SCHEDULE 14A (RULE 14a-101) INFORMATION REQUIRED IN PROXY STATEMENT

SCHEDULE 14A INFORMATION Proxy Statement Pursuant to Section 14(a) of the Securities Exchange Act of 1934 (Amendment No.)

Filed by the Registrant \square Filed by a Party other than the Registrant \Box Check the appropriate box: Confidential, For Use of the Commission Only (as permitted by Rule Preliminary Proxy Statement **Definitive Proxy Statement** 14a-6(e)(2)) П **Definitive Additional Materials** Soliciting Material Pursuant to § 240.14a-12 Mercury Computer Systems, Inc. (Name of Registrant as Specified In Its Charter) (Name of Person(s) Filing Proxy Statement, if Other Than the Registrant) Payment of Filing Fee (Check the appropriate box): No fee required. Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11. Title of each class of securities to which transaction applies: (2) Aggregate number of securities to which transaction applies: 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): Proposed maximum aggregate value of transaction: Total fee paid: (5) Fee paid previously with preliminary materials: Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing. Amount previously paid: (2) Form, Schedule or Registration Statement No.: (3) Filing Party: Date Filed:



October 1, 2004

Dear Shareholder:

Mercury Computer Systems, Inc. will hold its Special Meeting in Lieu of the 2004 Annual Meeting of Shareholders on November 15, 2004 beginning at 10:00 a.m., local time, at the offices of Goodwin Procter LLP, 53 State Street, Boston, Massachusetts 02109. We look forward to your attending either in person or by proxy, but please note that due to security procedures you will be required to show a form of picture identification to gain access to the offices of Goodwin Procter LLP if you plan to attend the special meeting. The enclosed notice of meeting, the proxy statement and the proxy card from the Board of Directors describe the matters to be acted upon at the meeting.

This year's meeting will be a business meeting only with no additional presentations from our business unit executives. The agenda for the meeting includes proposals regarding (1) the election of three Class I directors, (2) the authorization of an increase in the number of shares issuable pursuant to the company's 1997 Stock Option Plan, and (3) the approval of an amendment to the company's Articles of Organization to increase the number of shares of common stock authorized for issuance. The Board of Directors recommends that you vote FOR the election of its slate of nominees for director, FOR an increase in the number of shares issuable pursuant to the 1997 Stock Option Plan and FOR the amendment to the company's Articles of Organization.

Please refer to the enclosed proxy statement for detailed information on each of the proposals. If you have any further questions concerning the meeting or the proposals, please feel free to contact us at (978) 256-1300. Your vote is important. Whether or not you expect to attend the meeting, your shares should be represented. Therefore, we urge you to complete, sign, date and promptly return the enclosed proxy card.

On behalf of the Board of Directors, we would like to express our appreciation for your continued interest in our company.

Sincerely yours,

JAMES R. BERTELLI

President and Chief Executive Officer

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

Notice of Special Meeting in Lieu of the 2004 Annual Meeting of Shareholders

To Be Held November 15, 2004

To Shareholders:

The Special Meeting in Lieu of the 2004 Annual Meeting of Shareholders of MERCURY COMPUTER SYSTEMS, INC. will be held on Monday, November 15, 2004 at 10:00 a.m., local time, at the offices of Goodwin Procter LLP, 53 State Street, Boston, Massachusetts 02109, for the following purposes:

- 1. To elect three Class I directors, each to serve for a three-year term, as more fully described in the accompanying proxy statement.
- 2. To consider and act upon a proposal to approve an amendment to the 1997 Stock Option Plan to increase the number of shares of common stock authorized for issuance thereunder by 1,000,000 shares, from 7,650,000 shares to 8,650,000 shares.
- 3. To consider and act upon a proposal to approve an amendment to the Articles of Organization to increase the number of shares of common stock authorized for issuance thereunder by 20,000,000 shares, from 65,000,000 shares to 85,000,000 shares.
- 4. To consider and act upon any other business which may properly come before the meeting or at any adjournments or postponements thereof.

The Board of Directors has fixed the close of business on September 17, 2004 as the record date for the meeting. All shareholders of record on that date are entitled to notice of and to vote at the meeting.

YOUR VOTE IS IMPORTANT. PLEASE COMPLETE AND RETURN THE ENCLOSED PROXY IN THE ENVELOPE PROVIDED WHETHER OR NOT YOU INTEND TO BE PRESENT AT THE MEETING IN PERSON. IF YOU ATTEND THE MEETING, YOU MAY CONTINUE TO HAVE YOUR SHARES VOTED AS INSTRUCTED IN THE PROXY OR YOU MAY WITHDRAW YOUR PROXY AND VOTE YOUR SHARES IN PERSON.

By Order of the Board of Directors

ANTHONY J. MEDAGLIA, JR.

Secretary

Chelmsford, Massachusetts October 1, 2004

ANNUAL REPORT ON FORM 10-K

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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 in Lieu of the 2004 Annual Meeting of Shareholders to be held on Monday, November 15, 2004, at the time and place set forth in the accompanying notice of the meeting, and at any adjournments or postponements thereof. The approximate date on which this proxy statement and form of proxy are first being sent to shareholders is on or about October 1, 2004.

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

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 shareholder. If no instructions are specified with respect to any particular matter to be acted upon, proxies will be voted:

- FOR the election of the nominees for Class I director as set forth in this proxy statement;
- FOR the amendment to the Corporation's 1997 Stock Option Plan, as amended and restated (the "1997 Plan"), to increase the number of shares authorized for issuance thereunder; and
- FOR the amendment to the Corporation's Articles of Organization, as amended (the "Articles of Organization"), to increase the number of shares of common stock, par value \$.01 per share ("Common Stock"), authorized for issuance thereunder.

It is not anticipated that any matters other than those set forth in this proxy statement will be presented at the meeting. If other matters are presented, proxies will be voted in accordance with the discretion of the proxy holders.

Any person giving the enclosed form of proxy has the power to revoke it by voting in person at the meeting, by giving a duly executed proxy bearing a later date or by giving written notice of revocation to the Secretary of the Corporation any time before the proxy is exercised. A shareholder of record attending the meeting may vote in person whether or not a proxy has been previously given, but the presence, without further action, of a shareholder at the meeting will not constitute revocation of a previously given proxy.

QUORUM AND REQUIRED VOTE

The holders of a majority in interest of all shares of 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 a nominee for director will be decided by plurality vote. Votes may be cast for or withheld from each nominee. The proposal to amend the 1997 Plan requires the affirmative vote of a majority of voting shares present in person or represented by proxy at the meeting (following the

determination of a quorum). The proposal to amend the Article of Organization to increase the number of authorized shares of Common Stock requires the affirmative vote of a majority of the shares of Common Stock outstanding and entitled to vote at the meeting. Both abstentions and broker "non-votes" (that is, shares held by a broker or nominee that does not have the authority, either express or discretionary, to vote on a particular matter) 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, and with respect to the proposal regarding the amendment to the Articles of Organization, will have the effect of a vote against such proposal.

RECORD DATE AND VOTING SECURITIES

Only shareholders of record at the close of business on September 17, 2004 are entitled to notice of and to vote at the meeting. At the close of business on that date, there were 21,044,957 shares of Common Stock outstanding and entitled to vote. Each outstanding share of the Corporation's Common Stock entitles the record holder to cast one (1) vote for each matter to be voted upon.

PROPOSAL 1: ELECTION OF CLASS I DIRECTORS

Pursuant to Massachusetts law, the Corporation's Board of Directors is divided into three (3) classes, with each class as nearly equal in number as possible. Presently, the Board of Directors consists of eight (8) members, with Dr. Albert P. Belle Isle, Lee C. Steele and Dr. Richard P. Wishner serving as Class I directors; Dr. Gordon B. Baty, George W. Chamillard and Sherman N. Mullin serving as Class II directors; and James R. Bertelli and Russell K. Johnsen serving as Class III directors.

The terms of the Class I, Class II and Class III directors expire in 2004, 2005 and 2006, respectively. Following expiration of its respective current term, each class is then nominated for election for a subsequent three-year term. It is proposed that the Class I nominees listed below, whose terms expire at this meeting, be elected to serve terms of three (3) years and in each case until their successors are duly elected and qualified or until they sooner die, resign or are removed.

Recommendation

THE BOARD OF DIRECTORS RECOMMENDS A VOTE FOR THE ELECTION OF THE CLASS I NOMINEES LISTED BELOW.

Information Regarding Directors

The persons named in the accompanying proxy will vote, unless authority is withheld, for the election of the Class I nominees named below. If any such nominee 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. There are no family relationships between any director or executive officer of the Corporation. The Board of Directors has determined that all of the director nominees and incumbent directors listed below are "independent" as such term is defined in the applicable listing standards of NASDAQ, except for Mr. Bertelli, who is also an executive officer of the Corporation.

Set forth below is certain information furnished to the Corporation by the director nominees and by each of the incumbent directors whose terms will continue after the meeting.

Name	Age	Year First Elected a Director	Position with the Corporation or Principal Occupation
Class I Directors—Nominated for a Term Ending in 2007:			
Dr. Albert P. Belle Isle	61	1986	Dr. Belle Isle is a private investor in technology-based companies. He is presently Chairman of the Board of PredatorWatch, Inc., a software company, and was President of Custom Silicon, Inc., a semiconductor company. He previously 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.
Lee C. Steele	55	2003	Mr. Steele is currently a CFO partner with Tatum Partners, a national professional service firm providing financial and technology leadership services to companies in transition. Previously, Mr. Steele served as Senior Vice President, CFO, and Treasurer of ARIAD Pharmaceuticals Inc., a NASDAQ-listed, development stage biopharmaceuticals firm. Prior to joining ARIAD, Mr. Steele served as Vice President, CFO, and Treasurer of American Science & Engineering Inc. ("AS&E"), an AMEX-listed manufacturer of high-technology security systems and medical devices. Prior to joining AS&E, Mr. Steele was a consulting partner with Deloitte & Touche.
Dr. Richard P. Wishner	70	2003	Dr. Wishner has been associated both directly and as a consultant with the Defense Advanced Research Projects Agency ("DARPA") for a number of years, serving as Director of its Information Exploitation Office from December 2001 through November 2002, and as Assistant Director of its Information Systems Office between 1994 and 1997. Prior to joining DARPA in 1994, Dr. Wishner served briefly in the Office of the Secretary of Defense where he was

Name	Age	Year First Elected a Director	Position with the Corporation or Principal Occupation
			Assistant Deputy Undersecretary of Defense (Advanced Technology) for Special Projects. He also served as CEO of Advanced Decision Systems, a privately owned artificial intelligence company. Dr. Wishner has served in a number of government advisory positions including as a member of the Senate Select Committee on Intelligence Technical Advisory Group, as a member of the Army Science Board, and as a consultant to the Defense Science Board, DARPA and the National Geospatial-Intelligence Agency.
Class II Directors—Serving a Term Ending in 2005:			
Dr. Gordon B. Baty	66	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 five private companies and a director of The Charles Stark Draper Laboratory, Inc. at the Massachusetts Institute of Technology.
Sherman N. Mullin	69	1994	Mr. Mullin served as President of Lockheed Advanced Development Company, a defense contractor, from 1990 through 1994. Previously, Mr. Mullin held other engineering and management positions with Lockheed Corporation, an aerospace company, from 1959 to 1990. Mr. Mullin served as an ad hoc advisor to the U.S. Air Force Scientific Advisory Board from 1994 to 2000. He is a Fellow of the American Institute of Aeronautics and Astronautics.
George W. Chamillard	65	2004	Mr. Chamillard served as Chairman of the Board of Directors of Teradyne since May 2000 and as Chief Executive Officer of Teradyne since May 1997. Mr. Chamillard resigned as Chief Executive Officer of Teradyne effective May 27, 2004. Mr. Chamillard served as President of Teradyne from January 1996 until May 2003 and has

