

Basile Diane J
 Form 4
 August 22, 2005

FORM 4

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

OMB APPROVAL

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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 *
 Basile Diane J

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)

3. Date of Earliest Transaction (Month/Day/Year)
 08/18/2005

____ Director
 Officer (give title below)
 ____ 10% Owner
 ____ Other (specify below)
 VP, Treasurer

MERCURY COMPUTER SYSTEMS, INC., 199 RIVERNECK ROAD

(Street)

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

CHELMSFORD, MA 01824

(City) (State) (Zip)

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)
				(A) or (D)	Price		
Common Stock	08/18/2005		M	A	3,750 \$ 18.24	5,803	D
Common Stock	08/18/2005		S	D	3,750 \$ 26.12	2,053	D
Common Stock	08/18/2005		M	A	2,500 \$ 23.46	4,553	D
Common Stock	08/18/2005		S	D	2,500 \$ 26.075	2,053 ⁽¹⁾	D

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

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(9-02)

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 Underlying Security (Instr. 3 and 4)	Amount or Number of Shares
Non-Qualified Stock Option (Right to buy)	\$ 18.24	08/18/2005		M	3,750	06/18/2005 06/18/2013	Common	3,750
Non-Qualified Stock Option (Right to buy)	\$ 23.46	08/18/2005		M	2,500	07/28/2005 07/28/2014	Common	2,500

Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
Basile Diane J MERCURY COMPUTER SYSTEMS, INC. 199 RIVERNECK ROAD CHELMSFORD, MA 01824			VP, Treasurer	

Signatures

Joseph M. Hartnett,
Attorney-in-fact 08/22/2005

**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) Includes 449 shares acquired under the Mercury Computer Systems, Inc. stock purchase plan in June 2005.
- (2) Field N/A to this transaction but was completed to allow for electronic filing only

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