

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM S-8
REGISTRATION STATEMENT
under
THE SECURITIES ACT OF 1933

MERCURY COMPUTER SYSTEMS, INC.

(Exact name of issuer as specified in its charter)

Massachusetts
(State of Incorporation)

04-2741391
(IRS Employer Identification Number)

199 Riverneck Road, Chelmsford, MA 01824
(Address of Principal Executive Offices)

(978) 256-1300
(Registrant's telephone number, including area code)

MERCURY COMPUTER SYSTEMS, INC.
1997 STOCK OPTION PLAN

(Full title of the Plan)

Anthony J. Medaglia, Jr., Esquire
Goodwin Procter LLP
Exchange Place
Boston, Massachusetts 02109
(617) 570-1000
(Name, address and telephone number of agent for service)

CALCULATION OF REGISTRATION FEE

Title of Securities to be registered	Amount to be registered(1)	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee(2)
Common Stock	1,674,293 shares	\$31.79	\$53,225,774	
\$.01 par value per share	2,325,707 shares	\$27.98	\$65,073,281	
TOTAL AMOUNT	4,000,000 shares		\$118,299,055	\$ 10,884

- (1) Also registered hereunder are such additional number of shares of Common Stock, presently indeterminable, as may be necessary to satisfy the antidilution provisions of the Plan to which this Registration Statement relates.
- (2) The registration fee has been calculated with respect to 1,674,293 of the shares registered on the basis of the closing price of \$31.79 on the NASDAQ National Market on December 17, 2002; and with respect to the remaining 2,325,707 shares registered on the basis of the price at which options may be exercised.

NOTE

This Registration Statement is being filed solely for the purpose of registering 4,000,000 additional shares of Common Stock of Mercury Computer Systems, Inc. issuable pursuant to the Mercury Computer Systems, Inc. 1997 Stock Option Plan originally adopted in 1997. The total number of shares issuable under the Plan is 6,650,000 shares, of which 2,650,000 shares were previously registered on Form S-8 (Reg. No. 333-53291).

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

ITEM 3. INCORPORATION OF DOCUMENTS BY REFERENCE

Mercury Computer Systems, Inc. ("Mercury") hereby incorporates by reference the documents listed in (a) through (c) below. In addition, all documents subsequently filed by Mercury pursuant to Section 13(a), 13(c), 14 and 15(d) of the Securities Exchange Act of 1934 (prior to filing of a Post-Effective Amendment which indicates that all securities offered have been sold or which deregisters all securities then remaining unsold) shall be deemed to be incorporated by reference in this Registration Statement and to be a part thereof from the date of filing of such documents.

(a) Mercury's latest annual report filed pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 or the latest Prospectus filed pursuant to Rule 424(b) under the Securities Act of 1933, which contains either directly or by incorporation by reference, audited financial statements for Mercury's latest fiscal year for which such statements have been filed.

(b) All of the reports filed by Mercury pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 since the end of the fiscal year covered by the annual report or the Prospectus referred to in (a) above.

(c) The description of Mercury's Common Stock which is contained in the Registration Statement filed by Mercury under the Securities Exchange Act of 1934, including any amendment or report filed for the purpose of updating such description.

ITEM 4. DESCRIPTION OF SECURITIES

Inapplicable.

ITEM 5. INTERESTS OF NAMED EXPERTS AND COUNSEL

The validity of the authorization and issuance of the Common Stock offered hereby will be passed upon for Mercury by Goodwin Procter LLP, Boston, Massachusetts. Anthony J. Medaglia Jr., a partner Goodwin Procter LLP is Clerk of Mercury and owns 25,950 shares of Mercury common stock and options for the purchase of an additional 7,010 shares of Mercury common stock.

ITEM 6. INDEMNIFICATION OF DIRECTORS AND OFFICERS

Section 67 of Chapter 156B of the General Laws of the Commonwealth of Massachusetts provides as follows:

"Section 67. Indemnification of directors, officers, employees and other agents of a corporation, and persons who serve at its request as directors, officers, employees or other agents of another organization, or who serve at its request in any capacity with respect to any employee benefit plan, may be provided by it to whatever extent shall be specified in or authorized by (i) the articles of organization or (ii) a by-law adopted by the stockholders or (iii) a vote adopted by the holders of a majority of the shares of stock entitled to vote on the election of directors. Except as the articles of organization or by-laws otherwise require, indemnification of any persons referred to in the preceding sentence who are not directors of the corporation may be provided by it to the extent authorized by the directors. Such indemnification may include payment by the corporation of expenses incurred in defending a civil or criminal action or proceeding in

advance of the final disposition of such action or proceeding, upon receipt of an undertaking by the person indemnified to repay such payment if he shall be adjudicated to be not entitled to indemnification under this section which undertaking may be accepted without reference to the financial ability of such person to make repayment. Any such indemnification may be provided although the person to be indemnified is no longer an officer, director, employee or agent of the corporation or of such other organization or no longer serves with respect to any such employee benefit plan.