Name	Age	Year First Elected a Director	Position with the Corporation or Principal Occupation
			been a director of Teradyne since January 1996. Mr. Chamillard served as Chief Operating Officer of Teradyne from January 1996 until May 1997 and as Executive Vice President of Teradyne from January 1994 until January 1996. Prior to that time, Mr. Chamillard served as a Vice President of Teradyne.
Class III Directors—Serving a Term Ending in 2006:			
James R. Bertelli	64	1981	Mr. Bertelli co-founded the Corporation in 1981, and has served as the Corporation's President, Chief Executive Officer, and as a director since that time, and he has served as the Chairman of the Board of Directors since April 15, 2002. 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.
Russell K. Johnsen	50	2001	Mr. Johnsen is currently President of Delumina, Inc., a strategic technology consulting and investment firm and Chairman & CEO of AgileView Software, Inc., a start-up enterprise software company. He previously served as Vice President for corporate business development and Vice President/General Manager of the Communications Products Division at Analog Devices. Prior to Analog Devices, Mr. Johnsen filled various senior management roles at National Semiconductor Corp. He is a director of four private companies.
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Board of Directors Meetings and Directors' Compensation

During fiscal year 2004, there were ten (10) meetings of the Board of Directors of the Corporation. The Board of Directors schedules executive sessions at each regular meeting of the Board, in which the Corporation's independent directors meet without management present. The Board has established the role of Lead Independent Director, and Mr. Johnsen currently serves in that role, which includes chairing meetings of the independent directors. During fiscal year 2004, there were six (6) meetings of the Audit Committee, eleven (11) meetings of the Compensation Committee, and three (3) meetings of the Nominating and Governance Committee. All of the directors attended during fiscal year 2004 at least seventy-five percent (75%) of the aggregate of (a) the total number of meetings of the Board of Directors (held during the periods they were directors) and (b) the total number of meetings held by committees of the Board of Directors on which they served (during the periods they served).

Members of the Corporation's Board of Directors are strongly encouraged to attend the Annual Meeting of Shareholders of the Corporation, or Special Meeting in lieu thereof; however, the Corporation does not have a formal policy with respect to attendance at the Annual or Special Meeting.

Each director who was not an employee of the Corporation received cash compensation in the amount of \$12,500 for the fiscal year, paid in quarterly installments, plus an additional \$2,500 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 chairmen received an annual retainer of \$1,500 and \$2,500, respectively, as well as an additional \$300 for attending any meeting not held on the same day as a meeting of the Board of Directors. The cash compensation paid to the current directors in their capacity as such during fiscal year 2004 was as follows:

Director	Cor	Cash npensation
Dr. Gordon B. Baty	\$	47,100
Dr. Albert P. Belle Isle	\$	52,100
George W. Chamillard	\$	8,125
Russell K. Johnsen	\$	52,000
Sherman N. Mullin	\$	47,400
Lee C. Steele	\$	49,600
Dr. Richard P. Wishner	\$	44,900

In addition to cash compensation, directors are also granted options pursuant to the 1997 Plan. During fiscal year 2004, Drs. Baty and Belle Isle and Messrs. Johnsen and Mullin each were granted an option to purchase 6,000 shares at an exercise price of \$19.03 per share. In addition, Mr. Chamillard was granted an option to purchase 15,000 shares at an exercise price of \$24.28 per share. Mr. Steele and Dr. Wishner were not granted any options during fiscal year 2004.

Committees of the Board of Directors

The Board of Directors has a standing Audit Committee, Compensation Committee and Nominating and Governance Committee.

The members of the Audit Committee during fiscal year 2004 were Dr. Baty (Chairman), Dr. Belle Isle, Mr. Johnsen and Mr. Steele. The Audit Committee oversees management's conduct of the Corporation's financial reporting process, including by overviewing the financial reports and other financial information provided by the Corporation's systems of internal accounting and financial controls, and the annual independent audit of the Corporation's financial statements. The Audit Committee also reviews the scope of the Corporation's engagement of its independent public auditors, preapproves all audit and non-audit services provided by the auditors and related fees, and discusses with management and the auditors the quality and adequacy of the Corporation's internal accounting controls. Each member of the Audit Committee is "independent" as such term is defined in the applicable listing standards of NASDAQ and under the rules of the Securities and Exchange Commission (the "SEC"). The Board of Directors has also determined that Mr. Steele qualifies as an "audit committee financial expert" under SEC rules. The Audit Committee acts under a written charter, which was amended and restated in February 2004, a copy of which is attached to this proxy statement as *Appendix A*.

The Compensation Committee is currently comprised of Mr. Mullin (Chairman), Mr. Chamillard, Mr. Johnsen and Dr. Wishner, each of whom qualifies as an independent director as defined by NASDAQ. The Compensation Committee is responsible for administering the Corporation's stock option plans, reviewing and approving the senior management compensation policy, and annually recommending to the Board the compensation of the Chief Executive Officer. The Compensation Committee acts pursuant to a written charter, which was adopted by the Board of Directors on February 4, 2004. A copy of the charter can be found on the Corporation's website at www.mc.com on the Investor Relations page under "Corporate Governance."

The members of the Nominating and Governance Committee are Dr. Belle Isle (Chairman), Dr. Baty and Mr. Mullin, each of whom qualifies as an independent director as defined by NASDAQ. The Nominating and Governance Committee recommends nominees to the Board of Directors, and has recommended the nominees for election at the meeting. The Nominating and Governance Committee acts pursuant to a written charter, which was adopted by the Board of Directors on February 4, 2004. A copy of the charter can be found on the Corporation's website at <code>www.mc.com</code> on the Investor Relations page under "Corporate Governance." The Nominating and Governance Committee will consider nominees recommended by shareholders if the shareholder submits the nomination in compliance with applicable requirements. The Nominating and Governance Committee did not receive any shareholder nominations for election of directors at this year's meeting.

When considering a potential candidate for membership on the Board of Directors, the Nominating and Governance Committee will consider any criteria it deems appropriate, including, among other things, the experience and qualifications of any particular candidate as well as such candidate's past or anticipated contributions to the Board and its committees. At a minimum, each nominee is expected to have high personal and professional integrity and demonstrated ability and judgment, and to be effective, with the other directors, in collectively serving the long-term interests of the shareholders. In addition to the minimum qualifications set forth for each nominee above, when considering potential candidates for the Board of Directors, the Nominating and Governance Committee seeks to ensure that the Board of Directors is comprised of a majority of independent directors and that the committees of the Board of Directors are comprised entirely of independent directors. The Nominating and Governance Committee may also consider any other standards that it deems appropriate, including whether a potential candidate has direct experience in the industry in which the Corporation operates and whether such candidate, if elected, would assist in achieving a mix of directors that represents a diversity of background and experience. In practice, the Nominating and Governance Committee generally will evaluate and consider all candidates recommended by the directors, officers and shareholders of the Corporation. The Nominating and Governance Committee or others.

Shareholders who wish to submit director candidates for consideration should send such recommendations to the Secretary of the Corporation at the Corporation's executive offices not less than 120 calendar days prior to the date on which the Corporation's proxy statement for the prior year was released. Such recommendations must include: (1) the name and address of record of the shareholder; (2) a representation that the shareholder is a record holder of the Corporation's Common Stock, or if the shareholder is not a record holder, evidence of ownership in accordance with Rule 14a-8(b)(2) of the Exchange Act; (3) the name, age, business and residential address, educational background, current principal occupation or employment, and principal occupation or employment for the preceding five (5) full fiscal years of the proposed director candidate; (4) a description of the qualifications of the proposed director candidate which address the minimum qualifications described above; (5) a description of all arrangements or understandings between the shareholder and the proposed director candidate; and (6) the consent of the proposed director candidate to be named in the proxy statement and to serve as a director if elected at such meeting. Shareholders must also submit any other information regarding the proposed candidate that is required to be included in a proxy statement filed pursuant to the rules of the SEC. See also the information under "Deadlines for Submission of Shareholder Proposals."

Communicating with Directors

Shareholders who wish to communicate with the Board of Directors or with a particular director may send a letter to the Secretary of Mercury Computer Systems, Inc. at 199 Riverneck Road, Chelmsford, Massachusetts 01824. The mailing envelope should contain a clear notation indicating that the enclosed letter is a "Shareholder-Board Communication" or "Shareholder-Director Communication." All such letters should clearly state whether the intended recipients are all members of the Board or certain specified individual directors. The Secretary will make copies of all such letters and circulate them to the appropriate director or directors.

Code of Business Conduct and Ethics

The Corporation has adopted a Code of Business Conduct and Ethics applicable to its officers, directors and employees. This Code of Business Conduct and Ethics is posted on the Corporation's website at www.mc.com on the Investor Relations page under "Corporate Governance." The Corporation intends to satisfy its disclosure requirements regarding any amendment to, or waiver of, a provision of its Code of Business Conduct and Ethics by disclosing such matters on its website. Shareholders may request a copy of the Corporation's Code of Business Conduct and Ethics free of charge by writing to the Secretary of Mercury Computer Systems, Inc. at 199 Riverneck Road, Chelmsford, Massachusetts 01824.

PROPOSAL 2: AMENDMENT TO 1997 STOCK OPTION PLAN TO INCREASE THE NUMBER OF SHARES AUTHORIZED FOR ISSUANCE THEREUNDER

There will be presented at the meeting a proposal to approve an amendment to the Corporation's 1997 Stock Option Plan, which amendment was approved by the Board of Directors on August 24, 2004. The amendment provides for the number of shares of Common Stock authorized for issuance under the 1997 Plan to be increased from 7,650,000 shares to 8,650,000 shares. As of August 31, 2004, options for the purchase of 4,965,617 shares of Common Stock were outstanding under the 1997 Plan.

Recommendation

THE BOARD OF DIRECTORS RECOMMENDS A VOTE FOR THE AMENDMENT TO THE 1997 PLAN TO INCREASE THE NUMBER OF SHARES OF COMMON STOCK AUTHORIZED FOR ISSUANCE THEREUNDER BY 1,000,000 SHARES.

Introduction to the 1997 Plan

The 1997 Plan provides for the granting of incentive stock options meeting the requirements of Section 422 of the Internal Revenue Code of 1986, as amended (the "Code"), non-qualified options which are not intended to meet the requirements of the Code, and restricted stock awards.

The 1997 Plan is intended to encourage ownership of the stock of the Corporation by employees of, and other key individuals engaged to provide services to, the Corporation and its subsidiaries, including directors, to induce qualified personnel to enter and remain in the employ of, or otherwise provide services to, the Corporation or its subsidiaries, and to provide additional incentive for grantees to promote the success of the Corporation's business. The 1997 Plan is administered by the Compensation Committee, which consists of two (2) or more members of the Corporation's Board of Directors. The members of the Compensation Committee are appointed by the Board of Directors and the Board may from time to time appoint a member or members of the Compensation Committee in substitution for or in addition to the member or members then in office, and may fill vacancies on the Compensation Committee, however caused. The present members of the Compensation Committee are Sherman N. Mullin (Chairman), George W. Chamillard, Russell K. Johnsen and Dr. Richard P. Wishner, c/o Mercury Computer Systems, Inc., 199 Riverneck Road, Chelmsford, Massachusetts 01824.

Summary of Amendment to the 1997 Plan

The Board of Directors believes that the remaining number of shares of Common Stock is not sufficient for future granting needs under the 1997 Plan. Accordingly, the proposed amendment to the 1997 Plan increases the number of shares of Common Stock authorized for issuance under the 1997 Plan from 7,650,000 shares to 8,650,000 shares. Based solely on the closing price of the Corporation's Common Stock as reported on The NASDAQ National Market on September 28, 2004 of \$26.74 per share, the maximum aggregate market value of the additional 1,000,000 shares of Common Stock authorized for issuance under the 1997 Plan would be \$26,740,000. The Board of Directors believes that these additional shares would result in an adequate number of shares of Common Stock being available for grant under the 1997 Plan.

