

MERCURY COMPUTER SYSTEMS INC

Form 424B3

August 25, 2004

Table of Contents

FILED PURSUANT TO

RULE 424(b)(3)

REGISTRATION NO. 333-118015

PROSPECTUS

\$125,000,000

**2.00% Convertible Senior Notes due 2024 and
the Common Stock Issuable upon Conversion of the Notes**

We issued the notes in a private placement in April 2004. This prospectus covers resales from time to time by selling securityholders who may resell their notes and the common stock issuable upon conversion of their notes. We will not receive any proceeds from this offering.

We will pay interest on the notes on May 1 and November 1 of each year, beginning on November 1, 2004. The notes will mature on May 1, 2024.

You may convert the notes into shares of our common stock at any time prior to maturity, redemption or repurchase by us, if (1) the price of our common stock issuable upon conversion of a note reaches a specified threshold over a specified period as described in this prospectus, (2) the notes have been called for redemption or (3) specified corporate transactions occur. In addition, you may convert the notes into shares of our common stock at any time prior to May 1, 2019 if the trading price of the notes falls below certain thresholds. The initial conversion rate is 33.0797 shares per each \$1,000 principal amount of notes, subject to adjustment in certain circumstances. This is equivalent to a conversion price of approximately \$30.23 per share.

We may redeem any of the notes on or after May 1, 2009 at a price equal to 100% of the principal amount of the notes to be redeemed plus accrued and unpaid interest and additional interest, if any, to, but excluding, the date of redemption. You may require us to repurchase the notes on May 1, 2009, 2014 and 2019 or upon a change in control or termination of trading, each as described in this prospectus, at a price equal to 100% of the principal amount of the notes to be redeemed plus accrued and unpaid interest and additional interest, if any, to, but excluding, the date of repurchase.

Edgar Filing: MERCURY COMPUTER SYSTEMS INC - Form 424B3

The notes are unsecured and rank equally with all existing and future unsecured senior indebtedness. The notes rank senior in right of payment to all existing and future unsecured subordinated debt. The notes are structurally subordinated to the indebtedness and other liabilities of our subsidiaries.

The notes are not listed on any securities exchange or included in any automated quotation system. Our common stock is quoted on the Nasdaq National Market under the symbol `MRCY`. On August 5, 2004, the last reported sale price for our common stock on the Nasdaq National Market was \$24.57 per share.

Investing in the securities offered by this prospectus involves risks that are described in the Risk Factors section beginning on page 7 of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is August 19, 2004.

Table of Contents

TABLE OF CONTENTS

	<u>Page</u>
<u>Prospectus Summary</u>	1
<u>Risk Factors</u>	7
<u>Where You Can Find More Information</u>	20
<u>Disclosure Regarding Forward-Looking Statements</u>	21
<u>Use of Proceeds</u>	22
<u>Description of Notes</u>	22
<u>Description of Capital Stock</u>	36
<u>Certain U.S. Federal Income Tax Considerations</u>	38
<u>Selling Securityholders</u>	44
<u>Plan of Distribution</u>	48
<u>Legal Matters</u>	49
<u>Experts</u>	49

You should rely only on the information contained or incorporated by reference in this prospectus. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. The information in this prospectus may only be accurate on the date of this prospectus.

Table of Contents

PROSPECTUS SUMMARY

This summary only highlights the more detailed information appearing elsewhere in this prospectus or incorporated by reference in this prospectus. It may not contain all information that is important to you. You should read this entire prospectus carefully before deciding whether to invest in the notes or shares of our common stock. Unless the context otherwise requires, all references to Mercury, we, us and our company in this prospectus refer to Mercury Computer Systems, Inc., a Massachusetts corporation, and our consolidated subsidiaries.

Mercury Computer Systems, Inc.

Mercury Computer Systems, Inc. is a leading supplier of embedded, high-performance digital signal and image processing computer systems that transform sensor data to visual information for analysis and interpretation in real-time. We currently do business worldwide through three business groups: the Defense Electronics Group, the Imaging and Visualization Solutions Group (formerly our Medical Imaging Business Group), and the OEM Solutions Group. Our products are used by defense prime contractors and original equipment manufacturers, or OEMs, in a variety of applications. In air-, sea-, and land-based military platforms, our systems process real-time radar, sonar and signals intelligence data. Our systems also are used in state-of-the-art medical diagnostic devices, including magnetic resonance imaging (MRI), positron emission tomography (PET), and digital x-ray. We also are pursuing opportunities in the semiconductor imaging equipment market, the high-end baggage scanning market, and the communications infrastructure market.

Our principal executive offices are located at 199 Riverneck Road, Chelmsford, Massachusetts 01824-2820, and our telephone number is (987) 256-1300. Our website is located at www.mc.com. The information contained in our website is not a part of this prospectus.

Recent Developments

Fourth Quarter and Fiscal 2004 Results

On August 2, 2004, we reported our results for the fourth quarter and fiscal year ended June 30, 2004. Total revenues for the quarter were \$59.1 million, an increase of 33% compared to \$44.5 million for the same period in the prior year. Defense electronics revenues of \$42.8 million increased \$10.3 million, or 32%, from the same period in fiscal 2003, primarily due to increased shipments of signals intelligence and emerging markets applications. Imaging and visualization solutions revenues of \$8.9 million increased \$1.6 million, or 22%, from the same period in fiscal 2003 based primarily on the acquisition of the TGS Group. OEM solutions revenues of \$7.4 million increased \$2.8 million, or 60%, from the same period in fiscal 2003, primarily due to increased shipments of systems to semiconductor capital equipment OEMs.

For the 2004 fiscal year, revenues were \$185.6 million, an increase of 3% compared to the 2003 fiscal year. Defense electronics revenues of \$126.0 million increased \$1.9 million, or 1%, from fiscal 2003, primarily due to increased shipments of signals intelligence applications. Imaging and visualization solutions revenues of \$32.9 million decreased \$2.8 million, or 8%, from fiscal 2003 based primarily on the absence of computed tomography (CT) applications partially offset by growth in other modalities. OEM solutions revenues of \$26.7 million increased \$6.4 million, or 31%, from fiscal 2003, primarily due to increased shipments of systems to semiconductor capital equipment OEMs.

Table of Contents

Business Unit Revenues	Three Months Ended June 30, 2004	Percent of Total	Fiscal Year Ended June 30, 2004	Percent of Total
(in thousands)				
Defense Electronics	\$ 42,749	72%	\$ 125,954	68%
Imaging and Visualization	8,946	15	32,900	18
OEM Solutions	7,436	13	26,741	14
Total	\$ 59,131	100%	\$ 185,595	100%

Our operating income for the fourth quarter of fiscal 2004 was \$13.6 million, which represented 23% of revenues, as compared to \$5.8 million for the same period in fiscal 2003. Our net income for the fourth quarter of fiscal 2004 was \$9.6 million, or 16% of revenues, as compared to \$4.2 million during the same period in fiscal 2003. Diluted earnings per share were \$0.44 for the fourth quarter of fiscal 2004, as compared to \$0.20 for the same period in fiscal 2003.

Our operating income for the 2004 fiscal year was \$31.6 million, which represented 17% of revenues, as compared to \$25.8 million for fiscal 2003. Our net income for fiscal 2004 was \$22.9 million, or 12% of revenues, as compared to \$22.7 million during fiscal 2003. Diluted earnings per share were \$1.05 for fiscal 2004, as compared to \$1.03 for fiscal 2003.

Our cash and marketable securities balance at June 30, 2004 was \$238.3 million. Our total backlog at June 30, 2004 was \$91.2 million, up from \$81.6 million at the beginning of the quarter, representing the fourth consecutive quarter of backlog growth. Of the total backlog at June 30, 2004, \$80.9 million represented shipments scheduled over the next 12 months.

Acquisitions

On May 6, 2004, we completed the acquisition of the TGS Group for approximately \$18.9 million, consisting of \$6.0 million in our common stock and the remainder in cash, subject to post-closing adjustments and excluding acquisition costs. The TGS Group is a leading supplier of three-dimensional (3-D) image processing and visualization software to diverse end markets including life sciences (imaging and visualization and biotechnology), geoscience (earth sciences including oil and gas exploration), and simulation (commercial and defense). The company is headquartered in Bordeaux, France and has operations in Berlin, Germany and San Diego, California.

On June 1, 2004, we acquired Reston, Virginia-based Advanced Radio Corporation, a developer of radio frequency products targeting signals intelligence applications and commercial opportunities such as wireless infrastructure testing. The transaction was structured as the purchase by Mercury of all of the outstanding stock of Advanced Radio Corporation for an aggregate purchase price of approximately \$7.0 million in cash.

Table of Contents

The Notes

Securities Offered \$125,000,000 principal amount of 2.00% Convertible Senior Notes due 2024

Maturity Date May 1, 2024

Ranking The notes are:

our senior unsecured obligations;

rank on parity in right of payment with all of our existing and future senior debt; and

rank senior in right of payment to all of our future subordinated debt.

The notes also are effectively subordinated in right of payment to our existing and future secured debt, to the extent of such security, and to our subsidiaries' liabilities. At June 30, 2004, the aggregate principal amount of secured debt of Mercury and our subsidiaries was approximately \$11.6 million, and our subsidiaries had other liabilities (excluding obligations that are inter-company in nature) of approximately \$6.0 million in the aggregate. The indenture under which the notes were issued does not prevent us or our subsidiaries from incurring additional debt or other obligations.

Interest We will pay 2.00% per annum on the principal amount of notes, payable semiannually in arrears on May 1 and November 1, beginning November 1, 2004.

Conversion You may convert the notes into shares of our common stock at a conversion rate of 33.0797 shares per \$1,000 principal amount of notes, subject to adjustment, prior to the close of business on the final maturity date under any of the following circumstances:

if, on or prior to May 1, 2019, the closing price of our common stock for at least 20 trading days in the period of the 30 consecutive trading days ending on the eleventh trading day of any fiscal quarter is more than 120% of the then-current conversion price of the notes, then you will have such conversion right until and including the eleventh trading day of the following fiscal quarter;

if, on any date after May 1, 2019, the closing sale price of our common stock is more than 120% of the then-current conversion price of the notes, then you will have such conversion right at all times thereafter;

if we elect to call any notes for redemption, then you will have the right to convert the notes (called for redemption) from the date of the notice of redemption until the close of business on the business day immediately prior to the redemption date;

if we distribute to all or substantially all holders of our common stock rights, options or warrants entitling them to purchase common stock at less than the closing sale price of our common stock on the trading day immediately preceding the declaration

Table of Contents

for such distribution, then once we have given notice to you of such event, you will have such conversion right until a specified date, unless you may participate in the distribution without converting;

if we distribute to all or substantially all holders of our common stock cash, assets, debt securities or capital stock, which distribution has a per common share value as determined by our board of directors exceeding 5% of the closing sale price of our common stock on the day preceding the declaration for such distribution, then once we have given notice to you, you will have such conversion right until a specified date, unless you may participate in the distribution without conversion; or

if we become a party to a consolidation, merger or sale of all or substantially all of our assets that constitutes a change in control (as defined in Description of Notes Repurchase at the Option of the Holder Upon a Designated Event), or such an event occurs that would have been a change in control but for one or more of the exceptions to the definition of change in control as specified in Description of Notes Conversion Rights, then you will have such conversion right beginning 15 days prior to the anticipated effective date of the transaction until 15 days following its effective date.

In addition, at any time prior to May 1, 2019, you may convert your notes into shares of our common stock for the five business-day period after any five consecutive trading-day period in which the average trading prices for the notes for each of the five consecutive trading days in such period was less than 98% of the average conversion value (as defined under Description of Notes Conversion Rights) for the notes during that period.

Redemption

We may redeem any of the notes on or after May 1, 2009 for a repurchase price equal to 100% of the principal amount of the notes to be redeemed plus accrued and unpaid interest and additional interest, if any, to, but excluding, the date of redemption. We will give you at least 30 days notice of any such redemption.

Repurchase at the Option of the Holder

You may require us to repurchase the notes, in whole or in part, on May 1, 2009, 2014 or 2019 for a repurchase price equal to 100% of the principal amount of the notes plus accrued and unpaid interest and additional interest, if any, to, but excluding, the date of redemption.

Sinking Fund

None

Repurchase at the Option of the Holder Upon a Designated Event

Upon a change in control or a termination of trading (each as defined under Description of Notes Repurchase at Option of the Holder Upon a Designated Event), each holder of the notes may require us to repurchase some or all of its notes at the repurchase

Table of Contents

prices listed in this prospectus, plus accrued and unpaid interest and additional interest, if any, to, but excluding, the date of redemption.

Form and Denomination

The notes were issued in registered form in the minimum denomination of \$1,000 and integral multiples of \$1,000 in excess thereof.

Registration Rights

We agreed to file a shelf registration statement with the Securities and Exchange Commission covering the resale of the notes and the underlying common stock within 120 days after the closing date of the offering. This prospectus is a part of that registration statement. We also agreed to use our reasonable best efforts to have the shelf registration statement declared effective within 210 days of the date of closing and to use our reasonable best efforts to keep the shelf registration statement effective, subject to specified black-out periods, until the earlier of the following has occurred:

all securities covered by the registration statement have been sold;

the holders of the notes and the shares of our common stock issuable upon conversion of the notes that are not affiliates of Mercury are able to sell all such securities immediately pursuant to Rule 144(k) under the Securities Act of 1933;

the sale of the securities pursuant to Rule 144 under the Securities Act;

the date when all of the notes and shares of common stock issuable upon conversion have ceased to be outstanding; and

April 29, 2006.

Additional Interest

If the prospectus is suspended for more than 30 days in any three-month period or more than 90 days in any 12-month period, additional interest will accrue equal to 0.25% per annum for the first 90 days from and including the date on which such registration default has occurred and 0.50% per annum as additional interest on the notes (or shares of common stock into which the notes have been converted) from and including the 91st day after such registration rights default, but excluding, the date on which the registration default has been cured. Additional interest will be paid semi-annually in arrears. However, we will be permitted to suspend the use of this prospectus for up to 60 days in any three-month period under certain circumstances relating to possible acquisitions, financings or other similar transactions.

Trading

We do not intend to list the notes on any national securities exchange or for quotation through Nasdaq. Thus, we provide no assurance as to the liquidity of, or trading markets for, the notes.

Table of Contents

Ratio of Earnings to Fixed Charges

The computation of the ratio of earnings to fixed charges includes Mercury and our consolidated subsidiaries. The ratio of earnings to fixed charges is calculated by dividing:

earnings before income taxes adjusted for fixed charges, by

fixed charges, which include interest expense under our indebtedness and interest expense under operating leases that we deem a reasonable approximation of the interest factor.

The following table shows our ratios of earnings to fixed charges for the nine months ended March 31, 2004, and for each of the five most recent fiscal years.

	Fiscal Year Ended June 30,					Nine Months Ended
	1999	2000	2001	2002	2003	March 31, 2004
Ratio of earnings to fixed charges	48.5	41.1	37.9	18.4	27.7	21.2

To date, we have not issued any preferred stock. Therefore, the ratios of earnings to combined fixed charges and preferred dividends are the same as the ratios of earnings to fixed charges presented above.

Common Stock

This prospectus may be used by the selling securityholders to sell up to 4,134,962 shares of our common stock issuable upon conversion of the notes at the initial conversion rate of 33.0797 shares per each \$1,000 principal amount of notes. Our common stock is quoted on the Nasdaq National Market under the symbol MRCY.

Table of Contents

RISK FACTORS

You should carefully consider each of the following risks and all of the other information set forth in this prospectus before making an investment in the notes or our common stock. The risks and uncertainties described below are not the only ones facing our company. Additional risks and uncertainties not presently known by us or that we currently believe to be immaterial also may adversely affect our business. If any of the events or circumstances described in the following risk factors actually occur, our business, financial condition or results of operations could suffer, the trading price of our common stock and the value of the notes could decline, and you could lose all or part of your investment.

Risks Related to Our Business

We depend heavily on defense electronics programs that incorporate our products, which may be only partially funded and subject to potential termination and reductions in government spending.