No indemnification shall be provided for any person with respect to any matter as to which he shall have been adjudicated in any proceeding not to have acted in good faith in the reasonable belief that his action was in the best interest of the corporation or to the extent that such matter relates to service with respect to an employee benefit plan, in the best interests of the participants or beneficiaries of such employee benefit plan.

The absence of any express provision for indemnification shall not limit any right of indemnification existing independently of this section.

A corporation shall have power to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or other agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or other agent of another organization or with respect to any employee benefit plan, against any liability incurred by him in any such capacity, or arising out of his status as such, whether or not the corporation would have the power to indemnify him against such liability.”

Article 6 of the Restated Articles of Organization, as amended, of Mercury reads as follows:

Article 6.

“Other lawful provisions for the conduct and regulation of the business and affairs of the Corporation, for its voluntary dissolution or for limiting, defining or regulating the powers of the Corporation, or of its directors or stockholders, or of any class of stockholders are as follows: [...]

No Director of the Corporation shall be liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a Director notwithstanding any statutory provision or other law imposing such liability, except for liability of a director (i) for any breach of the Director’s duty of loyalty to the Corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 61 or 62 of Chapter 156 of the Massachusetts General Laws, or (iv) for any transaction from which the Director derived an improper personal benefit.”

Article 7 of the Amended By-Laws of Mercury provides as follows:

Article 7.

Indemnification of Directors and Officers

Section 7.1 Definitions

“For purposes of this Article 7:

(a) ‘Director/officer’ means any person who is serving or has served as a Director, officer or employee of the Corporation appointed or elected by the Board of Directors or the stockholders of the Corporation, or any Director, officer or employee of the Corporation who is serving or has served at the request of the Corporation as a Director, officer, trustee, principal, partner, employee or other agent of any other organization.

(b) ‘Proceeding’ means any action, suit or proceeding, civil or criminal, brought or threatened in or before any court, tribunal, administrative or legislative body or agency.

(c) ‘Expense’ means any fine or penalty, and any liability fixed by a judgment, order, decree or award in a Proceeding, any amount reasonably paid in settlement of a Proceeding and any professional fees and other disbursements reasonably incurred in connection with a Proceeding.

Section 7.2 Right to Indemnification

Except as limited by law or as provided in Sections 7.3 and 7.4 of this Article 7, each Director/officer (and his heirs and personal representatives) shall be indemnified by the Corporation against any Expense incurred by such Director/officer in connection with each Proceeding in which he or she is involved as a result of his or her serving or having served as a Director/officer.

Section 7.3 Indemnification Not Available

No indemnification shall be provided to a Director/officer with respect to a Proceeding as to which it shall have been adjudicated that he or she did not act in good faith in the reasonable belief that his or her action was in the best interests of the Corporation.

Section 7.4 Compromise or Settlement

In the event that a Proceeding is compromised or settled so as to impose any liability or obligation on a Director/officer or upon the Corporation, no indemnification shall be provided as to said Director/officer with respect to such Proceeding if such Director/officer shall have been adjudicated not to have acted in good faith in the reasonable belief that his or her action was in the best interests of the Corporation.

Section 7.5 Advances

The Corporation shall pay sums on account of indemnification in advance of a final disposition of a Proceeding upon receipt of an undertaking by the Director/officer to repay such sums if it is subsequently established that he or she is not entitled to indemnification pursuant to Sections 7.3 and 7.4 hereof, which undertaking may be accepted without reference to the financial ability of such person to make repayment.

Section 7.6 Not Exclusive

Nothing in this Article 7 shall limit any lawful rights to indemnification existing independently of this Article 7.

Section 7.7 Insurance

The provisions of this Article 7 shall not limit the power of the Board of Directors to authorize the purchase and maintenance of insurance on behalf of any Director/officer against any Expense whether or not the Corporation would have the power to indemnify such Director/officer against such Expense under this Article 7.”

ITEM 7. EXEMPTION FROM REGISTRATION CLAIMED

Not applicable.

ITEM 8. EXHIBITS

Number	Description
4.1	Mercury Computer Systems, Inc. 1997 Stock Option Plan, as amended.
5.1	Opinion of Goodwin Procter LLP as to legality of shares being registered and consent of Goodwin Procter, LLP.
23.1	Consent of Goodwin Procter LLP (included in Exhibit 5.1).
23.2	Consent of PricewaterhouseCoopers LLP.

ITEM 9. UNDERTAKINGS

The undersigned Registrant hereby undertakes the following:

(a) The undersigned Registrant hereby undertakes:

- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:
 - (i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;
 - (ii) To reflect in the prospectus any facts or events arising after the effective date of the Registration Statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in this Registration Statement;
 - (iii) To include any material information with respect to the plan of distribution not previously disclosed in this Registration Statement or any material change to such information in this Registration Statement.

Provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed by the Registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in this Registration Statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant’s annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan’s annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in this Registration Statement shall be deemed to be a new registration

statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) The undersigned Registrant hereby undertakes, that, insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act of 1933 and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933 and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in Chelmsford, Massachusetts on December 17, 2002.

