

SCHEDULE 14A INFORMATION

PROXY STATEMENT PURSUANT TO SECTION 14(a) OF THE SECURITIES EXCHANGE ACT OF 1934 (AMENDMENT NO.)

FILED BY THE REGISTRANT [X] FILED BY A PARTY OTHER THAN THE REGISTRANT []

Check the appropriate box:

- Preliminary Proxy Statement
- Definitive Proxy Statement
- Definitive Additional Materials
- Soliciting Material Pursuant to sec.240.14a-11(c) or sec.240.14a-12
- Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))

MERCURY COMPUTER SYSTEMS, INC.
(Name of Registrant as Specified In Its Charter)

(Name of Person(s) Filing Proxy Statement)

PAYMENT OF FILING FEE (CHECK THE APPROPRIATE BOX):

- No fee required.
- Fee computed on table below per Exchange Act Rules 14a-6(i)(4) and 0-11.

- 1) Title of each class of securities to which transaction applies:
- 2) Aggregate number of securities to which transaction applies:
- 3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (Set forth the amount on which the filing fee is calculated and state how it was determined):
- 4) Proposed maximum aggregate value of transaction:
- 5) Total fee paid:

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- 1) Amount Previously Paid:
- 2) Form, Schedule or Registration Statement No.:
- 3) Filing Party:
- 4) Date Filed:

MERCURY COMPUTER SYSTEMS, INC.
199 RIVERNECK ROAD
CHELMSFORD, MA 01824
(978) 256-1300

October 20, 2000

Dear Stockholder:

Mercury Computer Systems, Inc. (the "Corporation") will hold a Special Meeting of Stockholders (the "Meeting") in lieu of the 2000 Annual Meeting of Stockholders on November 16, 2000 at The Boston Museum of Science, Science Park, Boston, Massachusetts. We look forward to your attending either in person or by proxy. The Notice of Meeting, the Proxy Statement and the Proxy Card from the Board of Directors are enclosed. These materials provide further information concerning the Meeting.

At this year's Meeting, the agenda includes the election of Class III Directors. The Board of Directors recommends that you vote FOR the election of the slate of nominees for directors. Please refer to the enclosed Proxy Statement for detailed information.

If you have any further questions concerning the Meeting or any of the proposals, please feel free to contact the Corporation at (978) 256-1300.

Sincerely yours,

/s/ James R. Bertelli
JAMES R. BERTELLI
President and Chief Executive Officer

MERCURY COMPUTER SYSTEMS, INC.

NOTICE OF SPECIAL MEETING OF STOCKHOLDERS IN LIEU OF THE
2000 ANNUAL MEETING OF STOCKHOLDERS

NOVEMBER 16, 2000

To the Stockholders:

A Special Meeting of the Stockholders of MERCURY COMPUTER SYSTEMS, INC. in lieu of the 2000 Annual Meeting of Stockholders will be held on Thursday, November 16, 2000 at 10:00 a.m. at The Boston Museum of Science, Science Park, Boston, Massachusetts, for the following purposes:

1. To elect Mr. James R. Bertelli as a Director for a term of three years, as more fully described in the accompanying Proxy Statement.
2. To elect Mr. R. Schorr Berman as a Director for a term of three years, as more fully described in the accompanying Proxy Statement.
3. To consider and act upon any other business which may properly come before the meeting.

The Board of Directors has fixed the close of business on October 10, 2000, as the record date for the meeting. All stockholders of record on that date are entitled to notice of and to vote at the meeting.

PLEASE COMPLETE AND RETURN THE ENCLOSED PROXY IN THE ENVELOPE PROVIDED WHETHER OR NOT YOU INTEND TO BE PRESENT AT THE MEETING IN PERSON.

By order of the Board of Directors

/s/ Anthony J. Medaglia, Jr.
ANTHONY J. MEDAGLIA, JR., Clerk

Chelmsford, Massachusetts
October 20, 2000

MERCURY COMPUTER SYSTEMS, INC.

PROXY STATEMENT

This Proxy Statement is furnished in connection with the solicitation of proxies by the Board of Directors of Mercury Computer Systems, Inc. (the "Corporation") for use at the Special Meeting of Stockholders in lieu of the 2000 Annual Meeting of Stockholders to be held on Thursday, November 16, 2000, at the time and place set forth in the notice of the meeting, and at any adjournments thereof (the "Meeting"). The approximate date on which this Proxy Statement and form of proxy are first being sent to stockholders is October 20, 2000.

VOTING AND REVOCABILITY OF PROXIES

If the enclosed proxy is properly executed and is received prior to the Meeting, it will be voted in the manner directed by the stockholder. If no instructions are specified with respect to any particular matter to be acted upon, proxies will be voted in favor thereof. Any person giving the enclosed form of proxy has the power to revoke it by voting in person at the meeting, or by giving written notice of revocation to the Clerk of the Corporation any time before the proxy is exercised.

The holders of a majority in interest of all Common Stock issued, outstanding and entitled to vote are required to be present in person or to be represented by proxy at the meeting in order to constitute a quorum for the transaction of business. The election of the nominees for Director will be decided by plurality vote. Both abstentions and broker "non-votes" are counted as present for the purposes of determining the existence of a quorum for the transaction of business. However, for purposes of determining the number of shares voting on a particular proposal, abstentions and broker "non-votes" are not counted as votes cast or shares voting.

The Corporation will bear the cost of the solicitation. It is expected that the solicitation will be made primarily by mail, but regular employees or representatives of the Corporation (none of whom will receive any extra compensation for their activities) may also solicit proxies by telephone, telegraph and in person and arrange for brokerage houses and other custodians, nominees, and fiduciaries to send proxies and proxy materials to their principals at the expense of the Corporation.

The Corporation's principal executive offices are located at 199 Riverneck Road, Chelmsford, Massachusetts 01824, telephone number (978) 256-1300.

