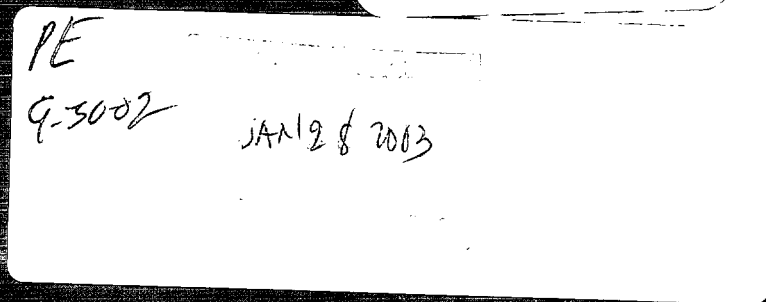
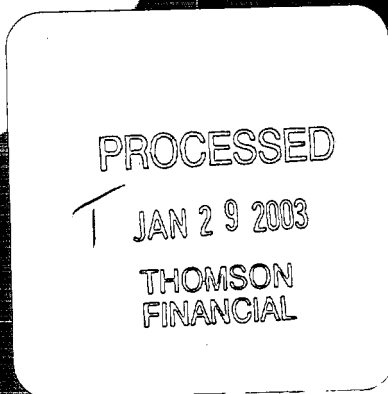
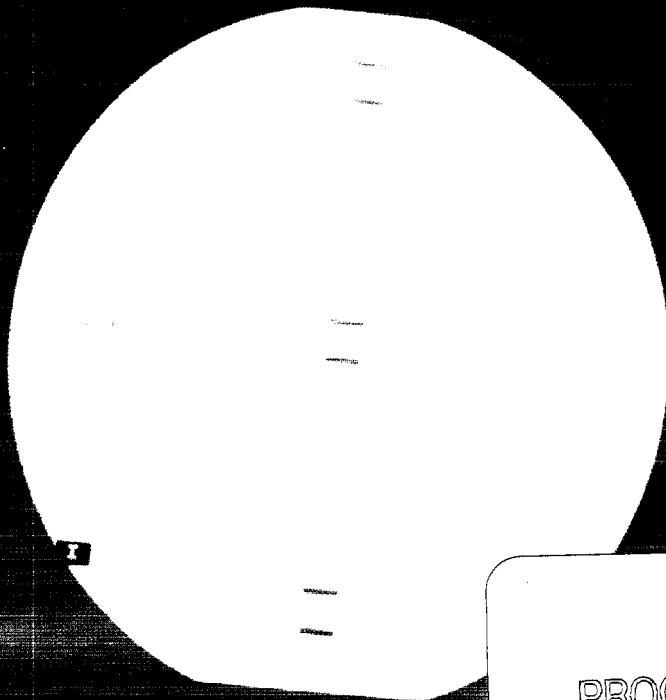
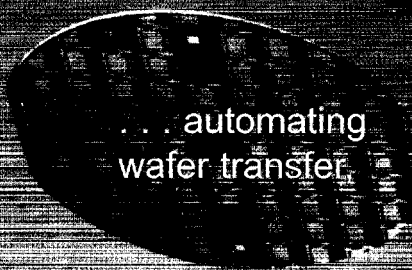
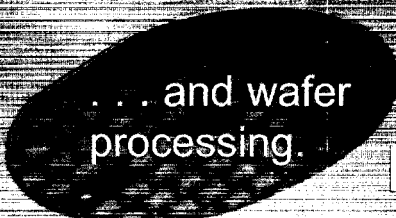


AMTECH SYSTEMS, INC.

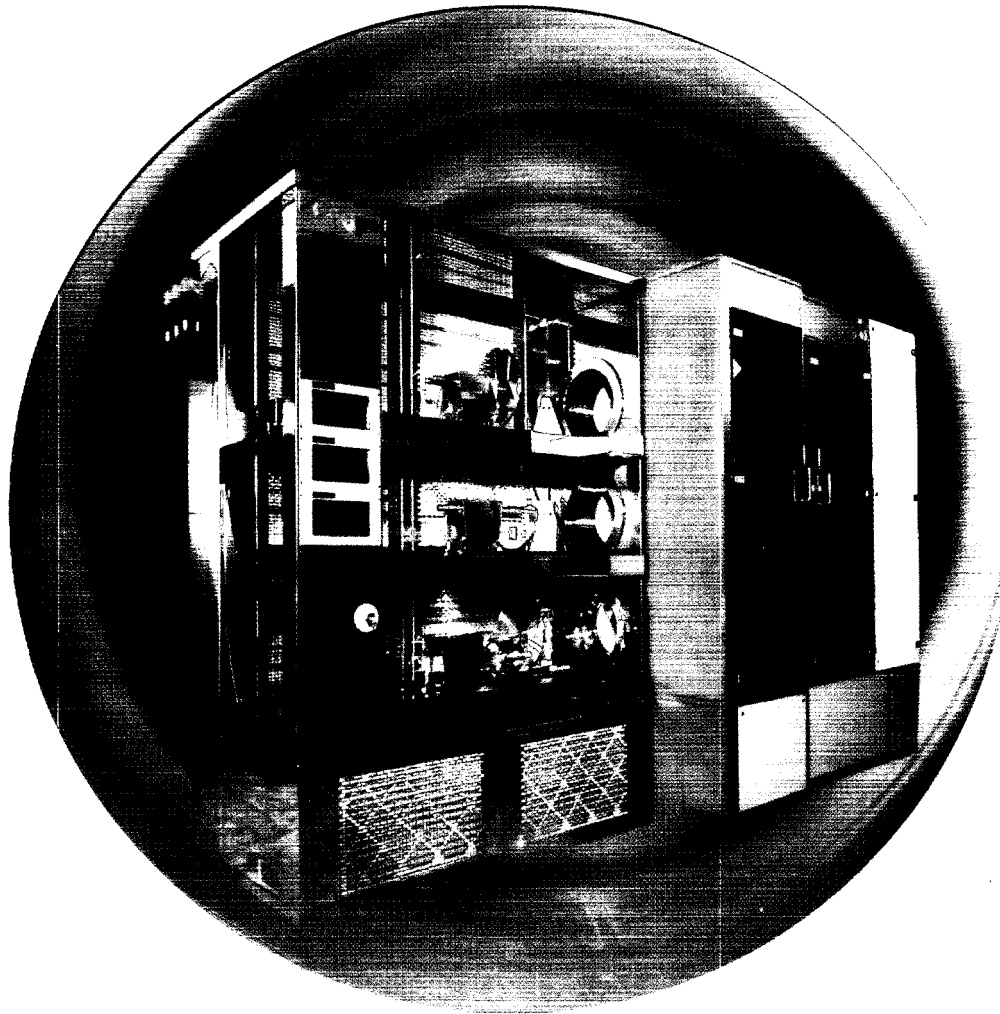


Supplying the semiconductor, semiconductor wafer, MEMS and solar cell industries with quality production equipment and supplies for . . .

. . . polishing wafers



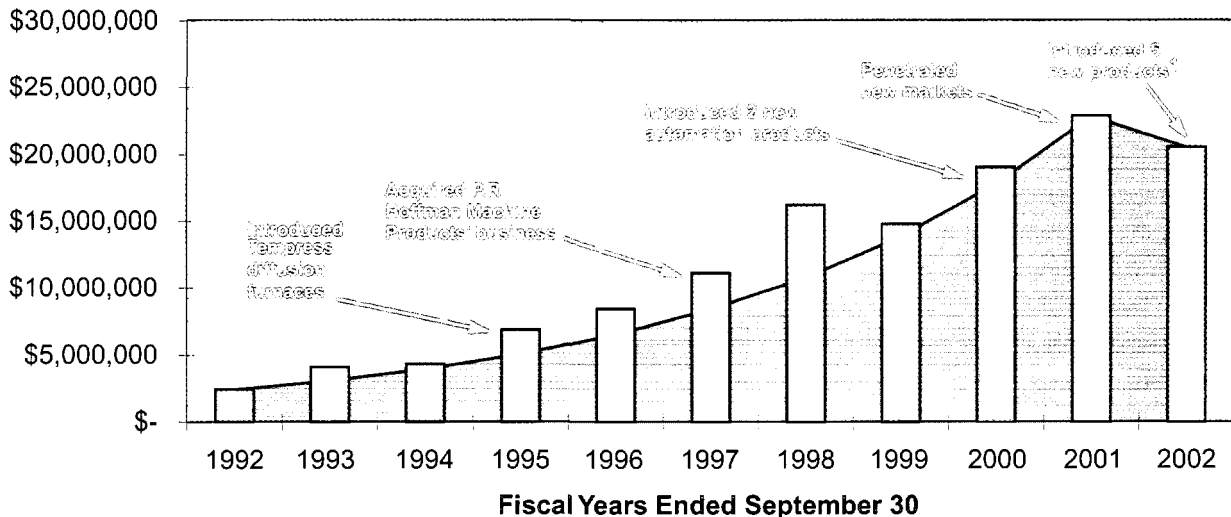
FISCAL 2002 ANNUAL REPORT



Tempress Systems, founded by the Company in fiscal 1995, designs, manufactures and sells diffusion furnace systems such as the one above. These systems are sold to manufacturers of semiconductors, semiconductor wafers, MEMS components and solar cells.

**TEN YEAR SUMMARY of REVENUES**  
**24% Average Annual Compounded Rate of Growth**

**Organic Growth**
 **Acquisition Growth**



<sup>1</sup> Introduced a 300mm furnace, 300mm S-300, an S-300 with cassette-to-cassette capability, a SEC II GEM interface to the customer's factory automation, and an interface to third party SMIF pod openers.

## TO OUR SHAREHOLDERS:

According to Dataquest, the market for semiconductors declined 31% in 2001 to \$140 billion, from \$204 billion in 2000. While the semiconductor market increased by 1% in 2002 to \$142 billion, there remained tremendous excess capacity, as evidenced by the size of the market in 2000. This excess capacity negatively affected all segments of the semiconductor equipment market, including oxidation, diffusion, and manufacturing automation. This is demonstrated by Dataquest's estimates of the semiconductor wafer fab equipment market size, which reportedly declined 27% in 2001 to \$24 billion, from \$33 billion in 2000, and another 33% in 2002 to \$16 billion.