MERCURY COMPUTER SYSTEMS, INC.

By: /s/ James R. Bertelli

James R. Bertelli, President and
Chief Executive Officer

KNOW ALL MEN BY THESE PRESENTS that each person whose signature appears below constitutes and appoints James R. Bertelli his true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him or in his name, place and stead, in any and all capacities to sign any and all amendments or post-effective amendments to this Registration Statement, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agents, full power and authority to do and perform each and every act and thing requisite or necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
/s/ James R. Bertelli _____ James R. Bertelli	President and Chief Executive Officer (principal executive officer)	December 17, 2002
/s/ John F. Alexander II _____ John F. Alexander II	Senior Vice President, Treasurer and Chief Financial Officer (principal financial officer)	December 18, 2002
/s/ Joseph M. Hartnett _____ Joseph M. Hartnett	Corporate Controller and Chief Accounting Officer (principal accounting officer)	December 18, 2002
_____ Gordon B. Baty	Director	December __, 2002
/s/ Albert P. Belle Isle _____ Albert P. Belle Isle	Director	December 17, 2002
/s/ James A. Dwyer _____ James A. Dwyer	Director	December 18, 2002
_____ Russell K. Johnsen	Director	December __, 2002

/s/ Sherman N. Mullin

Director

December 17, 2002

Sherman N. Mullin

/s/ Richard P. Wallace

Director

December 17, 2002

Richard P. Wallace

INDEX TO EXHIBITS

<u>Exhibit Number</u>	<u>Description</u>
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5.1	Opinion of Goodwin Procter LLP as to legality of shares being registered and consent of Goodwin Procter, LLP.
23.1	Consent of Goodwin Procter LLP (included in Exhibit 5.1).
23.2	Consent of PricewaterhouseCoopers LLP.

MERCURY COMPUTER SYSTEMS, INC.
1997 STOCK OPTION PLAN

1. PURPOSE OF THE PLAN.

This stock option plan (the "Plan") is intended to encourage ownership of the stock of Mercury Computer Systems, Inc. (the "Company") by employees and advisors of the Company and its subsidiaries, to induce qualified personnel to enter and remain in the employ of the Company or its subsidiaries and otherwise to provide additional incentive for optionees to promote the success of its business.

2. STOCK SUBJECT TO THE PLAN.

(a) The maximum number of shares of common stock, par value \$.01 per share, of the Company (the "Common Stock") for which options may be granted under this Plan shall be six million six hundred fifty thousand (6,650,000) shares. The maximum number of shares of Common Stock available for granting incentive stock options under this Plan shall be six million six hundred fifty thousand (6,650,000) shares. These limitations and all other limitations on the number of shares referenced in this Plan shall be subject to adjustment as provided in Section 12 of the Plan. Shares issued under the Plan may be authorized but unissued shares of Common Stock, or shares of Common Stock held in treasury by the Company.

(b) If an option granted hereunder shall expire or terminate for any reason without having vested fully or having been exercised in full, the unvested and/or unpurchased shares subject thereto shall again be available for subsequent option grants under the Plan.

(c) Stock issuable upon exercise of an option granted under the Plan may be subject to such restrictions on transfer, repurchase rights or other restrictions as shall be determined by the Committee.

3. ADMINISTRATION OF THE PLAN.

The Plan shall be administered by a committee (the "Committee") consisting of two or more members of the Company's Board of Directors. The selection of persons for participation in the Plan and all decisions concerning the timing, pricing and amount of any grant or award under the Plan shall be made solely by the Committee. The Board of Directors may from time to time appoint a member or members of the Committee in substitution for or in addition to the member or members then in office and may fill vacancies on the Committee however caused. The Committee shall choose one of its members as Chairman and shall hold meetings at such times and places as it shall deem advisable. A majority of the members of the Committee shall constitute a quorum and any action may be taken by a majority of those present and voting at any meeting. Any action may also be taken without the necessity of a meeting by a written instrument signed by a majority of the Committee. The decision of the Committee as to all questions of interpretation and application of the Plan shall be final, binding and conclusive on

all persons. The Committee shall have the authority to adopt, amend and rescind such rules and regulations as, in its opinion, may be advisable in the administration of the Plan. The Committee may correct any defect or supply any omission or reconcile any inconsistency in the Plan or in any option agreement granted hereunder in the manner and to the extent it shall deem expedient to carry the Plan into effect and shall be the sole and final judge of such expediency. No Committee member shall be liable for any action or determination made in good faith.

4. TYPE OF OPTIONS.

Options granted pursuant to the Plan shall be authorized by action of the Committee and may be designated as either incentive stock options meeting the requirements of Section 422 of the Internal Revenue Code of 1986, as amended (the "Code"), or non-qualified options which are not intended to meet the requirements of such Section 422 of the Code, the designation to be in the sole discretion of the Committee. The Plan shall be administered by the Committee in such manner as to permit options to qualify as incentive stock options under the Code.

