

FORM 4

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

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

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

OMB APPROVAL	
OMB Number:	3235-0287
Estimated average burden hours per response:	0.5

1. Name and Address of Reporting Person* <u>CHAMILLARD GEORGE W</u> (Last) (First) (Middle) <u>MERCURY COMPUTER SYSTEMS, INC.</u> <u>199 RIVERNECK ROAD</u> (Street) <u>CHELMSFORD MA 01824</u> (City) (State) (Zip)	2. Issuer Name and Ticker or Trading Symbol <u>MERCURY COMPUTER SYSTEMS INC</u> [<u>MRCY</u>]	5. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> Director 10% Owner Officer (give title below) Other (specify below)
	3. Date of Earliest Transaction (Month/Day/Year) <u>01/28/2008</u>	
	4. If Amendment, Date of Original Filed (Month/Day/Year)	

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 Indirect Beneficial Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)	Price			
Common Stock	01/28/2008		P		100	A	\$8.42	100	D	
Common Stock	01/28/2008		P		200	A	\$8.43	300	D	
Common Stock	01/28/2008		P		300	A	\$8.45	600	D	
Common Stock	01/28/2008		P		100	A	\$8.46	700	D	
Common Stock	01/28/2008		P		1,300	A	\$8.48	2,000	D	
Common Stock	01/28/2008		P		2,045	A	\$8.49	4,045	D	
Common Stock	01/28/2008		P		1,483	A	\$8.5	5,528	D	
Common Stock	01/28/2008		P		2,328	A	\$8.51	7,856	D	
Common Stock	01/28/2008		P		100	A	\$8.52	7,956	D	
Common Stock	01/28/2008		P		400	A	\$8.53	8,356	D	
Common Stock	01/28/2008		P		200	A	\$8.57	8,556	D	
Common Stock	01/28/2008		P		44	A	\$8.61	8,600	D	
Common Stock	01/28/2008		P		900	A	\$8.64	9,500	D	
Common Stock	01/28/2008		P		100	A	\$8.65	9,600	D	
Common Stock	01/28/2008		P		100	A	\$8.66	9,700	D	
Common Stock	01/28/2008		P		300	A	\$8.68	10,000	D	

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

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 Securities Underlying Derivative Security (Instr. 3 and 4)	8. Price of Derivative Security (Instr. 5)	9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4)	10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)
				Code	V	(A)	(D)	Date Exercisable	Expiration Date					

Explanation of Responses:

Robert E. Hult, Attorney-in-fact 01/29/2008

** Signature of Reporting Person Date

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

* 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).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