Relative to these market trends, Amtech Systems, Inc. has continued to perform well with total revenues for the fiscal year ended September 30, 2002 of \$21 million, compared to \$23 million in fiscal 2001 and \$19 million in fiscal 2000, representing a decrease of 10% in 2002 and a 20% increase in 2001. This favorable comparison is partially due to the deferral, from fiscal 2001 and prior, to fiscal 2002 of \$3 million of revenue on products not fully accepted or where customers' obligations to pay remained contingent as of September 30, 2001. However, shipments on a calendar year basis also compare favorably to the semiconductor equipment industry, with shipments of \$22 million, \$21 million and \$18 million, in calendar years 2000, 2001 and 2002, respectively, representing a decrease of 5% and 14% in 2001 and 2002, respectively. This is largely due to our diversified markets and the success of our growth strategy, which resulted in our having a very large backlog at the beginning of the downturn in the semiconductor industry.

### FISCAL 2002 HIGHLIGHTS

During fiscal 2002, we.....

- Remained profitable despite one of the most severe downturns in the semiconductor equipment industry.
- Closed fiscal 2002 with \$21 million of revenue, a level that represents a 24% compounded average annual rate of growth over the ten-year period since 1992.
- Developed and shipped our first 300mm products, including horizontal diffusion furnaces and S-300 automation.
- Completed development and began shipping S-300 automation with cassette-to-cassette functionality, further expanding the market for our automation products.
- Shipped the first S-300 with both a SEC II GEM interface to the customer's factory automation, and an interface to third party SMIF pod openers.
- Developed our 85T polishing machine.
- Shipped systems to the photovoltaic industry and continued to develop this and other emerging markets.

- Determined that our UV asher technology has potential, but not to proceed with such work until we have secured a customer's support for beta site testing.
- Engaged in discussions with multiple acquisition candidates, which have not yet resulted in a completed transaction.

### OUR GROWTH STRATEGY

Our growth strategy is composed of:...

- Internal or organic growth, i.e. increasing market share by developing new products or services within our existing product lines (e.g., see above) and adding or increasing penetration of emerging markets, e.g. photovoltaic cells, compound semiconductor materials, and MEMS (microelectromechanical system) components;
- Acquisition growth, which involves acquiring new product lines or businesses that build on core competencies and that complement our business model; and
- Innovative growth, i.e. the development of new product lines or businesses using leading technologies through research and development.

### PLANS FOR FISCAL 2003

During fiscal 2003, we intend to continue to execute our growth strategy by seeking to increase our share of the markets in which we participate and hopefully by completing at least one acquisition. In fiscal 2002, we participated in active discussions and sometimes negotiations with multiple acquisition candidates. We have focused on one of the largest of these companies and hope to enter into a definitive agreement in the near future. Whether or not those particular discussions are successful, we have received indications that other companies in which we have an interest in pursuing are also interested in resuming discussions. We believe that we are well positioned to take advantage of these opportunities.

We wish to thank our employees worldwide for their extraordinary efforts and loyalty during this severe downturn in the industry. With support from our customers, stockholders, suppliers, and employees, we are confident that Amtech Systems can resume its rapid and profitable growth as the industry recovers from the current downturn.

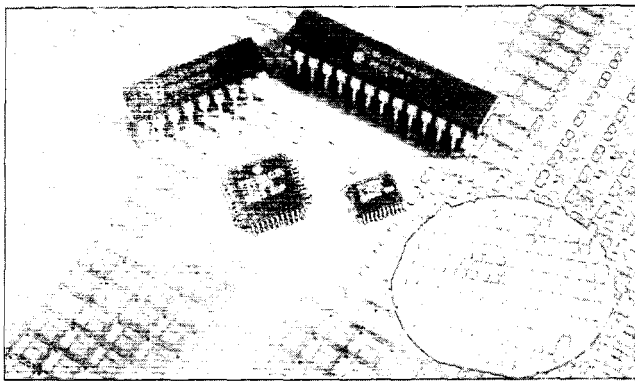
Sincerely,



J.S. Whang  
President and Chief Executive Officer

## WAFER PROCESSING AND AUTOMATED WAFER TRANSFER EQUIPMENT

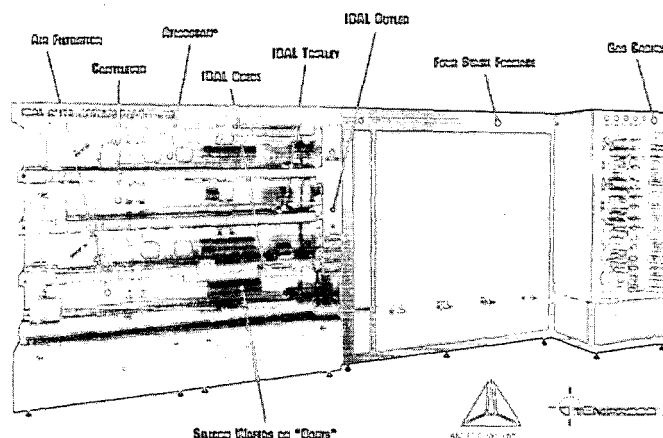
The Company designs, manufactures and sells products used in the fabrication of semiconductor devices, MEMS components and solar cells and the final process steps used in producing certain semiconductor wafers. Currently, this line of products is primarily comprised of horizontal diffusion and CVD (chemical vapor deposition) silicon wafer processing equipment used in repetitive process steps for growing or depositing layers of conducting and insulating materials to form integrated circuits on silicon wafer substrates. Pictured on the inside front cover is one of the diffusion furnace systems designed, manufactured and sold by the Company under the Tempress® trade name. A silicon wafer substrate, which has gone through several process steps, is shown in the lower right hand corner of the picture below. Such wafers are then cut into individual die that will be packaged as semiconductor devices or chips. The equipment the Company manufactures can perform a number of process steps required to fabricate semiconductor devices, including microprocessors, logic devices, micro-controllers, memory chips, etc. These products are also used in the manufacture of MEMS components, a new market for the Company, and solar cells. These products are described and pictured below.



(Left) The background is the silicon wafer in the lower right hand corner, enlarged to show the integrated circuitry that has been fabricated on the wafer, before being cut into individual die. The die are then packaged to form semiconductor devices (top) for use in any number of consumer electronics or industrial products, such as automobiles, computers, microwaves, televisions, wireless telecommunications, etc. (photo courtesy of Microchip Technology, Inc.) The Company's products are also used in the production of MEMS components and solar cells.

### DIFFUSION FURNACES

Horizontal diffusion systems are manufactured in The Netherlands and marketed under the industry recognized Tempress® trade name. These systems are configured to the customer's specifications, with anywhere from two to four heating chambers, each with a controllable temperature zone length from 12 inches to 44 inches, for wafer sizes of up to 300mm. Other features of these systems include ultra clean gas delivery systems that precisely regulate the types and volume of gases introduced into each processing reactor chamber, controls to constantly maintain the desired temperature of each heating element and the capacity to simultaneously process anywhere from 25 wafers to 300 wafers at one time. Our diffusion furnace systems generally are sold with standard loadstations, as shown on the inside front cover, or loadstations automated with either IBAL, pictured below, or the newest S-300 model, i.e. with cassette-to-cassette capability, as depicted on the next page.



## AMTECH'S FAMILY OF AUTOMATION PRODUCTS

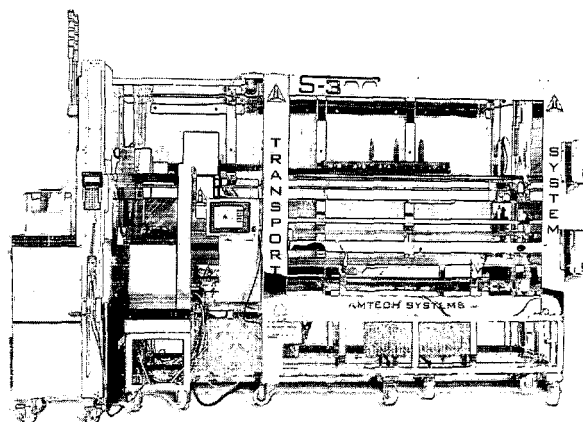
Amtech's family of automation products provides a safer and more efficient method of loading and unloading horizontal diffusion furnace systems with silicon wafers. Many semiconductor fabricators still use human operators to load horizontal diffusion furnace systems with silicon wafers, where the top tube level can be as high as 8 feet, and with internal heating chambers that can reach 1300°C. The use of Amtech's automation products reduces human handling and the exposure of wafers to contaminants. These products also improve the ergonomics of loading and unloading wafers at the various tube levels and improve the economics of horizontal diffusion furnace systems. Such safety issues are particularly important due to the trend to larger wafer sizes because, as the wafer size increases, each boat of wafers becomes heavier and more difficult to handle, and the diameter of the furnace chambers increase, causing an increase in the height of the upper tube level.

Amtech's most cost effective robotic product is the E-300. This product is most suitable for lower cost semiconductor devices, such as diodes and power management chips. The E-300 operates like an elevator and generally is used to raise boats loaded with up to 300 wafers to one or both of the upper two reactor chambers of a diffusion furnace.

The S-300 model, a patented product, provides a very efficient method of automatically transporting a full batch of up to 300 wafers to the designated tube level and automatically placing them directly onto the cantilever loader of a diffusion furnace at one time. This product is suitable for the production of nearly all semiconductors fabricated in a horizontal furnace, but is not compatible with furnace reactor chambers where the process requires an Atmoscan<sup>®</sup>. During fiscal 2002, Amtech began shipping new S-300 models for 300mm wafers and other models with cassette-to-cassette capability, an SECS II Gem interface to the customer's factory automation and an interface to third party SMIF pod openers. Amtech believes that customers will view the addition of the SECS II Gem interface to their factory automation as a means to reduce scrap that is sometimes caused by an operator loading wafers into the wrong process chamber.

IBAL (Individual Boats with Automated Loading) is Amtech's high-end automation product, a patented integrated automation system composed of four modules. Like the S-300, IBAL is capable of cassette-to-cassette loading. However, unlike the Company's other automation products, IBAL is capable of loading Atmoscan<sup>®</sup> process tubes, which are then inserted in the diffusion furnace. Because IBAL Automation is designed to attach to the loadstation, it requires less cleanroom floor space than the competition, making it easier to retrofit into existing semiconductor fabs. The modularity of IBAL, along with the S-300, a mid-range product, and the E-300, at a lower price break, mean that the Company can serve a broad range of customer automation needs and budget.

The Company's initial entrée into diffusion equipment was the patented ATMOSCAN<sup>®</sup>, a specially designed cantilevered diffusion processing tube that is injected with an inert gas to protect the wafers from ambient oxygen, moisture, and particles. It further protects the wafers from sudden temperature change, as they are unloaded from the furnace chamber, which operate at temperatures of up to 1300°C. The ATMOSCAN<sup>®</sup> was instrumental in the initial development of the Company's worldwide distribution channel.