5. ELIGIBILITY.

Options designated as incentive stock options shall be granted only to employees (including officers and directors who are also employees) of the Company and any of its subsidiaries. Options designated as non-qualified options may be granted to officers, directors, employees, consultants, and advisors of the Company or of any of its subsidiaries. "Subsidiary" or "subsidiaries" shall be as defined in Section 424 of the Code and the Treasury Regulations promulgated thereunder (the "Regulations") and shall include present and future subsidiaries.

The Committee shall, from time to time, at its sole discretion, select from such eligible individuals those to whom options shall be granted and shall determine the number of shares to be subject to each option. In determining the eligibility of an individual to be granted an option, as well as in determining the number of shares to be granted to any individual, the Committee in its sole discretion shall take into account the position and responsibilities of the individual being considered, the nature and value to the Company or its subsidiaries of his or her service and accomplishments, his or her present and potential contribution to the success of the Company or its subsidiaries, and such other factors as the Committee may deem relevant.

No option designated as an incentive stock option shall be granted to any employee of the Company or any subsidiary if such employee owns, immediately prior to the grant of an option, stock representing more than 10% of the combined voting power of all classes of stock of the Company or a parent or a subsidiary, unless the purchase price for the stock under such option shall be at least 110% of its fair market value at the time such option is granted and the option, by its terms, shall not be exercisable more than five years from the date it is granted. In determining the stock ownership under this paragraph, the provisions of Section 424(d) of the Code shall be controlling. In determining the fair market value under this paragraph, the provisions of Section 7 hereof shall apply.

The maximum number of shares of the Company's Common Stock with respect to which an option or options may be granted to any employee in any one taxable year of the Company

shall not exceed 200,000 shares, taking into account shares granted during such taxable year under options that are terminated or repriced.

6. OPTION AGREEMENT.

(a) Each option shall be evidenced by an option agreement (the "Agreement") duly executed on behalf of the Company and by the optionee to whom such option is granted, which Agreement shall comply with and be subject to the terms and conditions of the Plan. The Agreement may contain such other terms, provisions and conditions which are not inconsistent with the Plan as may be determined by the Committee, provided that options designated as incentive stock options shall meet all of the conditions for incentive stock options as defined in Section 422 of the Code. The date of grant of an option shall be as determined by the Committee. More than one option may be granted to an individual.

(b) Unless the Agreement specifies otherwise, the Committee may cancel, rescind, suspend, withhold or otherwise limit or restrict any option (whether vested or unvested, exercised or unexercised) at any time if the optionee is not in compliance with all applicable provisions of the Agreement and the Plan, or if the optionee engages in any "Detrimental Activity." For purposes of this Section 6, "Detrimental Activity" shall include: (i) the rendering of services for any organization or engaging directly or indirectly in any business which is or becomes competitive with the Company, or which organization or business, or the rendering of services to such organization or business, is or becomes otherwise prejudicial to or in conflict with the interests of the Company; (ii) the disclosure to anyone outside the Company, or the use in other than the Company's business, without prior written authorization from the Company, of any confidential information or material, as defined in the Company's Employee Confidentiality Agreement or such other agreement regarding confidential information and intellectual property that the optionee and the Company may enter into (collectively, the "Confidentiality Agreement"), relating to the business of the Company, acquired by the optionee either during or after employment with the Company; (iii) the failure or refusal to disclose promptly and to assign to the Company, pursuant to the Confidentiality Agreement or otherwise, all right, title and interest in any invention or idea, patentable or not, made or conceived by the optionee during employment by the Company, relating in any manner to the actual or anticipated business, research or development work of the Company or the failure or refusal to do anything reasonably necessary to enable the Company to secure a patent where appropriate in the United States and in other countries; (iv) activity that results in termination of the optionee's employment for cause; (v) a material violation of any rules, policies, procedures or guidelines of the Company; (vi) any attempt directly or indirectly to induce any employee of the Company to be employed or perform services elsewhere or any attempt directly or indirectly to solicit the trade or business of any current or prospective customer, supplier or partner of the Company; or (vii) the optionee being convicted of, or entering a guilty plea with respect to, a crime, whether or not connected with the Company.

(c) Upon exercise, payment, or delivery pursuant to an option, the optionee shall certify in a manner acceptable to the Company that he or she is in compliance with the terms and conditions of the Plan. In the event an optionee engages in any Detrimental Activity as set forth in paragraphs (b)(i)-(viii) of this Section 6 prior to, or during the six (6) months after, any

exercise, payment, or delivery pursuant to an option, such exercise, payment, or delivery may be rescinded by the Company within two (2) years thereafter. In the event of any such rescission, the optionee shall pay to the Company the amount of any gain realized or payment received as a result of the rescinded exercise, payment, or delivery, in such manner and on such terms and conditions as may be required, and the Company shall also be entitled to set-off against the amount of any such gain any amount owed to the optionee by the Company, and to be reimbursed for any attorney's fees or other costs or expenses incurred in enforcing this Section 6 of the Plan.