The maximum number of shares of the Corporation's Common Stock for which options may be granted under the 1997 Plan is subject to adjustments for capital changes. Shares issued under the 1997 Plan will be authorized but unissued shares of Common Stock. As of August 31, 2004, options for the purchase of 4.965.617

shares of Common Stock were outstanding under the 1997 Plan and 1,290,163 shares were available for new grants under the 1997 Plan. The maximum number of shares of the Corporation's Common Stock that may be issued in the form of restricted stock under the 1997 Plan is 100,000 shares in the aggregate.

Summary of Other Principal Provisions of the 1997 Plan

Set forth below is a summary of other principal provisions of the 1997 Plan, a copy of which, together with the proposed amendment, may be obtained from the Secretary of the Corporation upon request. The affirmative vote of the holders of at least a majority of the shares of Common Stock voting in person or by proxy at the meeting will be required for approval of the amendment to the 1997 Plan.

Options. The 1997 Plan provides that options designated as incentive stock options may be granted only to employees (including officers and directors who are also employees) of the Corporation or any subsidiary. Options designated as non-qualified options may be granted to officers, directors, employees, consultants and advisors of the Corporation or any of its subsidiaries.

In determining the eligibility of an individual to be granted an option, as well as in determining the number of options to be granted to any individual, the Compensation Committee takes into account the position and responsibilities of the individual being considered, the nature and value to the Corporation or its subsidiaries of the individual's service and accomplishments, his or her present and potential contribution to the success of the Corporation or its subsidiaries, and such other factors as the Compensation Committee deems relevant. The number of individuals potentially eligible to participate in the 1997 Plan is approximately 486 people.

To satisfy Section 162(m) of the Code, the maximum number of shares with respect to which an option or options may be granted to any employee in any one (1) taxable year of the Corporation shall not exceed 200,000, taking into account shares granted during such taxable period under options that have terminated.

Terms and Provisions of Options. Options granted under the 1997 Plan are exercisable at such times and during such period as is set forth in the option agreement, but no option granted under the 1997 Plan can have a term in excess of ten (10) years from the date of grant. The option agreement may contain such provisions and conditions as may be determined by the Compensation Committee. The option exercise price for options designated as non-qualified stock options granted under the 1997 Plan is determined by the Compensation Committee, but in no event shall be less than 100% of the fair market value of the underlying Common Stock at the time such option is granted. The option exercise price for incentive stock options granted under the 1997 Plan shall be no less than 100% of the fair market value of the Common Stock of the Corporation at the time the option is granted. Options granted under the 1997 Plan may provide for the payment of the exercise price by delivery of cash or shares of Common Stock of the Corporation owned by the optionee having a fair market value equal in amount to the exercise price of the options being exercised, or any combination thereof; provided, however, that the payment of the exercise price by delivery of shares of Common Stock of the Corporation owned by the optionee may be made only if the payment does not result in a charge to earnings for financial accounting purposes, as determined by the Compensation Committee.

The right of any optionee to exercise an option granted under the 1997 Plan is not assignable or transferable by such optionee otherwise than by will or the laws of descent and distribution, and any such option shall be exercisable during the lifetime of such optionee only by him or her; provided, however, that in the case of a non-qualified stock option, the Compensation Committee may permit transferability of such option on such terms and conditions as determined by the Compensation Committee and set forth in an option agreement.

An option granted to any employee optionee who ceases to be an employee of the Corporation or one of its subsidiaries shall terminate ninety (90) days after the date such optionee ceases to be an employee of the Corporation or one of its subsidiaries. If such termination of employment is because of dismissal for cause or because the employee is in breach of any employment agreement, such an option will terminate immediately on the date the optionee ceases to be an employee of the Corporation or one of its subsidiaries. If such termination of employment is because the optionee has become permanently disabled, the option shall terminate on the last day of the twelfth month from the date such optionee ceases to be an employee. In the event of the death of the optionee, the option shall terminate on the last day of the twelfth month from the date of death. If such termination of employment is because of the retirement of the optionee on or after attaining the minimum age, completing the minimum number of years of service and satisfying all other conditions specified for retirement status under the Corporation's Retirement Policy Statement as in effect at the time of the grant of the option, such option will terminate on the date that is five (5) years after the date the optionee ceases to be an employee of the Corporation or one of its subsidiaries. An option granted to a non-employee director, a consultant or any other person who is not an employee of the Corporation or one of its subsidiaries shall be exercisable only to the extent so provided in the optionee's agreement. In no event shall an option be exercisable after the date upon which it expires by its terms. The Compensation Committee has the authority to extend the expiration date of any outstanding option in circumstances in which it deems such action to be appropriate.

An option granted to an employee optionee who ceases to be an employee of the Corporation or one of its subsidiaries shall be exercisable only to the extent that the right to purchase shares under such option has accrued and is in effect on the date such optionee ceases to be an employee of the Corporation or one of its subsidiaries. In the event of the death of any optionee, the option granted to such optionee may be exercised by the estate of such optionee, or by any person or persons who acquired the right to exercise such option by bequest or inheritance or by reason of the death of such optionee.

Restricted Stock Awards. The Compensation Committee may also award shares of common stock subject to such conditions and restrictions as the Compensation Committee may determine as set forth in a restricted stock award agreement. These conditions and restrictions may include the achievement of pre-established performance goals and/or continued employment with the Corporation through a specified vesting period. The vesting period shall be determined by the Compensation Committee; provided, however, that in the case of any performance-based goals, the vesting period will not be less than one (1) year, and in the case of any continued employment requirements, the vesting period will not be less than three (3) years. If the applicable performance goals and other restrictions are not attained, the participant will forfeit his award of restricted stock. The purchase price (if any) of shares of restricted stock will be determined by the Compensation Committee.

Recapitalization; Reorganization; Change of Control. The 1997 Plan provides that the number and kind of shares as to which options or shares of restricted stock may be granted thereunder and as to which outstanding options then unexercised shall be exercisable shall be adjusted to prevent dilution in the event of any reorganization, merger, consolidation, recapitalization, reclassification, stock split-up, combination of shares or dividends payable in capital stock. In addition, unless otherwise determined by the Compensation Committee in its sole discretion, in the case of any sale or conveyance to another entity of all or substantially all of the property and assets of the Corporation or a Change of Control (as defined in the 1997 Plan), the purchaser of the Corporation's assets or stock may deliver to the optionee or holder of restricted stock the same kind of consideration that is delivered to the shareholders of the Corporation as a result of the sale, conveyance or Change of Control or the Compensation Committee may cancel all outstanding options or shares of restricted stock in exchange for consideration in cash or in kind, which consideration shall be equal in value to the value of

those shares of stock or other securities the optionee would have received had the option been exercised (to the extent then exercisable) and no disposition of the shares acquired upon such exercise has been made prior to such sale, conveyance or a Change of Control, less the option price therefor, or the value of those shares or other securities the holder of restricted stock would have received had the shares of restricted stock vested (to the extent they would have vested as of such date) and no disposition of the vested shares has been made prior to such sale, conveyance or a Change of Control.

The Compensation Committee shall also have the power to accelerate the exercisability or vesting of any options or shares of restricted stock, notwithstanding any limitations in the 1997 Plan or in the option or restricted stock agreement, upon such a sale, conveyance or Change of Control. A "Change of Control" is defined in the 1997 Plan as having occurred if any of the following conditions have occurred: (1) the merger or consolidation of the Corporation with another entity where the Corporation is not the surviving entity and where after the merger or consolidation (a) its shareholders prior to the merger or consolidation hold less than 50% of the voting stock of the surviving entity and (b) its directors prior to the merger or consolidation are less than a majority of the Board of the surviving entity; (2) the sale of all or substantially all of the Corporation's assets to a third party and subsequent to the transaction (a) its shareholders hold less than 50% of the stock of said third party and (b) its directors are less than a majority of the board of said third party; (3) a transaction or series of related transactions, including a merger of the Corporation with another entity where the Corporation is the surviving entity, whereby 50% or more of the voting stock of the Corporation is transferred to parties who are not prior thereto shareholders or affiliates of the Corporation; or (4) the Continuing Directors shall not constitute a majority of the Board of Directors of the Corporation. The term "Continuing Directors" shall mean a member of the Board of Directors of the Corporation who either was a member of the Board of Directors of the Corporation on the date the 1997 Plan was adopted by the Board of Directors or who subsequently became a director of the Corporation and whose initial appointment, initial election or initial nomination for election by the Corporation's shareholders subsequent to such date was approved by a vote of a majority of the Continuing Directors then on the Board of Directors of the Corporation. Upon dissolution or liquidation of the Corporation, all options and shares of restricted stock granted under the 1997 Plan shall terminate, but each optionee shall have the right, immediately prior to such dissolution or liquidation, to exercise his or her option to the extent then exercisable. The Compensation Committee shall have the right to accelerate the vesting of any award or take such other action with respect thereto as the Compensation Committee shall in its sole discretion determine in the event of any contemplated dissolution or liquidation of the Corporation.

Termination and Amendment. Unless sooner terminated, the 1997 Plan shall terminate ten (10) years from June 5, 1997, the date upon which it was adopted by the Board of Directors. The Board of Directors may at any time terminate the 1997 Plan or make such modification or amendment as it deems advisable; provided, however, that the Board of Directors may not, without shareholder approval, increase the maximum number of shares for which options and shares of restricted stock may be granted or change the designation of the class of persons eligible to receive options under the 1997 Plan or make any other change in the 1997 Plan which requires shareholder approval under applicable law or regulations. The Compensation Committee may terminate, amend or modify any outstanding option without the consent of the option holder; provided, however, that without the consent of the optionee, the Compensation Committee shall not change the number of shares subject to an option nor the exercise price thereof, nor extend the term of such option.

Tax Effects of Plan Participation

Options granted under the 1997 Plan are intended to be either incentive stock options, as defined in Section 422 of the Code, or non-qualified stock options.

Incentive Stock Options. Except as provided below with respect to the alternative minimum tax, the optionee will not recognize taxable income upon the grant or exercise of an incentive stock option. If the optionee holds the shares received pursuant to the exercise of the option for at least one (1) year after the date of exercise and for at least two (2) years after the option is granted, the optionee will recognize long-term capital gain or loss upon the disposition of the stock measured by the difference between the option exercise price (the stock's basis) and the amount received for such shares upon disposition.

In the event that the optionee disposes of the stock prior to the expiration of the required holding periods (a "disqualifying disposition"), the optionee generally will realize ordinary income equal to the difference between the exercise price and the lower of the fair market value of the stock at the date of the option exercise or the sale price of the stock. The basis in the stock acquired upon exercise of the option will equal the amount of income recognized by the optionee plus the option exercise price. Upon eventual disposition of the stock, if the optionee holds the stock as a capital asset, the optionee will recognize long-term or short-term capital gain or loss, depending on the holding period of the stock and the difference between the amount realized by the optionee upon disposition of the stock and the optionee's basis in the stock. Under current law, an optionee will not have any additional FICA (Social Security taxes) upon exercise of an incentive stock option.

For alternative minimum tax purposes, the excess of the fair market value of stock on the date of the exercise of the incentive stock option over the exercise price of the option is included in alternative minimum taxable income for alternative minimum tax purposes. If the alternative minimum tax applies to the optionee, an alternative minimum tax credit may reduce the regular tax upon eventual disposition of the stock.

The Corporation will not be allowed an income tax deduction upon the grant or exercise of an incentive stock option. However, upon a disqualifying disposition by the optionee of shares acquired upon exercise of the incentive stock option, the Corporation will be allowed a deduction in an amount equal to the ordinary income recognized by the optionee.