Sales of our computer systems, primarily as an indirect subcontractor or team member with prime contractors and in some cases directly, to the U.S. Government and its agencies, as well as foreign governments and agencies, accounted for approximately 68% of our total revenues in fiscal 2004, 69% of our total revenues in fiscal 2003 and 65% of our total revenues in fiscal 2002. Our computer systems are included in many different domestic and international programs. Over the lifetime of a program, the award of many different individual contracts and subcontracts may implement its requirements. The funding of U.S. Government programs is subject to congressional appropriations. Although multiple-year contracts may be planned in connection with major procurements, Congress generally appropriates funds on a fiscal year basis even though a program may continue for several years. Consequently, programs are often only partially funded initially, and additional funds are committed only as Congress makes further appropriations and prime contracts receive such funding. The reduction in funding or termination of a government program in which we are involved would result in a loss of anticipated future revenues attributable to that program and contracts or orders received by us. The U.S. Government could reduce or terminate a prime contract under which we are a subcontractor or team member irrespective of the quality of our products or services. The termination of a program or the reduction in or failure to commit additional funds to a program in which we are involved could negatively impact our revenues and have a material adverse effect on our financial condition and results of operations.

We face other risks and uncertainties associated with defense-related contracts, which may have a material adverse effect on our business.

Whether our contracts are directly with the U.S. Government, a foreign government or one of their respective agencies, or indirectly as a subcontractor or team member, our contracts and subcontracts are subject to special risks, including:

Changes in government administration and national and international priorities, including developments in the geo-political environment such as the current War on Terrorism, Operation Enduring Freedom, Operation Iraqi Freedom, and the threat of nuclear proliferation in North Korea, could have a significant impact on national or international defense spending priorities and the efficient handling of routine contractual matters. These changes could have a negative impact on our business in the future.

Our contracts with the U.S. and foreign governments and their prime and subcontractors are subject to termination either upon default by us or at the convenience of the government or contractor if, among other reasons, the program itself has been terminated. Termination for convenience provisions generally entitle us to recover costs incurred, settlement expenses and profit on work completed prior to termination, but there can be no assurance in this regard.

Edgar Filing: MERCURY COMPUTER SYSTEMS INC - Form 424B3

Because we contract to supply goods and services to the U.S. and foreign governments and their prime and subcontractors, we compete for contracts in a competitive bidding process and, in the event we are

Table of Contents

awarded a contract, we are subject to protests by disappointed bidders of contract awards that can result in the reopening of the bidding process and changes in governmental policies or regulations and other political factors.

Consolidation among defense industry contractors has resulted in a few large contractors with increased bargaining power relative to us. We cannot assure you that the increased bargaining power of these contractors will not adversely affect our business or results of operations in the future.

Our customers include U.S. Government contractors who must comply with and are affected by laws and regulations relating to the formation, administration and performance of U.S. Government contracts. A violation of these laws and regulations could result in the imposition of fines and penalties to our customer or the termination of its contract with the U.S. Government. As a result, there could be a delay in our receipt of orders from our customer or a termination of such orders.

We sell products to U.S. and international defense contractors and also directly to the U.S. Government as a commercial supplier such that cost data is not supplied. To the extent that there are interpretations or changes in the Federal Acquisition Regulations (FARs) regarding the qualifications necessary to be a commercial supplier, there could be a material adverse effect on our business and operating results.

The loss of one or more of our largest customers could adversely affect our results of operations.

We are dependent on a small number of customers for a large portion of our revenues. A significant decrease in the sales to or loss of any of our major customers would have a material adverse effect on our business and results of operations. Customers in the defense electronics market generally purchase our products in connection with government programs that have a limited duration, leading to fluctuating sales to any particular customer in this market from year to year. In addition, our revenues are largely dependent upon the ability of customers to develop and sell products that incorporate our products. No assurance can be given that our customers will not experience financial, technical or other difficulties that could adversely affect their operations and, in turn, our results of operations.

Our imaging and visualization solutions and OEM solutions revenues currently come from a small number of customers and modalities, and any significant decrease in revenue from one of these customers or modalities could adversely impact our operating results.

If a major imaging and visualization solutions or OEM solutions customer significantly reduces the amount of business it does with us, there would likely be an adverse impact on our operating results. Although we are seeking to broaden our commercial customer base, we expect to continue to depend on sales to a relatively small number of major customers in both the imaging and visualization solutions and OEM solutions markets. Because it often takes significant time and added cost to replace lost business, it is likely that operating results would be adversely affected if one or more of our major customers were to cancel, delay or reduce significant orders in the future. Our customer agreements typically permit the customer to discontinue future purchases without cause after timely notice.

Our sales to the imaging and visualization solutions market could be adversely affected by changes in technology, strength of the economy, and health care reforms.

The economic and technological conditions affecting our industry in general, or any major imaging OEM customer in particular, may adversely affect our operating results. Imaging OEM customers provide products to markets that are subject to both economic and technological cycles. Any change in the demand for imaging devices that renders any of our products unnecessary or obsolete, or any change in the technology in

Edgar Filing: MERCURY COMPUTER SYSTEMS INC - Form 424B3

these devices, could result in a decrease in our revenues. In addition to our imaging OEM customers, the end users of their products and the health care industry generally are subject to extensive federal, state and local regulation in the United States as well as in other countries. Changes in applicable health care laws and regulations or new interpretations of existing laws and regulations could cause these customers or end users to demand fewer

Table of Contents

imaging and visualization products. We cannot assure you that future health care regulations or budgetary legislation or other changes in the administration or interpretation of governmental health care programs both in the United States and abroad will not have a material adverse effect on our business.

Competition from existing or new companies in the imaging and visualization solutions business could cause us to experience downward pressure on prices, fewer customer orders, reduced margins, the inability to take advantage of new business opportunities and the loss of market share.

Imaging and visualization solutions is a highly-competitive industry, and our imaging OEM customers generally extend the competitive pressures they face throughout their respective supply chains. We are subject to competition based upon product design, performance, pricing, quality and services. Our product performance, embedded systems engineering expertise, and product quality have been important factors in our growth. While we try to maintain competitive pricing on those products that are directly comparable to products manufactured by others, in many instances our products will conform to more exacting specifications and carry a higher price than analogous products. Many of our imaging OEM customers and potential imaging OEM customers also have the capacity to design and internally manufacture products that are similar to ours. We face competition from research and product development groups and the manufacturing operations of current and potential customers, who continually evaluate the benefits of internal research and product development and manufacturing versus outsourcing. This competition could result in fewer customer orders and a loss of market share.

If we are unable to respond adequately to our competition, we may lose existing customers and fail to win future business opportunities.

The markets for our products are highly competitive and are characterized by rapidly changing technology, frequent product performance improvements and evolving industry standards. Competitors may be able to offer more attractive pricing or develop products that could offer performance features that are superior to our products, resulting in reduced demand for our products. Due to the rapidly changing nature of technology, we may not become aware in advance of the emergence of new competitors into our markets. The emergence of new competitors into markets historically targeted by us could result in the loss of existing customers and may have a negative impact on our ability to win future business opportunities. With continued microprocessor evolution, low-end systems could become adequate to meet the requirements of an increased number of the lesser-demanding applications within our target markets. Workstation manufacturers and other low-end single-board computer or merchant board computer companies, or new competitors, may attempt to penetrate the high-performance market for defense electronics systems, which could have a material adverse effect on our business.

We face the continuing impact on our business from the slowdown in worldwide economies.

The future direction of domestic and global economies could have a significant impact on our overall performance. Our business has been, and may continue to be, negatively impacted by the slowdown in the economies of the United States, Europe, Asia and elsewhere that began during fiscal 2001. The uncertainty regarding the growth rate of the worldwide economies has caused companies to reduce capital investment and may cause further reduction of these capital investments. These reductions have been particularly severe in the electronics and semiconductor industries, which we serve. While our business may be performing better than some companies in periods of economic decline, the effects of the economic decline are being felt across all business segments and has been a contributor to the slower than normal customer orders. We cannot predict if or when the growth rate of worldwide economies will rebound, whether the growth rate of customer orders will rebound when the worldwide economies begin to grow. All components of forecasting and budgeting processes are dependent upon estimates of growth in the markets we serve. The prevailing economic uncertainty renders estimates of future income and expenditures even more difficult than usual. As a result, we may make significant investments and expenditures but never realize the anticipated benefits, which could adversely affect our results of operations.

Table of Contents

We cannot predict the consequences of future terrorist activities, but they may adversely affect the markets in which we operate, our ability to insure against risks, and our operations or profitability.

The terrorist attacks in the United States on September 11, 2001, as well as the U.S.-led response, including Operation Enduring Freedom and Operation Iraqi Freedom, the potential for future terrorist activities, and the development of a Homeland Security organization have created economic and political uncertainties that could have a material adverse effect on our business and the price of our common stock. These matters have caused uncertainty in the world's financial and insurance markets and may increase significantly the political, economic and social instability in the geographic areas in which we operate. These developments may adversely affect our business and profitability and the prices of our securities in ways that cannot be predicted at this time.

Implementation of our growth strategy may not be successful, which could affect our ability to increase revenues.

Our growth strategy includes developing new products and entering new markets. Our ability to compete in new markets will depend upon a number of factors including:

our ability to create demand for products in new markets;

our ability to manage growth effectively;

the quality of our new products;

our ability to successfully integrate any acquisitions that we make;

our ability to respond to changes in our customers' businesses by updating our existing products and introducing, in a timely fashion, new products which meet the needs of our customers; and

our ability to respond rapidly to technological change.

The failure to do any of the foregoing could have a material adverse effect on our business and results of operations. In addition, we may face competition in these new markets from various companies that have substantially greater research and development resources, marketing and financial resources, manufacturing capability and/or customer support organizations.

We may be unable to obtain critical components from suppliers, which could disrupt or delay our ability to deliver products to our customers.

Several components used in our products are currently obtained from sole-source suppliers. We are dependent on key vendors like LSI Logic, Xilinx and Toshiba for custom-designed Application Specific Integrated Circuits (ASICs) and Field Programmable Gate Arrays (FPGAs); Motorola and IBM for PowerPC microprocessors; IBM for a specific Static Random Access Memory (SRAM); and Arrow and Force Computers for chassis and chassis components (Chassis). Generally, suppliers may terminate their contracts with us without cause upon 30-days' notice and

Edgar Filing: MERCURY COMPUTER SYSTEMS INC - Form 424B3

may cease offering our products upon 180-days' notice. If any of our sole-source suppliers were to limit or reduce the sale of these components, we may be unable to fulfill customer orders in a timely manner or at all. In addition, if these or other component suppliers, some of which are small companies, were to experience financial difficulties or other problems which prevented them from supplying us with the necessary components, we could experience a loss of revenues due to our inability to fulfill orders. These sole-source and other suppliers are each subject to quality and performance issues, materials shortages, excess demand, reduction in capacity and other factors that may disrupt the flow of goods to us or to our customers, which would adversely affect our business and customer relationships. We have no guaranteed supply arrangements with our suppliers and there can be no assurance that these suppliers will continue to meet our requirements. If supply arrangements are interrupted, we may not be able to find another supplier on a timely or satisfactory basis. We may incur significant set-up costs and delays in manufacturing should it become necessary to replace any key vendors due to work stoppages, shipping delays, financial difficulties or other factors.

Table of Contents

We may not be able to efficiently manage our relationships with contract manufacturers.

We may not be able to effectively manage our relationship with contract manufacturers, and the contract manufacturers may not meet future requirements for timely delivery. We rely on contract manufacturers to build hardware sub-assemblies for our products in accordance with our specifications. During the normal course of business, we may provide demand forecasts to contract manufacturers up to five months prior to scheduled delivery of our products to customers. If we overestimate requirements, the contract manufacturers may assess cancellation penalties or we may be left with excess inventory, which may negatively impact our earnings. If we underestimate requirements, the contract manufacturers may have inadequate inventory, which could interrupt manufacturing of our products and result in delays in shipment to customers and revenue recognition. Contract manufacturers also build products for other companies, and they may not have sufficient quantities of inventory available or sufficient internal resources to fill our orders on a timely basis or at all.

In addition, there have been a number of major acquisitions within the contract manufacturing industry in recent periods. While there has been no significant impact on our contract manufacturers to date, future acquisitions could potentially have an adverse effect on our working relationships with contract manufacturers. Moreover, as of the date of this prospectus, we currently rely primarily on one contract manufacturer. The failure of this contract manufacturer to fill our orders on a timely basis or in accordance with our customers' specifications could result in a loss of revenues and damage to our reputation. We may not be able to replace this primary contract manufacturer in a timely manner or without significantly increasing our costs if such contract manufacturer were to experience financial difficulties or other problems which prevented it from fulfilling our order requirements.

Our performance and stock price may decline if we are unable to retain and attract key personnel.

We are largely dependent upon the skills and efforts of senior management including James R. Bertelli, our President and Chief Executive Officer, as well as our senior managerial, sales and technical employees. None of our senior management or other key employees is subject to any employment contracts or non-competition agreements. The loss of services of any executive or other key personnel could have a material adverse effect on our business and stock price. In addition, our future success will depend to a significant extent on our ability to attract, train, motivate and retain highly skilled technical professionals, particularly project managers, engineers and other senior technical personnel. There can be no assurance that we will be successful in retaining current or future employees.

We are exposed to risks associated with international operations.

We market and sell products in international markets, and have established offices and subsidiaries in the United Kingdom, Japan, the Netherlands and France. There are risks inherent in transacting business internationally, including:

changes in applicable laws and regulatory requirements;

export and import restrictions;

export controls relating to technology;

tariffs and other trade barriers;

less favorable intellectual property laws;

difficulties in staffing and managing foreign operations;

longer payment cycles;

problems in collecting accounts receivable;

political instability;

fluctuations in currency exchange rates;

Table of Contents

expatriation controls; and

potential adverse tax consequences.

There can be no assurance that one or more of these factors will not have a material adverse effect on our future international activities and, consequently, on our business and results of operations.

We may be unable to successfully integrate acquisitions.

We may acquire or make investments in complementary companies, products or technologies. Acquisitions may pose risks to our operations, including:

problems and increased costs in connection with the integration of the personnel, operations, technologies or products of the acquired companies;

unanticipated costs;

diversion of management's attention from our core business;

adverse effects on business relationships with our suppliers and customers and those of the acquired company;

acquired assets becoming impaired as a result of technical advancements or worse-than-expected performance by the acquired company;

entering markets in which we have no, or limited, prior experience; and

potential loss of key employees, particularly those of the acquired organization.

In addition, in connection with any acquisitions or investments, we could:

issue stock that would dilute our existing stockholders' percentage ownership;

incur debt and assume liabilities;

obtain financing on unfavorable terms;

Edgar Filing: MERCURY COMPUTER SYSTEMS INC - Form 424B3

incur amortization expenses related to acquired intangible assets or incur large and immediate write-offs;

incur large expenditures related to office closures of the acquired companies, including costs relating to termination of employees and facility and leasehold improvement charges relating to vacating the acquired companies' premises; and

reduce the cash that would otherwise be available to fund operations or for other purposes.

The failure to successfully integrate any acquisition or for acquisitions to yield expected results may negatively impact our financial condition and operating results.

If we are unable to respond to technological developments and changing customer needs on a timely and cost-effective basis, our results of operations may be adversely affected.

Our future success will depend in part on our ability to enhance current products and to develop new products on a timely and cost-effective basis in order to respond to technological developments and changing customer needs. Defense electronics customers, in particular, demand frequent technological improvements as a means of gaining military advantage. Military planners historically have funded significantly more design projects than actual deployments of new equipment, and those systems that are deployed tend to contain the components of the subcontractors selected to participate in the design process. In order to participate in the design of new defense electronics systems, we must demonstrate the ability to deliver superior technological

Table of Contents

performance on a timely and cost-effective basis. There can be no assurance that we will secure an adequate number of defense electronics design wins in the future, that the equipment in which our products are intended to function eventually will be deployed in the field, or that our products will be included in such equipment if it eventually is deployed.

Customers in the imaging and visualization solutions and OEM solutions markets, including the semiconductor imaging market, also seek technological improvements through product enhancements and new generations of products. OEMs historically have selected certain suppliers whose products have been included in the OEMs' machines for a significant portion of the products' life cycles. We may not be selected to participate in the future design of any medical or semiconductor imaging equipment, or if selected, we may not generate any revenues for such design work.

The design-in process is typically lengthy and expensive, and there can be no assurance that we will be able to continue to meet the product specifications of OEM customers in a timely and adequate manner. In addition, any failure to anticipate or respond adequately to changes in technology and customer preferences, or any significant delay in product developments or introductions, could negatively impact our financial condition and results of operations, including the risk of inventory obsolescence. Because of the complexity of our products, we have experienced delays from time to time in completing products on a timely basis. If we are unable to design, develop or introduce competitive new products on a timely basis, our future operating results may be adversely affected.