7. OPTION PRICE.

The option price or prices of shares of the Company's Common Stock for options designated as non-qualified stock options shall be determined by the Committee, but in no event shall the option price of a non-qualified stock option be less than 100% of the fair market value of such Common Stock at the time the option is granted, as determined by the Committee. The option price or prices of shares of the Company's Common Stock for incentive stock options shall be not less than the fair market value of such Common Stock at the time the option is granted as determined by the Committee in accordance with the Regulations promulgated under Section 422 of the Code. If the shares of Common Stock are listed on any national securities exchange, or traded on the National Association of Securities Dealers Automated Quotation System ("Nasdaq") National Market System, the fair market value of a share of Common Stock on the date of grant of an option shall be the closing price, if any, on the largest such exchange, or if not traded on an exchange, the Nasdaq National Market System on such day, or if the date of grant is not a business day, the business day immediately preceding the date of the grant, or if there are no sales of shares of Common Stock on the date of grant or on the business day immediately preceding the date of grant, the fair market value of a share of Common Stock shall be determined by taking a weighted average of the means between the highest and lowest sales on the nearest date before and the nearest date after the date of grant in accordance with Treasury Regulations Section 25.2512-2. If the shares are not then either listed on any such exchange or quoted in NASDAQ/NM, the fair market value shall be the mean between the average of the "Bid" and the average of the "Ask" prices, if any, as reported in the National Daily Quotation Service for the date of grant, or if the date of grant is not a business day the business day immediately preceding the date of the grant of the option, or, if none, shall be determined by taking a weighted average of the means between the highest and lowest sales prices on the nearest date before and the nearest date after the date of grant in accordance with Treasury Regulations Section 25.2512-2. If the fair market value cannot be determined under the preceding two sentences, it shall be determined in good faith by the Committee.

8. MANNER OF PAYMENT; MANNER OF EXERCISE.

(a) Options granted under the Plan may provide for the payment of the exercise price, as determined by the Committee and set forth in the Option Agreement, by delivery of (i) cash or a check payable to the order of the Company in an amount equal to the exercise price of such options, (ii) shares of Common Stock of the Company owned by the optionee having a fair market value equal in amount to the exercise price of the options being exercised, (iii) any combination of (i) and (ii), provided, however, that payment of the exercise price by delivery of

shares of Common Stock of the Company owned by such optionee may be made only if such payment does not result in a charge to earnings for financial accounting purposes as determined by the Committee, or (iv) payment may also be made by delivery of a properly executed exercise notice to the Company, together with a copy of irrevocable instruments to a broker to deliver promptly to the Company the amount of sale or loan proceeds to pay the exercise price. The fair market value of any shares of the Company's Common Stock which may be delivered upon exercise of an option shall be determined by the Committee in accordance with Section 7 hereof. To facilitate clause (iv) above, the Company may enter into agreements for coordinated procedures with one or more brokerage firms. The date of exercise shall be the date of delivery of such exercise notice.

(b) To the extent that the right to purchase shares under an option has accrued and is in effect, options may be exercised in full at one time or in part from time to time, by giving written notice, signed by the person or persons exercising the option, to the Company, stating the number of shares with respect to which the option is being exercised, accompanied by payment in full for such shares as provided in subparagraph (a) above. Upon such exercise, delivery of a certificate for paid-up non-assessable shares shall be made at the principal office of the Company to the person or persons exercising the option at such time, during ordinary business hours, after 9:00 a.m. but not more than thirty (30) days from the date of receipt of the notice by the Company, as shall be designated in such notice, or at such time, place and manner as may be agreed upon by the Company and the person or persons exercising the option. Upon exercise of the option and payment as provided above, the optionee shall become a stockholder of the Company as to the Shares acquired upon such exercise.

9. VESTING OF OPTIONS.

Except as otherwise provided in an optionee's Agreement, each option granted under the Plan shall, subject to Section 10 and Section 12 hereof, be exercisable with reference to the option's Vesting Reference Date (the date selected by the Committee) as follows: prior to the First Anniversary Date of the Vesting Reference Date-zero percent (0%); on the First Anniversary Date of the Vesting Reference Date-twenty five percent (25%); on the Second Anniversary Date of the Vesting Reference Date-fifty percent (50%); on the Third Anniversary Date of the Vesting Reference Date-seventy-five percent (75%); and on the Fourth Anniversary Date of the Vesting Reference Date-one hundred percent (100%). Notwithstanding any other provisions of this section, in the event of a Change of Control (as hereinafter defined) of the Company, fifty percent (50%) of the unvested shares of each Participant with a minimum of six months' service will automatically be fully Vested; in the event of a Change of Control of the Company not approved by the Board of Directors prior to such Change of Control, all of the Shares shall be fully Vested immediately upon such Change of Control. For purposes of the Plan, a "Change of Control" shall be deemed to have occurred if any of the following conditions have occurred: (1) the merger or consolidation of the Company with another entity where the Company is not the surviving entity and where after the merger or consolidation (i) its stockholders prior to the merger or consolidation hold less than 50% of the voting stock of the surviving entity and (ii) 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 Company's assets to a third party and subsequent to the transaction (i) its stockholders hold less than 50% of the