The Internal Revenue Service will treat the exercise of an option with previously acquired stock of the Corporation as, in effect, two (2) separate transactions. Pursuant to Section 1036 of the Code, the first transaction will be a tax-free exchange of the previously acquired shares for the same number of new shares. The new shares will retain the basis and the holding periods of the previously acquired shares. The second transaction will be the issuance of additional new shares having a value equal to the difference between the aggregate fair market value of all of the new shares being acquired and the aggregate option exercise price for those shares. Because the exercise of an incentive stock option does not result in the recognition by the optionee of income, this issuance will also be tax-free (unless the alternative minimum tax applies, as described above). The optionee's basis in these additional new shares will be zero and the optionee's holding period for these shares will commence on the date on which the shares are transferred. For purposes of the one and two-year holding period requirements that must be met for favorable incentive stock option tax treatment to apply, the holding periods of previously acquired shares are disregarded.

Non-qualified Stock Options. As in the case of incentive stock options, no income is recognized by the optionee on the grant of a non-qualified stock option. On the exercise by an optionee of a non-qualified option,

generally the excess of the fair market value of the stock when the option is exercised over its cost to the optionee will be (1) taxable to the optionee as ordinary income and (2) deductible for income tax purposes by the Corporation. The optionee's tax basis in his or her stock will equal his or her cost for the stock plus the amount of ordinary income the optionee had to recognize with respect to the non-qualified stock option. Upon exercise, the optionee will also be subject to FICA (Social Security taxes) on the excess of the fair market value over the exercise price of the option.

The Internal Revenue Service will treat the exercise of a non-qualified stock option with previously acquired stock of the Corporation as two (2) transactions. First, there will be a tax-free exchange of the old shares for a like number of shares under Section 1036 of the Code, with such exchanged shares retaining the basis and holding period of the old shares. Second, there will be an issuance of additional new shares having a value equal to the difference between the fair market value of all new shares being acquired (including the exchanged shares and the additional new shares) and the aggregate option price for those shares. The employee will recognize ordinary income under Section 83 of the Code, in an amount equal to the fair market value of the additional new shares (that is, the spread on the option). The additional new shares will have a basis equal to the fair market value of the additional new shares and the optionee's holding period for the additional new shares will commence on the date on which the shares are transferred.

If the optionee holds the stock as a capital asset, upon a subsequent disposition of stock acquired upon the exercise of a non-qualified stock option, the optionee will recognize short-term or long-term capital gain or loss, depending upon the holding period of the stock equal to the difference between the amount realized upon disposition of the stock by the optionee and the optionee's basis in the stock.

Parachute Payments. The vesting of any portion of any award that is accelerated due to the occurrence of a Change of Control may cause a portion of the payments with respect to such accelerated award to be treated as "parachute payments" as defined in the Code. Any such parachute payments may be non-deductible to the Corporation, in whole or in part, and may subject the recipient to a non-deductible 20% Federal excise tax on all or a portion of such payment (in addition to other taxes ordinarily payable).

Limitation on Corporation's Deductions. As a result of Section 162(m) of the Code, the Corporation's Federal tax deduction for certain awards under the 1997 Plan may be limited to the extent that the Chief Executive Officer or other executive officer whose compensation is required to be reported in the summary compensation table receives compensation (other than performance-based compensation) in excess of \$1,000,000 a year.

New Plan Benefits

It is not possible to state the persons who will receive options or awards under the 1997 Plan in the future, nor the amount of options or awards which will be granted thereunder because these grants are subject to the discretion of the Compensation Committee. The following table provides information with respect to options granted under the 1997 Plan in the fiscal year ended June 30, 2004. See "Summary of Other Principal Provisions of the 1997 Plan" for a description of the options which are provided for under the 1997 Plan.

Name and Position	Dollar Value (1)	1997 Plan Stock Options	Exercise Price
James R. Bertelli, President and CEO	\$ 965,747	75,000	\$19.03
Robert D. Becker, Senior Vice President, Engineering and Operations	257,532	20,000	\$19.03
Douglas F. Flood, Vice President, Corporate Development	128,766	10,000	\$19.03
Barry S. Isenstein, Vice President and General Manager, Defense Electronics Group	206,026	16,000	\$19.03
Craig Lund, Vice President, Chief Technology Officer	206,026	16,000	\$19.03
All executive officers as a group	4,774,712	307,000	\$19.03-\$28.00
All non-executive officer directors	555,475	39,000	\$19.03-\$24.28
Employees as a group (excluding executive officers)	11,157,635	650,030	\$19.03-\$27.19

⁽¹⁾ The dollar value of each option granted is estimated on the date of grant using the Black-Scholes option-pricing model utilizing the following weighted-average assumptions: (a) expected risk-free interest rate of 4.0% in 2004; (b) expected option life of six (6) years; (c) expected stock volatility of 73.7% for June 30, 2004; and (d) expected dividend yield of 0.0%.

Equity Compensation Plans

The following table sets forth information as of June 30, 2004 with respect to compensation plans under which equity securities of the Corporation are authorized for issuance. The table does not include information about the proposed amendment to the 1997 Plan which is being submitted for shareholder approval at the meeting. For more information regarding the Corporation's equity compensation plans, see "Executive Compensation—Stock Option and Stock Purchase Plans."

Plan Category	Number of Securities to be Issued upon Exercise of Outstanding Options, Warrants and Rights	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights	Number of Securities Remaining Available for Future Issuance under Equity Compensation Plans (excluding securities reflected in column 1)
Equity compensation plans approved by shareholders(1)	4,533,495(2)	\$ 24.18	2,027,092(3)
Equity compensation plans not approved by shareholders			
TOTAL	4,533,495	\$ 24.18	2,027,092
	,,		,, ,,,,

⁽¹⁾ Consists of the Corporation's 1991, 1993, 1997 and 1998 stock option plans and the Corporation's 1997 Employee Stock Purchase Plan ("ESPP").

⁽²⁾ Does not include purchase rights under the ESPP, as the purchase price and number of shares to be purchased is not determined until the end of the relevant purchase period.

⁽³⁾ Includes 190,105 shares available for future issuance under the ESPP and 1,836,987 shares available for future issuance under the 1997 plan. The Corporation is no longer permitted to grant options under its 1991, 1993 and 1998 plans.

PROPOSAL 3: AMENDMENT TO ARTICLES OF ORGANIZATION TO INCREASE THE NUMBER OF SHARES OF COMMON STOCK AUTHORIZED FOR ISSUANCE THEREUNDER

General

At present, the Corporation's Articles of Organization authorize the issuance of up to 65,000,000 shares of Common Stock and 1,000,000 shares of preferred stock, par value \$.01 per share. As of August 31, 2004, 21,014,045 shares of Common Stock were issued and outstanding. In addition, 4,965,617 shares of Common Stock were reserved for issuance upon exercise of options outstanding under the Corporation's stock option plans, 1,480,268 shares of Common Stock were reserved for future issuance under the Corporation's stock option plans and employee stock purchase plan, 257,511 shares of Common Stock were reserved for issuance in connection with a recent acquisition by the Corporation, and 4,134,962 shares of Common Stock were reserved for issuance upon conversion of the Corporation's 2.00% convertible senior notes due 2024. Accordingly, as of August 31, 2004, there were 33,147,597 shares of Common Stock available for general corporate purposes. If Proposal 2 is approved by shareholders, an additional 1,000,000 shares will be reserved for future issuance under the 1997 Plan, thereby reducing the number of shares available to 32,147,597. No shares of preferred stock have been issued.

On August 24, 2004, the Board of Directors of the Corporation determined that it would be in the best interests of the Corporation and its shareholders to amend the Articles of Organization to increase the number of authorized shares of Common Stock from 65,000,000 to 85,000,000 shares. The proposed amendment will not affect the authorized number of shares of preferred stock. The Board also directed that the proposed amendment be submitted for action at the meeting.

Under the proposed amendment, the Corporation's Articles of Organization would be revised to reflect the increase in the number of authorized shares of Common Stock from 65,000,000 to 85,000,000 shares, including Article 4.A which would be amended to read as follows:

"The aggregate number of shares which this Corporation shall have authority to issue is: 85,000,000 shares of common stock having a par value of \$.01 per share (the "Common Stock") and 1,000,000 shares of preferred stock having a par value of \$.01 per share (the "Series Preferred Stock")."

The affirmative vote of the holders of a majority of the outstanding shares of Common Stock entitled to vote at the meeting is required for approval of the amendment to the Articles of Organization.

Recommendation

THE BOARD OF DIRECTORS RECOMMENDS A VOTE FOR THE AMENDMENT TO THE ARTICLES OF ORGANIZATION TO INCREASE THE NUMBER OF SHARES OF COMMON STOCK AUTHORIZED FOR ISSUANCE THEREUNDER BY 20,000,000 SHARES.

Purpose of the Proposed Amendment

The Board of Directors believes that the availability of additional authorized but unissued shares will provide the Corporation with greater flexibility to issue Common Stock for a variety of corporate purposes, without the delay and expense associated with convening a special meeting of shareholders. These purposes may include, without limitation, effecting future stock splits in the form of stock dividends, raising equity capital or acquiring businesses and assets.

Other than shares currently reserved for issuance, as indicated above, the Board of Directors has not authorized the issuance of any additional shares of Common Stock, and there are no current agreements or commitments for the issuance of additional shares. The Corporation, however, may acquire companies as part of its strategy to broaden and strengthen its business. Such acquisitions have in the past and may in the future involve payment with shares of Common Stock. Therefore, the Board of Directors believes that the proposed increase in the number of authorized shares of Common Stock is desirable to maintain the Corporation's flexibility in choosing how to structure future acquisitions and in considering and implementing any of the other corporate transactions described above.

Possible Effects of the Proposed Amendment

If the shareholders approve the proposed amendment, the Board of Directors may cause the issuance of additional shares of Common Stock without further vote of the shareholders of the Corporation, except as provided under Massachusetts corporate law or under the rules of any national securities exchange or quotation system on which shares of Common Stock are then listed. Under the Articles of Organization, the Corporation's shareholders do not have preemptive rights to subscribe to additional securities which may be issued by the Corporation, which means that current shareholders do not have a prior right to purchase any new issue of stock of the Corporation in order to maintain their proportionate ownership of the Corporation's Common Stock. In addition, if the Board of Directors elects to issue additional shares of Common Stock, such issuance could have a dilutive effect on the earnings per share, voting power and holdings of current shareholders.

In addition to the corporate purposes discussed above, the proposed amendment could, under certain circumstances, have an anti-takeover effect, although this is not the intent of the Board of Directors. For example, it may be possible for the Board of Directors to delay or impede a takeover or transfer of control of the Corporation by causing such additional authorized shares to be issued to holders who might side with the Board in opposing a takeover bid that the Board determines is not in the best interests of the Corporation and its shareholders. The amendment therefore may have the effect of discouraging unsolicited takeover attempts. By potentially discouraging initiation of any such unsolicited takeover attempt, the proposed amendment may limit the opportunity for the Corporation's shareholders to dispose of their shares at the higher price generally available in takeover attempts or that may be available under a merger proposal. However, the Board of Directors is not aware of any attempt to take control of the Corporation and the Board of Directors has not presented this proposal with the intent that it be utilized as a type of anti-takeover device.

PRINCIPAL HOLDERS OF VOTING SECURITIES

The following table shows any person who is known by the Corporation to be the beneficial owner of more than five percent (5%) of the outstanding Common Stock 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, as amended, and means generally the direct or indirect power to vote or dispose of the securities, regardless of any economic interest therein. The percentage ownership number is based on 21,014,045 shares outstanding as of August 31, 2004.

