

MERCURY COMPUTER SYSTEMS INC  
 Form 4  
 September 12, 2006

**FORM 4**

**UNITED STATES SECURITIES AND EXCHANGE COMMISSION  
 Washington, D.C. 20549**

OMB APPROVAL

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Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

**STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES**

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

1. Name and Address of Reporting Person \*  
**BARROWS CRAIG**

2. Issuer Name and Ticker or Trading Symbol  
**MERCURY COMPUTER SYSTEMS INC [MRCY]**

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

(Last) (First) (Middle)  
**199 RIVERNECK ROAD**  
 (Street)

3. Date of Earliest Transaction (Month/Day/Year)  
**09/11/2006**

\_\_\_\_ Director \_\_\_\_\_ 10% Owner  
 Officer (give title below) \_\_\_\_\_ Other (specify below)  
**VP, General Counsel**

**CHELMSFORD, MA 01824**  
 (City) (State) (Zip)

4. If Amendment, Date Original Filed(Month/Day/Year)

6. Individual or Joint/Group Filing(Check Applicable Line)  
 Form filed by One Reporting Person  
 Form filed by More than One Reporting Person

**Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned**

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)	4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)	5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Ownership (Instr. 4)
				(A) or (D)	Price		
			Code	V	Amount	(D)	Price
Common Stock	09/11/2006		A		7,500	A	\$ 0 (1)
					13,500	D	

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

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**Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)**

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1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)	5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)	6. Date Exercisable and Expiration Date (Month/Day/Year)	7. Title and Amount of Underlying Security (Instr. 3 and 4)	Amount or Number of Shares
Employee Stock Option (right to buy)	\$ 25.8	09/11/2006		D	30,000	08/29/2006 <sup>(2)</sup> 08/29/2015	Common	30,000

## Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
BARROWS CRAIG 199 RIVERNECK ROAD CHELMSFORD, MA 01824			VP, General Counsel	

## Signatures

Craig Barrows 09/12/2006  
 \*\*Signature of Reporting Person Date

## Explanation of Responses:

- \* If the form is filed by more than one reporting person, see Instruction 4(b)(v).
- \*\* Intentional misstatements or omissions of facts constitute Federal Criminal Violations. See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).
  - (1) On September 11, 2006, Mercury Computer Systems, Inc., cancelled, pursuant to its option exchange program, an option granted to the reporting person on August 29, 2005. In exchange for the option, the reporting person received a restricted stock award covering 7,500 shares which vests as to two-thirds of the covered shares on September 11, 2008 and one-third of the covered shares on September 11, 2009.
  - (2) The cancelled option provided for vesting in four equal installments commencing on August 29, 2006.
  - (3) Field N/A to this transaction but was completed to allow for electronic filing.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.