per share of \$0.37 for the fourth quarter ended June 30, 2005.

For the full year, revenues are expected to be approximately \$245.0 million, at the top end of previous guidance. At this revenue level, the Company expects earnings per share of \$1.21 for the fiscal year ended June 30, 2005.

Recent Highlights

- March Mercury announced a 60x performance breakthrough in digital breast tomosynthesis (DBT) reconstruction. In a joint release with NVIDIA
 Corporation, Mercury highlighted the first results of its partnership with Massachusetts General Hospital (MGH), which were achieved with a combination
 of Mercury's work with MGH on its innovative DBT technique, and Mercury's unique image processing solution that uses enhanced NVIDIA Quadro®
 professional graphics processor technology.
- March Mercury was selected by Compagnie Générale de Géophysique (CGG) for its Open Inventor® from Mercury and VolumeViz™ LDM (large data management) visualization components, to develop the latest version of CGG's Geocluster™ seismic processing software. CGG is a principal supplier of geophysical products and services to the worldwide oil and gas industry.
- March Mercury announced the release of FDK 2.0, the FPGA Compute Node Developer's Kit that enables high-speed data movement for FPGA-based
 applications. FDK 2.0 is a comprehensive suite of software tools, Mercury intellectual property (IP), the RACE-on-Chip high-bandwidth

interconnect, and design consultation, designed to enable easy integration of application-specific IP into a switch fabric-based multicomputer.

- February Mercury announced Ensemble2[™], the first high-speed Serial RapidIO[®]-based system for the telecom infrastructure. A fully integrated AdvancedTCA[®] system, Ensemble2 will enable seamless interoperability with the latest silicon from leading manufacturers including TI, Freescale, Xilinx, Altera, Tundra Semiconductor, and Intel. Ensemble2 is designed to provide OEMs with cost efficiency and time-to-market advantages.
- February Mercury announced its E2-MTI advanced mezzanine card, which is based on the new Texas Instruments TMS320TCI6482 digital signal processor with Serial RapidIO. Designed for a broad range of production applications, the E2-MTI will be integrated into the Ensemble2 high-speed Serial RapidIO system, also announced in February.
- January Mercury announced its next-generation VME road map that includes both VITA 41 (VXS) systems, and VITA 46 (VPX) systems with the VITA 48 (ERDI) thermal management enhancements, to address diverse requirements in the defense market. VITA 41 VXS systems are especially well suited to high-performance applications in moderately benign environments, such as manned wide-body aircraft. The increased thermal management capability and two-level maintenance make VITA 46/48 systems well suited for the harshest military environments, such as tactical and unmanned platforms.
- January Mercury announced the availability of its Serial RapidIO-based silicon IP core. The core, which is designed for reuse, is fully compliant with the Serial RapidIO Specification 1.2 and optimized for performance, latency, and reliability in embedded communications and networking applications.
- January Mercury shipped its RACE++® Series conduction-cooled multicomputer systems to Northrop Grumman Electronic Systems Sector of Baltimore, Maryland, for the synthetic aperture radar (SAR) systems onboard the F/A-22 Raptor fighter jet. Mercury's embedded multicomputers process the vast amounts of ground image data retrieved from SAR systems

and turn it into actionable information that can be accessed in real time by networked soldiers and military personnel around the globe.

Conference Call Information

Management will host a conference call today at 11:00 a.m. ET to review the financial results for the third quarter of fiscal year 2005. Management will discuss Mercury's quarterly financial results, business highlights, and outlook. In addition, Company representatives may answer one or more questions concerning business and financial developments and trends, the Company's view on earnings forecasts, and other business and financial matters affecting the Company, some of the responses to which may contain information that has not been previously disclosed.

To listen to the conference call, dial (800) 565-5442 in the USA and Canada, and for international, dial (913) 981-5591. The conference code number is 7499053. Please call five to ten minutes prior to the scheduled start time. This call will also be broadcast live over the web at www.mc.com/investor.

A replay of the call by telephone will be available from approximately 2:00 p.m. ET on Thursday, April 21 through midnight ET on Friday, April 29. To access the replay, dial (888) 203-1112 in the USA and Canada, and for international, dial (719) 457-0820. Enter access code 7499053. A replay of the webcast of the call will be available for an extended period of time on the Financial Events page of the Company's website at www.mc.com/investor.

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 anticipated fiscal 2005 business performance and financial outlook. 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 economic 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 various engineering and manufacturing programs, changes in customer order patterns, changes in product mix, continued success in technological advances and delivering technological innovations, the failure to locate favorable acquisition and partnership opportunities, risks associated with the integration of acquisitions, failure of the acquisition to achieve desired or projected results, continued funding of defense programs, timing of such fundings, market acceptance of the Company's products, shortages in components, production delays due to performance quality issues with outsourced components, and various other factors beyond the Company's control. 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 Quarterly Report on Form 10-Q for the quarter ended

December 31, 2004. 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. The Company may, in its discretion, provide information in future public announcements regarding its outlook that may be of interest to the investment community. The format and extent of future outlooks may be different from the format and extent of the information contained in this release.

About Mercury Computer Systems, Inc.