Number of Shares Beneficially Owned	Percent of Class
2,052,526	9.77%
2,027,800	9.65%
1,319,550	6.28%
1,111,324	5.29%
1,106,490	5.27%
	Shares Beneficially Owned 2,052,526 2,027,800 1,319,550 1,111,324

- This information has been derived from a Schedule 13F filed with the SEC reporting beneficial ownership as of June 30, 2004. The filing reported shared investment discretion over 2,052,526 shares and sole voting authority over 1,909,596 shares. The reporting entity's address is 45 Freemont Street, San Francisco, California 94105.
- (2) This information has been derived from a Schedule 13F filed with the SEC reporting beneficial ownership as of June 30, 2004. The filing reported sole investment discretion over 2,027,800 shares and sole voting authority over 1,510,000 shares. The reporting entity's address is 100 East Pratt Street, Baltimore, Maryland 21202.
- This information has been derived from a Schedule 13F filed with the SEC reporting beneficial ownership as of June 30, 2004. The filing reported sole investment discretion over 814,850 shares, shared investment discretion over 504,700 shares, sole voting authority over 1,353,015 shares and shared voting authority over 253,700 shares. The reporting entity's address is 75 State Street, Boston, Massachusetts 02109.
- 4) This information has been derived from a Schedule 13F filed with the SEC reporting beneficial ownership as of June 30, 2004. The filing reported sole investment discretion over 1,111,324 shares and sole voting authority over 1,111,324 shares. The reporting entity's address is 1800 Avenue of the Stars, Second Floor, Los Angeles, California 90067.
- (5) This information has been derived from a Schedule 13F filed with the SEC reporting beneficial ownership as of June 30, 2004. The filing reported sole investment discretion over 1,106,490 shares and sole voting authority over 1,106,490 shares. The reporting entity's address is 222 West Adams Street, Chicago, Illinois 60606.

SECURITY OWNERSHIP OF DIRECTORS AND MANAGEMENT

The following information is furnished as of August 31, 2004, with respect to Common Stock of the Corporation beneficially owned within the meaning of Rule 13d-3 by: (1) all directors of the Corporation and each director nominee; (2) the Chief Executive Officer of the Corporation and the four most highly compensated executive officers of the Corporation other than the Chief Executive Officer; and (3) all directors and executive officers as a group. Unless otherwise indicated, the individuals named below held sole voting and investment power over the shares listed.

		Number of	D
		Shares Beneficially	Percent of
	Name and Address of Beneficial Owner*	Owned	Class(1)
D C 1 D D (0)			**
Dr. Gordon B. Baty(2)		73,861	
Robert D. Becker(3)		67,583	**
Dr. Albert P. Belle Isle(4)		100,738	**
James R. Bertelli(5)		1,011,512	4.74%
George W. Chamillard(6)		7,500	**
Douglas F. Flood(7)		100,864	**
Barry S. Isenstein(8)		102,136	**
Russell K. Johnsen(9)		35,520	**
Craig Lund(10)		92,480	**
Sherman N. Mullin(11)		54,962	**
Lee C. Steele(12)		12,250	**
Dr. Richard P. Wishner(13)		12,750	**
All directors and executive officers as a	a group (17 persons)(14)	1,853,586	8.44%

- * Unless otherwise indicated, the address is c/o Mercury Computer Systems, Inc., 199 Riverneck Road, Chelmsford, Massachusetts 01824.
- ** Less than 1.00%.
- (1) Percentages are calculated on the basis of 21,014,045 shares of Common Stock outstanding as of August 31, 2004. Options to purchase shares of Common Stock that are exercisable within 60 days of August 31, 2004 are deemed outstanding for computing the ownership of each director or executive officer as a percentage of the total number of shares outstanding, but are not deemed outstanding for computing the percentage of any other person.
- (2) Includes options to purchase 25,952 shares exercisable within 60 days of August 31, 2004.
- (3) Includes options to purchase 66,767 shares exercisable within 60 days of August 31, 2004.
- (4) Includes options to purchase 40,738 shares exercisable within 60 days of August 31, 2004.
- (5) Includes 12,400 shares owned by Mr. Bertelli's spouse, with respect to which shares Mr. Bertelli disclaims beneficial ownership, and options to purchase 307,242 shares exercisable within 60 days of August 31, 2004.
- (6) Includes options to purchase 7,500 shares exercisable within 60 days of August 31, 2004.
- (7) Includes options to purchase 99,560 shares exercisable within 60 days of August 31, 2004.
- (8) Includes options to purchase 66,332 shares exercisable within 60 days of August 31, 2004.
- (9) Includes options to purchase 32,520 shares exercisable within 60 days of August 31, 2004.
- (10) Includes options to purchase 92,480 shares exercisable within 60 days of August 31, 2004.
- $(11) \quad Includes \ options \ to \ purchase \ 44,362 \ shares \ exercisable \ within \ 60 \ days \ of \ August \ 31, \ 2004.$
- (12) Includes options to purchase 12,250 shares exercisable within 60 days of August 31, 2004.
- (13) Includes options to purchase 12,250 shares exercisable within 60 days of August 31, 2004.
- (14) Includes options to purchase 944,723 shares exercisable within 60 days of August 31, 2004.

Notwithstanding anything to the contrary set forth in any of the Corporation's filings under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, that might incorporate other filings, including this proxy statement, in whole or in part, the following Report of the Compensation Committee on Executive Compensation, the Report of the Audit Committee of the Board of Directors on page 31 and the Shareholder Return Performance Graph on page 23 are not "soliciting material," are not deemed filed with the SEC and shall not be incorporated by reference into any other filing.

REPORT OF THE COMPENSATION COMMITTEE ON EXECUTIVE COMPENSATION

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

The Compensation 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. During fiscal year 2004, the Compensation Committee was composed of independent directors who were 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 exceptional 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-term 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 recommended by the Chief Executive Officer and is subject to approval by the Compensation Committee. The Compensation 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 recommendations. 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 of 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 the Corporation's results exceed the performance of the 50th percentile of the high-tech universe of the Russell 2000 Index, an add-on is applied to the executive officers' compensation. In calculating this bonus, the Corporation's performance is based on revenue growth, profit before taxes and profit before tax as a percentage of sales.

Long-term incentive. The Compensation 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 and stock purchase 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 (4) years. When determining option awards for an executive officer, the Compensation Committee considers the executive's current contribution to the Corporation's 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.

Deferred compensation plan. An executive non-qualified deferred compensation plan was established during fiscal 2001. In accordance with the deferred compensation plan, executives of the Corporation may elect to contribute up to 35% of their total compensation in a deferral account.

Compensation of Chief Executive Officer. 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, 2004, the Compensation 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. Mr. Bertelli's aggregate base salary for fiscal 2004 was \$387,986, which represented an increase of approximately 6.5% over his aggregate base salary for the prior year. This increase is the result of the full year effect of a raise given in October 2002. There was no salary increase for Mr. Bertelli in fiscal year 2004.

Annual cash bonuses to Mr. Bertelli are based on the attainment of individual and corporate performance targets established at the beginning of the fiscal year. Mr. Bertelli has received a cash bonus of \$229,053 with respect to the year ended June 30, 2004 in recognition of his achievement of certain goals. Mr. Bertelli may receive additional bonus amounts, including up to \$114,277 if the Corporation's results exceed the performance of the 50th percentile of the high-tech universe of the Russell 2000 Index, which amounts could not be determined as of the date of this proxy statement. Set forth below under the heading "Option Grants, Exercises and Holdings" in the section of this proxy statement entitled "Executive Compensation" are the options granted to Mr. Bertelli during the year ended June 30, 2004, as well as options granted subsequent to the close of fiscal year 2004.

Tax deductibility of compensation. In 1993, the Internal Revenue Code was amended to limit the deduction a public company is permitted for compensation paid 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 cannot be deducted, unless the compensation is paid pursuant to a plan which is performance related, non-discretionary and has been approved by the Corporation's shareholders. In its deliberations, the Compensation Committee considers ways to maximize deductibility of executive compensation, but nonetheless retains the discretion to compensate executive officers at levels the Compensation Committee considers commensurate with their responsibilities and achievements. The Corporation has not adopted a policy that all executive compensation be fully deductible.

By the Compensation Committee of the Board of Directors of Mercury Computer Systems, Inc.*

Sherman N. Mullin, Chairman Russell K. Johnsen Dr. Richard P. Wishner

^{*} George W. Chamillard was elected to the Compensation Committee in July 2004 and, therefore, was not a member of the Compensation Committee at any time during the Corporation's fiscal year ended June 30, 2004.

SHAREHOLDER RETURN PERFORMANCE GRAPH

Set forth below is a line graph comparing the cumulative total shareholder return of the Corporation's Common Stock against the cumulative total return of the MG Group 810 Diversified Computer Systems Index (consisting of thirteen (13) companies) (the "Coredata Group Index") and the Russell 2000 Index for the period June 30, 1999 through June 30, 2004. The graph and table assume that \$100 was invested on June 30, 1999 in each of the Corporation's Common Stock, the Coredata Group Index, and the Russell 2000 Index and that all dividends were reinvested. This data was furnished by Media General Financial Services, Richmond, Virginia.

COMPARISON OF 5-YEAR CUMULATIVE TOTAL RETURN AMONG MERCURY COMPUTER SYSTEMS, INC., COREDATA GROUP INDEX AND RUSSELL 2000 INDEX

MEASUREMENT PERIOD	_		MERCURY COMPUTER SYSTEMS, INC.		COREDATA (GROUP INDEX		RUSSELL 2000 INDEX
6/30/99			100.00		100	0.00		100.00
6/30/00			200.39		119	9.20		112.84
6/30/01			273.49		79	.87		111.84
6/30/02			134.39		46	.34		100.86
6/30/03			112.87		54	.62		97.74
6/30/04			153.80		57	.24		129.50
		300						
		275		*				
		250						
			/					
		225						
	S	200						
	DOLLARS	175						
	4	150						
	\equiv					_		
	8	125			-			
	_	100			_			
		75		` .				
		50					-T	
		25						
		0 +						
		1999	2000	2001	2002	2003	2004	
			→ MERCURY COMPL	JTER SYSTEMS, INC	. — = — COF	REDATA GROUP INDE	x I	
			RUSSELL 2000 INC					
			-					

COMPENSATION COMMITTEE INTERLOCKS AND INSIDER PARTICIPATION

During fiscal year 2004, Sherman N. Mullin, Russell K. Johnsen and Dr. Richard P. Wishner served on the Compensation Committee of the Corporation's Board of Directors for the entire year. James A. Dwyer also served on the Compensation Committee until his resignation from the Board of Directors in September 2003. No member of the Compensation Committee was an officer or employee of the Corporation or any of its subsidiaries during fiscal year 2004 or had any business relationship or affiliation with the Corporation or any of its subsidiaries (other than his service as a director).

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Richard P. Wallace, a former member of the Corporation's Board of Directors, who resigned as a director in September 2003, is a corporate officer of KLA-Tencor Corporation ("KLA-Tencor"). In the ordinary course of business, KLA-Tencor purchases products from the Corporation. In fiscal 2004, 2003 and 2002, revenues recognized by the Corporation from KLA-Tencor were \$17,693,000, \$8,924,000 and \$2,735,000, respectively. As of June 30, 2004 and 2003, \$5,831,000 and \$471,000, respectively, were included in accounts receivable, representing amounts due from KLA-Tencor for purchases of the Corporation's products. As of June 30, 2004, the Corporation had no amounts payable to KLA-Tencor.