stock of said third party and (ii) 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 Company with another entity where the Company is the surviving entity, whereby 50% or more of the voting stock of the Company is transferred to parties who are not prior thereto stockholders or affiliates of the Company; or (4) the Continuing Directors shall not constitute a majority of the Board of Directors of the Company. The term "Continuing Directors" shall mean a member of the Board of Directors of the Company who either was a member of the Board of Directors of the Company on the date this Plan was adopted by the Board of Directors or who subsequently became a director of the Company and whose initial appointment, initial election or initial nomination for election by the Company'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 Company.

To the extent that an option to purchase shares is not exercised by an optionee when it becomes initially exercisable, it shall not expire but shall be carried forward and shall be exercisable, on a cumulative basis, until the expiration of the exercise period. No partial exercise may be made for less than fifty (50) full shares of Common Stock.

Notwithstanding the foregoing, the Committee may in its discretion (i) specifically provide for another time or times of exercise (but not delay a vesting period) or (ii) accelerate the exercisability of any option subject to such terms and conditions as the Committee deems necessary and appropriate.

10. TERM AND EXERCISABILITY OF OPTIONS; RELATIONSHIP TO VESTING; NON-EMPLOYEE OPTIONS.

(a) TERM AND EXERCISABILITY.

(1) The term of each option shall be as stated in the optionee's Agreement, provided, however, that the term of an option shall not exceed ten (10) years from the date of the granting thereof, subject to earlier termination as provided in the Plan and the Agreement.

(2) Except as otherwise provided in the optionee's Agreement, or this Section 10, an option granted to any employee who ceases to be an employee of the Company or one of its subsidiaries shall terminate ninety (90) days after the date of such optionee ceases to be an employee of the Company or one of its subsidiaries, or on the last day of the term of the option, whichever occurs first.

(3) Except as otherwise provided in the optionee's Agreement, if such termination of employment is because of dismissal for cause or because the employee is in breach of any employment agreement, such option will terminate on the date the optionee ceases to be an employee of the Company or one of its subsidiaries, or on the last day of the term of the option, whichever occurs first.

(4) Except as otherwise provided in the optionee's Agreement, if such

termination of the employment is because the optionee has become permanently disabled (within the meaning of Section 22(e)(3) of the Code), such option shall terminate on the last day of the twelfth month from the date such optionee ceases to be an employee, or on the last day of the term of the option, whichever occurs first.

(5) Except as otherwise provided in the optionee's Agreement, in the event of the death of an optionee, any option granted to such optionee shall terminate on the last day of the twelfth month from the date of death, or on the last day of the term of the option, whichever occurs first.

(6) Except as otherwise provided in the optionee's Agreement, 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 of all other conditions specified for retirement status under the Company'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 Company or one of its subsidiaries, or the last day of the term of the option, whichever occurs first.

(7) Notwithstanding subparagraphs (2) through (6) above, the Committee shall have the authority to extend the expiration date of any outstanding option in circumstances in which it deems such action to be appropriate.

(b) RELATIONSHIP TO VESTING. Except as otherwise provided in the optionee's agreement, an option granted to an employee who ceases to be an employee of the Company or one of its subsidiaries, whether by having become permanently disabled, as defined in Section 22(e)(3) of the Code, by death, or otherwise, shall be exercisable only to the extent that the right to purchase shares under such option has vested and accrued on the date that such optionee ceases to be an employee of the Company or one of its subsidiaries.

(c) NON-EMPLOYEE OPTIONS. The term of an option granted to a non-employee director, a consultant, or any other person who is not an employee of the Company or one of its subsidiaries shall be stated in the optionee's Agreement, provided, however, that the term of an option shall not exceed ten (10) years from the date of the granting thereof, subject to earlier termination as provided in the Plan and the Agreement. An option granted to a non-employee director, a consultant, or any other person who is not an employee of the Company or one of its subsidiaries shall be exercisable only to the extent so provided in the optionee's Agreement.

11. OPTIONS NOT TRANSFERABLE.

The right of any optionee to exercise any option granted to him or her shall not be 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; provided, however, that in the case of a non-qualified stock option, the Committee may permit transferability of such options on such terms and conditions as determined by the Committee and set forth in the Option Agreement. Any option granted under the Plan shall be null and void and without effect upon the bankruptcy of the optionee to whom the option is

granted, or upon any attempted assignment or transfer, except as herein provided, including without limitation any purported assignment, whether voluntary or by operation of law, pledge, hypothecation or other disposition, attachment, divorce, trustee process or similar process, whether legal or equitable, upon such option.