We may be unsuccessful in protecting our intellectual property rights.

Our ability to compete effectively against other companies in our industry depends, in part, on our ability to protect our current and future proprietary technology under patent, copyright, trademark, trade secret and unfair competition laws. We cannot assure you that our means of protecting our proprietary rights in the United States or abroad will be adequate, or that others will not develop technologies similar or superior to our technology or design around the proprietary rights we own. In addition, management may be distracted and may incur substantial costs in attempting to protect our proprietary rights.

Also, despite the steps taken by us to protect our proprietary rights, it may be possible for unauthorized third parties to copy or reverse-engineer aspects of our products, develop similar technology independently or otherwise obtain and use information that we regard as proprietary, and we may be unable to successfully identify or prosecute unauthorized uses of our technology. Further, with respect to our issued patents and patent applications, we cannot assure you that any patents from any pending patent applications (or from any future patent applications) will be issued, that the scope of any patent protection will exclude competitors or provide competitive advantages to us, that any of our patents will be held valid if subsequently challenged or that others will not claim rights in or ownership of the patents (and patent applications) and other proprietary rights held by us.

If we become subject to intellectual property infringement claims, we could incur significant expenses and could be prevented from selling specific products.

We may become subject to claims that we infringe the intellectual property rights of others in the future. We cannot assure you that, if made, these claims will not be successful. Any claim of infringement could cause us to incur substantial costs defending against the claim even if the claim is invalid, and could distract management from other business. Any judgment against us could require substantial payment in damages and also could include an injunction or other court order that could prevent us from offering certain products.

Our need for continued investment in research and development may increase expenses and reduce our profitability.

Our industry is characterized by the need for continued investment in research and development. If we fail to invest sufficiently in research and development, our products could become less attractive to potential

Table of Contents

customers and our business and financial condition could be materially and adversely affected. As a result of the need to maintain or increase spending levels in this area and the difficulty in reducing costs associated with research and development, our operating results could be materially harmed if our research and development efforts fail to result in new products or if revenues fall below expectations. In addition, as a result of our commitment to invest in research and development, research and development expenses as a percentage of revenues may fluctuate in the future.

Our results of operations are subject to fluctuation from period to period and may not be an accurate indication of future performance.

We have experienced fluctuations in our operating results in large part due to the sale of computer systems in relatively large dollar amounts to a relatively small number of customers. Our quarterly results may be subject to fluctuations resulting from a number of other factors, including:

the timing of significant orders;

delays in completion of internal product development projects;

delays in shipping computer systems and software programs;

delays in acceptance testing by customers;

a change in the mix of products sold to the defense electronics, imaging and visualization and other markets;

production delays due to quality problems with outsourced components;

shortages and costs of components;

the timing of product line transitions; and

declines in quarterly revenues from previous generations of products following announcement of replacement products containing more advanced technology.

Results of operations in any period should not be considered indicative of the results to be expected for any future period.

In addition, from time to time, we have entered into contracts, referred to as development contracts, to engineer a specific solution based on modifications to standard products. Gross margins from development contract revenues are typically lower than gross margins from standard product revenues. We intend to continue to enter into development contracts and anticipate that the gross margins associated with development contract revenues will continue to be lower than gross margins from standard product sales.

Edgar Filing: MERCURY COMPUTER SYSTEMS INC - Form 424B3

Another factor contributing to fluctuations in our quarterly results is the fixed nature of expenditures on personnel, facilities and marketing programs. Expense levels for these programs are based, in significant part, on expectations of future revenues. If actual quarterly revenues are below management's expectations, our results of operations will likely be adversely affected. Our operating results, from time to time, may be below the expectations of public market analysts and investors, which could have a material adverse effect on the market price of our common stock.

We have benefited from certain tax benefits that may expire or be repealed.

In the past, we have benefited from certain tax provisions that have reduced our effective tax rate and the cash taxes paid. One of these benefits, the credit for increasing research activities, expired on June 30, 2004, and, as of the date of this prospectus, had not been extended or reinstated by Congress. There are pending legislative proposals that would extend or make permanent this tax credit, including on a retrospective basis. However, there can be no assurance that the research credit will be made permanent or extended, or if so, for how long, and

Table of Contents

whether any such extension will be made retroactive. We have also utilized benefits under the extraterritorial income, or ETI tax regime. The ETI regime was ruled an illegal trade subsidy by the World Trade Organization and, as a result, the European Union has recently imposed trade sanctions against the United States that will increase substantially over time if the ETI regime is not repealed. As of the date of this prospectus, legislative proposals to repeal the ETI regime have been passed by both the Senate and House of Representatives, along with proposals that, if enacted, would provide tax benefits that might mitigate at least to some extent our loss of tax benefits if ETI is repealed. While it seems likely that the ETI regime will be repealed upon reconciliation of the bills by the Conference Committee, it is very difficult to predict what, if any, new tax benefits might be enacted, and we cannot assure you that any new tax provisions will be enacted that will benefit us. Our expenses for income taxes could be significantly higher in the future if the research credit is not included and the ETI regime is repealed.

Provisions in our organizational documents and Massachusetts law could make it more difficult for a third party to acquire our company.

Provisions of our charter and by-laws could have the effect of discouraging a third party from making a proposal to acquire our company and could prevent certain changes in control, even if some shareholders might consider the proposal to be in their best interests. These provisions include a classified board of directors, advance notice to our board of directors of shareholder proposals and director nominations, and limitations on the ability of shareholders to remove directors and to call shareholder meetings. In addition, we may issue shares of any class or series of preferred stock in the future without shareholder approval upon such terms as our board of directors may determine. The rights of holders of common stock will be subject to, and may be adversely affected by, the rights of the holders of any such class or series of preferred stock that may be issued. We also are subject to the Massachusetts General Laws which, subject to certain exceptions, prohibit a Massachusetts corporation from engaging in a broad range of business combinations with any interested shareholder for a period of three years following the date that such shareholder becomes an interested shareholder. These provisions could discourage a third party from pursuing an acquisition of our company at a price considered attractive by many shareholders.

Risks Related to the Securities

Substantial leverage and debt service obligations may adversely affect our cash flows.

In connection with the initial sale of the notes, we incurred new indebtedness of \$125 million. As a result of this indebtedness, our principal and interest payment obligations have increased substantially. The degree to which we are leveraged could, among other things:

make it difficult for us to make payments on the notes;

make it difficult for us to obtain financing for working capital, acquisitions or other purposes on favorable terms, if at all;

make us more vulnerable to industry downturns and competitive pressures; and

limit our flexibility in planning for, or reacting to changes in, our business.

Our ability to meet our debt service obligations will depend upon our future performance, which will be subject to financial, business and other factors affecting our operations, many of which are beyond our control.

The notes are effectively subordinated to all liabilities of our subsidiaries and to our secured debt.

None of our subsidiaries have guaranteed our obligations under, or have any obligation to pay amounts due on, the notes. As a result, the notes are structurally subordinated to all indebtedness and other liabilities, including trade payables and lease obligations, of our existing and future subsidiaries (unless such indebtedness

Table of Contents

is by its terms subordinated to the notes). In addition, the notes are not secured by any of our assets or those of our subsidiaries. As a result, the notes are effectively subordinated to any secured debt that we or our subsidiaries may incur. In the event of our bankruptcy, liquidation or reorganization or upon acceleration of the notes, payment on the notes could be less, ratably, than on any secured indebtedness. We may not have sufficient assets remaining to pay amounts due on any or all of the notes then outstanding. At June 30, 2004, the aggregate principal amount of secured debt of Mercury and our subsidiaries was approximately \$11.6 million, and our subsidiaries had other liabilities (excluding obligations that are inter-company in nature) of approximately \$6.0 million in the aggregate.

The notes are not protected by restrictive covenants, including financial covenants.

Neither we nor our subsidiaries are restricted from incurring additional debt, including senior debt, or liabilities under the indenture. In addition, the indenture does not restrict us or any of our subsidiaries from paying dividends or issuing or repurchasing securities. If we or our subsidiaries were to incur additional debt or liabilities, our ability to pay our obligations on the notes could be adversely affected.

We may be unable to repay, repurchase or redeem the notes.

At maturity, the entire outstanding principal amount of the notes will become due and payable by us. Upon a change in control, as defined in the indenture, the holder of the notes may require us to repurchase all or a portion of the notes. We may not have enough funds or be able to arrange for additional financing to pay the principal at maturity or to repurchase the notes upon a change in control. Future credit agreements or other agreements relating to our indebtedness may restrict the redemption or repurchase of the notes and provide that a change in control constitutes an event of default. If the maturity date or a change in control occurs at a time when we are prohibited from repaying or repurchasing the notes, we could seek the consent of our lenders to purchase the notes or could attempt to refinance this debt. If we do not obtain the necessary consents or cannot refinance the debt on favorable terms, if at all, we will be unable to repay or repurchase the notes. Our failure to repay the notes at maturity or repurchase tendered notes would constitute an event of default under the indenture, which might constitute a default under the terms of our other debt. Our obligation to offer to repurchase the notes upon a change in control would not necessarily afford protection in the event of a highly-leveraged transaction, reorganization, merger or similar transaction involving us.

The contingent conversion feature of the notes could result in the holder of the notes receiving less than the value of the common stock into which a note would otherwise be convertible.

The notes are convertible into shares of our common stock only if specified conditions are met. If the specific conditions for conversion are not met, holders of the notes will not be able to convert their notes, and they may not be able to receive the value of the common stock into which the notes would otherwise be convertible.

Conversion of the notes will dilute the ownership interest of existing shareholders.

The conversion of notes into shares of our common stock will dilute the ownership interests of existing shareholders. Any sales in the public market of the common stock issuable upon conversion of the notes could adversely affect prevailing market prices of our common stock. In addition, the existence of the notes may encourage short selling by market participants due to this dilution or facilitate trading strategies involving the notes and our common stock.

There may not be an active public market for the notes.

There is currently no public trading market for the notes. We do not intend to apply for listing of the notes on any securities exchange or for quotation through Nasdaq. At the time of the original issuance of the notes, the

Table of Contents

initial purchasers advised us that they intended to make a market in the notes. However, they are not obligated to make a market. In addition, any market-making activity by the initial purchasers will be subject to the limits imposed by the Securities Act and the Exchange Act. As a result, a market for the notes may not develop or, if one does develop, it may not be maintained. If an active market for the notes fails to develop or is not sustained, the trading price of the notes could decline significantly.

There may not be an active, liquid market for our common stock.

There is no guarantee that an active trading market for our common stock will be maintained on the Nasdaq Stock Market's National Market. Shareholders may not be able to sell their shares quickly or at the latest market price if trading in our stock is not active.

The value of the conversion right associated with the notes may be substantially lessened or eliminated if we are party to a merger, consolidation or other similar transaction.

If we are party to a consolidation, merger or binding share exchange or transfer or lease of all or substantially all of our assets pursuant to which our common stock is converted into cash, securities or other property, at the effective time of the transaction, the right to convert a note into our common stock will be changed into a right to convert it into the kind and amount of cash, securities or other property which the holder would have received if the holder had converted its note immediately prior to the transaction. This change could substantially lessen or eliminate the value of the conversion privilege associated with the notes in the future. For example, if we were acquired in a cash merger, each note would become convertible solely into cash and would no longer be convertible into securities whose value would vary depending on our future prospects and other factors.

The price at which our common stock may be purchased on the Nasdaq National Market is currently lower than the conversion price of the notes and may remain lower in the future.

Prior to electing to convert the notes, a noteholder should compare the price at which our common stock is trading in the market to the conversion price of the notes. Our common stock trades on the Nasdaq National Market under the symbol MRCY. On August 5, 2004, the last reported sale price of our common stock was \$24.57 per share. The initial conversion price of the notes is approximately \$30.23 per share. The market prices of our securities are subject to significant fluctuations. Such fluctuations, as well as economic conditions generally, may adversely affect the market price of our securities, including our common stock and the notes.

The notes may not be rated or may receive a lower rating than anticipated.

We believe it is unlikely that the notes will be rated. However, if one or more rating agencies rates the notes and assigns the notes a rating lower than the rating expected by investors, reduces their rating in the future, withdraws their rating in the future, or indicates that it will have their ratings on the notes under surveillance or review with possible negative implications, the market price of the notes and our common stock could be harmed. In addition, a ratings downgrade could adversely affect our ability to access capital.

Edgar Filing: MERCURY COMPUTER SYSTEMS INC - Form 424B3

Our stock price has been highly volatile, and an investment in our stock could suffer a decline in value, adversely affecting the value of the notes or the shares into which those notes may be converted.

The trading price of our common stock has been highly volatile and could continue to be subject to wide fluctuations in price in response to various factors, many of which are beyond our control, including:

actual or anticipated period-to-period fluctuations in financial results;

litigation or threat of litigation;

failure to achieve, or changes in, financial estimates by securities analysts;

Table of Contents

announcements of new products or services or technological innovations by us or our competitors;

comments or opinions by securities analysts or major shareholders;

conditions or trends in the defense, imaging and visualization, semiconductor and communications industries;

announcements by us of significant acquisitions, strategic partnerships, joint ventures or capital commitments;

additions or departures of key personnel;

sales of our common stock;

economic and other external factors or disasters or crises;

limited daily trading volume; and

developments regarding our patents or other intellectual property or that of our competitors.

In addition, the stock market in general, and the Nasdaq National Market and the market for technology companies in particular, have experienced significant price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of those companies. These broad market and industry factors may seriously harm the market price of our common stock, regardless of our operating performance. In the past, following periods of volatility in the market price of a company's securities, securities class action litigation has often been instituted. A securities class action suit against us could result in substantial costs, potential liabilities and the diversion of management's attention and resources.

The conversion contingency provisions of the notes may cause a decrease in our earnings per share on a diluted basis or make our reported earnings per share more volatile, potentially affecting our share price and the amount a holder of the notes may receive upon sale or conversion of the notes.

Holders of the notes are entitled to convert the notes into shares of our common stock, among other circumstances, if the price of our common stock for the periods described in this prospectus is more than 120% of the conversion price of the notes. Unless and until this contingency or another conversion contingency is met, the shares of our common stock underlying the notes generally will not be included in the calculation of our basic and diluted earnings per share. If this contingency is met or would have been met if measured instead at the end of the reporting period, diluted earnings per share would be expected to decrease as a result of the inclusion of the underlying shares in the diluted earnings per share calculation. Volatility in our stock price could cause this condition to be met in one quarter and not in a subsequent quarter, increasing the volatility of diluted earnings per share.

Moreover, as of the date of this prospectus, there is a proposal by the Emerging Issues Task Force (EITF) of the Financial Accounting Standards Board (FASB) that, if adopted, would require that the common stock underlying the notes be included in the calculation of our diluted earnings per share regardless of whether any conversion contingency has been met. If adopted, our diluted earnings per share would be expected to decrease.

Future sales of our common stock in the public market could adversely affect the trading price of our common stock, the value of the notes and our ability to raise funds in new stock offerings.

Future sales of substantial amounts of our common stock in the public market, or the perception that such sales are likely to occur, could affect prevailing trading prices of our common stock and the value of the notes. As of June 30, 2004, we had:

21,288,855 shares of common stock outstanding;

4,533,495 shares of common stock reserved for issuance upon exercise of options outstanding under our stock option plans with a weighted average exercise price of \$24.18 per share;

Table of Contents

in addition to the shares reserved for issuance upon the exercise of options referred to in the preceding bullet point, 2,027,092 shares of common stock reserved for future issuance under our stock option plans and employee stock purchase plan;

257,511 shares of common stock reserved for issuance in connection with our acquisition of the TGS Group; and

4,134,962 shares of common stock reserved for issuance upon conversion of the notes at the initial conversion rate of 33.0797 shares per \$1,000 principal amount of notes.

Because the notes generally are convertible into common stock only at a conversion price in excess of the recent trading price, a decline in our common stock price may cause the value of the notes to decline.

Table of Contents

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the Securities and Exchange Commission under the Securities Exchange Act of 1934. You may read and copy materials that we have filed with the SEC at the SEC public reference room located at 450 Fifth Street, N.W., Room 1024, Washington, D.C. 20549. You may obtain information on the operation of the public reference room by calling the SEC at 1-800-SEC-0330. Our SEC filings are also available to the public from the SEC's website at www.sec.gov.