In 1996, the Corporation entered into a contract with NDC Development Associates, Inc. ("Northland") to perform design, development, permitting and management activities related to the construction of new corporate facilities. An officer and principal of Northland is an immediate family member of the Corporation's chief executive officer. In January 2003, to assist with the design, permitting activities and oversight of the construction of a new facility, the Corporation entered into another agreement with Northland. The Corporation paid Northland fees of \$251,000, \$201,000 and \$83,000 for fiscal 2004, 2003 and 2002, respectively. The Corporation owed no amounts to Northland as of June 30, 2004.

The Corporation has arrangements with other parties that do not meet the technical disclosure requirements of related parties and are not material in the aggregate. These individual arrangements either fall under reporting thresholds or are with non-immediate family members of executive officers of the Corporation.

EXECUTIVE OFFICERS

Executive officers hold office until the first meeting of the Board of Directors following the next annual meeting of shareholders (or special meeting in lieu thereof) and until their successors are elected and qualified or until their earlier death, resignation or removal. The following persons are the executive officers of the Corporation:

Name	Age	Position
		
James R. Bertelli	64	President, Chief Executive Officer, Director and Co-founder
Robert D. Becker	45	Senior Vice President, Engineering and Operations
Douglas F. Flood	47	Vice President, Corporate Development
Joseph M. Hartnett	39	Vice President, Controller and Chief Accounting Officer
Robert E. Hult	57	Senior Vice President and Chief Financial Officer
Barry S. Isenstein	48	Vice President and General Manager, Defense Electronics Group
Craig Lund	44	Vice President, Chief Technology Officer
Craig A. Saline	57	Vice President, Organizational Development and Human Resources
Mark F. Skalabrin	41	Vice President and General Manager, OEM Solutions Group
Didier M.C. Thibaud	43	Vice President and General Manager, Imaging and Visualization Solutions Group

Mr. James 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 "Proposal 1: Election of Class I Directors—Information Regarding Directors."

Mr. Becker joined the Corporation in May 2001 as Vice President of Engineering and has served as Senior Vice President, Engineering and Operations since November 2001. Before joining the Corporation, Mr. Becker was Vice President of Engineering at Microtouch Systems (now part of 3M Corporation) from 1998 to 2001. From 1993 to 1998, he was Vice President of Engineering at Picture Tel Corporation.

Mr. Flood joined the Corporation in October 1998 as Vice President, Corporate Development, and is responsible for identifying and developing new business and market opportunities for the Corporation. This includes exploring strategic partnership, merger and acquisition opportunities, and technology licensing possibilities, in order to ensure the Corporation's continued leadership in its core market segments, as well as to identify and pursue new markets for its technology. Prior to joining the Corporation, Mr. Flood was Senior Vice President for business development and planning at FTP Software, Inc., where he identified and managed partnerships and acquisitions, including alliances with MCI WorldCom and IBM. He has also held positions with the law firm of Fish & Richardson, a practice concentrating in licensing and copyright; The Dun & Bradstreet Corp.; and Raytheon Company.

Mr. Hartnett joined the Corporation as Controller and Chief Accounting Officer in July 2002. Mr. Hartnett was the acting Chief Financial Officer from June 2003 to February 2004. Before joining the Corporation, Mr. Hartnett served as Corporate Controller for Sycamore Networks and Object Design from 1997 to 2002. Mr. Hartnett is a certified public accountant and previously was an Audit Manager at Deloitte & Touche.

Mr. Hult joined the Corporation as Senior Vice President and Chief Financial Officer in February 2004 and is responsible for the Corporation's finance, administration, and treasury functions. He has specific expertise within the technology and telecommunications industries and extensive experience in managing acquisitions and overseeing financial operations for companies working in high-growth markets. Before joining the Corporation,

Mr. Hult served as Chief Financial Officer, Treasurer and Senior Vice President for NMS Communications, a publicly-traded telecommunications systems and data services company. Previously, he was employed by Digital Equipment Corporation ("Digital") for more than two decades in positions of increasing responsibility within the company's corporate and regional finance groups. He served as Chief Financial Officer for Digital's AltaVista Internet Software group and as Vice President and General Manager of the AltaVista Internet search engine. Mr. Hult also serves as a director of Centra Software.

Mr. Isenstein joined the Corporation in 1984 and has been Vice President and General Manager, Defense Electronics Group since December 2002. Mr. Isenstein has held several positions while at the Corporation including: Vice President and General Manager of the Wireless Communications Group, strategic marketing and application engineering roles. Prior to joining the Corporation, he was a senior scientist at Coulter Biomedical Corporation and spent three years on staff at Case Western Reserve University at the Picture Processing Laboratory facility of the Biomedical Engineering department.

Mr. Lund joined the Corporation in 1999 and coordinates Mercury's Technology Office, which is the Corporation's lead lobbyist for strategic technology investments that anticipate the Corporation's existing customer requirements as well as those that open new markets. The Technology Office drives the Corporation to aggressively leverage breakthrough innovations and disruptive technologies. Prior to joining the Corporation, Mr. Lund was president of Local Knowledge, a technical consulting group he founded in 1991 to provide clients, including the Corporation, with technology-oriented market research and business planning services. Prior to Local Knowledge, Mr. Lund led the engineering group at the Corporation from 1986 to 1988. He also held engineering and marketing roles at Charles River Data Systems.

Mr. Saline joined the Corporation in January 2004 and is responsible for the Corporation's human resources strategies and programs. He has more than 33 years of human resources experience with global manufacturing and technology companies, with specific expertise in change management, leadership and team development and business process improvements. Mr. Saline began his career with General Electric Company, holding varying assignments in appliances, television, medical system information systems and aircraft businesses. Most recently he served as interim Vice President, Human Resources for Tufts New England Medical Center. Previously, he served as Senior Vice President, Human Resources for World Kitchen, and Senior Vice President, Human Resources, North American region for Reckitt Benckiser, Inc. Mr. Saline also held senior human resources leadership positions with Teledyne, Inc. and Marshalls, Inc.

Mr. Skalabrin joined the Corporation in 1991 as an Application Engineer and has served as Vice President and General Manager, OEM Solutions Group since November 2001. Prior to joining the Corporation, Mr. Skalabrin worked for the Naval Undersea Warfare Engineering Station in Keyport, Washington developing advanced signal processing solutions. He was also assigned to the Naval Sea Systems Command in Washington, D.C. working on the DARPA-sponsored unmanned undersea vehicle program.

Mr. Thibaud joined the Corporation in 1995 as an Account Executive and has been the Vice President and General Manager, Imaging and Visualization Solutions Group since January 2000. Prior to joining the Corporation in 1995, Mr. Thibaud was technical director and account manager for Horizon Technologies, developing European business for digital signal processing (DSP) products. Previously, at ONERA, the French National Research Center for Aerospace, he spent several years managing research and development of DSP applications in medical and defense electronics and was engineering manager for multiprocessor systems for tracking and surveillance radar. Mr. Thibaud started his career with CHU Lille hospital's center for medical signal processing research.

EXECUTIVE COMPENSATION

The following table sets forth all compensation awarded to, earned by or paid for the Corporation's three (3) most recent fiscal years ended June 30, 2004 to the Corporation's Chief Executive Officer and each of the Corporation's four (4) other most highly compensated executive officers (the "Named Executive Officers"):

Summary Compensation Table

			Annual Compensation	Long-Term Compensation			
Name and Principal Position	Year	Salary (\$)(1)	Bonus (\$)(2)	Other Annual Compensation (\$) (3)	Securities Underlying Options (#)	All Other Compensation (\$)	
James R. Bertelli, President and CEO	2004 2003 2002	\$ 387,986 \$ 364,246 \$ 314,052	\$ 229,053 \$ 351,160 \$ 54,585	\$ — \$ 15,163 \$ 18,048	75,000 115,000 78,820	\$ \$ \$	62,805(4) 56,828(5) 19,965(6)
Robert D. Becker, Senior Vice President, Engineering and Operations	2004 2003 2002	\$ 212,382 \$ 208,146 \$ 186,967	\$ 42,760 \$ 149,910 \$ 24,188	\$ — \$ — \$ —	20,000 38,000 33,850	\$ \$ \$	3,785(7) 9,937(8) 9,340(9)
Douglas F. Flood, Vice President, Corporate Development	2004 2003 2002	\$ 194,740 \$ 187,682 \$ 173,564	\$ 32,344 \$ 112,537 \$ 39,892	\$ — \$ 12,322 \$ —	10,000 13,500 12,810	\$ \$ \$	25,696(10) 28,933(11) 22,212(12)
Barry S. Isenstein, Vice President and General Manager, Defense Electronics Group(13)	2004 2003	\$ 184,990 \$ 176,669	\$ 500 \$ 67,800	\$ 14,397 \$ 14,818	16,000 26,000	\$ \$	18,412(14) 20,951(15)
Craig Lund, Vice President, Chief Technology Officer(16)	2004	\$ 196,630	\$ 32,653	\$ —	16,000	\$	3,895(17)

- (1) The increase in the aggregate salary from fiscal year 2003 to fiscal year 2004 is the result of the full year effect of a raise given in October 2002. There were no salary increases in fiscal year 2004.
- (2) For fiscal year 2004, does not include certain bonus amounts which could not be determined as of the date of this proxy statement. These amounts related in part to the Corporation's bonus program that applies an add-on to an executive officer's compensation if the Corporation's results exceed the performance of the 50th percentile of the high-tech universe of the Russell 2000 Index, based on revenue growth, profit before taxes and profit before tax as a percentage of sales. For fiscal years 2002 and 2003, includes such bonus amounts which were determined subsequent to the applicable year-end.
- (3) Represents automobile allowance and compensation related to automobile leases provided by the Corporation.
- (4) Represents a \$5,820 matching contribution by the Corporation into Mr. Bertelli's 401(k) plan for the benefit of Mr. Bertelli, and a premium of \$56,985 paid by the Corporation for a split dollar life insurance policy for the benefit of Mr. Bertelli.

- (5) Represents a \$7,321 matching contribution by the Corporation into Mr. Bertelli's 401(k) plan for the benefit of Mr. Bertelli, a premium of \$48,107 paid by the Corporation for a split dollar life insurance policy for the benefit of Mr. Bertelli, and \$1,400 paid in connection with tax preparation fees.
- (6) Represents a \$4,497 matching contribution by the Corporation into Mr. Bertelli's 401(k) plan for the benefit of Mr. Bertelli, a premium of \$12,686 paid by the Corporation for a split dollar life insurance policy for the benefit of Mr. Bertelli, and \$2,782 paid in connection with tax preparation fees.
- (7) Represents a \$1,790 matching contribution by the Corporation into Mr. Becker's 401(k) plan for the benefit of Mr. Becker, and a premium of \$1,995 paid by the Corporation for a split dollar life insurance policy for the benefit of Mr. Becker.
- (8) Represents a \$6,261 matching contribution by the Corporation into Mr. Becker's 401(k) plan for the benefit of Mr. Becker, and a premium of \$3,676 paid by the Corporation for a split dollar life insurance policy for the benefit of Mr. Becker.
- (9) Represents a \$9,340 matching contribution by the Corporation into Mr. Becker's 401(k) plan for the benefit of Mr. Becker.
- (10) Represents a \$3,213 matching contribution by the Corporation into Mr. Flood's 401(k) plan for the benefit of Mr. Flood, and a premium of \$22,483 paid by the Corporation for a split dollar life insurance policy for the benefit of Mr. Flood.
- (11) Represents a \$6,373 matching contribution by the Corporation into Mr. Flood's 401(k) plan for the benefit of Mr. Flood, and a premium of \$22,560 paid by the Corporation for a split dollar life insurance policy for the benefit of Mr. Flood.
- (12) Represents a \$3,072 matching contribution by the Corporation into Mr. Flood's 401(k) plan for the benefit of Mr. Flood, and a premium of \$19,140 paid by the Corporation for a split dollar life insurance policy for the benefit of Mr. Flood.
- (13) Mr. Isenstein became an executive officer of the Corporation in fiscal year 2003.
- (14) Represents a \$2,775 matching contribution by the Corporation into Mr. Isenstein's 401(k) plan for the benefit of Mr. Isenstein, and a premium of \$15,637 paid by the Corporation for a split dollar life insurance policy for the benefit of Mr. Isenstein.
- (15) Represents a \$5,744 matching contribution by the Corporation into Mr. Isenstein's 401(k) plan for the benefit of Mr. Isenstein, and a premium of \$15,207 paid by the Corporation for a split dollar life insurance policy for the benefit of Mr. Isenstein.
- (16) Mr. Lund became an executive officer of the Corporation in fiscal year 2004.
- (17) Represents a \$3,244 matching contribution by the Corporation into Mr. Lund's 401(k) plan for the benefit of Mr. Lund, and a premium of \$651 paid by the Corporation for a split dollar life insurance policy for the benefit of Mr. Lund.