RECORD DATE AND VOTING SECURITIES

Only stockholders of record at the close of business on October 10, 2000 are entitled to notice of and to vote at the Meeting. On that date the Corporation had outstanding and entitled to vote 21,423,437 shares of Common Stock, par value \$.01 per share. Each outstanding share of the Corporation's Common Stock entitles the record holder to one vote.

ELECTION OF DIRECTORS

Pursuant to Massachusetts law, the Board of Directors is divided into three classes, with each class as nearly equal in number as possible. Presently, the Board of Directors consists of seven members, with Mr. James A. Dwyer, Dr. Albert Belle Isle and Mr. Melvin Sallen serving as Class I Directors; Dr. Gordon Baty and Mr. Sherman Mullin serving as Class II Directors; and Mr. James Bertelli and Mr. R. Schorr Berman serving as Class III Directors. The terms of the Class I, Class II, and Class III Directors expire in 2001, 2002, and 2000, respectively. Following expiration of its respective current term, each class is then elected for a subsequent three-year term.

It is proposed that the Class III nominees listed below, whose terms expire at this meeting, be elected to serve a term of three years and until their successors are duly elected and qualified or until they sooner die, resign or are removed.

The persons named in the accompanying proxy will vote, unless authority is withheld, for the election of the nominees named below. If such nominees should become unavailable for election, which is not anticipated, the persons named in the accompanying proxy will vote for such substitute as the Board of Directors may recommend. Mr. Bertelli is an Executive Officer of the Corporation. Mr. Berman is not related to any Executive Officer of the Corporation or its subsidiaries.

NAME OF NOMINEE -----	AGE ---	YEAR FIRST ELECTED A DIRECTOR -----	POSITION WITH THE CORPORATION OR PRINCIPAL OCCUPATION DURING PAST FIVE YEARS -----
NOMINATED FOR A TERM ENDING IN 2003:			
James R. Bertelli.....	60	1981	Mr. Bertelli co-founded the Corporation in 1981, and has served as the Corporation's President, Chief Executive Officer, and a Director since that time. Prior to founding the Corporation, Mr. Bertelli founded a manufacturer's representative organization after a brief period at Analogic Corporation in sales management positions. Prior to that, Mr. Bertelli served as a marketing manager for Digital Equipment Corporation's telephone industry products group. After a tour of duty in the Army Signal Corps, Mr. Bertelli began his high-tech career with RCA Corporation as a computer systems analyst, and later moved into computer sales with RCA and Univac.
R. Schorr Berman.....	52	1993	Mr. Berman is President and Chief Executive Officer of MDT Advisers, Inc., a money management firm. Mr. Berman is also a director of Arch Communications Group, Inc. and numerous private companies.
SERVING A TERM ENDING IN 2001:			
Dr. Albert P. Belle Isle.....	57	1986	Dr. Belle Isle is an independent investor in technology-based companies, was President of Custom Silicon, Inc., a semiconductor company, and has also served as a Vice President of Wang Laboratories, Inc. and in various technical and business management positions during fifteen years with the General Electric Company.

NAME OF NOMINEE	AGE	YEAR FIRST ELECTED A DIRECTOR	POSITION WITH THE CORPORATION OR PRINCIPAL OCCUPATION DURING PAST FIVE YEARS
James A. Dwyer.....	63	2000	Mr. Dwyer currently President of Wireless One Network, Inc., a former cellular operator in Florida, and President of Qualicom Systems, Inc., an SMR company located in southwest Florida. Previously, Mr. Dwyer was President of American Cellular Telephone Corp., and Attorney and Vice President, International Relations of Western Union International. Mr. Dwyer currently serves on the Board of Directors of the Cellular Telecommunications Industry Association, and was previously Chairman of its Executive Committee and Chairman of its Legislative and Regulatory Committee.
Melvin Sallen.....	72	1990	Since 1991, Mr. Sallen has served as a consultant to the Corporation in the area of Japanese Strategies and Sales. Mr. Sallen served as Senior Vice President of Analog Devices, Inc. from 1966 through 1992. Since 1992, Mr. Sallen has served as President of Komon International, Inc., an international consulting company. Mr. Sallen is also a director of Tech On Line, Inc. and Copley Controls Corporation.
SERVING A TERM ENDING IN 2002:			
Dr. Gordon B. Baty.....	61	1983	Dr. Baty has been a partner of Zero Stage Capital Co., Inc., a venture capital firm, since 1986. Dr. Baty was the founder and Chief Executive Officer of Icon Corporation, Context Corporation, and Wormser Engineering, Inc. Dr. Baty is also a Director of nine private companies.
Sherman N. Mullin.....	64	1994	Mr. Mullin served as President of Lockheed Advanced Development Co., a defense contractor, from 1990 through 1994. Mr. Mullin currently serves as an ad-hoc advisor to the U.S. Air Force Scientific Advisory Board.

INFORMATION CONCERNING THE BOARD OF DIRECTORS

During fiscal year 2000, there were twelve (12) meetings of the Board of Directors of the Corporation, two (2) meetings of the Audit Committee (see below), and fourteen (14) meetings of the Compensation Committee (see below). All of the Directors attended at least 75% of the aggregate of (i) the total number of meetings of the Board of Directors and (ii) the total number of meetings held by committees of the Board of Directors on which they served. Each Director receives cash compensation in the amount of \$9,000 for the fiscal year, paid quarterly, plus an additional \$2,000 for each meeting attended, as well as reimbursement for reasonable expenses incurred in connection with attendance at Board and committee meetings. In addition, committee members and the committee chairman receive an annual retainer of \$1,000 and \$1,750, respectively, paid quarterly, as well as an additional \$300 for attending a meeting not held on the same day as a meeting of the Board of Directors. The cash compensation paid to Directors in their capacity as such during fiscal year 2000 was as follows:

DIRECTOR -----	CASH COMPENSATION -----
Gordon B. Baty.....	\$29,350
Albert P. Belle Isle.....	\$28,600
R. Schorr Berman.....	\$28,500
James R. Bertelli.....	\$ 0
Sherman N. Mullin.....	\$26,600
Melvin Sallen.....	\$27,650

In addition to cash compensation, Directors are also granted options pursuant to the 1998 Stock Option Plan for Non-Employee Directors.