The SEC allows us to incorporate by reference the information we file with them, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus, and later information filed with the SEC will update and supersede this information. We incorporate by reference the documents listed below and any future filings made by us with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act (other than any portions of any such documents that are not deemed filed under the Exchange Act in accordance with the Exchange Act and applicable SEC rules) until this offering is completed:

Our annual report of Form 10-K for our fiscal year ended June 30, 2003;

Our quarterly reports on Form 10-Q for our fiscal quarters ended September 30, 2003, December 31, 2003 and March 31, 2004;

Our reports on Form 8-K filed on February 23, 2004, April 13, 2004, April 20, 2004, April 22, 2004, April 23, 2004, May 11, 2004 and July 1, 2004; and

The description of our common stock contained in our registration statement on Form 8-A dated January 7, 1998.

You may request a copy of these filings at no cost, by writing or calling us at the following address or telephone number: Mercury Computer Systems, Inc., Attention: Investor Relations, 199 Riverneck Road, Chelmsford, Massachusetts 01824-2820, (978) 967-1721. Exhibits to the filings will not be sent, however, unless those exhibits have specifically been incorporated by reference in this prospectus.

You should rely only on the information incorporated by reference or provided in this prospectus. We have not authorized anyone to provide you with different information. You should not assume that the information in this prospectus or in the documents incorporated by reference is accurate as of any date other than the date on the front cover of this prospectus or those documents.

Table of Contents

DISCLOSURE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference include forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. You can identify these statements by forward-looking words such as may, will, expect, intend, anticipate, believe, estimate, plan, could, should and continue or similar words which do not represent matters. We have based these forward-looking statements on our current expectations and projections about future events. Examples of forward-looking statements include statements, estimates and projections concerning the following matters:

financial results and conditions;

cash flows and growth rates;

demand for our products;

industry trends;

economic and business conditions in our markets;

technological initiatives; and

our liquidity and capital resources.

These statements are subject to significant risks and uncertainties that could cause actual results to differ materially from those projected in such forward-looking statements due to various factors, some of which are beyond our control, including:

changes in general economic and business conditions, including economic weakness in our markets;

effects of continued geo-political unrest and regional conflicts;

continued funding of defense programs and the timing of such funding;

the highly competitive nature of our industry;

changes in technology and our ability to deliver technological innovations;

delays in completing various engineering and manufacturing programs;

Edgar Filing: MERCURY COMPUTER SYSTEMS INC - Form 424B3

shortages of components and production delays due to performance quality issues with outsourced components;

changes in customer order patterns and product mix;

market acceptance of our products;

loss of a major customer or reduction in a major customer's orders;

failure to locate favorable acquisition and strategic investment opportunities and to achieve expected results;

changes in laws and our ability to protect our intellectual property rights; and

the risks described in the section of this prospectus entitled "Risk Factors" beginning on page 7.

There may be events in the future that we are not able to accurately predict or that we do not fully control that could cause actual results to differ materially from those expressed or implied in our forward-looking statements. All forward-looking statements are made as of the date of this prospectus or as of the date of the information incorporated by reference, and we assume no obligation to update or revise the forward-looking statements contained in this prospectus or the information incorporated by reference to reflect changes in underlying assumptions or factors, new information, future events or other changes.

Table of Contents

USE OF PROCEEDS

The selling securityholders will receive all of the net proceeds from sales of notes and shares of our common stock offered by this prospectus. We will not receive any of the proceeds from the resale of these securities.

DESCRIPTION OF NOTES

The 2.00% Convertible Senior Notes due 2024 were issued under an indenture dated as of April 29, 2004 between us, as issuer, and U.S. Bank National Association, as trustee. The notes and the shares of common stock issuable upon conversion of the notes are covered by a registration rights agreement. You may request a copy of the indenture and the registration rights agreement from the trustee. See also [Where You Can Find More Information](#).

The following description is a summary of the material provisions of the notes, the indenture and the registration rights agreement. It does not purport to be complete. This summary is subject to and is qualified by reference to all of the provisions of the indenture, including the definitions of certain terms used in the indenture. Wherever particular provisions or defined terms of the indenture or form of note are referred to, these provisions or defined terms are incorporated in this prospectus by reference. We urge you to read the indenture because it, and not this description, defines your rights as a holder of notes.

As used in this [Description of Notes](#) section, references to [Mercury](#), [we](#), [us](#) or [our company](#) refer solely to Mercury Computer Systems, Inc., not to our consolidated subsidiaries, unless the context otherwise requires.

General

The notes are general, unsecured, senior obligations of Mercury, and are effectively subordinated to all of our existing and future secured debt, to the extent of the security, and the liabilities of our subsidiaries as described under [Ranking](#), but are senior in right of payment to all of our existing and future subordinated indebtedness. In addition, the notes rank on a parity with all of our future unsecured senior debt. The notes are not obligations of, or guaranteed by, any of our subsidiaries. The notes are convertible into shares of our common stock as described under [Conversion of Notes](#).

The notes are initially limited to \$125 million aggregate principal amount. The notes were issued only in denominations of \$1,000 and multiples of \$1,000. We use the term [note](#) in this prospectus to refer to each \$1,000 principal amount of notes. The notes will mature on May 1, 2024, unless earlier converted, redeemed or repurchased.

We may, without the consent of the holders, [reopen](#) the indenture and issue additional notes under the indenture with the same terms and with the same CUSIP numbers as the notes offered by this prospectus in an unlimited aggregate principal amount, provided that no such additional notes may be issued unless fungible with the notes offered by this prospectus for U.S. federal income tax purposes. We may also from time to time repurchase the notes in open market purchases or negotiated transactions without prior notice to holders.

If we experience a change in control or a termination of trading, you will have the right to require us to repurchase your notes as described below under Repurchase at the Option of the Holder Upon a Designated Event. Holders of notes submitted for repurchase will be entitled to convert the notes up to and including the business day immediately preceding the date fixed for repurchase.

Neither we nor any of our subsidiaries are subject to any financial covenants under the indenture. In addition, neither we nor any of our subsidiaries are restricted under the indenture from paying dividends, making investments, incurring debt, including additional senior indebtedness, granting liens or mortgages, or issuing or repurchasing our securities.

Table of Contents

We will pay interest at a rate of 2.00% per annum, and additional interest, if any, semi-annually in arrears on May 1 and November 1 of each year, beginning November 1, 2004, to record holders at the close of business on the preceding April 15 and October 15, as the case may be. Interest will be computed on the basis of a 360-day year composed of twelve 30-day months. In addition, in the event of certain registration defaults, we will pay additional amounts of interest. For a description of these additional amounts, see the section entitled Registration Rights of the Noteholders.

We will maintain an office or agency in the Borough of Manhattan, The City of New York, where we will pay the principal on the notes and where you may present the notes for conversion, registration of transfer or exchange for other denominations, which shall initially be an office or agency of the trustee. We may pay interest by check mailed to your address as it appears in the note register, provided that if you are a holder of an aggregate principal amount of notes in excess of \$2,000,000, you shall be paid, at your written election, by wire transfer in immediately available funds. However, payments to The Depository Trust Company, New York, New York, which we refer to as DTC, will be made by wire transfer of immediately available funds to the account of DTC or its nominee.

The notes will not be subject to a sinking fund provision and will not be subject to defeasance or covenant defeasance under the indenture.

Conversion of Notes

The initial conversion rate is equal to 33.0797 shares per \$1,000 principal amount of notes subject to adjustment as specified below. The initial conversion rate is equivalent to a conversion price of approximately \$30.23. The conversion price is equal to \$1,000 principal amount of notes divided by the conversion rate. You will have the right to convert any portion of the principal amount of any note that is an integral multiple of \$1,000 into shares of our common stock as follows:

if, on or prior to May 1, 2019, the closing sale price of our common stock, for at least 20 trading days in the period of the 30 consecutive trading days ending on the eleventh trading day of any fiscal quarter, is more than 120% of the then current conversion price of the notes, then you will have such conversion right until and including the eleventh trading day of the following fiscal quarter;

if, on any date after May 1, 2019, the closing sale price of our common stock is more than 120% of the then current conversion price of the notes, then you will have such conversion right at all times thereafter;

if we elect to call the notes for redemption, then you will have the right to convert the notes (or the portion of notes called for redemption, if less than all) until the close of business on the business day prior to the redemption date;

if we distribute to all or substantially all holders of our common stock, rights, options or warrants entitling them to purchase our common stock at less than the closing sale price of our common stock on the day preceding the declaration for such distribution, then you will have such conversion right in the period described below;

if we distribute to all or substantially all holders of our common stock, cash, assets, debt securities or capital stock of our subsidiaries, which distribution has a per share value as determined by our board of directors exceeding 5% of the closing sale price of our common stock on the day preceding the declaration of such distribution, then you will have such conversion right in the period described below; or

Edgar Filing: MERCURY COMPUTER SYSTEMS INC - Form 424B3

if we become a party to a consolidation, merger or sale of all or substantially all of our assets that constitutes a change in control as defined below under the heading Repurchase at the Option of the Holder Upon a Designated Event or such event occurs that would have been a change in control but for one or more of the exceptions to the definition of change in control described below under the same heading in the paragraph immediately following paragraph (3).

A note for which a holder has delivered a repurchase notice as described below may be surrendered for conversion only if such notice is withdrawn in accordance with the indenture.

Table of Contents

In the case of the fourth and fifth bullet points above, we must notify holders of notes at least 20 days prior to the ex-dividend date for such distribution. Once we have given such notice, holders may surrender their notes for conversion at any time until the earlier of the close of business on the business day prior to the ex-dividend date or our announcement that such distribution will not take place. If in the future we adopt a shareholder rights plan, you will not have any conversion right pursuant to the fourth bullet point above or otherwise, solely as a result of the issuance of rights pursuant to the shareholder rights plan. In the case of a distribution identified in the fourth or fifth bullet points above, the ability of a holder of notes to convert would not be triggered if the holder may participate in the distribution without converting. In the case of the sixth bullet point above, a holder may surrender notes for conversion at any time from and after the date which is 15 days prior to the anticipated effective date of the transaction until 15 days after the actual date of the transaction. As used in this section, closing sale price generally means the last reported sale price regular way of our common stock on the Nasdaq National Market.

In addition, at any time prior to May 1, 2019, you may convert your notes into shares of our common stock for the five business-day period after any five consecutive trading-day period in which the average trading price for the notes in such period was less than 98% of the average conversion value (as defined below) for the notes during that period.

The trading price of the notes on any date of determination means the average of the secondary market bid quotations per \$1,000 principal amount of the notes obtained by the trustee for \$2,000,000 principal amount of the notes at approximately 3:30 p.m., New York City time, on such determination date from three independent nationally recognized securities dealers we select; provided that if three such bids cannot reasonably be obtained by the trustee, but two such bids are obtained, then the average of the two bids shall be used, and if only one such bid can reasonably be obtained by the trustee, then one bid shall be used. If the trustee cannot reasonably obtain at least one bid for \$2,000,000 principal amount of the notes from a nationally recognized securities dealer, then the trading price per \$1,000 principal amount of notes will be deemed to be less than 98% of the product of the closing sale price of our common stock and the number of shares issuable upon conversion of \$1,000 principal amount of the notes.

In connection with any conversion upon satisfaction of the above trading price condition, the trustee shall have no obligation to determine the trading price of the notes unless we have requested such determination; and we shall have no obligation to make such request unless you provide us with reasonable evidence that the trading price per \$1,000 principal amount of notes would be less than 98% of the product of the closing sale price of our common stock and the number of shares of common stock issuable upon conversion of \$1,000 principal amount of the notes. At such time, we shall instruct the trustee to determine the trading price of the notes beginning on the next trading date and on each successive trading day until the trading price per \$1,000 principal amount of notes is greater than or equal to 98% of the product of the closing sale price of our common stock and the number of shares issuable upon conversion of \$1,000 principal amount of the notes.

We define conversion value in the indenture to be equal to the product of the closing sale price of our shares of common stock on a given day multiplied by the then current conversion rate, which is the number of shares of common stock into which each \$1,000 principal amount of the notes is convertible.

You may convert all or part of any note that is an integral multiple of \$1,000 as permitted above by delivering the note at the Corporate Trust Office of the trustee in the Borough of Manhattan, The City of New York, accompanied by a duly signed and completed irrevocable conversion notice, a copy of which may be obtained by the trustee and any applicable payments, including interest payments and payments in respect of taxes, if any. The conversion date will be the date on which the note and the duly signed and completed conversion notice are so delivered.

As promptly as practicable on or after the conversion date, we will issue and deliver to the trustee a certificate or certificates for the number of full shares of our common stock issuable upon conversion, together

Table of Contents

with payment in lieu of any fraction of a share. The certificate will then be sent by the trustee to the conversion agent for delivery to the holder. The shares of our common stock issuable upon conversion of the notes will be fully paid and nonassessable and will rank equally with the other shares of our common stock.

If you surrender a note for conversion on a date that is not an interest payment date, you will not be entitled to receive any interest for the period from the immediately preceding interest payment date to the conversion date, except as described below in this paragraph. In the case of any note that has been surrendered for conversion after any regular record date but before the next succeeding interest payment date:

notwithstanding such conversion, interest payable on such interest payment date shall be payable on such interest payment date, and such interest shall be paid to the holder of such note as of such regular record date; and

except for notes, or portions thereof, called for redemption or to be purchased or repurchased on or prior to such interest payment date, or to the extent of overdue interest if we are in arrears on our interest payments as of the conversion date, such notes surrendered for conversion must be accompanied by payment of an amount equal to the interest payable on such interest payment date on the principal amount of notes being surrendered for conversion.

No other payment or adjustment for interest, or any dividends in respect of our common stock, will be made upon conversion. Holders of our common stock issued upon conversion will not be entitled to receive any dividends payable to holders of our common stock as of any record time or date before the close of business on the conversion date. We will not issue fractional shares upon conversion. Instead, we will pay cash based on the closing sale price of our common stock at the close of business on the conversion date.

You will not be required to pay any taxes or duties relating to the issue or delivery of our common stock on conversion, but you will be required to pay any tax with respect to cash received in lieu of fractional shares and any tax or duty relating to any transfer involved in the issue or delivery of our common stock in a name other than yours. Certificates representing shares of our common stock will not be issued or delivered unless all taxes and duties, if any, payable by you have been paid.

The conversion rate will be subject to adjustment for, among other things:

dividends and other distributions payable in our common stock on shares of our common stock;

the issuance to all holders of our common stock of rights, options or warrants (in any case other than in connection with a shareholder rights plan) entitling them to subscribe for or purchase our common stock at less than the current market price of such common stock on the record date for stockholders entitled to receive such rights, options or warrants;

subdivisions, combinations, splits, reverse splits and reclassifications of our common stock;

distributions to all holders of our common stock of evidences of our indebtedness, shares of capital stock, cash or assets (if we distribute shares of capital stock of a subsidiary of ours, the conversion rate will be adjusted, if at all, based on the market value of the subsidiary stock so distributed relative to the market value of our common stock, in each case over a measurement period following the distribution), including securities, but excluding:

Edgar Filing: MERCURY COMPUTER SYSTEMS INC - Form 424B3

those dividends, rights, options, warrants and distributions referred to above;

dividends and distributions paid exclusively in cash; and

distributions upon mergers or consolidations discussed below;

if we or one of our subsidiaries purchase our common stock (for the avoidance of doubt, excluding options, warrants, purchase rights and other securities convertible, exchangeable or exercisable for common stock) pursuant to a tender or exchange offer for our common stock to the extent that the cash

Table of Contents

and value of any other consideration included in the payment per share of common stock in such offer exceeds the closing sale price of our common stock on the trading day next succeeding the last date on which tenders or exchanges may be made pursuant to such tender or exchange offer, then the conversion rate will be adjusted; and

if we make a distribution consisting exclusively of cash to all holders of outstanding shares of common stock, the conversion rate will be adjusted to a new conversion rate equal to the existing conversion rate multiplied by a fraction, the numerator of which is the current market price of our common stock plus the amount per share of such dividend or distribution and the denominator of which will be the current market price of our common stock, where the current market price of our common stock is the average closing sale price of our common stock for the first 10 trading days from, and including, the first ex-distribution day that the common stock trades.

To the extent that we have a shareholder rights plan in effect upon conversion of the notes into common stock, you will receive, in addition to the common stock, the rights under the rights plan unless the rights have separated from the common stock before the time of conversion, in which case the conversion rate will be adjusted as if we distributed to all holders of our common stock, shares of our capital stock, evidences of indebtedness or assets as described above, subject to readjustment in the event of the expiration, termination or redemption of such rights.