Mercury Computer Systems, Inc. (NASDAQ: MRCY) is the leading provider of high-performance embedded, real-time digital signal and image processing computer systems. Mercury's products play a critical role in a wide range of applications, transforming sensor data to information for analysis and interpretation. In military reconnaissance and surveillance platforms the Company's systems process real-time radar, sonar, and signals intelligence data. Mercury's systems are also used in state-of-the-art medical diagnostic imaging devices including MRI, PET, and digital X-ray, and in semiconductor imaging applications including photomask generation and wafer inspection. Mercury provides advanced 3D image processing and visualization software and optimized systems to diverse end markets including life sciences, geosciences, and simulation. The Company also provides radio frequency (RF) products for enhanced communications capabilities in military and commercial applications.

Based in Chelmsford, Massachusetts, Mercury serves customers in North America, Europe and Asia through its direct sales force and a network of subsidiaries and distributors. Visit Mercury on the web at www.mc.com.

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Contact:
Diane Basile
Vice President, Finance
978-256-1300

Product and company names mentioned may be trademarks and/or registered trademarks of their respective holders.

MERCURY COMPUTER SYSTEMS, INC.

Consolidated Balance Sheets (in thousands)

	March 31, 2005	June 30, 2004
	(unaudited)	
Assets		
Current assets:		
Cash and cash equivalents	\$ 29,265	\$ 18,695
Marketable securities	158,754	185,198
Accounts receivable, net	34,404	41,609
Inventory	18,476	10,746
Deferred tax assets, net	2,507	3,819
Prepaid expenses and other current assets	3,377	5,370
Total current assets	246,783	265,437
Marketable securities	38,127	34,391
Property and equipment, net	28,479	25,866
Goodwill	38,723	29,009
Acquired intangible assets, net	5,985	5,529
Deferred tax assets, net	3,304	3,612
Other assets	5,521	5,894
Total assets	\$ 366,922	\$369,738
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	\$ 11,183	\$ 10,884
Accrued expenses	8,446	5,715
Accrued compensation	11,827	13,147
Amounts payable for acquisition	_	7,512
Notes payable	842	948
Income taxes payable	308	6,922
Deferred revenues and customer advances	10,472	5,851
Total current liabilities	43,078	50,979
Notes payable	135,210	135,827
Deferred compensation	1,237	1,122
Other long-term liabilities	628	953
Total liabilities	180,153	188,881
Stockholders' equity:		
Common stock	209	223
Additional paid-in capital	8,566	22,546
Retained earnings	178,008	157,908
Accumulated other comprehensive income (loss)	(14)	180
Total stockholders' equity	186,769	180,857
		\$369,738

MERCURY COMPUTER SYSTEMS, INC. UNAUDITED CONSOLIDATED STATEMENTS OF INCOME (in thousands, except per share data)

		nths ended ch 31,	Nine months ended March 31,	
	2005	2004	2005	2004
	\$64,345	\$45,386	\$178,659	\$126,464
	21,797	15,443	61,519	43,668
	42,548	29,943	117,140	82,796
nd administrative	18,131	12,483	52,606	38,025
ıt .	12,998	9,172	35,848	26,783
Total operating expenses	31,129	21,655	88,454	64,808
	11,419	8,288	28,686	17,988
	1,307	455	3,454	1,334
	(1,053)	(217)	(3,163)	(664)
	(22)	66	(262)	104
es	11,651	8,592	28,715	18,762
	3,495	2,289	8,615	5,441
	\$ 8,156	\$ 6,303	\$ 20,100	\$ 13,321
hare:				
	\$ 0.39	\$ 0.30	\$ 0.95	\$ 0.63
	\$ 0.34	\$ 0.29	\$ 0.84	\$ 0.61
. P				
d average shares outstanding: asic	24.044	21 10 1	24.05.4	24.004
	21,011	21,184	21,054	21,084
	26,007	22,057	26,017	21,787

MERCURY COMPUTER SYSTEMS, INC. UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS (in thousands)

		nths ended ch 31,	Nine months ended March 31,	
	2005	2004	2005	2004
Cash flows from operating activities:				
Net income	\$ 8,156	\$ 6,303	\$ 20,100	\$ 13,321
Depreciation and amortization	3,012	1,543	7,821	5,314
Other and non-cash items, net	1,977	1,160	2,957	1,775
Changes in operating assets and liabilities	456	(6,257)	2,195	182
				
Net cash provided by operating activities	13,601	2,749	33,073	20,592
Cash flows from investing activities:				
Sales (purchases) of marketable securities, net	2,311	(12,775)	22,708	(15,932)
Purchases of property and equipment	(2,824)	(1,350)	(7,382)	(3,312)
Acquisition of businesses, net of cash acquired		(55)	(16,184)	(3,900)
Net cash used in investing activities	(513)	(14,180)	(858)	(23,144)
Cash flows from financing activities:				
Proceeds from employee stock plans	1,144	779	4,809	2,574
Purchases of common stock	(8,335)		(24,966)	
Principal payments under notes payable	(234)	(180)	(1,241)	(533)
Net cash provided by (used in) financing activities	(7,425)	599	(21,398)	2,041
Effect of exchange rate changes on cash and cash equivalents	205	(142)	(247)	(171)
Net increase (decrease) in cash and cash equivalents	5,868	(10,974)	10,570	(682)
Cash and cash equivalents at beginning of period	23,397	27,450	18,695	17,158
Cash and cash equivalents at end of period	\$29,265	\$ 16,476	\$ 29,265	\$ 16,476