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OMB APPROVAL  
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U.S. SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM 3

INITIAL STATEMENT OF 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(f) of the Investment Company Act of 1940

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1. Name and Address of Reporting Person

Barry, Donald

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(Last) (First) (Middle)

125 Kenney Lane

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(Street)

Concord, MA 01742

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(City) (State) (Zip)

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2. Date of Event Requiring Statement (Month/Day/Year)

1/29/98

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3. IRS or Social Security Number of Reporting Person (Voluntary)

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4. Issuer Name and Ticker or Trading Symbol

Mercury Computer Systems, Inc. MRCY

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5 Relationship of Reporting Person to Issuer  
(Check all applicable)

[ ] Director [ ] 10% Owner  
[ X ] Officer (give title below) [ ] Other (specify below)

Director of the Medical Business Group  
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6. If Amendment, Date of Original (Month/Year)

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Table I -- Non-Derivative Securities Beneficially Owned  
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1. Title of Security (Instr. 4)	2. Amount of Securities Beneficially Owned (Instr. 4)	3. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	4. Nature of Indirect Beneficial Ownership (Instr.5)
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None  
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Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

(Print or Type Responses)

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

1. Title of Security (Instr. 4)	2. Date Exercisable and Expiration Date (Month/Day/Year)		3. Title and Amount of Securities Underlying Derivative Security (Instr. 4)		4. Conversion or Exercise Price of Derivative Security	5. Ownership Form of Derivative Security: Direct (D) or Indirect (I) (Instr. 5)	7. Nature of Indirect Beneficial Ownership (Instr. 5)
	Date Exer- cisable	Expira- tion Date	Title	Amount or Number of Shares			
Stock Option (right to buy)	*	7/2/02	Common	10,000	3.50	D	
Stock Option (right to buy)	(1)	7/30/06	Common	1,000	4.00	D	
Stock Option (right to buy)	(2)	7/30/06	Common	500	4.00	D	
Stock Option (1) (right to buy)	(3)	9/19/06	Common	500	4.00	D	
Stock Option (right to buy)	(4)	10/20/07	Common	10,000	8.00	D	

Explanation of Responses:

- \* fully exercisable
- (1) 40% of the option is exercisable. The remainder will vest in equal increments on July 30 of each 1998, 1999, and 2000
- (2) The option to purchase 140 shares is vested. The option to purchase the remaining 360 shares will vest on December 19, 1998
- (3) 50% of the option is exercisable. 50% will vest on August 1, 1999.
- (4) The option to purchase 2,500 shares will vest on October 20, of each 1998, 1999, 2000 and 2001

/s/Donald Barry 1/29/98  
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\*\*Signature of Reporting Person Date

\*\* 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 provided is insufficient. See Instruction 6 for procedure.