We reserve the right to effect such increases in the conversion rate in addition to those required by the foregoing provisions as we consider to be advisable in order that any event treated for U.S. federal income tax purposes as a dividend of stock or stock rights will not be taxable to the recipients. We will not be required to make any adjustment to the conversion rate until the cumulative adjustments amount to 1.0% or more of the conversion rate. We will compute all adjustments to the conversion rate and will give notice by mail to holders of the registered notes of any adjustments.

In the event that we consolidate or merge with or into another entity or another entity is merged into us, or in case of any sale or transfer of all or substantially all of our assets, each note then outstanding will become convertible only into the kind and amount of securities, cash and other property receivable upon such consolidation, merger, sale or transfer by a holder of the number of shares of common stock into which the notes were convertible immediately prior to the consolidation or merger or sale or transfer. The preceding sentence will not apply to a merger or sale of all or substantially all of our assets that does not result in any reclassification, conversion, exchange or cancellation of our common stock.

We may increase the conversion rate if our board of directors determines that the increase would be in our best interest. The board of directors determination in this regard will be conclusive. We will give holders of notes notice of such an increase in the conversion rate. We will comply with the Exchange Act and the rules and regulations promulgated under the Exchange Act, to the extent applicable, in connection with any such notice.

If at any time we make a distribution of property to our shareholders that would be taxable to such shareholders as a dividend for U.S. federal income tax purposes, such as distributions of evidences of indebtedness or assets by us, but generally not stock dividends on common stock or rights to subscribe for common stock, and, pursuant to the anti-dilution provisions of the indenture, the number of shares into which notes are convertible is increased, that increase may be deemed for U.S. federal income tax purposes to be the payment of a taxable dividend to holders of notes. See Certain U.S. Federal Income Tax Considerations.

Optional Redemption by Mercury

On or after May 1, 2009, we may redeem the notes, in whole or in part, at 100% of the principal amount of the notes, plus accrued and unpaid interest and additional interest, if any, to, but excluding, the redemption date. If we elect to redeem all or part of the notes, we will give at least

30, but no more than 60, days prior notice to you.

Table of Contents

If we do not redeem all of the notes, the trustee will select the notes to be redeemed in principal amounts of \$1,000 or whole multiples of \$1,000 by lot, on a pro rata basis or otherwise in accordance with the applicable procedures of the depository. If any notes are to be redeemed in part only, we will issue a new note or notes in principal amount equal to the unredeemed principal portion thereof.

No sinking fund is provided for the notes, which means that the indenture does not require us to redeem or retire the notes periodically.

We may not redeem the notes if we have failed to pay any interest on the notes and such failure to pay is continuing, or if the principal amount of the notes has been accelerated.

Repurchase at the Option of the Holder on Specified Dates

On the repurchase date of each of May 1, 2009, 2014 and 2019, we will, at the option of the holder, be required to repurchase for cash any outstanding note for which a written repurchase notice has been properly delivered by the holder and not withdrawn, subject to certain additional conditions. Holders may submit their notes for repurchase to the paying agent at any time from the opening of business on the date that is 20 business days prior to such repurchase date until the close of business on such repurchase date. The repurchase price of a note will be 100% of the principal amount of the note, plus accrued and unpaid interest and additional interest, if any, to, but excluding, the repurchase date. Interest and additional interest, if any, will be paid to the record holder as of the related record date.

We will be required to give notice on a date not less than 20 business days prior to the repurchase date to all holders at their addresses shown in the register of the registrar, and to beneficial owners as required by applicable law, stating among other things, the procedures that holders must follow to require us to repurchase their notes.

The repurchase notice given by each holder electing to require us to repurchase notes shall state:

if certificated notes have been issued, the certificate numbers of the holder's notes to be delivered for repurchase or, if not, such information as may be required under applicable DTC procedures and the indenture;

the portion of the principal amount of notes to be repurchased, which must be \$1,000 or an integral multiple of \$1,000 (or the entire principal amount of the notes held by such holder); and

that the notes are to be repurchased by us pursuant to the applicable provisions of the notes and the indenture.

Any repurchase notice may be withdrawn by the holder by a written notice of withdrawal delivered to the paying agent prior to the close of business on the repurchase date. The notice of withdrawal shall state:

the principal amount being withdrawn;

Edgar Filing: MERCURY COMPUTER SYSTEMS INC - Form 424B3

if certificated notes have been issued, the certificate numbers of the notes being withdrawn or, if not, such information as may be required under applicable DTC procedures and the indenture; and

the principal amount, if any, of the notes that remains subject to the repurchase notice.

Payment of the repurchase price for a note for which a repurchase notice has been delivered and not validly withdrawn is conditioned upon delivery (including by book entry transfer) of the note, together with necessary endorsements, to the paying agent at any time after delivery of the repurchase notice. Payment of the repurchase price for the note will be made promptly following the later of the repurchase date or the time of delivery of the note.

If the paying agent holds money or securities sufficient to pay the repurchase price of the note on the business day following the repurchase date in accordance with the terms of the indenture, then, immediately after

Table of Contents

the repurchase date, the note will cease to be outstanding whether or not the note has been delivered to the paying agent. Thereafter, all other rights of the holder shall terminate, other than the right to receive the repurchase price upon delivery of the note.

Our ability to repurchase notes with cash may be limited by the terms of our then existing borrowing and other financing agreements. Also, as described in the Risk Factors section of this prospectus, we may not have sufficient funds to repurchase the notes when we are required to do so. We will comply with the Exchange Act and the rules and regulations promulgated under the Exchange Act, to the extent applicable, in connection with any such notice.

Repurchase at the Option of the Holder Upon a Designated Event

If a designated event occurs at any time prior to the maturity of the notes, you may require us to repurchase your notes, in whole or in part, on a repurchase date that is not less than 20 nor more than 35 business days after the date of our notice of the designated event. The notes will be repurchased only in integral multiples of \$1,000 principal amount (or the entire principal amount of the notes held by any holder).

We will repurchase the notes at a price equal to 100% of the principal amount to be repurchased, plus accrued and unpaid interest and additional interest, if any, to, but excluding, the repurchase date. If such repurchase date falls after a record date and on or prior to the corresponding interest payment date, we will pay the full amount of accrued and unpaid interest payable on such interest payment date to the holder of record on the close of business on the corresponding record date.

We will mail to all record holders a notice of a designated event within 20 days after it has occurred. We also are required to deliver to the trustee a copy of the designated event notice. If you elect to require us to repurchase your notes, you must deliver to us or our designated agent, prior to the close of business on the repurchase date specified in our designated event notice, your repurchase notice and any notes to be repurchased, duly endorsed for transfer (or, if your notes are not certificated, your repurchase notice must comply with appropriate DTC procedures). We will promptly pay the repurchase price for notes surrendered for repurchase following the repurchase date.

You may withdraw any written repurchase notice by delivering a written notice of withdrawal to the paying agent prior to the close of business on the repurchase date. The withdrawal notice must state:

the principal amount of the withdrawn notes;

if certificated notes have been issued, the certificate number of the withdrawn notes (or, if your notes are not certificated, your withdrawal notice must comply with appropriate DTC procedures); and

the principal amount, if any, which remains subject to the repurchase notice.

Payment of the repurchase price for a note for which a repurchase notice has been delivered and not withdrawn is conditioned upon book-entry transfer or delivery of the note, together with necessary endorsements, to the paying agent at its corporate trust office in the Borough of Manhattan, The City of New York, or any other office of the paying agent, at any time after delivery of the repurchase notice. Payment of the repurchase price for the note will be made promptly following the later of the repurchase date and the time of book-entry transfer or delivery of

Edgar Filing: MERCURY COMPUTER SYSTEMS INC - Form 424B3

the note. If the paying agent holds money sufficient to pay the repurchase price of the note on the repurchase date, then, on and after the business day following the repurchase date:

the note will cease to be outstanding;

interest will cease to accrue in respect of any date from and after the repurchase date; and

all other rights of the holder will terminate, other than the right to receive the repurchase price upon delivery of the note.

Table of Contents

This will be the case whether or not book-entry transfer of the note has been made or the note has been delivered to the paying agent.

A designated event will be deemed to have occurred upon a change in control or a termination of trading.

A change in control will be deemed to have occurred at the time after the notes are originally issued that any of the following occurs:

(1) any person acquires beneficial ownership, directly or indirectly, through a purchase, merger or other acquisition transaction or series of transactions, of shares of our capital stock entitling the person to exercise 50% or more of the total voting power of all shares of our capital stock that are entitled to vote generally in elections of directors, other than an acquisition by us, any of our subsidiaries or any of our employee benefit plans; or

(2) we merge or consolidate with or into any other person, any merger of another person into us or we convey, sell, transfer or lease all or substantially all of our assets to another person, other than:

any such transaction pursuant to which the holders of 50% or more of the total voting power of all shares of our capital stock entitled to vote generally in elections of directors immediately prior to such transaction have the entitlement to exercise, directly or indirectly, 50% or more of the total voting power of all shares of capital stock entitled to vote generally in the election of directors of the continuing or surviving corporation immediately after such transaction; or

any merger that is effected solely to change our jurisdiction of incorporation.

(3) any transaction or event (whether by means of an exchange offer, liquidation, tender offer, consolidation, merger, binding share exchange, combination, reclassification, recapitalization or otherwise) in connection with which all or substantially all of our common stock is exchanged for, converted into, acquired for or constitutes solely the right to receive, consideration which is not all or substantially all common stock that:

is listed on, or immediately after the transaction or event will be listed on, a U.S. national securities exchange; or

is approved, or immediately after the transaction or event will be approved, for quotation on the Nasdaq National Market or any similar U.S. system of automated dissemination of quotations of securities prices.

However, a change in control will not be deemed to have occurred if either:

the closing price per share of our common stock for any five trading days within the period of 10 consecutive trading days ending immediately after the later of the change in control and the public announcement of the change in control, in the case of a change in control relating to an acquisition of capital stock, or the period of 10 consecutive trading days ending immediately before the change in control, in the case of a change in control relating to a merger, consolidation or asset sale, equals or exceeds 105% of the conversion price of the notes in effect on each of those trading days; or

Edgar Filing: MERCURY COMPUTER SYSTEMS INC - Form 424B3

all of the consideration, excluding cash payments for fractional shares and cash payments made pursuant to dissenters' appraisal rights, in a merger or consolidation otherwise constituting a change in control under clause (1) or (2) in the preceding paragraph above, consists of shares of common stock, depositary receipts or other certificates representing common equity interests traded on a national securities exchange or quoted on the Nasdaq National Market, or will be so traded or quoted immediately following such merger or consolidation, and as a result of such merger or consolidation the notes become convertible solely into such common stock, depositary receipts or other certificates representing common equity interests.

Table of Contents

For purposes of this definition:

whether a person is a beneficial owner will be determined in accordance with Rule 13d-3 under the Exchange Act;

a person includes any syndicate or group that would be deemed to be a person under Section 13(d)(3) of the Exchange Act; and

we may rely on 13D and 13G filings filed pursuant to the Exchange Act.

A termination of trading will be deemed to have occurred if our common stock (or other common stock into which the notes are then convertible) is neither listed for trading on a U.S. national or regional securities exchange nor approved for trading on the Nasdaq National Market or any successor thereto.

We will comply with any applicable provisions of Rule 13e-4 and any other applicable tender offer rules under the Exchange Act in the event of a designated event.

These designated event repurchase rights could discourage a potential acquirer of Mercury. However, this designated event repurchase feature is not the result of management's knowledge of any specific effort to obtain control of us by means of a merger, tender offer or solicitation, or part of a plan by management to adopt a series of anti-takeover provisions. The term "designated event" is limited to specified transactions and may not include other events that might adversely affect our financial condition or business operations. Our obligation to offer to repurchase the notes upon a designated event would not necessarily afford you protection in the event of a highly leveraged transaction, reorganization, merger or similar transaction involving us. No notes may be repurchased by us at the option of holders upon a designated event if the principal amount of the notes has been accelerated and such acceleration has not been rescinded.

We may be unable to repurchase the notes in the event of a designated event. If a designated event were to occur, we may not have enough funds to pay the repurchase price for all tendered notes. Any future credit or financing agreements or other agreements relating to our indebtedness may contain provisions prohibiting repurchase of the notes under certain circumstances, or expressly prohibit our repurchase of the notes upon a designated event or may provide that a designated event constitutes an event of default under that agreement. If a designated event occurs at a time when we are prohibited from repurchasing notes, we could seek the consent of our lenders to repurchase the notes or attempt to refinance this debt. If we do not obtain consent, we would not be permitted to repurchase the notes. Our failure to repurchase tendered notes would constitute an event of default under the indenture, which might constitute a default under the terms of our other indebtedness.

The definition of change in control includes a phrase relating to the conveyance, transfer, sale, lease or disposition of all or substantially all of our assets. There is no precise, established definition of the phrase "substantially all" under applicable law. Accordingly, your ability to require us to repurchase your notes as a result of conveyance, transfer, sale, lease or other disposition of less than all of our assets may be uncertain.

Ranking

The notes are:

our senior unsecured obligations;

on parity in right of payment with all of our existing and future senior debt; and

senior to all of our future subordinated debt.

The notes are effectively subordinated in right of payment to our existing and future secured debt, to the extent of such security, and to all existing and future indebtedness (including trade payables) of our subsidiaries (unless such indebtedness is by its terms subordinated to the notes). The indenture does not limit our ability to incur debt, including secured debt, or the amount of indebtedness or other liabilities our subsidiaries may incur. Our ability to make required interest, principal, repurchase or redemption payments on the notes may be impaired

Table of Contents

as a result of the obligations of our subsidiaries. Our subsidiaries are separate and distinct legal entities and have no obligation, contingent or otherwise, to pay any amounts due pursuant to the notes or to make any funds available therefor, whether by dividends, loans or other payments. Any right we have to receive assets of any of our current and future subsidiaries upon that subsidiary's liquidation or reorganization (and the consequent right of the holders of the notes to participate in those assets) will be effectively subordinated to the claims of that subsidiary's creditors, except to the extent that we are ourselves recognized as a creditor of that subsidiary, in which case our claims would still be subordinate to any security interests in the assets of that subsidiary and any indebtedness of that subsidiary senior to that held by us. At June 30, 2004, the aggregate principal amount of secured debt of Mercury and our subsidiaries was approximately \$11.6 million, and our subsidiaries had other liabilities (excluding obligations that are inter-company in nature) of approximately \$6.0 million in the aggregate.

We are obligated to pay reasonable compensation to the trustee and to indemnify the trustee against certain losses, liabilities or expenses incurred by it in connection with its duties relating to the notes. The trustee's claims for such payments are senior to those of holders of the notes in respect of all funds collected or held by the trustee.

Merger and Sale of Assets by Mercury

The indenture provides that we may not consolidate with or merge with or into any other person or convey, transfer or lease all or substantially all of our properties or assets to another person, unless among other things:

we are the surviving person, or the resulting, surviving or transferee person, if other than us, is organized and existing under the laws of the United States, any state thereof or the District of Columbia;

the successor person, if other than us, assumes, by supplemental indenture satisfactory in form to the trustee, all of our obligations under the notes and the indenture;

after giving effect to such transaction, there is no event of default under the indenture, and no event which, after notice or passage of time or both, would become an event of default; and

we have delivered to the trustee an officers' certificate stating that such transaction complies with these requirements and an opinion of counsel as to the first two items above.

When such a person assumes our obligations in such circumstances, subject to certain exceptions, we shall be discharged from all obligations under the notes and the indenture.

Events of Default; Notice and Waiver

The following will be events of default with respect to the notes under the indenture:

Edgar Filing: MERCURY COMPUTER SYSTEMS INC - Form 424B3

we fail to pay principal when due at maturity, upon redemption, repurchase or otherwise on the notes;

we fail to pay any interest or additional interest, if any, on the notes, when due and such failure continues for a period of 30 consecutive days;

we fail to perform or observe any of the covenants in the indenture for 60 consecutive days after written notice to us from the trustee (or to us and the trustee from the holders of at least 25% in principal amount of the outstanding notes);

payment defaults, continuing after any applicable grace periods, or acceleration of indebtedness (if such acceleration is not withdrawn, cancelled or otherwise annulled within 10 days), where the aggregate amount of defaulted or accelerated principal, premium and interest is in excess of \$10 million; or

certain events involving our bankruptcy, insolvency or reorganization.

The trustee may withhold notice to the holders of the notes of any default, except defaults in payment of principal, interest or additional interest, if any, on the notes. However, the trustee must consider it to be in the interest of the holders of the notes to withhold this notice.

