1. Name and Address of Reporting Person

Chasen, Steven

(Last)               (First)                 (Middle)
76 Country Club Circle
Pembroke, MA  02359

2. Issuer Name and Ticker or Trading Symbol

Mercury Computer Systems, Inc. ("MRCY")

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

4. Statement for Month/Year

January 2001

5. If Amendment, Date of Original (Month/Year)

6. Relationship of Reporting Person to Issuer

(Check all applicable)

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

Senior Vice President and General Manager, Operations

7. Individual or Joint/Group Filing (Check Applicable Line)

[X ] Form filed by One Reporting Person

[ ] Form filed by More than One Reporting Person

Table I -- Non-Derivative Securities Acquired, Disposed of,
Common Stock 1/25/01 S 2,000 D 52.00 32,140 D
Common Stock 1/29/01 S 2,000 D 51.00 32,140 D
Common Stock 1/30/01 S 100 D 53.00 32,140 D

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

FORM 4 (continued)

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

Exploration of Responses:

/s/Steven Chasen February 8, 2001
**Signature of Reporting Person Date

** Intentional misstatements or omissions of facts constitute Federal Criminal Violations.


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

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.