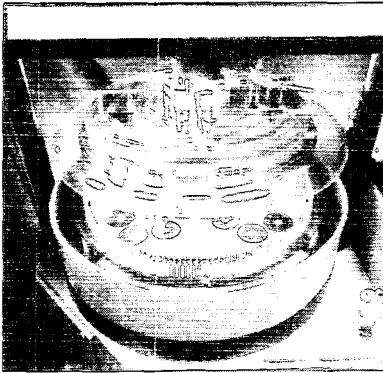


*(Above) The products described above and on the preceding page are highly complementary and synergistic. They are sold to the same customers, through the same distribution channels, often as fully integrated systems. Above is an Amtech loadstation (background), S-300 automation system (right of center), a third-party SMIF pod cassette on a SMIF pod opener and wafer transfer machine (far left).*

## WAFER POLISHING PRODUCTS

The Company also designs, manufactures and sells products used in the production of semiconductor silicon wafers and other flat substrate materials. At present, this line consists of consumable polishing supplies, such as wafer carriers, polishing templates and machine parts, and double-sided precision lapping and polishing machines sold under the P.R. Hoffman brand. Typical applications requiring these products include semiconductor silicon wafers, computer disk substrates, ceramic components of cellular phones, pagers and other wireless communication devices, and optical lens and electro-optical components. The Company's wafer polishing products are designed to process flat substrate materials to exact tolerances of thickness, flatness, parallelism and surface finish.

### *CARRIERS*



Carriers are work holders where wafers are nested during the lapping and polishing processes. The Company produces carriers for its line of lapping and polishing machines as well as for machines made by competitors. These custom carriers are sold in a variety of sizes, configurations and materials and are generally customized for specific applications. Insert carriers, steel carriers with plastic inserts molded into the work-holes, account for a significant percentage of total carrier sales. Insert carriers provide the advantages of steel carriers, such as durability and rigidity, and can be manufactured to precise dimensions. The plastic insert reduces the potential for damage to the edges of sensitive materials, such as large silicon semiconductor wafers. Pictured: Model 3100 machine opened to show carriers holding multiple 95MM hard disk substrates

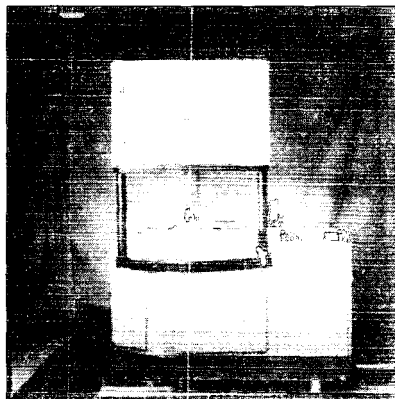
### *SEMICONDUCTOR POLISHING TEMPLATES*

The Company's semiconductor polishing templates (at right) are used for single-sided polishing of semiconductor wafers. These templates are designed for single-sided applications on machines manufactured by competitors. Polishing templates are customized for specific applications and are manufactured to exacting tolerances. Growth in the use of alternative substrate materials used in the telecommunications industry expanded the market for this product.



### *PLATES, GEARS, WEAR ITEMS and OTHER PARTS*

The Company produces a wide assortment of plates, gears, parts, and wear items for its own and competing machines. Approximately eighty percent (80%) of the machine parts used are fabricated by the Company. In addition to producing standard off-the-shelf parts, the Company has the ability to produce highly customized parts.



### *DOUBLE-SIDED LAPPING AND POLISHING MACHINES*

The polishing process is used to change the characteristics of the surface of substrate materials, e.g. silicon wafers. Polishing is a complex science, often involving multiple steps, each at a specified set of process parameters such as polishing speed, pressure, time and temperature. Polishing improves the flatness (planarity), smoothness and optical properties of the substrate's surfaces. Lapping processes are similar to polishing, except that no polishing pad is used and the work piece is pressed into a polishing liquid (slurry) that is applied to a cast-iron lapping wheel. Lapping results in higher removal rates than polishing, but produces rougher surface finishes. Dimensional tolerance, surface finish, quantity of material to be removed, along with production rates required and cost of operation, are the primary variables considered in the determination of the best process for a specific application. Pictured: Model 3100, the Company's precision double-sided, planetary, lapping and polishing machine, capable of processing products to world class standards. The Company also produces the Model 4800 capable of processing 12" wafers and other smaller machines.

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549  
FORM 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES  
EXCHANGE ACT OF 1934

For the fiscal year ended: September 30, 2002

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES  
EXCHANGE ACT OF 1934

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission File Number: 0-11412

**AMTECH SYSTEMS, INC.**

(Exact name of registrant as specified in its charter)

Arizona

86-0411215

(State or other jurisdiction of  
incorporation or organization)

(I.R.S. Employer  
Identification No.)

131 South Clark Drive, Tempe, Arizona

85281

(Address of principal executive offices)

(Zip Code)

Registrant's telephone number, including area code: 480-967-5146

Securities registered pursuant to Section 12(b) of the Act: None

Securities registered pursuant to Section 12(g) of the Act:

Common Stock, \$.01 Par Value

(Title of Class)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.  
[X] Yes [ ] No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. [X]

Indicate by check mark whether the registrant is an accelerated filer (as defined in Exchange Act Rule 12(b)(2)). [ ] Yes [X] No

As of December 13, 2002, the aggregate market value of voting stock held by non-affiliates of the registrant was approximately \$8,500,000 based on the average of the high and low prices of Common Stock as reported on the NASDAQ National Market on such date. Shares of Common Stock held by officers, directors and holders of more than 5% of the outstanding Common stock have been excluded from this calculation because such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

APPLICABLE ONLY TO CORPORATE REGISTRANTS

As of December 13, 2002, the registrant had outstanding 2,689,571 shares of Common Stock, \$.01 par value.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's proxy statement related to the registrant's 2003 Annual Meeting of Shareholders, which Proxy Statement will be filed under the Securities Exchange Act of 1934, as amended, within 120 days of the end of the registrant's fiscal year ended September 30, 2002, are incorporated by reference into Part III of this Form 10-K.

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## **FORWARD-LOOKING STATEMENTS**

Certain information contained or incorporated by reference in this Annual Report on Form 10-K is forward-looking in nature. All statements included or incorporated by reference in this Annual Report on Form 10-K or made by management of Amtech Systems, Inc. and its subsidiaries ("Amtech"), other than statements of historical fact, are hereby identified as "forward-looking statements" (as such term is defined in the Private Securities Litigation Reform Act of 1995). Examples of forward-looking statements include statements regarding Amtech's future financial results, operating results, business strategies, projected costs, products under development, competitive positions and plans and objectives of management for future operations. In some cases, forward-looking statements can be identified by terminology such as "may," "will," "should," "would," "expects," "plans," "anticipates," "believes," "estimates," "predicts," "potential," "continue," or the negative of these terms or other comparable terminology. Any expectations based on these forward-looking statements are subject to risks and uncertainties and other important factors, including those discussed in the section entitled "Item 7: Management's Discussion and Analysis - Trends, Risks and Uncertainties." These and many other factors could affect Amtech's future operating results and financial condition, and could cause actual results to differ materially from expectations based on forward-looking statements made in this document or elsewhere by Amtech or on its behalf. Unless noted otherwise, all references to a year apply to Amtech's fiscal year, which ends on September 30th.

All references to "we," "our," "us," or "Amtech" refer to Amtech Systems, Inc. and its subsidiaries.

## **PART I**

### **ITEM 1. BUSINESS**

Amtech Systems, Inc. ("Amtech" or the "Company") was incorporated in Arizona in October 1981, under the name Quartz Engineering & Materials, Inc., and changed to its present name in 1987. Amtech also conducts operations through two wholly owned subsidiaries, Tempress Systems, Inc., a Texas corporation with all its operations in the Netherlands ("Tempress Systems"), and P.R. Hoffman Machine Products, Inc., an Arizona corporation based in Carlisle, Pennsylvania ("P.R. Hoffman").

Amtech develops, manufactures, markets and services wafer and semiconductor fabrication equipment and related spare parts for the worldwide semiconductor industry. Customers for our products include semiconductor wafer manufacturers and semiconductor integrated circuit (or chip) manufacturers, who either use the chips they manufacture in their own products or sell them to other companies. These chips are key components in most electronic products for telecommunications (especially wireless communications), computers and consumer electronics and are also used to add functionality or improve the performance of a wide range of existing products, such as automobiles. Other customers include manufacturers of optical components and solar cells and research and development facilities.

The Company's business is divided into two segments, semiconductor equipment and polishing supplies. The semiconductor equipment segment manufactures and sells horizontal diffusion furnaces, processing/robotic equipment for such diffusion furnaces and related spare parts and consumables used in certain processes of fabricating integrated circuits, or chips, on silicon wafers. In addition, the semiconductor equipment segment provides manufacturing support services, wet and dry cleaning of semiconductor machine processing parts, to one of its Texas-based customers. The polishing supplies segment produces and sells carriers and templates that are consumed in the final steps of fabricating silicon wafers, the raw material used in the production of semiconductors, double-sided precision lapping and polishing machines and related spare parts. For information regarding revenue, operating profit or loss and identifiable assets attributable to each of Amtech's industry segments see Note 9 of the Notes to Consolidated Financial Statements included herein and Item 7 of this annual report.

### **GROWTH STRATEGY**

Amtech's strategy for growing revenue and operating profit is to develop new products and services that serve the Company's targeted markets, to further penetrate these and new markets with existing and new products, and to acquire additional products through strategic acquisitions. We categorize these growth strategies as internal growth and acquisition growth.

*Acquisition Growth.* In fiscal 1995, Amtech conducted a secondary offering of its common stock to raise \$3.6 million for acquisitions. That year the Company acquired certain assets of the former Tempress, B.V. and hired Tempress, B.V.'s former engineers to develop the Company's first models of the Tempress<sup>®</sup> horizontal diffusion furnaces and began production in The Netherlands. On July 1, 1997, the Company acquired substantially all of the assets of P.R. Hoffman Machine Products Corporation, enabling Amtech to offer new products, including lapping and polishing carriers, polishing templates and lapping and polishing machines and related consumable and spare parts, to its existing and targeted new customers. In September 2000, Amtech raised net proceeds of \$4.6 million through a private placement of common stock in order to fund its acquisition strategy. While the Company has had difficulty identifying suitable acquisition candidates that are not over-valued based on the Company's analysis, it continues to pursue acquisition candidates that will either increase its existing market share or expand the number of front-end semiconductor processes addressed by its products.

*Internal Growth.* Amtech's strategy for internal growth, sometimes referred to as organic growth, includes adding new markets, new products and new services. The Company began providing a new service, contract semiconductor manufacturing support, in the fourth quarter of fiscal 1997. In fiscal 2000, the Company obtained orders for semiconductor production equipment from manufacturers of optical components, which proved to be a significant new market in fiscal years 2000 and 2001. In addition, one of the first new markets added by the Company's semiconductor equipment segment was manufacturers of solar cells, which continues to be a source of potential growth for the Company.