The Board of Directors has a standing Audit Committee and Compensation Committee. The members of the Audit Committee are Dr. Baty, Dr. Belle Isle and Mr. Berman. The Audit Committee reviews the scope of the Corporation's engagement of its independent public accountant and their reports. The Audit Committee also meets with the financial staff of the Corporation to review accounting procedures and reports. The Compensation Committee is currently comprised of Messrs. Berman, Mullin and Sallen. The Compensation Committee is authorized to review and make recommendations to the Board of Directors regarding the salaries and bonuses to be paid executive officers and to administer the Corporation's various stock option and stock purchase plans.

COMPENSATION COMMITTEE INTERLOCKS AND INSIDER PARTICIPATION

During fiscal year 2000, Messrs. Berman, Mullin and Sallen served on the Compensation Committee of the Corporation's Board of Directors for the entire year. The Corporation had no outstanding loans to the Directors during fiscal year 2000.

PRINCIPAL HOLDERS OF VOTING SECURITIES

The following table shows, as of September 1, 2000, any person who is known by the Corporation to be the beneficial owner of more than five percent of any class of voting securities of the Corporation. For purposes of this Proxy Statement, beneficial ownership is defined in accordance with Rule 13d-3 under the Securities Exchange Act of 1934 and means generally the power to vote or dispose of the securities, regardless of any economic interest therein.

NAME AND ADDRESS OF BENEFICIAL OWNER -----	AMOUNT AND NATURE OF BENEFICIAL OWNERSHIP -----	PERCENT OF CLASS -----
Memorial Drive Trust(1).....	1,694,522	7.9%
R. Schorr Berman(2).....	1,721,576	8.0%
Scudder Kemper Investments(3).....	2,108,900	9.8%
Peter B. Cannell & Co., Inc.(4).....	1,235,000	5.8%

(1) The address of this beneficial owner is MDT Advisers, Inc., 125 Cambridge Park Drive, Cambridge, MA, attention: R. Schorr Berman. Shares are held of record by MD Co., a partnership organized by Memorial Drive Trust to hold securities on behalf of Memorial Drive Trust.

(2) Includes options to purchase 22,054 shares exercisable within sixty days of September 1, 2000, and 1,694,522 shares owned by MD Co., as to which Mr. Berman may be deemed beneficial owner and as to which Mr. Berman disclaims beneficial ownership except to the extent of his direct pecuniary interest. Mr. Berman is President of MDT Advisers, Inc., which manages the investments of MD Co. See note (1) above. Mr. Berman's address is c/o MDT Advisers, Inc., 125 Cambridge Park Drive, Cambridge, MA.

(3) The address of Scudder Kemper Investments is 345 Park Avenue, New York, NY 10154.

(4) The address of Peter B. Cannell & Co., Inc. is 645 Madison Avenue, New York, NY 10022.

SECURITY OWNERSHIP OF DIRECTORS AND EXECUTIVE OFFICERS

The following information is furnished as of September 1, 2000, with respect to Common Stock of the Corporation beneficially owned within the meaning of Rule 13d-3 by all Directors of the Corporation and nominees, and by all Directors and Executive Officers as a group. Unless otherwise indicated, the individuals named held sole voting and investment power over the shares listed below.

NAME AND ADDRESS OF BENEFICIAL OWNER -----	AMOUNT AND NATURE OF BENEFICIAL OWNERSHIP -----	PERCENT OF CLASS -----
James R. Bertelli (1).....	939,248	4.4%
Donald Barry.....	32,760	*
Vincent A. Mancuso (2).....	36,069	*
G. Mead Wyman (3).....	113,805	*
Gordon B. Baty (4).....	130,479	*
Albert P. Belle Isle (4).....	104,054	*
R. Schorr Berman (4)(5).....	1,721,576	8.0%
Sherman N. Mullin (6).....	42,534	*
Melvin Sallen (7).....	59,696	*
Douglas Flood (8).....	8,286	*
Steven Chasen (9).....	67,360	*
All Directors and Executive Officers As a Group (11 persons) (10).....	3,255,867	15.2%

* Less than 1.0%.

(1) Includes 2,400 shares owned by Mr. Bertelli's spouse, and options to purchase 74,478 shares exercisable within sixty days of September 1, 2000.

(2) Includes options to purchase 10,800 shares exercisable within sixty days of September 1, 2000.

- (3) Includes options to purchase 30,000 shares exercisable within sixty days of September 1, 2000.
- (4) Includes options to purchase 22,054 shares exercisable within sixty days of September 1, 2000.
- (5) Includes 1,694,522 shares owned by MD Co., as to which Mr. Berman may be deemed beneficial owner and as to which Mr. Berman disclaims beneficial ownership except to the extent of his direct pecuniary interest. Mr. Berman is President of MDT Advisers, Inc., which manages the investments of MD Co. See footnote (1) in "Principal Holders of Voting Securities" above.
- (6) Includes options to purchase 40,034 shares exercisable within sixty days of September 1, 2000.
- (7) Includes 800 shares owned by Mr. Sallen's wife, 4,000 shares owned by the Lois S. Sallen Trust, of which Mr. Sallen is a co-trustee and beneficiary, and options to purchase 18,396 shares exercisable within sixty days of September 1, 2000.
- (8) Includes options to purchase 8,000 shares exercisable within sixty days of September 1, 2000.
- (9) Includes options to purchase 12,900 shares exercisable within sixty days of September 1, 2000.
- (10) Includes 260,770 shares which certain Directors and Executive Officers have the right to acquire upon the exercise of outstanding options, exercisable presently or within sixty days of September 1, 2000.