Table of Contents

If an event of default occurs and continues, the trustee or the holders of at least 25% in principal amount of the notes then outstanding may declare the principal and accrued interest and additional interest, if any, on the outstanding notes to be immediately due and payable. In case of certain events of bankruptcy or insolvency involving us, the principal and accrued interest and additional interest, if any, on the notes will automatically become due and payable. However, if we cure all defaults, except the nonpayment of principal, interest or additional interest, if any, that became due as a result of the acceleration, and meet certain other conditions, with certain exceptions, this declaration may be cancelled and the holders of a majority of the principal amount of outstanding notes may waive these past defaults on behalf of all holders of the notes.

Payments of principal, interest or additional interest, if any, on the notes that are not made when due will accrue interest from the required payment date at the annual rate of 1% above the then applicable interest rate for the notes.

The holders of a majority of outstanding notes will have the right to direct the time, method and place of any proceedings for any remedy available to the trustee, subject to limitations specified in the indenture.

No holder of the notes may pursue any remedy under the indenture, except in the case of a default in the payment of principal, interest or additional interest, unless:

the holder has given the trustee written notice of an event of default;

the holders of at least 25% in principal amount of the notes then outstanding make a written request to the trustee to pursue the remedy;

the holder or holders have offered reasonable security or indemnity to the trustee against any costs, liability or expense of the trustee;

the trustee does not receive an inconsistent direction from the holders of a majority in principal amount of the notes; and

the trustee fails to comply with the request within 60 days after receipt of the request and offer of indemnity.

Modification and Waiver

The consent of the holders of a majority in principal amount of the outstanding notes is required to modify or amend the indenture. However, a modification or amendment requires the consent of the holder of each outstanding note if it would:

extend the fixed maturity of any note;

reduce the rate or extend the time for payment of interest or additional interest, if any, of any note;

Edgar Filing: MERCURY COMPUTER SYSTEMS INC - Form 424B3

reduce the principal amount of any note;

reduce any amount payable upon redemption or repurchase of any note;

after the occurrence of a designated event, adversely change our obligation to repurchase any note upon a designated event;

impair the right of a holder to institute suit for payment on any note;

change the currency in which any note is payable;

impair the right of a holder to convert any note or reduce the number of shares of common stock or the amount of any other property receivable upon conversion;

reduce the quorum or voting requirements under the indenture; or

subject to specified exceptions, modify certain provisions of the indenture relating to modification or waiver of provisions of the indenture.

Table of Contents

In addition, a modification or amendment that would, prior to the occurrence of a designated event, adversely change our obligation to repurchase any note upon a designated event requires the consent of two-thirds of the holders of the outstanding notes.

We are permitted to modify certain provisions of the indenture without the consent of the holders of the notes.

Form, Denomination and Registration

The notes were issued:

in fully registered form;

without interest coupons; and

in denominations of \$1,000 principal amount and integral multiples of \$1,000.

Global Note, Book-Entry Form

Notes are evidenced by one global note. We deposited the global note with DTC and registered the global notes in the name of Cede & Co. as DTC's nominee. Except as set forth below, a global note may be transferred, in whole or in part, only to another nominee of DTC or to a successor of DTC or its nominee.

Beneficial interests in a global note may be held directly through DTC if such holder is a participant in DTC, or indirectly through organizations that are participants in DTC (called "participants"). Transfers between participants will be effected in the ordinary way in accordance with DTC rules and will be settled in clearing house funds. The laws of some states require that certain persons take physical delivery of securities in definitive form. As a result, the ability to transfer beneficial interests in the global note to such persons may be limited.

Holders who are not participants may beneficially own interests in a global note held by DTC only through participants, or certain banks, brokers, dealers, trust companies and other parties that clear through or maintain a custodial relationship with a participant, either directly or indirectly (called "indirect participants"). So long as Cede & Co., as the nominee of DTC, is the registered owner of a global note, Cede & Co. for all purposes will be considered the sole holder of such global note. Except as provided below, owners of beneficial interests in a global note are:

not entitled to have certificates registered in their names; and

not considered holders of the global note (other than in an enforcement by such owner of a beneficial interest to exchange such beneficial interest for notes in certificated form).

We will pay interest, and additional interest, if any, and the redemption price and the repurchase price of a global note to Cede & Co., as the registered owner of the global note, by wire transfer of immediately available funds on each interest payment date or the redemption or repurchase date, as the case may be. Neither we, the trustee nor any paying agent will be responsible or liable:

for the records relating to, or payments made on account of, beneficial ownership interests in a global note; or

for maintaining, supervising or reviewing any records relating to the beneficial ownership interests.

Neither we, the trustee, registrar, paying agent nor conversion agent will have any responsibility for the performance by DTC or its participants or indirect participants of their respective obligations under the rules and procedures governing their operations. DTC has advised us that it will take any action permitted to be taken by a holder of notes, including the presentation of notes for exchange, only at the direction of one or more participants

Table of Contents

to whose account with DTC interests in the global note are credited, and only in respect of the principal amount of the notes represented by the global note as to which the participant or participants has or have given such direction. DTC has advised us that it is:

a limited purpose trust company organized under the laws of the State of New York, and a member of the Federal Reserve System;

a clearing corporation within the meaning of the Uniform Commercial Code; and

a clearing agency registered pursuant to the provisions of Section 17A of the Exchange Act.

DTC was created to hold securities for its participants and to facilitate the clearance and settlement of securities transactions between participants through electronic book-entry changes to the accounts of its participants. Participants include securities brokers, dealers, banks, trust companies and clearing corporations and other organizations. Some of the participants or their representatives, together with other entities, own DTC. Indirect access to the DTC system is available to others such as banks, brokers, dealers and trust companies that clear through or maintain a custodial relationship with a participant, either directly or indirectly.

DTC has agreed to the foregoing procedures to facilitate transfers of interests in a global note among participants. However, DTC is under no obligation to perform or continue to perform these procedures, and may discontinue these procedures at any time.

We will issue the notes in definitive certificated form if DTC notifies us that it is unwilling or unable to continue as depositary or DTC ceases to be a clearing agency registered under the Exchange Act and a successor depositary is not appointed by us within 90 days. In addition, beneficial interests in a global note may be exchanged for definitive certificated notes upon request by or on behalf of DTC in accordance with customary procedures. We may determine at any time and in our sole discretion that notes shall no longer be represented by global notes, in which case we will issue certificates in definitive form in exchange for the global notes.

Registration Rights of the Noteholders

In connection with the initial placement of the notes, we entered into a registration rights agreement with the initial purchasers. In the registration rights agreement, we agreed to file a shelf registration statement with the SEC covering resale of the registrable securities within 120 days after the closing date and to use our reasonable best efforts to cause the shelf registration statement to become effective within 210 days of the closing. This prospectus is a part of that shelf registration statement. We also agreed to use our reasonable best efforts to keep the shelf registration statement effective until the date there are no longer any registrable securities.

When we use the term registrable securities in this section, we are referring to the notes and the common stock issuable upon conversion of the notes until the earliest of:

the effective registration under the Securities Act and the resale of the registrable securities in accordance with the registration statement;

Edgar Filing: MERCURY COMPUTER SYSTEMS INC - Form 424B3

the expiration of the holding period for non-affiliates with respect to the registrable securities under Rule 144(k) under the Securities Act;

the sale of the registrable securities pursuant to Rule 144 under the Securities Act;

the registrable securities cease to be outstanding; and

April 29, 2006.

We may suspend the use of this prospectus under certain circumstances relating to pending corporate developments, public filings with the SEC and similar events. Any suspension period shall not exceed:

30 days in any three-month period; or

Table of Contents

an aggregate of 90 days for all suspension periods in any 12-month period.

Notwithstanding the foregoing, we will be permitted to suspend the use of this prospectus for up to 60 days in any three-month period under certain circumstances, relating to possible acquisitions, financings or other similar transactions.

We will pay predetermined additional interest on the interest payment dates for the notes in the event this prospectus is unavailable for periods in excess of those permitted above. Those additional amounts will accrue until such unavailability is cured:

in respect of any notes at a rate per year equal to 0.25% of the outstanding principal amount thereof for the first 90 days after the occurrence of the event and 0.50% of the outstanding principal amount thereof after the first 90 days; and

in respect of shares of common stock into which the notes have been converted at a rate per year equal to 0.25% of the then-applicable conversion price for the first 90 days after the occurrence of the event and 0.50% of the then-applicable conversion price after the first 90 days.

We will have no other liabilities for monetary damages with respect to our registration obligations.

A holder who elects to sell registrable securities pursuant to the shelf registration statement will be required to:

be named as a selling securityholder in this prospectus;

deliver a prospectus to purchasers; and

be subject to the provisions of the registration rights agreement, including the indemnification provisions.

Under the registration rights agreement, we agreed to:

pay all expenses of the shelf registration statement;

provide each registered holder copies of this prospectus;

notify holders when the shelf registration statement became effective; and

take other reasonable actions as are required to permit unrestricted resales of the registrable securities in accordance with the terms and conditions of the registration rights agreement.

Edgar Filing: MERCURY COMPUTER SYSTEMS INC - Form 424B3

This summary of the registration rights agreement is not complete. This summary is subject to, and is qualified in its entirety by reference to, all of the provisions of the registration rights agreement.

Information Concerning the Trustee

We have appointed U.S. Bank National Association, the trustee under the indenture, as paying agent, conversion agent, note registrar and custodian for the notes. The trustee or its affiliates may provide banking and other services to us in the ordinary course of their business. Subject to certain conditions, we have the right to replace the trustee.

The indenture contains certain limitations on the rights of the trustee, if it or any of its affiliates is then our creditor, to obtain payment of claims in certain cases or to realize on certain property received on any claim as security or otherwise. The trustee and its affiliates are permitted to engage in other transactions with us. However, if the trustee or any affiliate continues to have any conflicting interest and a default occurs with respect to the notes, the trustee must eliminate such conflict or resign.

Governing Law

The notes and the indenture are governed by, and shall be construed in accordance with, the laws of the State of New York.

Table of Contents

DESCRIPTION OF CAPITAL STOCK

Our authorized capital stock consists of 65,000,000 shares of common stock and 1,000,000 shares of preferred stock, par value \$.01 per share. As of August 4, 2004, we had 21,289,655 shares of common stock outstanding and no shares of preferred stock outstanding. The transfer agent and registrar for our common stock is EquiServe Trust Company, N.A., 250 Royall Street, Canton, Massachusetts. In addition to the summary of our capital stock that follows, we encourage you to review our articles of organization and bylaws, which we have filed with the SEC.

Common Stock

The holders of our common stock are entitled to one vote for each share held of record on all matters voted upon by our shareholders and may not cumulate votes. Subject to the rights of holders of any future series of undesignated preferred stock which may be designated, each share of the outstanding common stock is entitled to participate equally in any distribution of net assets made to the shareholders in the liquidation, dissolution or winding up of our company and is entitled to participate equally in dividends as and when declared by our board of directors. There are no redemption, sinking fund, conversion or preemptive rights with respect to shares of our common stock. All shares of our common stock have equal rights and preferences.

Preferred Stock

Our board of directors has the authority, without further shareholder approval, to issue 1,000,000 shares of preferred stock where defined in one or more series and to fix the relative rights, preferences, privileges, qualifications, limitations and restrictions of such preferred stock, including dividend rights, dividend rates, conversion rights, voting rights, terms of redemption, redemption prices, liquidation preferences and the number of shares constituting any series or the designation of such series. The issuance of preferred stock, while potentially providing desirable flexibility in connection with possible acquisitions and other corporate purposes, could have the effect of delaying, deferring or preventing a change in control of our company, which may discourage bids for our common stock at a premium over the market price of the common stock and may adversely affect the market price of, and the voting and other rights of the holders of, our common stock.

Classified Board and Other Matters

Our board of directors is divided into three classes, each of which serves until the third annual meeting of shareholders after their election, with one class being elected each year. Under the Massachusetts General Laws, in a corporation with a classified board, shareholders may remove a director only for cause. Our bylaws require that shareholders provide the Secretary of our company with 60 days advance notice prior to the date set forth in the bylaws for an annual meeting of shareholders or special meeting in lieu thereof for the purpose of any director nominations or within ten days after notice of a special meeting not in lieu of an annual meeting. Our bylaws provide that special meetings of shareholders of our company may be called only by a majority of the board of directors, the President or 30% in interest of the shareholders. Our bylaws, as well as applicable provisions of the Massachusetts General Laws, provide that no action required or permitted to be taken at any annual or special meeting of our shareholders may be taken without a meeting, unless the unanimous consent of shareholders entitled to vote on the matter is obtained. These provisions may diminish the likelihood that a potential acquiror would make an offer for our common stock or that there would otherwise be a change in control of our company.

Massachusetts Anti-takeover Laws

We are subject to the provisions of Chapter 110F of the Massachusetts General Laws, an anti-takeover law. In general, this statute prohibits a publicly-held Massachusetts corporation with sufficient ties to Massachusetts from engaging in a business combination with an interested shareholder for a period of three years after the

Table of Contents

date of the transaction in which the person becomes an interested shareholder, unless either (1) the interested shareholder obtains the approval of the board of directors prior to becoming an interested shareholder, (2) the interested shareholder acquires 90% of the outstanding voting stock of the corporation (excluding shares held by certain affiliates of the corporation) at the time he becomes an interested shareholder or (3) the business combination is approved by both the board of directors and two-thirds of the outstanding voting stock of the corporation (excluding shares held by the interested shareholder) at an annual or special meeting of shareholders, but not by written consent. An interested shareholder is a person who, together with affiliates and associates, owns 5% or more of the corporation's outstanding voting stock or who as an affiliate at any time within the prior three years did own 5% or more of the corporation's voting stock. A business combination includes mergers, stock and asset sales and other transactions resulting in a financial benefit to the shareholder. We may at any time amend our articles of organization or bylaws, by vote of the holders of a majority of our voting stock, to elect not to be governed by Chapter 110F, but such an amendment would not be effective for 12 months and would not apply to a business combination with any person who became an interested shareholder prior to the date of the amendment.

We also are subject to the provisions of Chapter 110D of the Massachusetts General Laws, entitled Regulation of Control Share Acquisitions. This statute provides, in general, that any shareholder who acquires 20% or more of the outstanding voting stock of a corporation subject to this statute may not vote that stock unless the shareholders of the corporation so authorize. Voting control obtained by means of a revocable proxy will not trigger the implications of Chapter 110D of the Massachusetts General Laws. In addition, Chapter 110D permits a corporation to provide in its articles of organization or bylaws that the corporation may redeem (for fair value) all the shares thereafter acquired in a control share acquisition if voting rights for those shares were not authorized by the shareholders or if no control share acquisition statement was delivered. Our articles of organization include a provision which permits us to effect such redemptions.

Table of Contents

CERTAIN U.S. FEDERAL INCOME TAX CONSIDERATIONS

The following is a summary of certain U.S. federal income tax considerations relating to the purchase, ownership and disposition of the notes and common stock into which the notes are convertible, but does not purport to be a complete analysis of all the potential tax considerations relating thereto. This summary is based upon the provisions of the Internal Revenue Code of 1986, as amended, which we refer to as the Code, Treasury Regulations promulgated under the Code, administrative rulings and judicial decisions, all as of the date of this prospectus. These authorities may be changed, possibly retroactively, so as to result in U.S. federal income tax consequences different from those set forth below. We have not sought any ruling from the Internal Revenue Service, or IRS, with respect to the statements made and the conclusions reached in the following summary, and there can be no assurance that the IRS will agree with such statements and conclusions.

This summary is limited to holders who hold the notes and any common stock received in conversion of notes as capital assets. This summary also does not address the tax considerations arising under the laws of any foreign, state or local jurisdiction. In addition, this discussion does not address tax considerations applicable to an investor's particular circumstances or to investors that may be subject to special tax rules, including, without limitation:

banks, insurance companies, thrifts, real estate investment trusts, regulated investment companies or other financial institutions;

persons subject to the alternative minimum tax;

partnerships or other entities treated as pass-through entities for U.S. federal income tax purposes;

tax-exempt organizations;

dealers in securities or currencies;

traders in securities that elect to use a mark-to-market method of accounting for their securities holdings;

foreign persons or entities (except to the extent specifically set forth below);

persons that own, or are deemed to own, more than 5% of our company (except to the extent specifically set forth below);

certain U.S. expatriates or former long-term residents of the United States;

U.S. holders (as defined below) whose functional currency is not the U.S. dollar;

persons who hold the notes as a position in a hedging transaction, straddle, conversion transaction, synthetic security or other risk reduction transaction; or

persons deemed to sell the notes or common stock under the constructive sale provisions of the Code.