New products have included the July 2000 introduction of the S-300 and E-300 models of automation, which have been a significant source of sales in fiscal 2001 and 2002. Other new products, which Amtech began shipping in fiscal 2002, include 300mm diffusion furnaces and related automation and S-300 models with cassette-to-cassette capability, a SECS II Gem (semiconductor equipment communications standard with level II documentation and incorporating the general equipment model) interface to the customer's factory automation and an interface to third party SMIF (standard mechanical interface) pod openers. The introduction of new products in 2002 helped the Company's semiconductor equipment segment avoid the severe revenue decline experienced by most of its peers in 2002. The Company expects these new products to generate increased sales and profits during the next industry upturn.

## INDUSTRY

The semiconductor industry has experienced significant growth since the early 1990s. This growth is primarily attributable to increased demand for personal computers and the growth of the Internet, the expansion of the telecommunications industry (especially wireless communications), and the emergence of new applications in consumer electronics. Further fueling this growth is the rapidly expanding end-user demand for smaller, less-expensive and better-performing electronic products and traditional products with more "intelligence," which has led to an increased number of semiconductor devices in electronic and other consumer products, such as automobiles.

While experiencing significant growth over the past decade, the semiconductor market is cyclical by nature, characterized by short-term periods of either under or over supply for most semiconductors, including microprocessors, memory, power management chips, DSP (digital signal processing) chips, and other logic devices. When demand decreases, semiconductor manufacturers typically slow their purchasing of capital equipment. Conversely, when demand increases, so does capital spending. Starting in the first half of fiscal 2001 and continuing through 2002, the semiconductor industry began experiencing a downturn, which has resulted in a severe decline in revenue for both chip fabricators and most semiconductor equipment manufacturers.

Semiconductors control and amplify electrical signals and are used in a broad range of electronic products, including consumer electronic products, computers, wireless telecommunication devices, communications equipment, automotive electronic products, major home appliances, industrial automation and control systems, robotics, aircraft, space vehicles, automatic controls and high-speed switches for broadband fiber optic telecommunication networks. Semiconductors, or semiconductor "chips," and optical components are fabricated on a silicon wafer substrate and are part of the circuitry or electronic components of many of the aforementioned products.

Most semiconductor chips are built on a base of silicon, called a wafer, and include multiple layers of wiring that connect a variety of circuit components, such as transistors and other structures. To build a chip, the transistors,

capacitors and other circuit components are first created on the surface of the wafer by performing a series of processes to deposit and remove selected film layers, including insulators. Similar processes are then used to build the layers of wiring structures on the wafer. These are all referred to as "front-end" processes. A simplified sequence of front-end processes for fabricating typical chips involves (1) pulling molten silicon to form an ingot; (2) slicing the silicon ingot into wafers of uniform thickness with a wire saw; (3) lapping and polishing the silicon wafer to a mirror-like finish; (4) cleaning the wafer; (5) forming a thin film layer of silicon dioxide on the wafers in a diffusion furnace where oxygen or water vapor is introduced to cause a chemical reaction, oxidation, with the silicon wafer's surface; (6) insulating or conducting layers are deposited on the wafer surface, which sometimes is accomplished in a diffusion furnace via a chemical reaction called chemical vapor deposition ("CVD"); (7) a photosensitive material, called photoresist, is spread over and then baked on the wafer; (8) the wafer is then exposed to light directed through a mask with circuit patterns; (9) the wafer is then placed in a chemical solution that removes the soluble portion of the photoresist, leaving only the desired pattern; (10) reactive gases then etch away the exposed areas to create a dimensional pattern on the wafer surface; (11) ions are driven into the exposed areas of the patterned wafer to create electrically charged conductive regions; and (12) the wafer then goes through a high temperature annealing process to relieve stress and drive the implanted ions deeper into the wafer.

The silicon wafer may be cycled several times through these wafer-processing steps, starting each time at step (5) or (6) to form a number of chips on the wafer. The front-end process steps are followed by a number of back-end steps in which the wafers are sliced into individual chips that are then packaged to add connectors that are compatible with whatever end product the chip is going into. Depending on the device, Amtech's polishing supplies products may be used in step (3) and its semiconductor equipment segment products may be used in steps (5), (6) and (12).

## **SEMICONDUCTOR EQUIPMENT SEGMENT PRODUCTS**

The semiconductor manufacturing equipment products, used in the oxidation, CVD,  $\text{POLC}_3$  and annealing steps of fabricating integrated circuits on silicon wafers, are manufactured at Amtech's Arizona and Netherlands operations. The following paragraphs describe the products that comprise the semiconductor equipment segment:

### *Diffusion Furnaces*

Through Tempress Systems, Amtech produces and sells horizontal and conveyor diffusion furnace systems, which generally include a Tempress® load station. Amtech's diffusion furnaces currently address several deposition steps in the semiconductor manufacturing process, including oxidation/diffusion and low-pressure chemical vapor deposition ("LPCVD"),  $\text{POLC}_3$  doping and annealing. The LPCVD step consists of performing CVD under high temperature, low-pressure conditions to deposit insulating or conductive layers, primarily on wafers up to 200mm in size. Diffusion furnaces also are used in certain high and ultra-high temperature processes in the manufacture of optical components of high-speed switches used in broadband fiber optic telecommunications networks.

Amtech's diffusion furnaces generally consist of three large modules --- the load station where the loading of the wafers occurs; the furnace section, which is comprised of one to four thermal reactor chambers; and the gas distribution cabinet where the flow of gases into the reactor chambers is controlled and are often customized to meet the requirements of a customer's particular processes. The horizontal diffusion furnaces utilize existing industry technology and are sold primarily to customers who do not require the advanced automation of, or can not justify the significantly higher expense of, vertical diffusion furnaces for some or all of their diffusion processes. In fiscal 2002, Amtech began shipping models of the Tempress® diffusion furnace capable of processing 300mm wafers, with the initial customer being a semiconductor wafer manufacturer, and now has models capable of processing all currently existing wafer sizes.

Tempress Systems also produces conveyor diffusion furnace systems used to produce thick films for the electronics industry. Conveyor furnace systems provide for precision thermal processing of electronic parts for thick film applications, anneal, sealing, soldering, silvering, curling, brazing, alloying, gloss-metal sealing and component packaging.

### *Processing/Robotic Equipment*

Our processing and robotic equipment consists of several products that either automate the loading of horizontal diffusion furnaces or improve the processing characteristics of such furnaces. Wherever possible Amtech's processing and robotic products are sold in various combinations with the Company's Tempress® diffusion furnaces in order to expand the market for such furnaces. These products also are sold to customers that have chosen another brand of diffusion furnace and as retrofits to most all brands of horizontal diffusion furnaces.

### *Automation Products*

Use of Amtech's automation products reduces human handling and, therefore, reduces exposure of wafers to contaminants during the loading and unloading of the process tubes. Since the top reactor chamber of a horizontal furnace is as much as nine feet from the floor on which the operator stands when manually loading wafer boats, and typical boats of 200mm or 300mm wafers weigh four to six pounds, automating the wafer loading and unloading of a diffusion furnace improves employee safety and ergonomics in semiconductor and solar cell manufacturing facilities.

**E-300.** Amtech's most cost effective robotic product is the E-300. This product is most suitable for lower cost semiconductor devices, such as diodes and power management chips. The E-300 operates like an elevator and generally is used to raise boats loaded with up to 300 wafers to one or both of the upper two reactor chambers of a diffusion furnace. There the operator uses a hand held tool to lift the wafer boat off the E-300 and to either place them directly on a cantilever paddle system, into an Amtech Atmoscan®, or onto an IBAL Trolley, which then places the wafers on the paddle or Atmoscan®. The E-300 can be used in conjunction with all wafer sizes including 300mm wafers.

**S-300.** The S-300 model provides a very efficient method of automatically transporting a full batch of up to 300 wafers to the designated tube level and automatically placing them directly onto the cantilever loader of a diffusion furnace at one time. This product is suitable for the production of nearly all semiconductors fabricated in a horizontal furnace, but is not compatible with furnace reactor chambers where the process requires an Atmoscan®. During fiscal 2002, Amtech began shipping S-300 models for 300mm wafers and other models with cassette-to-cassette capability, a SECS II Gem interface to the customer's factory automation and an interface to third party SMIF pod openers. Amtech believes that customers will view the SECS II Gem interface to their factory automation as a means to reduce scrap that is sometimes caused by an operator loading wafers into the wrong process chamber. The S-300 can now be used in conjunction with all wafer sizes including 300mm wafers.

**IBAL.** IBAL is an acronym for "Individual Boats with Automated Loading." Amtech's IBAL automation system is a patented integrated automation system composed of four modules comprised of hardware and software. The IBAL Shuttle transfers wafers between wafer transfer machines manufactured by third parties and the IBAL Queue, providing customers with the option of complete cassette-to-cassette wafer handling. The IBAL Queue provides a convenient staging area for the operator to place boats on a load station and automates the loading of those boats onto the IBAL Butler. The IBAL Butler automatically transfers wafer carriers onto the IBAL Trolley of the appropriate furnace tube level for loading. The IBAL Trolley automatically places the quartz trays that hold silicon wafers ("boats") on a cantilever paddle system or into an Amtech Atmoscan® that then are inserted in the diffusion furnace. This sequence is reversed for unloading the furnace after the particular process step has been completed.

The IBAL automation products described above are offered and sometimes sold as a complete system, mounted on a device called a "load station," which also includes an ultra-clean environment for wafer loading by filtering and controlling the flow of air. Selling the IBAL in conjunction with a load station makes the retrofitting of existing furnaces with such automation more efficient, since no further modifications are required at the customer's site.

### *Atmoscan® and Other Cantilevered Processing Systems*

Atmoscan® is a patented controlled environment wafer processing system that includes a cantilever tube used to load silicon wafers into a horizontal diffusion furnace and through which a purging inert gas flows during the process of loading and unloading the reactor chamber. Among the major advantages afforded by the Atmoscan®

product are increased control of the environment of the wafers during the gaseous and heating process, thereby increasing yields and decreasing manufacturing costs; a decreased need for the cleaning of diffusion furnace tubes, which ordinarily involves substantial expense and equipment down time; and significant economies in the manufacturing process.

Amtech also has designed and sells an open cantilever paddle system, the type of loader which remains the most commonly used in the semiconductor industry for loading wafers into horizontal furnaces. Similar systems have been used by the industry since prior to the introduction of the Atmoscan®, Amtech's alternative to the open cantilevered processing system.