Notwithstanding anything to the contrary set forth in any of the Corporation's previous filings under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, that might incorporate future filings, including this Proxy Statement, in whole or in part, the following report and the Performance Graph on page 9 shall not be incorporated by reference into any such filing.

COMPENSATION COMMITTEE REPORT ON EXECUTIVE COMPENSATION

The Compensation Committee (the "Committee") of the Board of Directors has furnished the following report on executive compensation.

The Committee administers the Corporation's stock option plans, makes annual recommendations to the full Board of Directors regarding the chief executive officer's salary, bonus, and equity-based compensation, and oversees the executive compensation program for the Corporation's other employees, including its executive officers. The Committee is composed of three independent directors who are not employees of the Corporation.

COMPENSATION PHILOSOPHY

The Corporation's compensation policies for executive officers are based on the belief that the interests of executives should be closely aligned with those of the Corporation's shareholders. The compensation policies are designed to achieve the following objectives:

- Offer compensation opportunities that attract highly qualified executives, reward outstanding initiative and achievement, and retain the leadership and skills necessary to build long-term shareholder value.
- Maintain a significant portion of executives' total compensation at risk, tied to both the annual and long-term financial performance of the Corporation and the creation of shareholder value.
- Further the Corporation's short and long-term strategic goals and values by aligning compensation with business objectives and individual performance.

EXECUTIVE COMPENSATION

Compensation of executive officers other than the chief executive officer is determined by the chief executive officer and is subject to review by the Committee. The Committee historically has obtained outside survey data regarding executive and senior level compensation and provided this data to the chief executive officer to assist him in making compensation decisions. Compensation for executive officers is comprised of base salary, annual cash bonuses and periodic stock option grants.

Base salary. Annual determinations of base salaries are made based in part on the competitive pay practices of companies in the same industry of similar size and market capitalization, the skills, performance level, and contribution to the business of the individual executives, and the needs of the Corporation.

Annual cash incentive awards. The Corporation's executive officers are eligible to receive annual cash bonus awards designed to motivate executives to attain short-term and longer-term corporate and individual management goals. Award levels vary depending upon the achievement of performance criteria established by the chief executive officer. The bonus criteria for each executive officer are tailored to the achievement of financial and operational goals specifically developed for that officer's area or responsibility, as well as overall corporate performance and the attainment of other individual objectives. Consequently, there is a direct link between the compensation of the executive officers and the Corporation's performance.

Industry benchmark bonus. When Mercury's results exceed the performance of the 50th percentile of the high-tech universe of the Russell 2000, an add on will be applied to the executive officers compensation. In calculating this bonus, Mercury's performance is based on revenue growth, earnings growth and profit before tax percentage of sales.

Long-term incentives. The Committee believes that stock options are an excellent vehicle for compensating its officers and employees. The Corporation provides long-term incentives through its stock option plans, a purpose of which is to create a direct link between executive compensation and increases in shareholder value. Stock options are granted at fair market value and vest in installments, generally over four years. When determining option awards for an executive officer, the Committee considers the executive's current contribution to Corporation performance, the anticipated contribution to meeting the Corporation's long-term strategic performance goals, and industry practices and norms. Long-term incentives granted in prior years and existing levels of stock ownership are also taken into consideration. Because the receipt of value by an executive officer under a stock option is dependent upon an increase in the price of the Corporation's Common Stock, this portion of the executive's compensation is directly aligned with an increase in shareholder value.

CHIEF EXECUTIVE COMPENSATION

The chief executive officer's compensation is comprised of base salary, annual cash incentive awards and stock option grants.

In determining the base salary paid to Mr. Bertelli for the year ended June 30, 2000, the Committee considered his level of responsibility, salary increases awarded to him in the past, his experience, his potential, and compensation programs of other companies of similar size and characteristics.

Annual cash bonuses and stock option grants to Mr. Bertelli are based on the attainment of individual and corporate performance targets established at the beginning of the fiscal year. The annual cash bonus and option grants to Mr. Bertelli for the fiscal year ended June 30, 2000 reflect the achievement of predetermined targets based on the Corporation's revenue, pre-tax income, and certain non-financial goals.

Mr. Bertelli's base compensation increased 10%, from \$302,500 during the fiscal year ended June 30, 1999 to \$332,750 during the fiscal year ended June 30, 2000. Mr. Bertelli's cash bonus of \$241,620 and grant of options to purchase 32,381 shares of common stock in respect of the fiscal year ended June 30, 2000, were based upon achievement of a significant portion of the pre-determined targets described above. Mr. Bertelli's cash bonus and stock option grant reflect increases in the Corporation's revenues and pre-tax profits of 42% and 80% respectively, from fiscal 1999 to fiscal 2000.

In 1993, the Internal Revenue Code was amended to limit the deduction a public company is permitted for compensation paid in 1994 and thereafter to the chief executive officer and to the four most highly compensated executive officers, other than the chief executive officer. Generally, amounts paid in excess of \$1,000,000 to a covered executive, other than performance-based compensation, cannot be deducted. In order to qualify as performance-based compensation under the new tax law, certain requirements must be met, including approval of the performance measures by the stockholders. The Committee intends to consider ways to maximize deductibility of executive compensation, while retaining the discretion the Committee considers appropriate to compensate executive officers at levels commensurate with their responsibilities and achievements.

