BASS JAMES K Form 3 October 22, 2010

FORM 3

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

OMB APPROVAL

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0.5

INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES

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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 2. Date of Event Requiring 3. Issuer Name and Ticker or Trading Symbol Person * Statement MERCURY COMPUTER SYSTEMS INC [MRCY] BASS JAMES K (Month/Day/Year) 10/21/2010 (Last) (First) (Middle) 4. Relationship of Reporting 5. If Amendment, Date Original Person(s) to Issuer Filed(Month/Day/Year) 201 RIVERNECK ROAD (Check all applicable) (Street) 6. Individual or Joint/Group Filing(Check Applicable Line) _X_ Director 10% Owner _X_ Form filed by One Reporting Officer Other Person CHELMSFORD, MAÂ 01824 (give title below) (specify below) Form filed by More than One Reporting Person (City) (State) (Zip) Table I - Non-Derivative Securities Beneficially Owned 2. Amount of Securities 4. Nature of Indirect Beneficial 1. Title of Security Beneficially Owned Ownership (Instr. 4) Ownership (Instr. 4) Form: (Instr. 5) Direct (D) or Indirect (I) (Instr. 5) D Â Common Stock $10,000 \frac{(1)}{}$ Reminder: Report on a separate line for each class of securities beneficially SEC 1473 (7-02) owned directly or indirectly.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a

currently valid OMB control number.

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

1. Title of Derivative Security (Instr. 4)	2. Date Exercisable and Expiration Date (Month/Day/Year)		3. Title and Amount of Securities Underlying Derivative Security		4. Conversion or Exercise	5. Ownership Form of	6. Nature of Indirect Beneficial Ownership
				(Instr. 4)		Derivative	(Instr. 5)
	Date Exercisable	Expiration Date	Title	Amount or Number of	Derivative	Security:	
					Security	Direct (D)	
						or Indirect	

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Shares (I) (Instr. 5)

Non-Qualified Stock Option (Right to buy) 10/21/2011(2) 10/21/2017 Common 15,000 \$ 14.12 D Â

Reporting Owners

Reporting Owner Name / Address Relationships

Director 10% Owner Officer Other

BASS JAMES K 201 RIVERNECK ROAD

201 RIVERNECK ROAD Â X Â Â Â CHELMSFORD, MAÂ 01824

Signatures

Charles A. Speicher, Attorney-in-fact

**Signature of Reporting Person Date

Explanation of Responses:

* If the form is filed by more than one reporting person, see Instruction 5(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) These shares of restricted stock vest in two annual equal installments beginning on October 21, 2011.
- (2) This stock option vests in two annual equal installments beginning on October 21, 2011.

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.

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