## **POLISHING SUPPLIES SEGMENT PRODUCTS**

The products of the Company's polishing supplies segment are used primarily for lapping and polishing raw silicon wafers to a mirror-like finish. Depending on the cycle of the semiconductor industry, between approximately 55% and 65% of this segment's products are sold to either semiconductor wafer manufacturers or semiconductor fabricators. Most of the products of Amtech's polishing supplies segment are also sold to fabricators of optics, quartz, ceramics and metal parts, and to manufacturers of components for medical equipment and computer disks. These products are manufactured at the Company's P.R. Hoffman operations in Pennsylvania and are described below.

### ***Carriers***

Carriers are work holders into which silicon wafers or other materials are inserted for the purpose of holding them securely in place during lapping and polishing processes. Amtech produces carriers for its line of lapping and polishing machines and those sold by its competitors. Substantially all of the carriers produced by the Company are customized for specific applications. A very significant category of Amtech's steel carriers, referred to as insert carriers, contain plastic inserts molded onto the inside edge of the work-holes of the carrier, which hold the wafers in place during processing. Although standard steel carriers are preferred in many applications because of their durability, rigidity and precise dimensions, they are typically not suited for applications involving softer materials or when metal contamination is an issue. Insert carriers, however, are well suited for such materials, because they provide the advantages of steel carriers while reducing the potential for damage to the edges of sensitive materials such as large semiconductor wafers, which are becoming more standard in the industry.

### ***Semiconductor Polishing Templates***

Amtech's templates are used to securely hold silicon wafers in place during single-sided polishing processes. Polishing templates are customized for specific applications and are manufactured to exacting tolerances.

### ***Double-sided Planetary Lapping and Polishing Machines***

Double-sided lapping and polishing machines are designed to process thin and fragile materials, such as semiconductor silicon wafers, precision optics, computer disk media and ceramic components for wireless communication devices, to exact tolerances of thickness, flatness, parallelism and surface finish. On average, Amtech's surface processing systems are priced lower than competing systems offered by its competitors and target the semiconductor, optics, quartz, ceramics, medical, computer disk and metal working markets.

Lapping machines process parts using an abrasive slurry and cast iron plates. The material to be processed is positioned in carriers, which are then driven with a planetary motion between the top and bottom plates. The planetary action of the lapping machines simultaneously removes equal amounts of material from both sides of the material being processed. While polishing machines are similar to the lapping machines, polishing is achieved by using a finer free abrasive slurry and plates equipped with a polishing pad material. Depending on the process, the wafers are held in place in the pockets of a carrier, for double-sided processing, or templates or a wax mounting for single-sided processing. The Company does not manufacture or sell single-sided polishing machines or wax mountings. The polishing process is used to improve the characteristics of the surfaces of silicon wafers and similar materials. Amtech also manufactures and sells repair parts for its line of lapping and polishing machines.

### *Plates, Gears, Wear Items and Other Parts*

Since lapping machinery involves abrasive slurries, the plates, gears and carriers are often exposed to a high degree of abrasion and wear. Therefore, Amtech produces a wide assortment of plates, gears, parts and wear items for its own machines as well as for machines manufactured by its competitors. In addition to producing standard off-the-shelf parts, Amtech has the ability to produce highly customized parts.

### **MANUFACTURING, RAW MATERIALS AND SUPPLIERS**

Amtech's manufacturing activities consist primarily of assembling various commercial and proprietary components into finished systems in Heerde, The Netherlands (diffusion furnaces), Tempe, Arizona (processing and robotic systems) and Carlisle, Pennsylvania (lapping and polishing machines). Polishing consumables, including carriers, templates, gears, wear items and spare parts, are fabricated from various materials in Carlisle, Pennsylvania, from raw materials manufactured to Amtech's specification by its suppliers. Many other items, such as proprietary components for systems and lapping plates, are also purchased from suppliers who manufacture these items to Amtech's specifications. In addition, certain parts for Amtech's automation products are fabricated in Amtech's machine shop. All final assembly and system tests are performed within Amtech's manufacturing facilities. Quality control is maintained through inspection of incoming materials and components, in-process inspection during equipment assembly, testing of assemblies and final inspection and, when practical, operation of manufactured equipment prior to shipment. Since the majority of the products in the polishing supplies segment are designed to specific customers' specifications, this segment's facility is equipped to perform a significantly higher percentage of the fabrication processes required in the manufacturer of its products and certain of the manufacturing processes are subcontracted out to various third parties. In addition, this segment relies on key suppliers for certain materials, including two steel mills, an injection molder, pad supplier (sole sourced from a Japanese company), and an adhesive manufacturer. To minimize the risk of production and service interruptions and/or shortages of key parts, Amtech maintains appropriate inventories of key raw materials and parts. If for any reason the Company were unable obtain a sufficient quantity of parts in a timely and cost-effective manner to meet its production requirements, its results of operations would be materially and adversely affected.

### **BACKLOG**

Amtech's order backlog decreased to approximately \$7.9 million as of September 30, 2002, from approximately \$14.0 million at the same date of the previous year. The orders included in Amtech's backlog are generally credit approved customer purchase orders usually scheduled to ship in the next twelve months. The backlog also includes revenue deferred pursuant to Amtech's revenue recognition policy derived from orders that have already been shipped. Amtech schedules production of its systems based on order backlog and customer commitments. However, customers may delay delivery of products or cancel orders suddenly and without sufficient notice, subject to possible cancellation penalties. Due to possible customer changes in delivery schedules and cancellations of orders, Amtech's backlog at any particular date is not necessarily indicative of actual sales for any succeeding period. Delays in delivery schedules and/or a reduction of backlog during any particular reporting period could have a material adverse effect on Amtech's business and results of operations. In addition, a backlog does not provide any assurance that Amtech will realize a profit from those orders or indicate in which period revenue will be recognized. See the disclosure under the caption "Results of Operations - Revenues" in Item 7 of this report for a breakdown of the backlog by segment.

### **RESEARCH, DEVELOPMENT AND ENGINEERING**

The markets served by the Company are characterized by evolving industry standards and rapid technological change. To compete effectively in its markets, the Company must continually keep up with the pace of such change by improving its products and its process technologies and developing new technologies and products that compete effectively on the basis of price and performance and that adequately address current and future customer requirements. Historically, Amtech's product development has been accomplished primarily through cooperative efforts with two key customers. While there can be no assurance that such relationships will continue or that others will be developed, such cooperative efforts are expected to continue to be a significant element in Amtech's future development projects. Generally, Amtech's relationships in such projects are substantially dependent on the personal relations established by its President, Mr. Jong S. Whang.

From time to time Amtech adds functionality to its products or develops new products during engineering and manufacturing to fulfill specifications in a customer's order, in which case the cost of development, along with other costs of the order, are charged to cost of sales. Amtech periodically receives small research grants for research and development of products in The Netherlands, which are netted against research and development costs. The Company's approach to such expenditures has allowed it to produce a number of new products while spending amounts that are generally modest in relation to most semiconductor equipment manufacturers. Amtech's expenditures that have been accounted for as research and development were approximately \$.3 million or 1.7% of revenue in 2002, \$.4 million or 1.7% of revenue in 2001, and \$.5 million or 2.5% of revenue in 2000. However, Amtech estimates that it spends approximately 3% of the revenues on its total research and development efforts, including those incurred in connection with customer orders or supported by government grants.

During fiscal 1999, Amtech began investigating an alternative to the energy sources currently used in the ashing process in semiconductor manufacturing. Ashers use an energy source, usually plasma, to remove photoresist materials from silicon wafers after each lithography step. While stripping the photoresist material from the wafers, plasma causes damage to the silicon substrate, which the industry does not believe will be acceptable as the line-width of the circuitry is reduced in future generations of leading-edge semiconductors. In fiscal 2000, Amtech reached an agreement with PSK Tech Inc., a South Korean firm listed on the Korean stock market, regarding the joint development of a new ashing machine, using Amtech's damage-free ashing technology (a "New Asher"). Amtech and PSK Tech believe that, if successful, the New Asher under development will be damage free and thus will receive strong demand from the high-end semiconductor manufacturers. Ashing equipment manufactured by PSK Tech using existing technology is currently being selected almost exclusively by two of the world's top semiconductor memory chip producers for their ashing processes.

Preparations for the feasibility stage of the New Asher development project began in fiscal 2000. Testing during this stage started to produce meaningful results in fiscal 2001. The results of the feasibility work on the New Asher with PSK Tech are encouraging. The next step will be to develop a prototype of a 300mm asher, using Amtech's damage free technology, and a similar machine for a Beta site at one of Amtech's customers. Amtech and PSK Tech have agreed to time the procurement, assembly and testing of both machines in order to match a customer's advanced technology schedule, which Amtech understands calls for testing to begin in approximately November 2004. The combined cost of those two machines is estimated to be approximately \$1.5 million, but the relative contributions of Amtech and PSK Tech to that stage of the project have not been established. However, Amtech's contribution to the project could cause its research and development expenses to increase significantly starting as early as approximately November 2003. Already reflected in this schedule is the fact that certain improvements to existing ashing processes have delayed the time frame in which the semiconductor industry is expected to need Amtech's ashing technology. There can be no assurances that the development of other new technologies or process improvements by third parties will not further delay this schedule or provide competition to or make obsolete Amtech's ashing technology.

The joint product development agreement with PSK Tech provides that Amtech will provide its patent pending, damage-free ashing technology and know-how and PSK Tech will provide its expertise in the design and manufacture of ashers and asher processes. The two companies will jointly own any resulting technology. Under the agreement, Amtech will have exclusive selling and marketing rights to the resulting New Asher for all of North America and Europe and PSK Tech will have exclusive selling and marketing rights for all of Asia. Each company has agreed to pay to the other a license fee of between two and five percent (2%-5%) of its New Asher sales. Amtech has also agreed to sell the energy source assemblies to PSK Tech for PSK's New Asher sales into Asia. Amtech will purchase from PSK Tech ashers without the energy source assembly, for the platform of its New Asher to be sold in the United States and Europe. The assemblies that each company sells to the other will be at a price to be mutually agreed upon, but shall not exceed 1.334 times its cost of manufacturing.