COMPENSATION COMMITTEE
Melvin J. Sallen, Chairman
R. Schorr Berman
Sherman Mullin

PERFORMANCE GRAPH

Set forth below is a line graph comparing the cumulative total stockholder return of the Corporation's Common Stock against the cumulative total return of the MS Group 810 Diversified Computer Systems Index (consisting of 14 companies) and the Russell 2000 Index for the period 1/31/98 through 6/30/00. The graph and table assume that \$100 was invested on 1/31/98 in each of the Corporation's Common Stock, the MG Group 810 Diversified Computer Systems Index, and the Russell 2000 Index and that all dividends were reinvested. This data was furnished by Media General Financial Services, Richmond, Virginia.

	MERCURY COMPUTER SYSTEMS, INC. -----	MG GROUP INDEX -----	RUSSELL 2000 INDEX -----
1/31/98	100.00	100.00	100.00
6/30/98	138.10	108.24	106.61
6/30/99	307.14	230.49	107.19
6/30/00	615.48	274.74	120.96

EXECUTIVE OFFICERS

NAME	AGE	POSITION
James R. Bertelli.....	60	President, Chief Executive Officer, Director and Co-founder
G. Mead Wyman.....	60	Senior Vice President, Chief Financial Officer and Treasurer
Donald Barry.....	55	Vice President and Director of Medical Business Group
Vincent A. Mancuso.....	53	Vice President and Director of Government Electronics Group
Douglas Flood.....	43	Vice President, Corporate Development
Steven Chasen.....	45	Senior Vice President and General Manager, Operations

MR. BERTELLI co-founded the Corporation in 1981, and has served as the Corporation's President, Chief Executive Officer and a Director since that time. For further information, see "Election of Directors."

MR. WYMAN has been Senior Vice President, Chief Financial Officer and Treasurer of the Corporation since September 1998. From November 1996 until September 1998, he served as Vice President, Chief Financial Officer and Treasurer. Prior to joining Mercury, Mr. Wyman was Chief Financial Officer at Dataware Technologies, Inc., a software design firm, from 1992 to 1996. Previously, he was a general partner at Hambrecht and Quist Venture Partners, and was the first Chief Financial Officer at Lotus Development Corporation. Mr. Wyman also has held senior financial management positions at Prime Computer Inc. and Millipore Corporation.

DR. BARRY was Vice President and Director of the Medical Business Group of the Corporation from 1992 to October, 1999. Prior to that he served as General Manager at Picker International, Inc., Chief Operating Officer at ESA, Inc., and Director of International Marketing at American Motors Corp. Mr. Barry's employment with the Corporation terminated on October 22, 1999.

MR. MANCUSO joined the Corporation in January 1997 as Vice President and Director of Government Electronics Group. Before joining Mercury, Mr. Mancuso was Director of Federal Sales at Siemens Pyramid Information Systems, Inc. from 1995 to 1996. From 1993 to 1995, he was Vice President of consulting at Federal Sources, Inc., an information services company. From 1991 to 1992, he was Vice President and General Manager at Government Technology Services, Inc., Advanced Systems Division. Mr. Mancuso served nineteen years at Hewlett Packard in various sales and marketing management positions.

MR. FLOOD has served as Vice President, Corporate Development since 1998. Prior to joining the Corporation, Mr. Flood was Senior Vice President for Business Development and Planning at FTP Software, Inc. from 1993 to 1998. Mr. Flood has also held positions at the law firm of Fish & Richardson, Dun & Bradstreet Corp., and Raytheon Company.

MR. CHASEN has served as Senior Vice President and General Manager, Operations of the Corporation during 2000. Mr. Chasen also served as Vice President and General Manager, Product Operations during 1999 and as Vice President of Customer Service from 1991 to 1998. Prior to joining the Corporation, Mr. Chasen served as Senior Director of Sales Support/Service at Numerix Corp., was in charge of new business development at CMES, Inc., and was an International Technical Support Manager at Ortho Diagnostic Systems.

EXECUTIVE COMPENSATION

The following table sets forth all compensation awarded to, earned by or paid to the Corporation's Chief Executive Officer and each of the Corporation's four other most highly compensated executive officers (the "Named Executive Officers") for the Corporation's three most recent fiscal years ended June 30, 2000.

SUMMARY COMPENSATION TABLE

NAME AND PRINCIPAL POSITION	YEAR	ANNUAL COMPENSATION			LONG-TERM COMPENSATION	
		SALARY(\$)	BONUS(\$)	OTHER ANNUAL COMPENSATION(\$)	SECURITIES UNDERLYING OPTIONS/SARS(#)	ALL OTHER COMPENSATION
James R. Bertelli, President and CEO.....	2000	\$332,750	\$241,620	\$8,451(1)	30,104	\$25,437(2)
	1999	\$302,500	\$136,730	\$6,000(1)	15,052	\$23,537(3)
	1998	\$275,000	\$116,600	\$6,000(1)	53,601	\$28,194(4)
G. Mead Wyman, Senior Vice President, Treasurer and CFO.....	2000	\$200,000	\$ 92,086	\$2,398(1)	26,000	\$16,795(5)
	1999	\$185,000	\$ 41,847	--	5,000	\$14,895(6)
	1998	\$175,000	\$ 50,620	--	--	\$ 4,652(7)
Vincent A. Mancuso, Vice President and Director of Government Electronics Group.....	2000	\$170,000	\$1117,975	\$2,596(1)	18,000	\$12,042(8)
	1999	\$170,000	\$125,000	--	2,000	\$ 4,220(9)
	1998	\$120,000	\$147,000	--	--	\$ 3,200(10)
Douglas Flood, Vice President, Corporate Development(11).....	2000	\$175,000	\$ 72,025	\$2,398(1)	18,000	\$ 5,100(12)
	1999	\$111,346	\$ 45,500	\$ --	80,000	\$ 1,500(13)
	1998	\$ --	\$ --	\$ --	--	\$ --
Steven Chasen, Senior Vice President and General Manager, Operations.....	2000	\$175,000	\$ 83,376	\$2,398(1)	18,000	\$13,033(14)
	1999	\$145,000	\$ 41,847	\$ --	2,000	\$11,133(15)
	1998	\$136,000	\$ 64,188	\$ --	51,000	\$10,128(16)

(1) Represents automobile allowance and compensation related to automobile leases provided by the Corporation.