12. RECAPITALIZATIONS, REORGANIZATIONS AND THE LIKE.

(a) In the event that the outstanding shares of the Common Stock of the Company are changed into or exchanged for a different number or kind of shares or other securities of the Company or of another corporation by reason of any reorganization, merger, consolidation, recapitalization, reclassification, stock split-up, combination of shares, or dividends payable in capital stock, appropriate adjustment shall be made in the number and kind of shares as to which options may be granted under the Plan and as to which outstanding options or portions thereof then unexercised shall be exercisable, to the end that the proportionate interest of the optionee shall be maintained as before the occurrence of such event; such adjustment in outstanding options shall be made without change in the total price applicable to the unexercised portion of such options and with a corresponding adjustment in the option price per share.

(b) In addition, unless otherwise determined by the Committee in its sole discretion, in the case of any Change of Control of the Company, the purchaser(s) of the Company's assets or stock may, in his, her or its discretion, deliver to the optionee the same kind of consideration that is delivered to the stockholders of the Company as a result of such sale, conveyance or Change of Control, or the Committee may cancel all outstanding options in exchange for consideration in cash or in kind, which consideration in both cases 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 been made prior to such Change of Control, less the option price therefor. Upon receipt of consideration by the optionee, his or her option shall immediately terminate and be of no further force and effect. The value of the stock or other securities the optionee would have received if the option had been exercised shall be determined in good faith by the Committee, and in the case of shares of the Common Stock of the Company, in accordance with the provisions of Section 7 hereof. The Committee shall also have the power and right to accelerate the exercisability of any options, notwithstanding any limitations in this Plan or in the Agreement upon such Change of Control. Upon such acceleration, any options or portion thereof originally designated as incentive stock options that no longer qualify as incentive stock options under Section 422 of the Code as a result of such acceleration shall be redesignated as non-qualified stock options.

(c) Upon dissolution or liquidation of the Company, all options granted under this Plan shall terminate, but each optionee (if at such time in the employ of or otherwise associated with the Company or any of its subsidiaries) shall have the right, immediately prior to such dissolution or liquidation, to exercise his or her option to the extent then exercisable.

(d) No fraction of a share shall be purchasable or deliverable upon the exercise of any option, but in the event any adjustment hereunder of the number of shares covered by the option shall cause such number to include a fraction of a share, such fraction shall be adjusted to the

nearest smaller whole number of shares.

13. NO SPECIAL EMPLOYMENT RIGHTS.

Nothing contained in the Plan or in any option granted under the Plan shall confer upon any option holder any right with respect to the continuation of his or her employment by the Company (or any subsidiary thereof) or interfere in any way with the right of the Company (or any subsidiary thereof), subject to the terms of any separate employment agreement to the contrary, at any time to terminate such employment or to increase or decrease the compensation of the option holder from the rate in existence at the time of the grant of an option. Whether an authorized leave of absence, or absence in military or government service, shall constitute termination of employment shall be determined by the Committee at the time.

14. WITHHOLDING.

The Company's obligation to deliver shares upon the exercise of any option granted under the Plan and any payments or transfers under Section 12 hereof shall be subject to the option holder's satisfaction of all applicable Federal, state and local income, excise, employment and any other tax withholding requirements.

15. RESTRICTIONS ON ISSUE OF SHARES.

(a) Notwithstanding the provisions of Section 8, the Company may delay the issuance of shares covered by the exercise of an option and the delivery of a certificate for such shares until one of the following conditions shall be satisfied:

(1) The shares with respect to which such option has been exercised are at the time of the issue of such shares effectively registered or qualified under applicable Federal and state securities acts now in force or as hereafter amended; or

(2) Counsel for the Company shall have given an opinion, which opinion shall not be unreasonably conditioned or withheld, that such shares are exempt from registration and qualification under applicable Federal and state securities acts now in force or as hereafter amended.

(b) It is intended that all exercises of options shall be effective, and the Company shall use its best efforts to bring about compliance with the above conditions within a reasonable time, except that the Company shall be under no obligation to qualify shares or to cause a registration statement or a post-effective amendment to any registration statement to be prepared for the purpose of covering the issue of shares in respect of which any option may be exercised, except as otherwise agreed to by the Company in writing.

16. PURCHASE FOR INVESTMENT; RIGHTS OF HOLDER ON SUBSEQUENT REGISTRATION.

Unless the shares to be issued upon exercise of an option granted under the Plan have