## PATENTS

The following table shows the patents granted and the expiration date thereof and the material patents pending for Amtech's products in each of the countries listed below:

<u>Product</u>	<u>Country</u>	<u>Expiration Date or Pending Approval</u>
Atmoscan®	United States	August 30, 2005
Atmoscan®	United States	September 24, 2002
IBAL Cantilever Trolley	United States	July 10, 2015
IBAL Cantilever Trolley	United States	June 12, 2018
Photo CVD	United States	June 1, 2010
Photo CVD	United States	November 15, 2011
Proposed Damage-free Asher	United States	September 8, 2018
IBAL Model S-300	United States	July 7, 2019
IBAL Model E-300	France, Germany, The Netherlands, Italy, United Kingdom	Pending Approval
IBAL Model E-300	United States	Pending Approval

There can be no assurance that Amtech's pending patent applications will be allowed or that the issued or pending patents will not be challenged or circumvented by competitors. There can be no assurance that any of these rights held by Amtech will not be challenged, invalidated or circumvented, or that such rights will provide competitive advantages to Amtech.

There are no pending lawsuits against Amtech regarding infringement of any existing patents or other intellectual property rights or any unresolved claims made by third parties that Amtech is infringing intellectual property rights of such third parties. There can be no assurance that third parties will not assert infringement claims in the future. There also can be no assurance in the event of successful claims of infringement that Amtech will be able to obtain licenses on reasonable terms, if at all. Amtech's involvement in any patent dispute or other intellectual property dispute of action could have a material adverse effect on Amtech's business. Adverse determinations in any litigation relating to intellectual property could possibly subject Amtech to significant liabilities to third parties, require Amtech to seek licenses from third parties and prevent Amtech from manufacturing and selling one or more of its products. Any of these events could have a material adverse effect on Amtech.

## SALES AND MARKETING

Because of the highly technical nature of its products Amtech markets its products by direct customer contact through Amtech sales personnel and through a network of domestic and international independent sales representatives and distributors that specialize in semiconductor equipment and supplies. Amtech's promotional activities include direct sales contacts, an internet website, advertising in trade magazines and the distribution of product brochures. Amtech also participates in trade shows, including Semicon West, Semicon Europa, Diskcon and one large optics show each year. Amtech's sales and marketing activities in Asia are largely dependent on its President, Jong S. Whang, and its sales are enhanced by his active involvement with the accounts of certain other key customers.

In fiscal 2002, shipments as a percent of total shipments in each region were: North America 47%, Asia 20% and Europe 33%. During fiscal 2001, one customer accounted for 14% or more of total sales; for fiscal 2000 and 2002, no single customer accounted for more than 10% of sales. For a more complete analysis of significant customers and sales to customers by geographic region, see Note 8 of the Notes to Consolidated Financial Statements included herein (the "Financial Statements") and Item 7 of this annual report. For information regarding revenue, operating profit or loss and identifiable assets attributable to each of Amtech's industry segments and financial information about foreign and domestic operations, see Note 9 of the Notes to Consolidated Financial Statements included herein and Item 7 of this annual report.



The Company's business is not seasonal in nature, but is cyclical based on the capital equipment investment patterns of semiconductor manufacturers. These expenditure patterns are based on many factors, including anticipated market demand for integrated circuits, the development of new technologies and global and regional economic conditions.

## COMPETITION

Amtech competes in several distinct markets, including the semiconductor devices equipment market, the semiconductor wafer market, the solar cell and optical component equipment markets, and the market for general industrial lapping and polishing machines and supplies. Each of the markets in which Amtech competes is highly competitive. Amtech's ability to compete depends on its ability to continually improve its products, processes and services, as well as its ability to develop new products that meet constantly evolving customer requirements. Significant competitive factors for succeeding in the semiconductor manufacturing equipment market include the equipment's technical capability, productivity and cost-effectiveness, overall reliability, ease of use and maintenance, contamination and defect control, and the level of technical service and support provided by the vendor. The importance of each of these factors varies depending on the specific customer's needs and criteria, including considerations such as the customer's process application, product requirements, timing of the purchase and particular circumstances of the purchasing decision.

Amtech's diffusion furnaces, robotic/processing equipment and double-side lapping and polishing machines primarily compete with those produced by other domestic and foreign original equipment manufacturers, several of which are well-established firms that are larger and have greater resources than Amtech. To a much lesser extent the Company's diffusion furnaces compete against vertical furnaces on the high-end of the price spectrum. Amtech's furnaces and lapping and polishing machines also face to a limited extent competition from used equipment on the low-end of the price spectrum. Amtech intends to maintain or improve its competitive position for orders for its diffusion furnaces and automation products by focusing its sales and marketing efforts on the very large and growing middle market, its willingness to design products to meet the customer's specific process requirements, providing competitive prices and product support services levels.

The Company believes its automation products are generally superior to those of its primary competitors. Amtech believes that patents on the key features of its automation products provide a competitive advantage. Amtech expects its automation product competitors to improve the design and performance of their products. There can be no assurance that Amtech's automation competitors will not develop enhancements or acquire new technologies that will offer price or performance features superior to those offered by the Company. Amtech believes that its S-300 and E-300 automation products require less of the expensive clean room floor space, are generally less expensive and easier to operate than those of the competition. The target market for IBAL automation products includes those customers who do not require the sophistication of the more complex competing systems or do not have or are not willing to provide additional clean room space. Amtech does not know of any products comparable to its IBAL automation that are capable of loading Atmoscan® systems, thus providing it a competitive advantage.

Amtech is not aware of any significant product that directly competes with the Atmoscan®; however, there are several processing systems and various configurations of existing manufacturing products that provide advantages similar to those that Amtech believes the Atmoscan® provides to semiconductor manufacturers. Notwithstanding this competition, Amtech believes that Atmoscan® provides better results in terms of more uniform wafer temperature and dispersion of heated gases in the semiconductor manufacturing process, less exposure of semiconductor wafers to contaminants, and other technical advantages that afford to its users a higher yield.

While the industry trend is toward the use of vertical diffusion furnaces that are not compatible with Amtech's processing/robotic products and compete with the Company's diffusion furnaces, Amtech believes that a number of customers are, and will continue to be, willing to buy horizontal diffusion furnaces and related processing and robotic equipment. Vertical diffusion furnaces are more efficient to use than the horizontal diffusion furnaces in certain manufacturing processes of smaller chips on larger wafers. However, such furnaces are significantly more expensive to purchase than horizontal diffusion furnaces. The products comprising Amtech's semiconductor equipment segment consist of, or are only useable with, horizontal diffusion furnaces.

Despite this trend, Amtech believes there are a number of factors that will allow it to maintain or even increase its revenue in the semiconductor segment. These factors include (i) the fact that the producers of vertical furnaces used to be the largest competitors for Amtech's horizontal diffusion furnaces, but are now beginning to exit from their horizontal diffusion furnace production in order to focus on their higher priced products; (ii) the fact that as the most advanced semiconductors migrate toward 300mm wafers, other chip designs will transition from 100mm – 150mm wafer sizes to larger wafers, generally 200mm and smaller, served by Amtech's products; (iii) concerns over scrap caused when an operator either drops a boat load of wafers or loads them into the wrong process chamber may significantly increase the demand for the Company's automation products; (iv) the trend for governmental legislation and regulation over ergonomic and employee safety issues may also contribute to the demand for Amtech's automation products; (v) the potential for significant orders from emerging markets, such as those secured from manufacturers of optical components in calendar year 2000, (vi) some semiconductor fabricators are finding that rather than continuing to exclusively use the more expensive vertical furnaces, it can be more cost effective to use horizontal diffusion furnaces for some of the less demanding process steps, such as producing thick oxide layers, POCL<sub>3</sub> doping and annealing; and (vii) the fact that horizontal diffusion furnaces, with up to four process chambers, are often much more cost efficient for fabricators of a large number of different chip designs than similarly or higher priced verticals, which generally have only one process chamber.

Amtech believes that it is much larger and financially stronger than most of the other domestic manufacturers of lapping and polishing carriers, which tend to be family owned businesses. However, the Company is currently also experiencing price competition from carriers produced by foreign manufacturers, for which there is very little publicly available information. As a result, Amtech is intensifying its efforts to reduce the cost of its carriers and will continue to compete with other manufacturers of carriers by continually updating its product line to keep pace with the rapid changes in its customers' requirements and providing a higher level of customer service. Amtech has been able to capture a small yet meaningful share of the semiconductor polishing template market, which Rodel, a division of Rohm and Haas, dominates with an estimated 90% market share. Amtech's strategy for competing for template orders is to seek out niche markets, provide the highest practical level of customer support and by meeting the industry's perceived need for a second source to avoid continued dependence upon the dominant industry leader.

## EMPLOYEES

At September 30, 2002, Amtech employed 111 people. Of these employees, 25 are based at Amtech's corporate offices and manufacturing facility in Tempe, Arizona, 31 are employed at its manufacturing plant in Carlisle, Pennsylvania, 44 at its facility in Heerde, The Netherlands, and 11 in Amtech's contract semiconductor manufacturing support services business located in Austin, Texas. Of the 31 people employed at Amtech's Carlisle, Pennsylvania facility, 19 are represented by the United Auto Workers Union - Local 1443. Amtech has never experienced a work stoppage or strike. Amtech considers its employee relations to be good.

## ITEM 2. PROPERTIES

Amtech's semiconductor processing/robotic equipment business and corporate offices are located in 15,700 square feet of office and manufacturing space at its principal address. These facilities are leased at a current rate of \$8,096 per month, on a triple net basis, for a term to expire on August 31, 2003. Manufacturing support services are performed in customer facilities.

Amtech's diffusion furnace business is conducted primarily in a 9,900 square foot building it owns, which is located in Heerde, The Netherlands. Amtech also leases an additional 5,500 square feet of manufacturing space in a location near the Heerde plant. These facilities are leased at a current rate of approximately \$1,484 per month, for varying terms, the last of which expires on August 1, 2006.

Amtech leases a 21,740 square foot building located in Carlisle, Pennsylvania from John R. Krieger, the former owner of the Company's polishing supplies business. These facilities are leased at a current rate of \$10,810 per month, on a triple net basis, for a term that expires on June 30, 2004. Amtech has the option to renew the lease for five successive terms of one year each.

Amtech considers the above facilities suitable and adequate to meet its current requirements.

### ITEM 3. LEGAL PROCEEDINGS

On or about August 31, 2000, a "P.R. Hoffman Machine Products" was one of 11 companies named in a legal action being brought by North Middleton Township in Carlisle, Pennsylvania, in the Court of Common Pleas, Cumberland County, Pennsylvania, the owner of a landfill allegedly found to be contaminated. No detailed allegations have been filed as part of this legal action, which appears to have been filed to preserve the right to file claims for contributions to the clean up of the landfill at a later date. Amtech acquired the assets of P.R. Hoffman Machine Products Corporation in an asset transaction consummated on July 1, 1997. The landfill was closed and has not been used by P.R. Hoffman since sometime prior to completion of Amtech's acquisition. Therefore, Amtech believes that the named company is the prior owner of the acquired assets. Under the terms of the Asset Purchase Agreement governing the acquisition, the prior owner, P.R. Hoffman Machine Products Corporation, is obligated to indemnify Amtech for any breaches of its representations and warranties in the Asset Purchase Agreement, including representations relating to environmental matters. In accordance with the terms of the Asset Purchase Agreement, Amtech has provided notice to the prior owner of P.R. Hoffman Machine Products Corporation of Amtech's intent to seek indemnification from such owner for any liabilities resulting from this legal action. Based on information available to Amtech as of the date of this report, management believes Amtech's costs, if any, to resolve this matter will not be material to the its results of operations or financial position.

### ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

None.

## PART II

### ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED STOCKHOLDERS' MATTERS

#### MARKET INFORMATION

Amtech's common stock, par value \$.01 per share ("Common Stock"), began trading on the Nasdaq National Market®, under the symbol "ASYS," on April 18, 2001. Prior to that time, the Company's Common Stock was traded on the Nasdaq SmallCap Market. The following table sets forth the high and low bid price at which the shares of Amtech's Common Stock traded for each quarter of fiscal years 2002 and 2001, as reported by the NASDAQ National Market.

	Fiscal 2002		Fiscal 2001	
	High	Low	High	Low
First quarter	\$ 8.90	\$ 4.58	\$ 15.25	\$ 4.44
Second quarter	7.25	5.55	12.63	5.13
Third quarter	7.35	4.15	14.50	4.06
Fourth quarter	6.05	3.11	10.00	4.50

#### HOLDERS

As of December 20, 2002, there were approximately 1,036 stockholders of record of Amtech's Common Stock. Based upon preliminary quantities of materials requested by brokers for Amtech's 2003 Annual Meeting of Shareholders, there were approximately an additional 3,375 beneficial stockholders who held shares in brokerage or other investment accounts as of that date.

#### DIVIDENDS

Amtech has never paid dividends. Its present policy is to apply cash to investment in product development, acquisition or expansion; consequently, it does not expect to pay dividends within the foreseeable future.

## ITEM 6. SELECTED FINANCIAL DATA

The selected financial data should be read in conjunction with Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," and Amtech's consolidated financial statements (including the related notes thereto) contained elsewhere in this report. Effective October 1, 2000, Amtech changed its revenue recognition policy. See Note 2 in the Notes to Consolidated Financial Statements and the pro forma information contain herein. As revenue is not reported on a consistent basis between years, certain data contained in this report may not be comparable between years.

	FISCAL YEAR ENDED SEPTEMBER 30,				
	2002	2001	2000	1999	1998
(in thousands, except per share data)					
<b>Operating Data:</b>					
Net revenues	\$20,533	\$22,852	\$19,027	\$14,766	\$16,214
Operating income (loss)	77	1,577	1,982	568	(904)
Income (loss) before cumulative effect of a change in accounting principle	118	1,153	1,325	362	(590)
Cumulative effect of a change in accounting principle, net of tax <sup>(2)</sup>	--	(690)	--	--	--
Net income (loss)	\$118	\$463	\$1,325	\$362	\$(590)
<b>Earnings (loss) per share<sup>(1)</sup>:</b>					
<b>Basic:</b>					
Income (loss) before cumulative effect of a change in accounting principle	\$0.04	\$0.43	\$0.61	\$0.17	\$(0.28)
Cumulative effect of a change in accounting principle, net of tax <sup>(2)</sup>	--	(.26)	--	--	--
Basic earnings (loss) per share	\$0.04	\$0.17	\$0.61	\$0.17	\$(0.28)
<b>Diluted:</b>					
Income (loss) before cumulative effect of a change in accounting principle	\$0.04	\$0.41	\$0.56	\$0.17	\$(0.28)
Cumulative effect of a change in accounting principle, net of tax <sup>(2)</sup>	--	(.25)	--	--	--
Diluted earnings (loss) per share	\$0.04	\$0.16	\$0.56	\$0.17	\$(0.28)
<b>Pro forma amounts with the change in accounting principle applied retroactively (unaudited):</b>					
Total revenue	\$20,533	\$22,852	\$18,908	\$15,678	**
Net income	\$118	\$1,153	\$1,061	\$481	**
Net income per share:					
Basic:	\$0.04	\$0.43	\$0.49	\$0.23	**
Diluted:	\$0.04	\$0.41	\$0.45	\$0.22	**
<b>Balance Sheet Data:</b>					
Cash and cash equivalents	\$ 8,046	\$5,998	\$5,785	\$1,125	\$1,352
Working capital	12,166	11,668	10,934	5,374	4,993
Total assets	17,393	18,571	17,483	8,745	9,325
Total current liabilities	2,722	4,575	4,667	1,748	2,531
Long-term obligations	459	411	237	287	348
Retained earnings (accumulated deficit)	1,505	1,387	923	(402)	(764)
Stockholders' equity	14,212	13,584	12,580	6,710	6,447

(1) The results shown have been restated to reflect the one-for-two reverse split of Common Stock that was effective March 15, 1999.

(2) Amtech recorded a non-cash charge of \$690,211, after reduction for income tax benefits of \$410,000, or (\$0.26) per basic share, to reflect the cumulative effect of the accounting change as of October 1, 2000, related to the adoption of Securities and Exchange Commission ("SEC") Staff Accounting Bulletin No. 101, "Revenue Recognition in Financial Statements."

\*\* Data is not available to provide pro forma information for this year.

**ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS**

**RESULTS OF OPERATIONS**

Amtech develops, manufactures, markets and services a range of semiconductor wafer manufacturing and semiconductor fabrication equipment and related parts, supplies and services on a worldwide basis. The products offered are grouped into two segments: the semiconductor equipment segment, which offers horizontal diffusion furnaces, processing/robotic equipment for diffusion furnaces and services to semiconductor manufacturers, and the polishing supplies segment, which offers supplies, including carriers and templates, and equipment for lapping and polishing, which are some of the last steps in the manufacture of silicon wafers. Demand for Amtech's products can change significantly from period to period as a result of numerous factors, including, but not limited to, changes in: 1) global and regional economic conditions; 2) supply and demand for semiconductors or, more specifically, capacity utilization and production volume of manufacturers of semiconductors, silicon wafers, solar cells and optical components; and 3) the profitability of semiconductor manufacturers. For this and other reasons, Amtech's results of operations for fiscal 2002, 2001 and 2000 may not necessarily be indicative of future operating results.

The following discussion and analysis should be read in conjunction with Amtech's consolidated financial data and our Consolidated Financial Statements and notes appearing elsewhere in this report.

**Revenues.** Amtech's total revenue for the fiscal year ended September 30, 2002 was \$20.5 million, compared to \$22.9 million in fiscal 2001 and \$19.0 million in fiscal 2000, representing a decrease of 10% in 2002 and a 20% increase in 2001. The following table reflects the consolidated new orders, net of cancellations, shipments, revenues and backlog as of the beginning and end of the three fiscal years ended September 30, 2002, as well as for Amtech's two business segments.

	Backlog at start of Year <sup>(1)</sup>	New Orders <sup>(2)</sup>	Shipments	Net SAB 101 Adjustment	Net Revenue	Backlog at end of Year <sup>(1)</sup>
<i>(In thousands of dollars)</i>						
<b>2002:</b>						
Semiconductor Equipment:	\$13,119	\$9,404	\$12,348	\$3,063	\$15,411	\$7,112
Polishing Supplies	836	5,086	5,122	--	5,122	800
Consolidated	<u>13,955</u>	<u>14,490</u>	<u>17,470</u>	<u>3,063</u>	<u>20,533</u>	<u>7,912</u>
<b>2001:</b>						
Semiconductor Equipment:	16,553	12,012	16,296	(850)	15,446	13,119
Polishing Supplies	1,572	6,670	7,406	--	7,406	836
Consolidated	<u>18,125</u>	<u>18,682</u>	<u>23,702</u>	<u>(850)</u>	<u>22,852</u>	<u>13,955</u>
<b>2000:</b>						
Semiconductor Equipment:	2,282	21,504	10,859	--	10,859	12,927
Polishing Supplies	1,477	8,263	8,168	--	8,168	1,572
Consolidated	<u>\$3,759</u>	<u>\$29,767</u>	<u>\$19,027</u>	<u>\$--</u>	<u>\$19,027</u>	<u>\$14,499</u>

(1) Backlogs in 2001 and 2002 include a positive adjustment to reinstate backlog for revenue that will be recognized in future periods due to the implementation of Staff Accounting Bulletin No. 101 (SAB 101), "Revenue Recognition in Financial Statements." Amounts prior to fiscal 2001 have not been restated. The deferred revenue included in the cumulative effect of the change in the revenue recognition accounting policy as of October 1, 2000 was \$3.6 million, which accounts for the difference between the backlog as of the end of 2000 and the beginning of 2001. The backlogs as of September 30, 2001 and 2002 included deferred revenue of \$4.5 million and \$1.4 million, respectively.

(2) New orders are net of cancellations.

Amtech's business was subject to cyclical industry conditions in fiscal 2002, 2001 and 2000. As a result of these conditions, there were significant fluctuations in Amtech's quarterly new orders and net sales, both within and

across fiscal years. Demand for semiconductor and silicon wafer manufacturing equipment and related consumable products has historically been volatile as a result of sudden changes in semiconductor supply and demand and other factors in both semiconductor devices and wafer fabrication processes. The semiconductor equipment segment accounted for 75%, 68% and 57% of Amtech's revenues and 255%, 59% and 50% of Amtech's operating income in 2002, 2001 and 2000, respectively. The semiconductor and optical component industries' cycle peaked during fiscal 2000. As a result of the rapid decline in the demand in 2001 for semiconductor devices and due to inventory buildups in telecommunications products, slower than expected personal computer sales and overall slower global economic growth, many semiconductor manufacturers reevaluated their capital spending plans. Accordingly, Amtech experienced cancellation of existing orders by customers in fiscal 2001 and rescheduled deliveries and a significant decline in new orders during 2001 and 2002.

During the fourth fiscal quarter of 2001, Amtech implemented the Securities and Exchange Commission's Staff Accounting Bulletin No. 101 (SAB 101), "Revenue Recognition in Financial Statements," retroactively effective to the beginning of fiscal 2001. See Note 2 of the Notes to Consolidated Financial Statements. Amounts prior to fiscal 2001 have not been restated. Pursuant to the guidance provided in SAB 101, at least some portion of each system sale in the semiconductor equipment segment is deferred. Some of the more significant factors that can affect the length of time from shipment to full revenue recognition are customer delays in site preparation, the time it takes for the customer to obtain local permits, delays by other vendors in the installation of equipment with which Amtech's products must interface and the availability of our technicians. Because the selling price of systems generally range between \$125,000 and \$1.2 million, these factors significantly affect the timing of revenue recognition from customer to customer and system to system, which increases the volatility of revenue. Revenues for the polishing supplies segment generally are not subject to deferral as there is no customer holdback or post-shipment obligations, other than warranty.