(2) Represents \$5,100 matching contribution by the Corporation into Mr. Bertelli's 401(k) plan for the benefit of Mr. Bertelli, and a premium of \$20,337 paid by the Corporation for a split dollar life insurance policy for the benefit of Mr. Bertelli.

(3) Represents \$3,200 matching contribution by the Corporation into Mr. Bertelli's 401(k) plan for the benefit of Mr. Bertelli, and a premium of \$20,337 paid by the Corporation for a split dollar life insurance policy for the benefit of Mr. Bertelli.

(4) Represents \$3,200 matching contribution by the Corporation into Mr. Bertelli's 401(k) plan for the benefit of Mr. Bertelli, and a premium of \$24,994 paid by the Corporation for a split dollar life insurance policy for the benefit of Mr. Bertelli.

(5) Represents \$5,100 matching contribution by the Corporation into Mr. Wyman's 401(k) plan for the benefit of Mr. Wyman, and a premium of \$11,695 paid by the Corporation for a split dollar life insurance policy for the benefit of Mr. Wyman.

- (6) Represents \$3,200 matching contribution by the Corporation into Mr. Wyman's 401(k) plan for the benefit of Mr. Wyman, and a premium of \$11,695 paid by the Corporation for a split dollar life insurance policy for the benefit of Mr. Wyman.
- (7) Represents \$3,200 matching contribution by the Corporation into Mr. Wyman's 401(k) plan for the benefit of Mr. Wyman, and a premium of \$1,452 paid by the Corporation for a split dollar life insurance policy for the benefit of Mr. Wyman.
- (8) Represents \$5,100 matching contribution by the Corporation into Mr. Mancuso's 401(k) plan for the benefit of Mr. Mancuso , and a premium of \$6,942 paid by the Corporation for a split dollar life insurance policy for the benefit of Mr. Mancuso.
- (9) Represents \$3,200 matching contribution by the Corporation into Mr. Mancuso's 401(k) plan for the benefit of Mr. Mancuso, and a premium of \$1,020 paid by the Corporation for a split dollar life insurance policy for the benefit of Mr. Mancuso.
- (10) Represents \$3,200 matching contribution by the Corporation into Mr. Mancuso's 401(k) plan for the benefit of Mr. Mancuso.
- (11) 1999 salary was earned from October 1998, when the Corporation hired Mr. Flood, through June 30, 1999.
- (12) Represents \$5,100 matching contribution by the Corporation into Mr. Flood's 401(k) plan for the benefit of Mr. Flood.
- (13) Represents \$1,500 matching contribution by the Corporation into Mr. Flood's 401(k) plan for the benefit of Mr. Flood.
- (14) Represents \$5,100 matching contribution by the Corporation into Mr. Chasen's 401(k) plan for the benefit of Mr. Chasen, and a premium of \$7,933 paid by the Corporation for a split dollar life insurance policy for the benefit of Mr. Chasen.
- (15) Represents \$3,200 matching contribution by the Corporation into Mr. Chasen's 401(k) plan for the benefit of Mr. Chasen, and a premium of \$7,933 paid by the Corporation for a split dollar life insurance policy for the benefit of Mr. Chasen.
- (16) Represents \$1,787 matching contribution by the Corporation into Mr. Chasen's 401(k) plan for the benefit of Mr. Chasen, and a premium of \$8,341 paid by the Corporation for a split dollar life insurance policy for the benefit of Mr. Chasen.

STOCK OPTION AND STOCK PURCHASE PLANS

The Corporation has in effect its 1998 Stock Option Plan for Non-Employee Directors, 1997 Employee Stock Purchase Plan, 1997 Stock Option Plan, 1993 Stock Option Plan for Non-Employee Directors, 1991 Stock Option Plan, and 1982 Stock Option Plan (together, the "Stock Option and Purchase Plans"). The Corporation is no longer permitted to grant options under either its 1982 Stock Option Plan or its 1993 Stock Option Plan for Non-Employee Directors; however, certain persons continue to hold options to purchase shares of common stock granted under such plans. The Compensation Committee of the Board of Directors is responsible for the administration and interpretation of the Stock Option and Purchase Plans. Copies of the Stock Option and Purchase Plans are available from the Clerk of the Corporation upon request.

OPTION GRANTS, EXERCISES AND HOLDINGS

Option Grants. The following table sets forth certain information regarding options granted to the Named Executive Officers during the year ended June 30, 2000. The Corporation did not issue any stock appreciation rights ("SARs") during the three most recent fiscal years ended June 30, 2000.

OPTION/SAR GRANTS IN LAST FISCAL YEAR

NAME	INDIVIDUAL GRANTS				POTENTIAL REALIZABLE VALUE AT ASSUMED ANNUAL RATES OF STOCK PRICE APPRECIATION FOR OPTION TERM (1)	
	NUMBER OF SECURITIES UNDERLYING OPTION/SARS GRANTED(#)	PERCENT OF TOTAL OPTION/SARS GRANTED TO EMPLOYEES IN FISCAL YEAR (%)	EXERCISE PRICE (\$/SHARE)	DATE	5% (\$)	10% (\$)
James R. Bertelli (2)	30,104	3.2%	\$14.50	9/13/99	\$274,518	\$695,681
G. Mead Wyman(3)	26,000	2.9%	\$23.44	11/2/99	\$383,233	\$971,187
Vincent A. Mancuso(4)	18,000	1.9%	\$23.44	11/2/99	\$265,315	\$672,360
Douglas Flood(5)	18,000	1.9%	\$23.44	11/2/99	\$265,315	\$672,360
Steven Chasen(6)	18,000	1.9%	\$23.44	11/2/99	\$265,315	\$672,360

(1) In accordance with the rules of the Securities and Exchange Commission (the "Commission"), shown are the gains or "option spreads" that would exist for the respective options granted. These gains are based on the assumed rates of annual compound stock price appreciation of 5% and 10% from the date the option was granted over the full option term. These assumed annual compound rates of stock price appreciation are mandated by the rules of the Commission and do not represent the Corporation's estimate or projection of future Common Stock prices.