In addition, if a holder is an entity treated as a partnership for U.S. federal income tax purposes, the tax treatment of each partner of such partnership will generally depend upon the status of the partner and upon the activities of the partnership. Partners in partnerships which hold the notes or common stock are urged to consult their tax advisors.

YOU ARE URGED TO CONSULT YOUR TAX ADVISOR WITH RESPECT TO THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO YOUR PARTICULAR SITUATION, AS WELL AS ANY TAX CONSEQUENCES OF THE PURCHASE, OWNERSHIP AND DISPOSITION OF THE NOTES AND COMMON STOCK ARISING UNDER THE FEDERAL ESTATE OR GIFT TAX RULES OR UNDER THE LAWS OF ANY STATE, LOCAL, FOREIGN OR OTHER TAXING JURISDICTION OR UNDER ANY APPLICABLE TAX TREATY.

Table of Contents

For purposes of this summary, a U.S. holder means a beneficial owner of a note that is for U.S. federal income tax purposes:

an individual citizen or resident of the United States;

a corporation or other entity taxable as a corporation created or organized in the United States or under the laws of the United States, any state thereof, or the District of Columbia;

an estate, the income of which is subject to U.S. federal income taxation regardless of its source; or

a trust that (1) is subject to the primary supervision of a U.S. court and the control of one or more U.S. persons or (2) has a valid election in effect under applicable Treasury Regulations to be treated as a U.S. person.

A beneficial owner of the notes that is not a U.S. holder is referred to in this section as a non-U.S. holder.

Consequences to U.S. Holders

Interest

Interest paid on the notes will be includable as ordinary income at the time it is received or accrued, in accordance with your regular method of accounting for U.S. federal income tax purposes.

Registration Rights; Additional Interest; Certain Payments on Notes

The registration of the notes pursuant to our obligations under Description of the Notes Registration Rights of the Noteholders does not constitute a taxable event for U.S. federal income tax purposes. We may be required to pay additional interest on the notes if we fail to comply with our obligations to register the notes. Also, under certain circumstances, we may allow noteholders to participate in certain extraordinary distributions to our shareholders that would otherwise cause the notes to become convertible. Any cash or other consideration received by noteholders would likely be treated as additional interest on the notes. We intend to take the position that the possibility of additional interest becoming due under either of these provisions is a remote or incidental contingency as of the issue date of the notes, within the meaning of Treasury Regulation Sections 1.1275-2(h) and 1.1275-4(a)(5). Our determination is binding on holders of the notes, unless a holder properly discloses on their income tax return that they are taking a contrary position. Although the matter is not free from doubt, any additional interest should be taxable to U.S. holders as ordinary interest income at the time it accrues or is received in accordance with a U.S. holder's normal method of accounting for tax purposes.

Constructive Dividends

Edgar Filing: MERCURY COMPUTER SYSTEMS INC - Form 424B3

Holders of convertible debt instruments such as the notes may, in certain circumstances, be deemed to have received distributions of stock if the conversion price of such instruments is adjusted. Adjustments to the conversion price made pursuant to a bona fide reasonable adjustment formula which has the effect of preventing the dilution of the interest of the holders of the debt instruments, however, will generally not be deemed to result in a constructive distribution of stock. Certain of the possible adjustments provided in the notes (including, without limitation, adjustments in respect of taxable dividends to our shareholders) may not qualify as being pursuant to a bona fide reasonable adjustment formula. If such adjustments are made, you will be deemed to have received constructive distributions includible in your income in the manner described under "Dividends" below even though you have not received any cash or property as a result of such adjustments. In certain circumstances, the failure to provide for such an adjustment may also result in a constructive distribution to you.

Sale, Exchange or Other Taxable Disposition of Notes or Common Stock

Upon the sale, exchange (other than a conversion) or other taxable disposition of a note or our common stock, you generally will recognize capital gain or loss equal to the difference between (1) the amount of cash proceeds and the fair market value of any property received on the sale, exchange or other taxable disposition (except to the extent such amount is attributable to accrued interest income on a note not previously included in

Table of Contents

income, which will be taxable as ordinary income) and (2) your adjusted tax basis in the note or common stock, as the case may be. Your adjusted tax basis in a note generally will equal the cost of the note to you. Your tax basis in common stock received on conversion of a note is described below. Such capital gain or loss will be long-term if you have held the note or common stock for more than one year at the time of sale, exchange or other disposition. Long-term capital gain recognized by certain noncorporate U.S. holders, including individuals, will generally be subject to a reduced tax rate. The deductibility of capital losses is subject to limitations.

Conversion of Notes

You generally will not recognize any income, gain or loss upon conversion of a note into shares of common stock except with respect to cash received in lieu of a fractional share of common stock. Your aggregate tax basis in the shares of common stock received on conversion of a note will be the same as your aggregate tax basis in the note at the time of conversion (reduced by any basis allocable to a fractional share interest for which you received cash), and the holding period for such shares received on conversion will generally include the holding period of the note converted.

You will recognize capital gain or loss for U.S. federal income tax purposes upon the receipt of cash in lieu of a fractional share of common stock in an amount equal to the difference between the amount of cash received and the holder's tax basis in such fractional share. See **Sale, Exchange or Other Disposition of Notes** above.

Dividends

Distributions, if any, made on our common stock generally will be included in your income as ordinary dividend income to the extent of our current or accumulated earnings and profits. Under recently enacted legislation, however, with respect to noncorporate taxpayers for taxable years beginning after December 31, 2002 and before January 1, 2009, such dividends are subject to tax at the lower applicable capital gain rate provided certain holding period requirements are satisfied. Distributions in excess of our current and accumulated earnings and profits will be treated as a return of capital to the extent of your adjusted tax basis in the common stock and thereafter as capital gain. Dividends received by a corporate U.S. holder may be eligible for a dividends received deduction subject to certain holding period requirements and other requirements and limitations.

Certain Payments on our Common Stock

If we fail to comply with our obligations described under **Description of Notes** **Registration Rights of the Noteholders**, we may be required to make payments to noteholders who have converted their notes into common stock. The tax treatment of any such payments for U.S. federal income tax purposes is unclear. However, any such payments would most likely constitute ordinary income to investors at the time it accrues or is received in accordance with their normal method of accounting. Those payments likely would not qualify for the reduced rate of tax applicable to dividends as described above.

Backup Withholding and Information Reporting

Edgar Filing: MERCURY COMPUTER SYSTEMS INC - Form 424B3

We are required to furnish to the record holders of the notes and common stock, other than corporations and other exempt holders, and to the IRS, information with respect to interest paid on the notes and dividends paid on the common stock.

You may be subject to backup withholding, currently at a 28% rate, with respect to interest paid on the notes, dividends paid on the common stock or with respect to proceeds received from a disposition of the notes or shares of common stock. Certain holders (including, among others, corporations and certain tax-exempt organizations) are generally not subject to backup withholding provided that they properly certify their qualification for exemption. You will be subject to backup withholding if you are not otherwise exempt and you:

fail to furnish your taxpayer identification number, or TIN, which, for an individual, is ordinarily his or her social security number;

Table of Contents

furnish an incorrect TIN;

are notified by the IRS that you have failed to properly report payments of interest or dividends; or

fail to certify, under penalties of perjury, that you have furnished a correct TIN and that the IRS has not notified you that you are subject to backup withholding. Backup withholding is not an additional tax but, rather, is a method of tax collection. You generally will be entitled to credit any amounts withheld under the backup withholding rules against your U.S. federal income tax liability (or in some cases you may be entitled to a refund) provided that the required information is furnished to the IRS in a timely manner.

Consequences to Non-U.S. Holders

Interest

Except as described below, you will not be subject to the 30% U.S. federal withholding tax with respect to payments of interest on the notes provided that either such interest is effectively connected with the conduct of a United States trade or business, or it is not effectively connected with the conduct of a United States trade or business and:

you do not own, actually or constructively, 10% or more of the total combined voting power of all classes of our stock entitled to vote;

you are not a controlled foreign corporation with respect to which we are, directly or indirectly, a related person;

you are not a bank receiving interest pursuant to a loan agreement entered into in the ordinary course of its trade or business; and

you provide your name and address, and certify, under penalties of perjury, that you are not a U.S. person (which certification may be made on an IRS Form W-8BEN (or successor form)), or that you hold your notes through certain intermediaries, and you and the intermediaries satisfy the certification requirements of applicable Treasury Regulations.

Special certification rules apply to non-U.S. holders that are pass-through entities rather than corporations or individuals. Prospective investors are urged to consult their tax advisors regarding the certification requirements for non-U.S. holders.

If you cannot satisfy the requirements enumerated in the bullet points described above, you will be subject to the 30% U.S. federal withholding tax with respect to payments of interest on the notes, unless you provide us with a properly executed (1) IRS Form W-8BEN (or successor form) claiming an exemption from or reduction in withholding under the benefit of an applicable U.S. income tax treaty or (2) IRS Form W-8ECI (or successor form) stating that interest paid on the note is not subject to withholding tax because it is effectively connected with the conduct of a United States trade or business.

Under certain circumstances, we may allow noteholders to participate in certain extraordinary distributions to our stockholders that would otherwise cause the notes to become convertible. Any cash or other consideration received by noteholders under these provisions would likely be treated as contingent interest and would be subject to withholding tax at a rate of 30% notwithstanding the general rules above. Depending on

Edgar Filing: MERCURY COMPUTER SYSTEMS INC - Form 424B3

the terms of any applicable income tax treaty, these payments may or may not qualify as interest or dividends for purposes of determining the applicability of any exemption from or reduced rate of withholding tax under the treaty.

If you are engaged in a trade or business in the United States and interest on a note is effectively connected with your conduct of that trade or business, you will be subject to U.S. federal income tax on that interest on a net income basis (although you will be exempt from the 30% withholding tax, provided the certification requirements described above are satisfied) in the same manner as if you were a U.S. person as defined under the

Table of Contents

Code. In addition, if you are a foreign corporation, you may be subject to a branch profits tax equal to 30% (or lower rate as may be prescribed under an applicable U.S. income tax treaty) of your earnings and profits for the taxable year, subject to adjustments, that are effectively connected with your conduct of a trade or business in the United States.

Sale, Exchange or Other Disposition of Notes or Common Stock

Any gain realized by you on the sale, exchange or other disposition of a note (except with respect to accrued and unpaid interest, which would be taxable as described above) or a share of common stock generally will not be subject to U.S. federal income tax unless:

the gain is effectively connected with your conduct of a trade or business in the United States; or

you are an individual who is present in the United States for 183 days or more in the taxable year of sale, exchange or other disposition and certain conditions are met.

If your gain is described in the first bullet point above, you generally will be subject to U.S. federal income tax on the net gain derived from the sale. If you are a corporation, then any such effectively connected gain received by you may also, under certain circumstances, be subject to the branch profits tax at a 30% rate (or such lower rate as may be prescribed under an applicable U.S. income tax treaty).

If you are an individual described in the second bullet point above, you will be subject to a flat 30% U.S. federal income tax on the gain derived from the sale, which may be offset by United States source capital losses, even though you are not considered a resident of the United States.

Conversion of Notes

You generally will not recognize any income, gain or loss on the conversion of a note into common stock. To the extent you receive cash in lieu of fractional shares of common stock upon conversion of a note, you generally would be subject to the rules described under **Consequences to Non-U.S. Holders** *Sale, Exchange or Other Disposition of Notes or Common Stock* above.

Dividends

In general, dividends, if any, received by you with respect to our common stock (and any deemed distributions to you as a note holder that result from certain adjustments, or failures to make certain adjustments, to the conversion price of the notes, see **Consequences to U.S. Holders** *Constructive Dividends* above) will be subject to withholding of U.S. federal income tax at a 30% rate, unless such rate is reduced by an applicable U.S. income tax treaty. Dividends that are effectively connected with your conduct of a trade or business in the United States are generally subject to U.S. federal income tax on a net income basis and are exempt from the 30% withholding tax (assuming compliance with certain certification requirements). Any such effectively connected dividends received by a non-U.S. holder that is a corporation may also, under certain circumstances, be subject to the branch profits tax at a 30% rate or such lower rate as may be prescribed under an applicable U.S. income tax treaty.

In order to claim the benefit of a U.S. income tax treaty or to claim exemption from withholding because dividends paid to you on our common stock are effectively connected with your conduct of a trade or business in the United States, you must provide a properly executed IRS Form W-8BEN for treaty benefits or W-8ECI for effectively connected income (or such successor form as the IRS designates), prior to the payment of dividends. These forms must be periodically updated. You may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund.

Table of Contents

Certain Payments on our Common Stock

If we fail to comply with our obligations described under **Description of Notes** **Registration Rights of the Noteholders**, we may be required to make payments to noteholders who have converted their notes into common stock. The U.S. tax treatment of any such payments is unclear. We intend to withhold tax at a rate of 30% on any such payments made to non-U.S. shareholders unless the shareholder is entitled to a reduction or elimination of withholding under the **other income** provision of an applicable income tax treaty or because the payment is effectively connected with a trade or business conducted by the shareholder in the U.S. and the shareholder provides us with the appropriate Form W-8BEN or W-8ECI, as applicable.

Backup Withholding and Information Reporting

Backup withholding generally will not apply to interest payments made to you in respect of the notes and dividends paid to you on our common stock if you furnish us or our paying agent with appropriate documentation of your non-U.S. status. However, certain information reporting may still apply with respect to interest and dividend payments even if certification is provided. The payment of proceeds from your disposition of notes (including a redemption) or common stock to or through the U.S. office of any broker, domestic or foreign, will be subject to information reporting and possible backup withholding unless you certify as to your non-U.S. status under penalties of perjury or otherwise establish an exemption. The payment of the proceeds from your disposition of notes or common stock to or through a non-U.S. office of either a U.S. broker or a non-U.S. broker that is a U.S.-related person will be subject to information reporting, but not backup withholding, unless such broker has documentary evidence in its files that you are not a U.S. person and the broker has no knowledge to the contrary, or you establish an exemption. For this purpose, a U.S.-related person is (a) a controlled foreign corporation for U.S. federal income tax purposes, (b) a foreign person 50% or more of whose gross income from all sources for the three-year period ending with the close of its taxable year preceding payment (or for such part of the period that the broker has been in existence) is derived from activities that are effectively connected with the conduct of a United States trade or business or (c) a foreign partnership that is either engaged in the conduct of a trade or business in the United States or of which 50% or more of its income or capital interests are held by U.S. persons. Neither information reporting nor backup withholding will apply to a payment of the proceeds of your disposition of notes or common stock by or through a non-U.S. office of a non-U.S. broker that is not a U.S.-related person. Copies of any information returns filed with the IRS may be made available by the IRS, under the provisions of a specific treaty or agreement, to the taxing authorities of the country in which you reside.

You generally will be entitled to credit any amounts withheld under the backup withholding rules against your U.S. federal income tax liability (or in some cases you may be entitled to a refund), provided that the required information is furnished to the IRS in a timely manner.

Table of Contents**SELLING SECURITYHOLDERS**

We originally issued the notes in a private placement to the initial purchasers in April 2004. The initial purchasers resold the notes to purchasers, including the selling securityholders listed below, in transactions exempt from registration pursuant to Rule 144A under the Securities Act of 1933. Selling securityholders may offer and sell the notes and the underlying common stock pursuant to this prospectus.

The following table sets forth information with respect to the selling securityholders and the respective principal amounts of notes and shares of common stock beneficially owned by each selling securityholder that may be offered under this prospectus. The information is based on information that has been provided to us by or on behalf of the selling securityholders. None of the selling securityholders has, or has had within the past three years, any position, office or other material relationship with us or any of our predecessors or affiliates. Because the selling securityholders may from time to time use this prospectus to offer all or some portion of the notes or the shares of common stock offered by this prospectus, we cannot provide an estimate as to the amount or percentage of any such type of security that will be held by the selling securityholder upon termination of any particular offering or sale under this prospectus. In addition, the selling securityholders may have sold, transferred or otherwise disposed of all or a portion of any of these securities since the date on which they provided us information regarding their holdings, in transactions which are exempt from the registration requirements of the Securities Act.

Accordingly, the term *selling securityholders* as used in this prospectus means those persons listed in the table below, as well as their transferees, pledgees, donees and/or successors. Information about the selling securityholders may change over time. Any updated information given to us by the selling securityholders will be set forth in prospectus supplements if and when necessary.