Stock Option and Stock Purchase Plans

The Corporation has in effect its 1997 Employee Stock Purchase Plan, the 1997 Plan, 1998 Stock Option Plan for Non-Employee Directors, 1993 Stock Option Plan for Non-Employee Directors and 1991 Stock Option Plan (collectively the "Stock Option and Purchase Plans"). The Corporation is no longer permitted to grant options under its 1991, 1993 and 1998 Stock Option Plans; however, certain persons continue to hold options to purchase shares of Common Stock granted under these 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 are available from the Secretary 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 fiscal year ended June 30, 2004. The Corporation did not issue any stock appreciation rights, or SARs, during the fiscal year.

Option Grants in Last Fiscal Year(1)

Individual Grants

Name	Number of Securities Underlying Options Granted (#)	* v	Expiration Date	Potential Realizable Value at Assumed Annual Rates of Stock Price Appreciation for Option Term(2)		
	, 				5% (\$)	10% (\$)
James R. Bertelli	75,000(3)	7.53%	\$ 19.03	7/28/13	\$ 897,590	\$ 2,274,669
Robert D. Becker	20,000(4)	2.01%	\$ 19.03	7/28/13	\$ 239,357	\$ 606,578
Douglas F. Flood	10,000(5)	1.00%	\$ 19.03	7/28/13	\$ 119,679	\$ 303,289
Barry S. Isenstein	16,000(6)	1.61%	\$ 19.03	7/28/13	\$ 191,486	\$ 485,263
Craig Lund	16,000(7)	1.61%	\$ 19.03	7/28/13	\$ 191,486	\$ 485,263

- (1) Includes option grants set forth in the Corporation's proxy statement for its Special Meeting in Lieu of 2003 Annual Meeting of Shareholders under the heading "Options Granted Subsequent to June 30, 2003."
- (2) In accordance with the rules of the SEC, 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 SEC and do not represent the Corporation's estimate or projection of future Common Stock prices.
- (3) No options were exercisable at June 30, 2004. Options vest as to 75,000 shares in increments of 18,750 shares on July 28 in each of 2004, 2005, 2006 and 2007 so long as Mr. Bertelli's employment with the Corporation has not been terminated.
- (4) No options were exercisable at June 30, 2004. Options vest as to 20,000 shares in increments of 5,000 shares on July 28 in each of 2004, 2005, 2006 and 2007 so long as Mr. Becker's employment with the Corporation has not been terminated.
- (5) No options were exercisable at June 30, 2004. Options vest as to 10,000 shares in increments of 2,500 shares on July 28 in each of 2004, 2005, 2006 and 2007 so long as Mr. Flood's employment with the Corporation has not been terminated.
- (6) No options were exercisable at June 30, 2004. Options vest as to 16,000 shares in increments of 4,000 shares on July 28 in each of 2004, 2005, 2006 and 2007 so long as Mr. Isenstein's employment with the Corporation has not been terminated.
- (7) No options were exercisable at June 30, 2004. Options vest as to 16,000 shares in increments of 4,000 shares on July 28 in each of 2004, 2005, 2006 and 2007 so long as Mr. Lund's employment with the Corporation has not been terminated.

Options Granted Subsequent to June 30, 2004

Individual	Shares		Exercise Price	
James R. Bertelli	75,000	\$	23.46	
Dr. Gordon B. Baty	12,000	\$	23.46	
Robert D. Becker	18,000	\$	23.46	
Dr. Albert P. Belle Isle	12,000	\$	23.46	
George W. Chamillard	_		_	
Douglas F. Flood	10,000	\$	23.46	
Joseph M. Hartnett	15,000	\$	23.46	
Robert E. Hult			_	
Barry S. Isenstein	20,000	\$	23.46	
Russell K. Johnsen	12,000	\$	23.46	
Craig Lund	22,000	\$	23.46	
Sherman N. Mullin	12,000	\$	23.46	
Craig A. Saline	_		_	
Mark F. Skalabrin	20,000	\$	23.46	
Lee C. Steele	12,000	\$	23.46	
Didier M.C. Thibaud	20,000	\$	23.46	
Dr. Richard P. Wishner	12,000	\$	23.46	
Total	272,000	\$	23.46	

Aggregated Option Exercises in Last Fiscal Year and June 30, 2004 Option Values. The following table provides information on option exercises and on the value of the Named Executive Officers' unexercised options at June 30, 2004.

Option Exercises and Remaining Holdings of Named Executive Officers as of June 30, 2004

	Shares		Number of Securities Underlying Unexercised Options at Fiscal Year-End		Values of Unexercised In-the-Money Options at Fiscal Year-End (\$)(1)		
Name	Acquired on Exercise (#)	Value Realized (\$)	Exercisable	Unexercisable	Exercisable	Unexercisable	
James R. Bertelli	_	_	232,503	201,054	\$ 2,453,562	\$ 1,111,013	
Robert D. Becker	_	_	48,517	67,333	\$ 52,535	\$ 267,805	
Douglas F. Flood	_	_	66,154	50,156	\$ 568,189	\$ 467,683	
Barry S. Isenstein	_	_	47,082	48,000	\$ 65,690	\$ 195,995	
Craig Lund	_	_	76,980	41,500	\$ 530,048	\$ 171,110	

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, 2004, which was \$24.80.

AUDIT COMMITTEE OF THE BOARD OF DIRECTORS

Report of the Audit Committee

The following is the report of the Audit Committee of the Board of Directors of the Corporation with respect to the Corporation's audited financial statements for the fiscal year ended June 30, 2004. Management is responsible for the Corporation's internal controls and financial reporting process. The Corporation's independent auditors are responsible for performing an independent audit of the Corporation's financial statements in accordance with generally accepted auditing standards and issuing a report on those financial statements. The Audit Committee is responsible for monitoring and overseeing these processes.

The Audit Committee reviewed the Corporation's audited financial statements for the fiscal year ended June 30, 2004, and discussed these financial statements with the Corporation's management. Management represented to the Audit Committee that the Corporation's financial statements had been prepared in accordance with generally accepted accounting principles. The Audit Committee also reviewed and discussed the audited financial statements and the matters required to be discussed by Statement of Auditing Standards No. 61, as amended (Communication with Audit Committees), with the Corporation's independent registered public accounting firm. That Statement of Accounting Standards requires the auditors to ensure that the Audit Committee received information regarding the scope and results of the audit. The Audit Committee received the letter from the independent auditors required by Independence Standards Board Standard No. 1, and has discussed with the independent auditors their independence.

Based on its review and the discussions with management and the independent auditors described above, and its review of the representations and information provided by management and the independent auditors, the Audit Committee recommended to the Corporation's Board of Directors that the audited financial statements be included in the Corporation's Annual Report on Form 10-K for the fiscal year ended June 30, 2004.

By the Audit Committee of the Board of Directors of Mercury Computer Systems, Inc.

Dr. Gordon B. Baty, Chairman Dr. Albert P. Belle Isle Russell K. Johnsen Lee C. Steele

Fees

Management has advised the Audit Committee that aggregate fees for professional services rendered for the Corporation by PricewaterhouseCoopers LLP for the fiscal years ended June 30, 2004 and 2003 were as follows:

	2004	2003
Audit	\$ 649,000	\$ 395,000
Audit-Related	221,000	65,000
Tax	65,000	140,000
All Other	1,000	1,000
	\$ 936,000	\$ 601,000

Audit fees for the years ended June 30, 2004 and 2003 were for professional services rendered for the audit of the Corporation's consolidated financial statements, statutory audits, reviews of the financial statements included in each of the Corporation's Quarterly Reports on Form 10-Q and providing comfort letters in connection with securities underwritings.

Audit-related fees for the fiscal years ended June 30, 2004 and 2003 were for due diligence services related to mergers and acquisitions, accounting consultations in connection with acquisitions, and consultations concerning financial accounting and reporting standards.

Tax fees for the fiscal years ended June 30, 2004 and 2003 were for services related to tax compliance, planning and advice, including tax return preparation or review and assistance with tax audits.

All other fees for the fiscal years ended June 30, 2004 and 2003 were for a license fee.

Pre-approval Policies

The Audit Committee pre-approves all auditing services and the terms of such services (which may include providing comfort letters in connection with securities underwritings) and non-audit services provided by the Corporation's independent auditors, but only to the extent that the non-audit services are not prohibited under applicable law and the Audit Committee reasonably determines that the non-audit services do not impair the independence of the independent auditors. The authority to pre-approve non-audit services may be delegated to one or more members of the Audit Committee, who present all decisions to pre-approve an activity to the full Audit Committee at its first meeting following such decision.

The pre-approval requirement is waived with respect to the provision of non-audit services for the Corporation if (1) the aggregate amount of all such non-audit services provided to the Corporation constitutes not more than five percent (5%) of the total amount of fees paid by the Corporation to its independent auditors during the fiscal year in which such non-audit services were provided, (2) such services were not recognized at the time of the engagement to be non-audit services, and (3) such services are promptly brought to the attention of the Audit Committee and approved prior to the completion of the audit by the Audit Committee or by one or more of its members to whom authority to grant such approvals has been delegated by the Audit Committee.

The Audit Committee has considered and determined that the provision of the non-audit services described is compatible with maintaining the auditor's independence.

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Audit Committee 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, 2005. 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.

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 SEC. Officers, directors and beneficial owners of greater than 10% of the Corporation's 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, 2004 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.

DEADLINES FOR SUBMISSION OF SHAREHOLDER PROPOSALS

Under regulations adopted by the SEC, any proposal submitted for inclusion in the Corporation's proxy statement relating to the Annual Meeting of Shareholders to be held in 2005 must be received at the Corporation's principal executive offices in Chelmsford, Massachusetts on or before June 13, 2005. Receipt by the Corporation of any such proposal from a qualified shareholder 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.

In addition to the SEC requirements regarding shareholder proposals, the Corporation's By-Laws contain provisions regarding matters to be brought before shareholder meetings. If shareholder proposals, including proposals regarding the election of directors, are to be considered at the 2005 Annual Meeting of Shareholders, 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 Secretary of the Corporation on or before August 6, 2005. The notice must include the information set forth in the Corporation's By-Laws. Proxies solicited by the Board of Directors will confer discretionary voting authority with respect to these proposals subject to SEC rules governing the exercise of this authority.

It is suggested that any shareholder proposal be submitted by certified mail, return receipt requested.

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.

EXPENSES AND SOLICITATION

The cost of this solicitation of proxies will be borne by the Corporation. In addition to soliciting shareholders by mail through its regular employees, the Corporation may request banks, brokers, and other custodians, nominees and fiduciaries to solicit their customers who have stock of the Corporation registered in the names of a nominee, and, if so, will reimburse such banks, brokers and other custodians, nominees and fiduciaries for their reasonable out-of-pocket costs. Solicitation by officers and employees of the Corporation may also be made of some shareholders in person or by mail, telephone or telegraph following the original solicitation. In addition, the Corporation has retained D.F. King & Co., Inc. to assist in soliciting proxies and will pay fees estimated at \$7,500, plus disbursements, in connection with the solicitation.