(2) No options were exercisable at June 30, 2000. The remaining options vest as to 30,104 shares in increments of 7,526 shares on September 13 in each of 2000, 2001, 2002, and 2003 so long as Mr. Bertelli's employment with the Corporation has not been terminated.

(3) No options were exercisable at June 30, 2000. The remaining options vest as to 26,000 shares in increments of 6,500 shares on November 2 in each of 2000, 2001, 2002, and 2003 so long as Mr. Wyman's employment with the Corporation has not been terminated.

(4) No options were exercisable at June 30, 2000. The remaining options vest as to 18,000 shares in increments of 4,500 shares on November 2 in each of 2000, 2001, 2002, and 2003 so long as Mr. Mancuso's employment with the Corporation has not been terminated.

- (5) No options were exercisable at June 30, 2000. The remaining options vest as to 18,000 shares in increments of 4,500 shares on November 2 in each of 2000, 2001, 2002, and 2003 so long as Mr. Flood's employment with the Corporation has not been terminated.
- (6) No options were exercisable at June 30, 2000. The remaining options vest as to 18,000 shares in increments of 4,500 shares on November 2 in each of 2000, 2001, 2002, and 2003 so long as Mr. Chasen's employment with the Corporation has not been terminated.

AGGREGATED OPTION EXERCISES IN LAST
FISCAL YEAR AND 6/30/00 OPTION VALUES

The following table provides information on option exercises and on the value of the Named Executive Officers' unexercised options at June 30, 2000.

NAME	SHARES ACQUIRED ON EXERCISE (#)	VALUE REALIZED (\$)(2)	NUMBER OF SECURITIES UNDERLYING UNEXERCISED OPTIONS AT FISCAL YEAR-END		VALUE OF UNEXERCISED IN-THE-MONEY OPTIONS AT FISCAL YEAR-END \$(1)	
			EXERCISABLE	UNEXERCISABLE	EXERCISABLE	UNEXERCISABLE
James R. Bertelli.....	98,770	2,286,973	41,652	80,704	\$1,192,035	\$1,980,040
G. Mead Wyman.....	0	0	28,000	96,000	837,500	2,307,625
Vincent A. Mancuso....	20,800	611,900	10,000	41,200	303,125	845,000
Douglas Flood.....	16,000	638,680	0	82,000	0	1,675,750
Steven Chasen.....	17,460	655,732	0	46,040	0	932,713

(1) Value of unexercised in-the-money stock options represents the difference between the exercise prices of the stock options and the closing price of the Corporation's Common Stock on The Nasdaq National Market on June 30, 2000.

(2) Value realized on exercise represents the difference between the exercise prices of stock options exercised and the trading price of the Corporation's Common Stock on The Nasdaq National Market on the date of such exercise.

OTHER MATTERS

Independent Public Accountants. The Board of Directors has appointed PricewaterhouseCoopers LLP as independent auditors to examine the consolidated financial statements of the Corporation and its subsidiaries for the fiscal year ended June 30, 2001.

A representative of PricewaterhouseCoopers LLP is expected to be present at the Meeting and will have the opportunity to make a statement if he or she so desires and to respond to appropriate questions. The engagement of PricewaterhouseCoopers LLP was approved by the Board of Directors at the recommendation of the Audit Committee of the Board of Directors.

Section 16(a) Beneficial Ownership Reporting Compliance. Section 16(a) of the Securities Exchange Act of 1934 requires the Corporation's officers and Directors and persons beneficially owning more than 10% of the outstanding Common Stock of the Corporation to file reports of beneficial ownership and changes in beneficial ownership with the Securities and Exchange Commission ("SEC"). Officers, Directors, and greater than 10% beneficial owners of Common Stock are required by SEC regulation to furnish the Corporation with copies of all Section 16(a) forms they file.

Based solely on copies of such forms furnished as provided above, or written representations that no Forms 5 were required, the Corporation believes that during the fiscal year ended June 30, 2000, all Section 16(a) filing requirements applicable to its officers, Directors, and beneficial owners of greater than 10% of its Common Stock were complied with, except that (i) through inadvertence, four reports relating in the aggregate to six transactions by G. Mead Wyman were not timely filed, (ii) through inadvertence, a Form 3 by Steven Chasen was not timely filed, and (iii) through inadvertence, a Form 3 and two reports relating in the aggregate to six transactions by Douglas Flood were not timely filed.

Deadlines for Submission of Stockholder Proposals. Under regulations adopted by the Securities and Exchange Commission, any proposal submitted for inclusion in the Corporation's Proxy Statement relating to the Annual Meeting of Stockholders to be held in 2001 must be received at the Corporation's principal executive offices in Chelmsford, Massachusetts on or before June 20, 2001. Receipt by the Corporation of any such proposal from a qualified stockholder in a timely manner will not ensure its inclusion in the proxy material because there are other requirements in the proxy rules for such inclusion. Stockholders interested in submitting such a proposal are advised to contact knowledgeable counsel with regards to the detailed requirements of such securities rules. In accordance with the provisions of Rule 14a-4(c) promulgated under the Securities Exchange Act of 1934, if the Corporation does not receive notice of a stockholder proposal to be raised at its 2001 Annual Meeting of Stockholders on or before June 20, 2001, then in such event, the proxies shall be allowed to use their discretionary voting authority when the proposal is raised at the 2001 Annual Meeting of Stockholders.

