

SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

SCHEDULE 13G

Under the Securities Exchange Act of 1934

(Amendment No. )\*

Mercury Computer Systems, Inc.

(Name of Issuer)

Common Stock

(Title of Class of Securities)

589378108

(CUSIP Number)

December 29, 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).

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

5 SOLE VOTING POWER  
NONE

6 SHARED VOTING POWER  
NONE

7 SOLE DISPOSITIVE POWER  
1,482,180

8 SHARED DISPOSITIVE POWER  
NONE

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  
1,482,180 Beneficial ownership disclaimed pursuant to Rule 13d-4

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  
6.9%

12 TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)  
IA

1 NAMES OF REPORTING PERSONS  
I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)  
SMALLCAP World Fund, Inc.  
95-4253845

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

Maryland

5 SOLE VOTING POWER

1,300,000

NUMBER OF  
SHARES

6 SHARED VOTING POWER

NONE

BENEFICIAALLY OWNED BY

7 SOLE DISPOSITIVE POWER

EACH  
REPORTING

NONE

PERSON  
WITH:

8 SHARED DISPOSITIVE POWER

NONE

9 AGGREGATE AMOUNT BENEFICIAALLY OWNED BY EACH REPORTING PERSON

1,300,000

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

6.4%

12 TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

IV

SECURITIES AND EXCHANGE COMMISSION  
Washington, DC 20549

Schedule 13G  
Under the Securities Exchange Act of 1934

Amendment No.

Item 1(a) Name of issuer:  
Mercury Computer Systems, Inc.

Item 1(b) Address of issuer's principal executive offices:  
199 Riverneck Road  
Chelmsford, MA 01824

Item 2(a) Name of person(s) filing:  
Capital Research and Management Company and SMALLCAP World Fund,  
Inc.

Item 2(b) Address or principal business office or, if none, residence:  
333 South Hope Street  
Los Angeles, CA 90071

Item 2(c) Citizenship: N/A

Item 2(d) Title of class of securities:  
Common Stock

Item 2(e) CUSIP No.:  
589378108

Item 3 If this statement is filed pursuant to sections 240.13d-1(b) or 240.13d-2(b) or (c), check whether the person filings is a:  
(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 section 240.13d-1(b)(1)(ii)(E).

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.

See pages 2 and 3

- (a) Amount beneficially owned:
- (b) Percent of class:
- (c) Number of shares as to which the person has:
  - (i) Sole power to vote or to direct the vote:
  - (ii) Shared power to vote or to direct the vote:
  - (iii) Sole power to dispose or to direct the disposition of:
  - (iv) Shared power to dispose or to direct the disposition of:

Capital Research and Management Company, an investment adviser registered under Section 203 of the Investment Advisers Act of 1940 is deemed to be the beneficial owner of 1,482,180 shares or 6.9% of the 21,487,000 shares of Common Stock believed to be outstanding as a result of acting as investment adviser to various investment companies registered under Section 8 of the Investment Company Act of 1940.

SMALLCAP World Fund, Inc., an investment company registered under the Investment Company Act of 1940, which is advised by Capital Research and Management Company, is the beneficial owner of 1,300,000 shares or 6.4% of the 21,487,000 shares of Common Stock believed to be outstanding.

- Item 5 Ownership of 5 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 5 percent of the class of securities, check the following: [ ]
- Item 6 Ownership of More than 5% 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 or Control Person.: N/A
- Item 8 Identification and Classification of Members of the 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 and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose 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.

Date: February 9, 2001

Signature: \*Paul G. Haaga, Jr.

Name/Title: Paul G. Haaga, Jr., Executive Vice  
President

Capital Research and Management Company

Date: February 9, 2001

Signature: \*Vincent P. Corti

Name/Title: Vincent P. Corti, Vice President

SMALLCAP World Fund, Inc.

\*By

James P. Ryan  
Attorney-in-fact

Signed pursuant to a Power of Attorney dated December 19, 2000 included as an Exhibit to Schedule 13G filed with the Securities and Exchange Commission by Capital Research and Management Company on February 9, 2001 with respect to 3COM Corporation.

CUSIP: 589378108

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AGREEMENT

Los Angeles, CA  
February 9, 2001

Capital Research and Management Company ("CRMC") and SMALLCAP World Fund, Inc. ("SCWF") hereby agree to file a joint statement on Schedule 13G under the Securities Exchange Act of 1934 (the "Act") in connection with their beneficial ownership of Common Stock issued by Mercury Computer Systems, Inc.

CRMC and SCWF state that they are each entitled to individually use Schedule 13G pursuant to Rule 13d-1(c) of the Act.

CRMC and SCWF are each responsible for the timely filing of the statement and any amendments thereto, and for the completeness and accuracy of the information concerning each of them contained therein but are not responsible for the completeness or accuracy of the information concerning the others.

BY: \*Paul G. Haaga, Jr.

Paul G. Haaga, Jr., Executive  
Vice President  
Capital Research and Management  
Company

SMALLCAP WORLD FUND, INC.

BY: \*Vincent P. Corti

Vincent P. Corti, Vice  
President  
SMALLCAP World Fund, Inc.

\*By

James P. Ryan  
Attorney-in-fact

Signed pursuant to a Power of Attorney dated December 19, 2000  
included as an Exhibit to Schedule 13G filed with the Securities and  
Exchange Commission by Capital Research and Management Company on  
February 9, 2001 with respect to 3COM Corporation.