ANNUAL REPORT ON FORM 10-K

THE CORPORATION WILL PROVIDE EACH BENEFICIAL OWNER OF ITS SECURITIES WITH A COPY OF ITS ANNUAL REPORT ON FORM 10-K, INCLUDING THE FINANCIAL STATEMENTS AND SCHEDULES THERETO, REQUIRED TO BE FILED WITH THE SEC FOR THE CORPORATION'S MOST RECENT FISCAL YEAR, WITHOUT CHARGE, UPON RECEIPT OF A WRITTEN OR ORAL REQUEST FROM SUCH PERSON. SUCH REQUEST SHOULD BE SENT TO INVESTOR RELATIONS, MERCURY COMPUTER SYSTEMS, INC., 199 RIVERNECK ROAD, CHELMSFORD, MASSACHUSETTS 01824 (978-256-1300).

By Order of the Board of Directors

ANTHONY J. MEDAGLIA, JR., Secretary

Chelmsford, Massachusetts October 1, 2004

AMENDED AND RESTATED MERCURY COMPUTER SYSTEMS, INC. AUDIT COMMITTEE CHARTER

PURPOSE

The primary purpose of the Audit Committee (the "Committee") is to assist the Board of Directors (the "Board") in fulfilling its responsibility to oversee (i) management's conduct of the Company's accounting and financial reporting processes, including by overviewing the financial reports and other financial information provided by the Company's systems of internal accounting and financial controls, (ii) the annual independent audit of the Company's financial statements, and (iii) the qualifications, independence and performance of the Company's outside auditor.

In discharging its oversight role, the Committee is empowered to investigate any matter brought to its attention with full access to all books, records, facilities and personnel of the Company and the power to retain outside counsel, auditors or other experts for this purpose.

The Committee shall meet as often as it determines is appropriate to carry out its responsibilities under this Charter, but not less frequently than quarterly. The Committee may form and delegate authority to subcommittees consisting of one or more of its members as the Audit Committee deems appropriate to carry out its responsibilities and exercise its powers.

The Committee shall review and reassess the adequacy of this Charter on an annual basis.

MEMBERSHIP

The Committee shall be comprised of not less than three members of the Board. The members of the Committee shall meet the independence and experience requirements of applicable statutes and regulations, including the requirements of the Securities Exchange Act of 1934, as amended, and NASDAQ.

KEY RESPONSIBILITIES

The Committee's job is one of oversight and it recognizes that the Company's management is responsible for preparing the Company's financial statements and that the outside auditors are responsible for auditing those financial statements. Additionally, the Committee recognizes that financial management, as well as the outside auditors, have more time, knowledge and more detailed information on the Company than do Committee members; consequently, in carrying out its oversight responsibilities, the Committee is not providing any expert or special assurance as to the Company's financial statements or any professional certification as to the outside auditor's work. In addition, it is not the duty of the Committee to conduct investigations or to assure compliance with laws and regulations or the Company's Code of Business Conduct and Ethics.

The following functions shall be the common recurring activities of the Committee in carrying out its oversight function. These functions are set forth as a guide with the understanding that the Committee may diverge from this guide as appropriate given the circumstances.

- The Committee shall review with management and the outside auditors the audited financial statements to be included in the Company's Annual Report on Form 10-K (or the Annual Report to Shareholders if distributed prior to the filing of Form 10-K) and review and consider with the outside auditors the matters required to be discussed by Statement of Auditing Standards ("SAS") No. 61, to assist the Committee in fulfilling its oversight responsibilities.
- As a whole, or through the Committee chair, the Committee shall review with the outside auditors the matters (if any) required to be discussed by SAS No. 71 in connection with the interim financial reviews conducted by the outside auditors to assist the Committee in fulfilling its oversight responsibilities; this review will occur prior to the Company's filing of the Form 10-Q.
- The Committee shall receive from time to time the outside auditor reports concerning:
 - all critical accounting policies and practices to be used;
 - all alternative treatments of financial information within generally accepted accounting principles that have been discussed with management of
 the Company, ramifications of the use of such alternative disclosures and treatments, and the treatment preferred by the registered public
 accounting firm; and
 - other material written communications between the registered public accounting firm and the management of the Company, such as any management letter or schedule of unadjusted differences.
- The Committee shall discuss with management and the outside auditors:
 - the accounting policies of the Company which may be viewed as critical; the nature and extent of any significant changes in accounting
 principles or the application thereof; significant judgment areas; significant risks and exposures and the steps management has taken to
 minimize such risks to the Company; and the quality and adequacy of the Company's internal controls, accounting policies and estimates;
 - the terms and effects of any transactions with parties related to the Company which are significant in size or which involve terms or other aspects which differ from those which would likely be negotiated with an unaffiliated third party and which are material to an understanding of the Company's financial statements; and
 - the nature of any off-balance sheet structures, including financing arrangements, and their potential impact on the Company and its financial statements.
- The Committee shall:
 - request from the outside auditors annually, a formal written statement delineating all relationships between the auditor and the Company consistent with Independence Standards Board Standard Number 1;
 - discuss with the outside auditor's any such disclosed relationships and their impact on the outside auditor's independence;
 - · take appropriate action to oversee the independence of the outside auditor; and

- preapprove all auditing and non-audit services provided to the Company by the outside auditor. The Committee may delegate to one or more of its members the authority to grant such preapprovals. Preapprovals granted by any such delegate shall be presented to the full Committee at its next scheduled meeting.
- establish procedures for:
 - the receipt, retention, and treatment of complaints received by the Company regarding accounting, internal accounting controls, or auditing
 matters; and
 - the confidential, anonymous submission by employees of the Company of concerns regarding questionable accounting or auditing matters.
- The Committee shall be directly responsible for the appointment, compensation, retention and oversight of the work of the outside auditor (including resolution of disagreements between management and the outside auditor regarding financial reporting) for the purpose of preparing or issuing an audit report or related work or performing other audit, review or attest services for the Company. The outside auditor shall report directly to the Committee.
- The Committee will prepare the report required by the rules of the Securities and Exchange Commission to be included in the Company's annual proxy statement.
- Based on the criteria set forth in Item 306(a) of Regulation S-K (or any successor provision) and, if so determined by the Committee, recommend to the Board of Directors that the audited financial statements for each fiscal year be included in the Company's Annual Report on Form 10-K in respect of such year.
- The Committee shall conduct an appropriate review of all related party transactions for potential conflict of interest situations on an ongoing basis and the approval of the Committee shall be required for all related party transactions. The term related party transaction shall have the meaning ascribed to it for purposes of Rule 4350(h) of NASDAQ (or any successor rule).
- The Committee shall have the authority to engage and determine financing for independent counsel and other advisers as it determines necessary to
 carry out its duties. The Committee shall have the authority to incur such ordinary administrative expenses as are necessary or appropriate in carrying
 out its duties.
- · The Committee will perform such other functions as may be required by law, the Company's Articles of Organization or its By-Laws.

Adopted by the Board of Directors: February 4, 2004

MERCURY COMPUTER SYSTEMS, INC.

Notice of Amendment to By-Laws by the Board of Directors Pursuant to Section 10.20 of Chapter 156D of the Massachusetts General Laws

On September 22, 2004, the Board of Directors of Mercury Computer Systems, Inc. (the "Company") amended the Company's By-laws as follows:

- 1. <u>Section 3.2</u>. Section 3.2 of the By-laws was amended by striking the words "thirty (30%) percent" in the second sentence of said Section 3.2 and replacing it with "forty (40%) percent" and in the fourth sentence of Section 3.2 again striking "thirty (30%) percent" and inserting "forty (40%) percent."
- 2. <u>Section 3.5</u>. Section 3.5 of the By-laws was amended by changing the title of Section 3.5 from "Quorum" to "Quorum and Adjournment" and by adding the following to the end of the first full paragraph of said Section 3.5: "In addition, the presiding officer at any Shareholders Meeting shall have the authority to reschedule or adjourn any such meeting if (a) no quorum is present for the transaction of business; (b) the board of directors determines that an adjournment is necessary or appropriate to enable the shareholders to consider fully information which the board of directors determines has not been made sufficiently or timely available to shareholders; or (c) the board of directors determines that adjournment is otherwise in the best interests of the company."

Chelmsford, Massachusetts October 1, 2004 DETACH HERE

PROXY

MERCURY COMPUTER SYSTEMS, INC. SPECIAL MEETING IN LIEU OF THE 2004 ANNUAL MEETING OF SHAREHOLDERS NOVEMBER 15, 2004

PROXY

The undersigned hereby appoints James R. Bertelli, Robert E. Hult and Anthony J. Medaglia, Jr., and each of them singly, with full power of substitution, proxies to represent the undersigned at the Special Meeting in Lieu of the 2004 Annual Meeting of Shareholders of Mercury Computer Systems, Inc. to be held on November 15, 2004 at 10:00 a.m., local time, at the offices of Goodwin Procter LLP, 53 State Street, Boston, Massachusetts 02109, and at any adjournments or postponements 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 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. THIS PROXY WHEN PROPERLY EXECUTED WILL BE VOTED AS SPECIFIED. IF NO SPECIFICATION IS MADE, THE SHARES REPRESENTED WILL BE VOTED FOR THE ELECTION OF THE THREE NOMINEES FOR CLASS I DIRECTOR NAMED IN THE PROXY STATEMENT, FOR THE APPROVAL OF THE AMENDMENT TO THE 1997 STOCK OPTION PLAN, FOR THE APPROVAL OF THE AMENDMENT TO THE ARTICLES OF ORGANIZATION AND IN ACCORDANCE WITH THE PROXIES' DISCRETION ON SUCH OTHER BUSINESS THAT MAY PROPERLY COME BEFORE THE MEETING.

PLEASE VOTE, DATE AND SIGN THIS PROXY IN THE SPACE PROVIDED AND RETURN IT 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 this proxy card. 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?

DETACH HERE

(X) PLEASE MARK VOTES AS IN THIS EXAMPLE.

MERCURY COMPUTER SYSTEMS, INC.

1. Election of Class I Directors:					
Nominees: (01) Dr. Albert P. Belle Isle (02) Lee C. Steele (03) Dr. Richard P. Wishner					
FOR □ WITHHELD □					
\Box For all nominees except as noted above					
To approve an amendment to the Mercury Computer Sy issuance thereunder by 1,000,000 shares, from 7,650,00		per of shares of common stock authorized for			
FOR □	AGAINST □	ABSTAIN □			
3. To approve an amendment to the Mercury Computer Systems, Inc. Articles of Organization to increase the number of shares of common stock authorized for issuance thereunder by 20,000,000 shares, from 65,000,000 shares to 85,000,000 shares.					
FOR □	AGAINST □	ABSTAIN □			
4. In their discretion, the proxies are authorized to vote upon such other business as may properly come before the meeting or any adjournments or postponements thereof.					
MARK HERE IF YOU PLAN TO ATTEND THE MEETI	ING.				
Mark box at right if an address change or comment has been noted on the reverse side of this proxy card. \Box					
The undersigned hereby acknowledge(s) receipt of a copy and the proxy statement with respect thereto and hereby re		of the 2004 Annual Meeting of Shareholders			
PLEASE BE SURE TO DATE AND SIGN THIS PROXY.					
Signature: Date:	Signature: _	Date:			

MERCURY COMPUTER SYSTEMS, INC.

Dear Shareholder:

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 card in the enclosed postage paid envelope.

Your vote must be received prior to the Special Meeting in Lieu of the 2004 Annual Meeting of Shareholders on November 15, 2004.

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

Sincerely,

Mercury Computer Systems, Inc.