been effectively registered under the Securities Act of 1933, as now in force or hereafter amended, the Company shall be under no obligation to issue any shares covered by any option unless the person who exercises such option, in whole or in part, shall give a written representation and undertaking to the Company which is satisfactory in form and scope to counsel for the Company and upon which, in the opinion of such counsel, the Company may reasonably rely, that he or she is acquiring the shares issued pursuant to such exercise of the option for his or her own account as an investment and not with a view to, or for sale in connection with, the distribution of any such shares, and that he or she will make no transfer of the same except in compliance with any rules and regulations in force at the time of such transfer under the Securities Act of 1933, or any other applicable law, and that if shares are issued without such registration, a legend to this effect may be endorsed upon the securities so issued. In the event that the Company shall, nevertheless, deem it necessary or desirable to register under the Securities Act of 1933 or other applicable statutes any shares with respect to which an option shall have been exercised, or to qualify any such shares for exemption from the Securities Act of 1933 or other applicable statutes, then the Company may take such action and may require from each optionee such information in writing for use in any registration statement, supplementary registration statement, prospectus, preliminary prospectus or offering circular as is reasonably necessary for such purpose and may require reasonable indemnity to the Company and its officers and directors and controlling persons from such holder against all losses, claims, damages and liabilities arising from such use of the information so furnished and caused by any untrue statement of any material fact therein or caused by the omission to state a material fact required to be stated therein or necessary to make the statements therein not misleading in the light of the circumstances under which they were made.

17. MODIFICATION OF OUTSTANDING OPTIONS.

The Committee may authorize the amendment of any outstanding option with the consent of the optionee when and subject to such conditions as are deemed to be in the best interests of the Company and in accordance with the purposes of this Plan.

18 APPROVAL OF STOCKHOLDERS.

The Plan shall be subject to approval by the vote of stockholders holding at least a majority of the voting stock of the Company present, or represented, and entitled to vote at a duly held stockholders' meeting, or by written consent of the stockholders as provided for under applicable state law, within twelve (12) months after the adoption of the Plan by the Board of Directors and shall take effect as of the date of adoption by the Board of Directors upon such approval. The Committee may grant options under the Plan prior to such approval, but any such option shall become effective as of the date of grant only upon such approval and, accordingly, no such option may be exercisable prior to such approval.

19. TERMINATION AND AMENDMENT.

Unless sooner terminated as herein provided, the Plan shall terminate ten (10) years from the date upon which the Plan was duly adopted by the Board of Directors of the Company. The Board of Directors may at any time terminate the Plan or make such modification or amendment

thereof as it deems advisable; provided, however, that except as provided in this Section 19, the Board of Directors may not, without the approval of the stockholders of the Company obtained in the manner stated in Section 19, increase the maximum number of shares for which options may be granted or change the designation of the class of persons eligible to receive options under the Plan, or make any other change in the Plan which requires stockholder approval under applicable law or regulations.

20. RESERVATION OF STOCK.

The Company shall at all times during the term of the Plan reserve and keep available such number of shares of stock as will be sufficient to satisfy the requirements of the Plan and shall pay all fees and expenses necessarily incurred by the Company in connection therewith.

21. LIMITATION OF RIGHTS IN THE OPTION SHARES.

An optionee shall not be deemed for any purpose to be a stockholder of the Company with respect to any of the options except to the extent that the option shall have been exercised with respect thereto and, in addition, a certificate shall have been issued theretofore and delivered to the optionee.

22. NOTICES.

Any communication or notice required or permitted to be given under the Plan shall be in writing, and mailed by registered or certified mail or delivered by hand, if to the Company, to its principal place of business, attention: President, and, if to an optionee, to the address as appearing on the records of the Company.

[LETTERHEAD OF GOODWIN PROCTER LLP]

December 18, 2002

Mercury Computer Systems, Inc.
199 Riverneck Road
Chelmsford, Massachusetts 01824-2820

Dear Ladies and Gentlemen:

We are counsel to Mercury Computer Systems, Inc., a Massachusetts Corporation (the "Company"), and as such counsel we are familiar with the corporate proceedings taken in connection with the adoption of the Company's 1997 Stock Option Plan (the "Plan"). We are also familiar with the Registration Statement on Form S-8 to which a copy of this opinion will be attached as an exhibit.

As such counsel, we have examined the corporate records of the Company including its Articles of Organization, as amended, By-laws, Minutes of Meetings of its Board of Directors and Stockholders and such other documents as we have deemed necessary as a basis for the opinions herein expressed.

Based upon the foregoing, and having regarding for such legal considerations as we deemed relevant, we are of the opinion that:

1. The Company is validly existing as a corporation and in good corporate standing under the laws of the Commonwealth of Massachusetts.
2. The Company has duly reserved 6,650,000 shares of common stock, \$.01 par value per share ("Common Stock") for issuance under the Plan.
3. The shares of Common Stock issuable pursuant to the Plan have been duly authorized, and when issued in accordance with the terms of the Plan, such shares will be validly issued, fully paid and nonassessable shares of capital stock of the Company to which no personal liability will attach.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement on Form S-8 and to reference to us under the caption "Interest of Named Experts and Counsel" in the Registration Statement.

Very truly yours,

/s/Goodwin Procter LLP

Goodwin Procter LLP
A Professional Corporation

CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of our report dated July 31, 2002 relating to the financial statements and financial statement schedule of Mercury Computer Systems, Inc., which appears in Mercury Computer Systems, Inc.'s Annual Report on Form 10-K/A for the year ended June 30, 2002.

/s/PricewaterhouseCoopers LLP

Boston, Massachusetts
December 18, 2002