In addition to the Securities and Exchange Commission requirements regarding stockholder proposals, the Corporation's By-Laws contain provisions regarding matters to be brought before stockholder meetings. If stockholder proposals, including proposals regarding the election of Director, are to be considered at the 2001 Annual Meeting of Stockholders, notice of them whether or not they are included in the Corporation's proxy statement and form of proxy, must be given by personal delivery or by United States mail, postage prepaid, to the Clerk of the Corporation on or before August 6, 2001.

Other Matters. Management knows of no matters which may properly be and are likely to be brought before the meeting other than the matters discussed herein. However, if any other matters properly come before the meeting, the persons named in the enclosed proxy will vote in accordance with their best judgment.

The cost of this solicitation will be borne by the Corporation. It is expected that the solicitation will be made primarily by mail, but regular employees or representatives of the Corporation (none of whom will receive any extra compensation for their activities) may also solicit proxies by telephone, telegraph and in person and arrange for brokerage houses and other custodians, nominees and fiduciaries to send proxies and proxy material to their principals at the expense of the Corporation.

10-K REPORT. THE CORPORATION WILL PROVIDE EACH BENEFICIAL OWNER OF ITS SECURITIES WITH A COPY OF AN ANNUAL REPORT ON FORM 10-K, INCLUDING THE FINANCIAL STATEMENTS AND SCHEDULES THERETO, REQUIRED TO BE FILED WITH THE SECURITIES AND EXCHANGE COMMISSION FOR THE CORPORATION'S MOST RECENT FISCAL YEAR, WITHOUT CHARGE, UPON RECEIPT OF A WRITTEN REQUEST FROM SUCH PERSON. SUCH REQUEST SHOULD BE SENT TO MR. G. MEAD WYMAN, CHIEF FINANCIAL OFFICER, MERCURY COMPUTER SYSTEMS, INC., 199 RIVERNECK ROAD, CHELMSFORD, MASSACHUSETTS 01824.

VOTING PROXIES

The Board of Directors recommends an affirmative vote on all proposals specified. Proxies will be voted as specified. If signed proxies are returned without specifying an affirmative or negative vote on any proposal, the shares represented by such proxies will be voted in favor of the Board of Directors' recommendations.

By order of the Board of Directors

/s/ Anthony J. Medaglia, Jr.
ANTHONY J. MEDAGLIA, JR., Clerk

Chelmsford, Massachusetts
October 20, 2000

MERCURY COMPUTER SYSTEMS, INC.
SPECIAL MEETING IN LIEU OF
ANNUAL MEETING OF STOCKHOLDERS
NOVEMBER 16, 2000

The undersigned hereby appoints James R. Bertelli and Anthony J. Medaglia, Jr., and each of them, with full power of substitution, proxies to represent the undersigned at the Special Meeting in Lieu of the 2000 Annual Meeting of Stockholders of Mercury Computer Systems, Inc. to be held on November 16, 2000 at 10:00 a.m. at the Boston Museum of Science, Science Park, Boston, Massachusetts, and at any adjournment or adjournments thereof, to vote in the name and place of the undersigned, with all powers which the undersigned would possess if personally present, upon such business as may properly come before the meeting including the proposals as set forth on the reverse side of this Proxy Card.

THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS. THE BOARD RECOMMENDS AN AFFIRMATIVE VOTE ON ALL PROPOSALS SPECIFIED. SHARES WILL BE VOTED AS SPECIFIED. IF NO SPECIFICATION IS MADE, THE SHARES REPRESENTED WILL BE VOTED IN FAVOR OF THE PROPOSALS.

PLEASE VOTE, DATE, AND SIGN THIS PROXY IN THE SPACE PROVIDED AND RETURN IN THE ENCLOSED ENVELOPE, WHETHER OR NOT YOU EXPECT TO ATTEND THE MEETING IN PERSON.

Please sign exactly as your name(s) appear(s) on the Proxy. When shares are held by joint tenants, both should sign. When signing as attorney, executor, administrator, trustee or guardian, please give full title as such. If a corporation, please sign in full corporate name by President or other authorized officer. If a partnership, please sign in partnership name by authorized person.

HAS YOUR ADDRESS CHANGED?

DO YOU HAVE ANY COMMENTS?

{Top half of Proxy Card}

0 PLEASE MARK VOTES AS IN THIS EXAMPLE.

MERCURY COMPUTER SYSTEMS, INC.

Mark box at right if you plan to attend the Meeting. 0

Mark box at right if an address change or comment has been noted on the reverse side of this card. 0

RECORD DATE SHARES: _____

1. Election of Directors:

	FOR	WITHHELD
Mr. James R. Bertelli	0	0

	FOR	WITHHELD
Mr. R. Schorr Berman	0	0

2. In their discretion, the proxies are authorized to vote upon such other business as may properly come before the Meeting.

PLEASE BE SURE TO DATE AND SIGN THIS PROXY.

DATE: _____

SHAREHOLDER SIGN HERE: _____

CO-OWNER SIGN HERE: _____

DETACH CARD

DETACH CARD

DETACH CARD

{Bottom half of Proxy Card}

MERCURY COMPUTER SYSTEMS, INC.

Dear Stockholder:

Please take note of the important information enclosed with this Proxy Card. There are a number of issues related to the management of your company that require your immediate attention and approval. These are discussed in detail in the enclosed proxy materials.

Your vote counts, and you are strongly encouraged to exercise your right to vote your shares.

Please mark the boxes on this Proxy Card to indicate how your shares will be voted. Then sign the card, detach it, and return your proxy vote in the enclosed postage paid envelope.

Your vote must be received prior to the Special Meeting of Stockholders on November 16, 2000.

Thank you in advance for your prompt consideration of these matters.

Sincerely,

Mercury Computer Systems, Inc.