
OMB APPROVAL

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ESTIMATED AVERAGE BURDEN
HOURS PER RESPONSE.... 14.90

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

SCHEDULE 13G

UNDER THE SECURITIES EXCHANGE ACT OF 1934

(AMENDMENT No.2)*

Mercury Computer Systems, Inc.

(Name of Issuer)

Common Stock

(Title of Class of Securities)

589378108

(CUSIP Number)

December 20, 2000

(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

- Rule 13d-1(b)
 Rule 13d-1(c)
 Rule 13d-1(d)

*The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

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.

1. Name of Reporting Person
I.R.S. Identification Nos. of above person (entities only).

Peter B. Cannell & Co., Inc.
13-3346990

2. Check the Appropriate Box If a Member of a Group (See Instructions)

(a)

(b)

3. SEC USE ONLY

4. Citizenship or Place of Organization Delaware

Number of Shares Beneficially Owned by Each Reporting Person With:

5. Sole Voting Power 1,059,964

6. Shared Voting Power

7. Sole Dispositive Power 1,059,964

8. Shared Dispositive Power

9. Aggregate Amount Beneficially Owned by Each Reporting Person
1,059,964

10. Check Box if the Aggregate Amount in Row (9) Excludes Certain Shares
(See Instructions)

11. Percent of Class Represented by Amount in Row (9) 4.9%

12. Type of Reporting Person*
IA

ITEM 1

(a) Name of Issuer:

Mercury Computer Systems, Inc.

(b) Address of Issuer's Principal Executive Offices:

199 Riverneck Road
Chelmsford, MA 01824

ITEM 2

(a) Name of Person Filing: Peter B. Cannell & Co., Inc.

(b) Address of Principal Business Office: 645 Madison Avenue,
New York, NY 10022

(c) Citizenship: Delaware

(d) Title of Class of Securities: Common Stock

(e) CUSIP Number 589378108

ITEM 3. IF THIS STATEMENT IS FILED PURSUANT TO SS.SS.240.13D-1(B) OR 240.13D-2(B) OR (C), CHECK WHETHER THE PERSON FILING IS a:

- (a) Broker or dealer registered under Section 15 of the Act (15 U.S.C. 78o).
- (b) Bank as defined in Section 3(a)(6) of the Act (15 U.S.C. 78c).
- (c) Insurance company as defined in Section 3(a)(19) of the Act (15 U.S.C.78c).
- (d) Investment company registered under Section 8 of the Investment Company Act of 1940 (15 U.S.C. 80a-8).
- (e) An investment adviser in accordance with ss.240.13d-1(b)(1)(ii)(E);
- (f) An employee benefit plan or endowment fund in accordance with ss.240.13d-1(b)(1)(ii)(F);
- (g) A parent holding company or control person in accordance with ss.240.13d-1(b)(1)(ii)(G);
- (h) A savings association as defined in Section 3(b) of the Federal Deposit Insurance Act (12 U.S.C. 1813);
- (i) A church plan that is excluded from the definition of an investment company under Section 3(c)(14) of the Investment Company Act of 1940 (15 U.S.C. 80a-3);
- (j) Group, in accordance with ss.240.13d-1(b)(1)(ii)(J).

ITEM 4. OWNERSHIP.

Provide the following information regarding the aggregate number and percentage of the class of securities of the issuer identified in Item 1.

(a) Amount beneficially owned: 1,059,964

(b) Percent of class: 4.9%

(c) Number of shares as to which such person has:

(i) Sole power to vote or to direct the vote: 1,059,964

(ii) Shared power to vote or to direct the vote:

(iii) Sole power to dispose or to direct the disposition of:
1,059,964

(iv) Shared power to dispose or to direct the disposition of:

Instruction. For computations regarding securities which represent a right to acquire an underlying security see ss.240.13d-3(d)(1).

ITEM 5. OWNERSHIP OF FIVE PERCENT OR LESS OF A CLASS

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following [X].

ITEM 6. OWNERSHIP OF MORE THAN FIVE PERCENT ON BEHALF OF ANOTHER PERSON: N/A

ITEM 7. IDENTIFICATION AND CLASSIFICATION OF THE SUBSIDIARY WHICH ACQUIRED THE SECURITY BEING REPORTED ON BY THE PARENT HOLDING COMPANY: N/A.

ITEM 8. IDENTIFICATION AND CLASSIFICATION OF MEMBERS OF GROUP: N/A.

ITEM 9. NOTICE OF DISSOLUTION OF GROUP: N/A.

ITEM 10. CERTIFICATION.

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were acquired and are held in the ordinary course of business and were not acquired for the purpose of and do not have the effect of changing or influencing the control of the issuer of such securities and were not acquired in connection with or as a participant in any transaction having such purposes or effect.

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

February 8, 2001

(Date)

/s/ John D. Hogan

(Signature)

John D. Hogan, Treasurer

(Name/Title)