Name	Principal Amount of Notes Beneficially Owned that	Percentage of Notes	Number of Shares of Common Stock Issuable upon Conversion of the Notes that May
	May Be Sold	Outstanding	Be Sold (1)(2)
Advisory Convertible Arbitrage Fund (I) L.P.	1,500,000	1.20%	49,619
Alexandra Global Master Fund, Ltd.	6,000,000	4.80%	198,478
AllState Insurance Company (3)	2,000,000	1.60%	66,159
Argent Classic Convertible Arbitrage Fund (Bermuda) Ltd. (4)	6,880,000	5.50%	227,588
Argent Classic Convertible Arbitrage Fund L.P. (4)	1,140,000	0.91%	37,710
Argent Classic Convertible Arbitrage Fund II, L.P. (4)	250,000	0.20%	8,269
Arkansas PERS (5)	675,000	0.54%	22,328
Astrazeneca Holdings Pension (5)	200,000	0.16%	6,615
BNP Paribas Equity Strategies, SNC (6)	635,000	0.51%	21,005
Boilermakers Blacksmith Pension Trust (5)	825,000	0.66%	27,290
CALAMOS® Market Neutral Fund CALAMOS Investment Trust (7)	3,000,000	2.40%	99,239
Cheyne Fund LP	1,266,000	1.01%	41,878
Cheyne Leveraged Fund LP	1,026,000	0.82%	33,939
Chrysler Corporation Master Retirement Trust (8)	1,700,000	1.36%	56,235
CIP Limited Duration Co.	134,000	0.11%	4,432
CNH CA Master Account, L.P. (9)	250,000	0.20%	8,269
Context Convertible Arbitrage Fund LP	525,000	0.42%	17,366
Context Convertible Arbitrage Offshore, Ltd. (10)	1,200,000	0.96%	39,695
CooperNeff Convertible Strategies (Cayman) Master Fund, LP (6)	684,000	0.55%	22,626
CS Alternative Strategy Ltd.	74,000	0.06%	2,447
DBAG London (11)	10,850,000	8.68%	358,914
Delaware PERS (5)	380,000	0.30%	12,570

Table of Contents

Name	Principal Amount of Notes Beneficially Owned that	Percentage of Notes	Number of Shares of Common Stock Issuable upon Conversion of the Notes that May
	May Be Sold	Outstanding	Be Sold (1)(2)
Delta Airlines Master Trust (5)	210,000	0.17%	6,946
Delta Airlines Master Trust CV (8)	430,000	0.34%	14,224
Delta Pilots Disability & Survivorship Trust CV (8)	215,000	0.17%	7,112
Deutsche Bank Securities Inc. (12)	125,000	0.10%	4,134
DKR SoundShore Opportunity Holding Fund Ltd. (13)	2,250,000	1.80%	74,429
Duke Endowment (5)	175,000	0.14%	5,788
F.M. Kirby Foundation, Inc.	845,000	0.68%	27,952
Fore Convertible Master Fund, Ltd. (14)	1,236,000	0.99%	40,886
Fore Plan Asset Fund, Ltd. (14)	124,000	0.10%	4,101
Froley Revy Investment Convertible Security Fund (5)	50,000	0.04%	1,653
Guggenheim Portfolio Company VIII (Cayman), Ltd. (15)	216,000	0.17%	7,145
Highbridge International LLC	9,650,000	7.72%	319,219
ICI American Holdings Trust (5)	150,000	0.12%	4,961
Institutional Benchmark Master Fund	1,000,000	0.80%	33,079
International Truck & Engine Corporation Non-Contributory Retirement Plan Trust (8)	515,000	0.41%	17,036
International Truck & Engine Corporation Retiree Health Benefit Trust (8)	200,000	0.16%	6,615
International Truck & Engine Corporation Retirement Plan for Salaried Employees Trust (8)	225,000	0.18%	7,442
Louisiana CCRF (5)	75,000	0.06%	2,480
Lyxor/Context Fund Ltd. (10)	150,000	0.12%	4,961
Lyxor/Convertible Arbitrage Fund Limited (6)	123,000	0.10%	4,068
Man Convertible Bond Master Fund, Ltd. (16)	5,683,000	4.55%	187,991
Man Mac 1 Ltd. (17)	424,000	0.34%	14,025
Microsoft Corporation (8)	590,000	0.47%	19,517
Motion Picture Industry Health Plan - Active Member Fund (8)	105,000	0.08%	3,473
Motion Picture Industry Health Plan - Retiree Member Fund (8)	70,000	0.06%	2,315
Nuveen Preferred & Convertible Fund (5)	3,250,000	2.60%	107,509
Nuveen Preferred & Convertible Income Fund JPL (5)	2,500,000	2.00%	82,699
OCLO Online Computer Library Center Inc. (5)	25,000	0.02%	826
OCM Convertible Trust (8)	840,000	0.67%	27,786
OCM Global Convertible Securities Fund (8)	55,000	0.04%	1,819
Partner Reinsurance Company Limited (8)	370,000	0.30%	12,239
Piper Jaffray & Co.	1,000,000	0.80%	33,079
Prudential Insurance Co. of America (5)	50,000	0.04%	1,653
Putnam Convertible Income - Growth Trust	3,000,000	2.40%	99,239
Qwest Occupational Health Trust (8)	95,000	0.08%	3,142
Royal Bank of Canada (Northfield) (10)	125,000	0.10%	4,134
SG Americas Securities, LLC	5,000,000	4.00%	165,398
Singlehedge US Convertible Arbitrage Fund	178,000	0.14%	5,888
Southern Farm Bureau Life Insurance (5)	330,000	0.26%	10,916
St. Thomas Trading, Ltd. (16)	7,317,000	5.85%	242,044
State Employees Retirement Fund of the State of Delaware (8)	490,000	0.39%	16,209
State of Oregon/Equity (5)	2,000,000	1.60%	66,159
Sturgeon Limited (6)	130,000	0.10%	4,300
Syngenta AG (5)	115,000	0.09%	3,804
The St. Paul Travelers Companies, Inc. - Commercial Lines (8)	35,000	0.03%	1,157

Table of Contents

Name	Principal Amount of Notes Beneficially Owned that	Percentage of Notes	Number of Shares of Common Stock Issuable upon Conversion of the Notes that May
	May Be Sold	Outstanding	Be Sold (1)(2)
The St. Paul Travelers Companies, Inc. - Personal Lines (8)	25,000	0.02%	826
TQA Special Opportunities Master Fund Ltd. (18)	1,000,000	0.80%	33,079
Tribeca Investments Ltd.	3,000,000	2.40%	99,239
UnumProvident Corporation (8)	155,000	0.12%	5,127
Vanguard Convertible Securities Fund (8)	10,915,000	8.73%	361,064
Whitebox Diversified Convertible Arbitrage Partners LP (19)	3,000,000	2.40%	99,239
Xavex Convertible Arbitrage 10 Fund (4)	630,000	0.50%	20,840
Any other holder of notes or future transferee, pledgee, donee or successor of any holder (20)	13,340,000	10.67%	441,325
TOTAL	\$ 125,000,000	100%	4,134,962

- (1) Assumes conversion of all of the holder's notes at the initial conversion rate of 33.0797 shares per \$1,000 principal amount of the notes (representing an initial conversion price of approximately \$30.23 per share of common stock). However, this conversion price will be subject to adjustment as described in the section entitled "Description of Notes - Conversion of Notes" beginning on page 23 of this prospectus. As a result, the amount of common stock issuable upon conversion of the notes may increase or decrease in the future.
- (2) Except as noted below, in the case of each selling securityholder, the percentage of our shares of common stock that will be beneficially owned by such selling securityholder after conversion of such holder's notes will be less than one percent (1%) of our outstanding common stock. This calculation is based on 21,289,655 shares of our common stock outstanding as of August 4, 2004. In calculating this amount for each selling securityholder, we treated as outstanding the number of shares of common stock issuable upon conversion of all of that holder's notes, but we did not assume the conversion of any other holder's notes, and we included any shares reported by the selling securityholder as being beneficially owned by such holder in addition to the registrable shares (see footnote 3 below). The following selling securityholders would beneficially own the percentage of shares noted below following conversion of the notes: Argent Classic Convertible Arbitrage Fund (Bermuda) Ltd., 1.06%; DBAG London, 1.66%; Highbridge International LLC, 1.48%; St. Thomas Trading, Ltd., 1.12%; and Vanguard Convertible Securities Fund, 1.67%.
- (3) As of the date of the selling securityholder's questionnaire, the selling securityholder beneficially owned 8,900 shares of common stock in addition to the registrable securities indicated in the table.
- (4) The following natural persons have voting or investment power over the registrable securities: Nathaniel Brown and Robert Richardson.
- (5) The following natural person has voting or investment power over the registrable securities: Ann Houlihan.
- (6) CooperNeff Advisors, Inc. has sole investment power and shared voting power over the registrable securities.
- (7) The following natural person has voting or investment power over the registrable securities: Nick Calamos.
- (8) The following natural person has voting or investment power over the registrable securities: Lawrence Keele.
- (9) CNH Partners, LLC is the investment advisor of the selling securityholder and has sole voting and dispositive power over the registrable securities. Investment principals for the investment advisor are Robert Krail, Mark Mitchell and Todd Pulvino.
- (10) The following natural persons have voting or investment power over the registrable securities: Michael Rosen and William Fertig.
- (11) The following natural persons have voting or investment power over the registrable securities: Dan Azzi and Patrick Corrigan.
- (12) The following natural person has voting or investment power over the registrable securities: Thomas Sullivan.
- (13) DKR Capital Partners L.P. is the investment manager to DKR SoundShore Opportunity Holding Fund Ltd. and has retained certain portfolio managers to act as the portfolio managers to the beneficial owner of the

Table of Contents

- registrable securities. As such, DKR Capital Partners L.P. and certain portfolio managers, namely Tom Kirvaitis, have shared dispositive and voting power over the registrable securities.
- (14) The following natural person has voting or investment power over the registrable securities: David Egglshaw.
 - (15) The following natural persons have voting or investment power over the registrable securities: Loren Katzovitz, Patrick Hughes and Kevin Felex.
 - (16) The following natural persons have voting or investment power over the registrable securities: John Null and J.T. Hansen.
 - (17) Man-Diversified Fund II Ltd. has been identified as the controlling entity of Man Mac 1 Ltd., the beneficial owner of the registrable securities.
 - (18) The following natural persons have voting or investment power over the registrable securities: Robert Butman, George Esser, John Idone, Paul Bucci and Bartholomew Tesoriero.
 - (19) The following natural person has voting or investment power over the registrable securities: Andrew Redleaf.
 - (20) We are unable to provide the names of certain holders of notes and our common stock issuable upon conversion of the notes as of the date of this prospectus because they have not provided us with information and their notes are evidenced by a global note that has been deposited with The Depository Trust Company, or DTC, and registered in the name of Cede & Co., as DTC's nominee. Information about such other selling securityholders will be set forth in prospectus supplements from time to time, if required.

Table of Contents

PLAN OF DISTRIBUTION

We will not receive any of the proceeds of the sale of the notes and the underlying common stock offered by this prospectus. The notes and the underlying common stock may be sold from time to time to purchasers:

directly by the selling securityholders; or

through underwriters, broker-dealers or agents who may receive compensation in the form of discounts, concessions or commissions from the selling securityholders or the purchasers of the notes and the underlying common stock.

The selling securityholders and any such broker-dealers or agents who participate in the distribution of the notes and the underlying common stock may be deemed to be underwriters. As a result, any profits on the sale of the notes and underlying common stock by selling securityholders and any discounts, commissions or concessions received by any such broker-dealers or agents might be deemed to be underwriting discounts and commissions under the Securities Act. If the selling securityholders are deemed to be underwriters, the selling securityholders may be subject to certain statutory liabilities of, including, but not limited to, Sections 11, 12 and 17 of the Securities Act and Rule 10b-5 under the Exchange Act.

If the notes and underlying common stock are sold through underwriters or broker-dealers, the selling securityholders will be responsible for underwriting discounts or commissions or agent's commissions.

The notes and underlying common stock may be sold in one or more transactions at:

fixed prices;

prevailing market prices at the time of sale;

varying prices determined at the time of sale; or

negotiated prices.

These sales may be effected in transactions:

on any national securities exchange or quotation service on which the notes and underlying common stock may be listed or quoted at the time of sale, including the Nasdaq National Market in the case of the common stock;

in the over-the-counter market;

Edgar Filing: MERCURY COMPUTER SYSTEMS INC - Form 424B3

in transactions otherwise than on such exchanges or services or in the over-the-counter market; or

through the writing of options.

These transactions may include block trades or crosses. Crosses are transactions in which the same broker acts as agent on both sides of the trade.

In connection with sales of the notes and underlying common stock or otherwise, the selling securityholders may enter into hedging transactions with broker-dealers. These broker-dealers may in turn engage in short sales of the notes and underlying common stock in the course of hedging their positions. The selling securityholders may also sell the notes and underlying common stock and deliver notes and underlying common stock to close out short positions, or loan or pledge notes and underlying common stock to broker-dealers that in turn may sell the notes and underlying common stock.

To our knowledge, as of the date of this prospectus, there are no plans, arrangements or understandings between any selling securityholders and any underwriter, broker-dealer or agent regarding the sale of the notes and the underlying common stock by the selling securityholders. Selling securityholders may sell any or all of the

Table of Contents

notes and the underlying common stock offered by them pursuant to this prospectus. In addition, we cannot assure you that any such selling securityholder will not transfer, devise or gift the notes and the underlying common stock by other means not described in this prospectus.

Our common stock is quoted on the Nasdaq National Market under the symbol MRCY. We do not intend to apply for listing of the notes on any securities exchange or for quotation through Nasdaq. Accordingly, we cannot assure you that the notes will be liquid or that any trading market for the notes will develop.

There can be no assurance that any selling securityholder will sell any or all of the notes or underlying common stock pursuant to this prospectus. In addition, any notes or underlying common stock covered by this prospectus that qualify for sale pursuant to Rule 144 or Rule 144A of the Securities Act may be sold under Rule 144 or Rule 144A rather than pursuant to this prospectus.

The selling securityholders and any other person participating in such distribution will be subject to the Exchange Act. The Exchange Act includes, without limitation, Regulation M, which may limit the timing of purchases and sales of any of the notes and the underlying common stock by the selling securityholders and any other such person. In addition, Regulation M of the Exchange Act may restrict the ability of any person engaged in the distribution of the notes and the underlying common stock to engage in market-making activities with respect to the particular notes and the underlying common stock being distributed for a period of up to five business days prior to the commencement of such distribution. This may affect the marketability of the notes and the underlying common stock and the ability of any person or entity to engage in market-making activities with respect to the notes and the underlying common stock.

Under interpretations of the SEC, any selling securityholder who is a broker-dealer will be deemed to be an underwriter within the meaning of Section 2(11) of the Securities Act with respect to the securities they are offering for resale under this prospectus. To our knowledge, the following selling securityholders are registered broker-dealers: Piper Jaffray & Co., SG Americas Securities, LLC and Deutsche Bank Securities Inc. Other than with respect to the initial purchasers, these securityholders purchased their notes in the open market, not directly from us, and we are not aware of any underwriting plan or agreement, underwriters or dealers compensation, or passive market making or stabilizing transactions involving the purchase or distribution of these securities by these securityholders. To our knowledge, none of the selling securityholders who are affiliates of broker-dealers purchased the notes outside the ordinary course of business or, at the time of the purchase of the notes, had any agreement or understanding, directly or indirectly, with any person to distribute the securities.

Pursuant to the registration rights agreement filed as an exhibit to the registration statement of which this prospectus is a part, we and the selling securityholders will be indemnified by the other against certain liabilities, including certain liabilities under the Securities Act or will be entitled to contribution in connection with these liabilities.

We have agreed to pay substantially all of the expenses incidental to the registration, offering and sale of the notes and underlying common stock to the public other than commissions, fees and discounts of underwriters, brokers, dealers and agents.

LEGAL MATTERS

Certain legal matters relating to the validity of the securities offered hereby will be passed upon for us by Goodwin Procter LLP, Boston, Massachusetts.

EXPERTS

The consolidated financial statements incorporated in this Registration Statement by reference to the Annual Report on Form 10-K for the year ended June 30, 2003 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

Table of Contents

\$125,000,000

**2.00% Convertible Senior Notes due 2024
and the Common Stock Issuable upon Conversion of the Notes**

PROSPECTUS

August 19, 2004