Revenue of the polishing supplies segment reached a record \$8.2 million in fiscal 2000, as the semiconductor industry reached the peak of the business cycle. By March 2001, orders in the polishing supplies segment began a steep decline, reflecting excess supply inventories and capacity of that segment's customers. The polishing supplies segment suffered a dramatic decrease in revenues, declining from \$8.2 million in fiscal 2000 to \$7.4 million in 2001 and \$5.1 million in 2002, representing a decrease of 9% in 2001 and 31% in 2002.

During fiscal 2000, new orders reached a record \$30 million as the semiconductor industry was reaching the peak of the cycle that began in the previous year. During fiscal 2001, slowing worldwide demand for semiconductors resulted in a rapid decrease in demand for manufacturing equipment. Inventory buildups in telecommunication products, slower than expected personal computer sales and slower global economic growth caused semiconductor companies to reevaluate their capital spending and reschedule or cancel existing orders. This decline in demand worsened throughout the remainder of fiscal 2001 and 2002, resulting in a severe industry downturn due to continued weakness in the macro-economic climate and consumption of electronic goods, which translated into further capital spending cutbacks by semiconductor manufacturers.

Revenues of the semiconductor equipment segment increased 42% in 2001 to \$15.4 million from \$10.9 million in 2000 and remained at that higher level in 2002. By January 2001, Amtech began to see signs of the downturn, resulting in the first of several order cancellations in the semiconductor equipment segment. During 2001 and 2002, new orders in the semiconductor equipment segment declined by 44% and 22%, respectively, due to the downturn in the industry. However, the shipments, like the revenues of the semiconductor equipment segment, increased in fiscal 2001 by 50% despite the decline in orders, as Amtech worked off a part of the large backlog that had built up in 2000. The \$3.6 million of revenue deferred from prior periods as a part of the cumulative effect adjustment for the accounting change in revenue recognition further increased the backlog as of October 1, 2000. In 2002, the semiconductor segment experienced a decrease in shipments of \$3.9 million, or 24%, to \$12.3 million. Revenues of the semiconductor equipment segment remained at \$15.4 million in 2002, as the decline in shipments was offset by the increase in the revenues recognized on the completion or acceptance of systems, which had previously been deferred due to customer holdbacks or other contingencies.

Due to the continued weakness in both the optical component market, to which Amtech had substantial shipments in fiscal 2000 and 2001, but none in 2002, and the much larger semiconductor market, current outlook is for continued lower revenues in at least the first half of fiscal 2003. However, quarterly consolidated shipments appear to have stabilized and even recovered slightly from the \$4 million level of the second quarter of fiscal 2002 and the

semiconductor equipment segment continues to have a significant backlog, leading management to believe that revenue for fiscal 2003 may not be any lower than in fiscal 2002.

In 2002, 2001 and 2000, 53%, 45% and 39%, respectively, of Amtech's total revenue was attributable to sales outside of the United States. Each region in the global semiconductor equipment market exhibits unique characteristics that can cause, and in the past have caused, capital equipment investment patterns to vary significantly from period to period. For a more complete analysis of sales to customers by geographic region, see Note 8 of the Notes to Consolidated Financial Statements included herein.

The following table sets forth certain operational data as a percentage of net revenue for the three fiscal years ended September 30, 2002:

	Fiscal Years Ended		
	September 30,		
	2002	2001	2000
Net revenue	100.0%	100.0%	100.0%
Cost of sales	<u>76.5</u>	<u>69.9</u>	<u>65.2</u>
Gross margin	23.5	30.1	34.8
Selling, general and administrative expenses	21.4	21.5	21.9
Research and development	<u>1.7</u>	<u>1.7</u>	<u>2.5</u>
Operating income	<u>.4%</u>	<u>6.9%</u>	<u>10.4%</u>

**Gross Margins.** Consolidated gross margin for the fiscal year ended September 30, 2002 was \$4.8 million, compared to \$6.9 million in fiscal 2001 and \$6.6 million in fiscal 2000, representing a decrease of \$2.1 million, or 30%, in 2002, and an increase of \$.3 million, or 5%, in fiscal 2001. In fiscal 2002, the gross margin of the semiconductor equipment segment decreased by \$1.1 million, or 22%, primarily due to approximately \$.5 million in inventory write-offs taken in response to the continued decline in the semiconductor industry worldwide and a customer's decision to sell a plant from which future orders had been expected. Other factors contributing to the 2002 decline in the gross margins of the semiconductor equipment segment included learning curve and development costs incurred on customer orders for new products, i.e. 300mm diffusion furnace and related automation and S-300 models with cassette-to-cassette capability and interfaces to SMIF pod openers and factory automation with SECS II Gem, and \$.2 million in increased labor costs. The gross margin of the polishing supplies segment declined by \$1.0 million, or 49%, in fiscal 2002 due to the 31% decrease in sales volume and the semi-fixed and fixed nature of labor and overhead costs, which did not decline at the same rate as revenue.

In fiscal 2001, the gross margin of the semiconductor equipment segment increased 20%, due to increased sales volume. However, the gross margin of the polishing supplies segment declined 22%, offsetting approximately two-thirds of the increase contributed by the semiconductor equipment segment.

As a percentage of revenue, the consolidated gross margin was 23% in fiscal 2002, compared to 30% in fiscal 2001, and 35% in 2000. Write-downs of excess or obsolete inventory of \$.6 million in 2002, compared to \$.3 million in 2001 and \$.1 million in 2000 contributed to the decline in gross margins as a percentage of revenue in 2002 and 2001. Other factors contributing to the decline in gross margin as a percentage of revenue were product mix in both years and learning curve costs in 2002 of the semiconductor segment, underabsorption of factory expenses in the polishing supplies segment and competitive pricing pressure of both segments. Amtech's gross margin has significantly fluctuated in the past and will continue to fluctuate based on several factors including the severity and duration of the current industry downturn, revenue recognition under SAB 101, product mix and overhead absorption levels.

**Selling, General and Administrative Expenses.** Consolidated selling, general and administrative expenses were \$4.4 million in fiscal 2002, compared to \$4.9 million in 2001 and \$4.2 million in 2000. The provision for doubtful accounts receivable was approximately \$.5 million higher in fiscal 2001 than in fiscal 2000 and \$.1 million higher than in 2002, primarily due to a major customer in the optical component industry filing for bankruptcy in 2001.

Commissions expense decreased by \$.2 million in 2002 due to the decrease in shipments in the semiconductor equipment segment and by \$.1 million in 2001 due to the lower sales volume in polishing supplies segment. Costs associated with implementing new data processing systems also contributed to the increase in general and administrative expenses in 2001 and the decline in such costs in 2002. Cost cutting measures reduced selling and administrative personnel costs by approximately \$.1 million in 2001 and 2002. Selling, general and administrative expenses as a percentage of revenue remained relatively constant during the three-year period, ranging 21.9% in 2000 and declining to 21.5% in fiscal 2002.

**Research and Development Expenses.** During fiscal years 2002, 2001 and 2000 Amtech's expenditures accounted for as research and development were \$.3 million, \$.4 million and \$.5 million, respectively. During all three fiscal years, the most significant project included in research and development expenses has been the development of a new technology asher pursuant to a joint product development agreement with PSK Tech. The cause for the decline in research and development costs in fiscal 2001 compared to fiscal 2000 is that most of our equipment contribution to the initial stage of the joint asher development project were made in fiscal 2000. The decline in 2002 is the result of reduced spending on new controls for the Tempress® diffusion furnace and research and development grants in the Netherlands. The results of the feasibility work on the new technology asher with PSK Tech are encouraging. The next step will be to develop a prototype of a 300mm asher, using Amtech's damage free technology, and a similar machine for a Beta site at one of Amtech's customers. Amtech and PSK Tech have agreed to time the procurement, assembly and testing of both machines in order to match a customer's advanced technology schedule, which Amtech understands calls for testing to begin in approximately November 2004. The combined cost of those two machines is estimated to be approximately \$1.5 million, but the relative contributions of Amtech and PSK Tech to that stage of the project have not been established. However, Amtech's contribution to the project could cause its research and development expenses to increase significantly starting as early as approximately November 2003. Significant projects completed in 2000 included the development of two new models of automation, which were the S-300 and E-300. In 2002, the Company completed the development of a 300mm diffusion furnace and related automation and S-300 models with cassette-to-cassette capability and interfaces to SMIF pod openers and factory automation with SECS II Gem. However, a portion of those costs are incurred while completing customer orders and are charged, along with other costs of the order, to cost of sales and therefore not included in the research and development expenses.

**Operating Income.** Operating income for fiscal year 2002 was \$.1 million, or less than 1% of revenue, compared to \$1.6 million, or 7% of revenue, in fiscal 2001, and \$2.0 million, or 10% of revenue, in 2000. Operating income declined in 2002 due primarily to the decline in revenues and related gross margin in the polishing supplies segment and the lower gross margin of the semiconductor equipment segment, as explained above. The decline in operating income in 2001 was due to increased selling, general and administrative expenses, primarily the \$.5 million increase in the provision for doubtful accounts. Operating income as a percent of revenue declined in 2002 and 2001 primarily as a result of the decline in gross margins as a percent of sales, discussed above.

**Interest Income-net.** Net interest income was \$.1 million in fiscal 2002, compared to \$.2 million in fiscal 2001 and \$.1 million in fiscal 2000. The decrease in net interest income in 2002 is the result of substantially lower interest rates, while the increase in 2001 was a result of investing the funds from the September 2000 private placement.

**Income Tax Provision.** During fiscal 2002, 2001 and 2000, Amtech recorded income tax provisions of \$.1 million, \$.7 million and \$.8 million, respectively. The effective rate stated as a percentage of income before income taxes and cumulative effect of the change in revenue recognition accounting principle was 30%, 37% and 36% in fiscal years 2002, 2001 and 2000, respectively. The significantly lower effective tax in fiscal 2002 is a result of the fact that more than all of the consolidated operating profit was earned in The Netherlands where there is no state income tax rate. In addition, a state income tax benefit arose from operating losses in the United States. Amtech's future effective income tax rate depends on various factors, such as tax legislation, the geographic composition of the pre-tax income, non-tax deductible expenses and the effectiveness of its tax planning strategies.

**Net Income.** Net income for fiscal 2002, 2001 and 2000, respectively, was \$.1 million, \$.5 million and \$1.3 million. Net income per diluted share was \$.04, \$.16 and \$.56 in fiscal 2002, 2001 and 2000, respectively. On a pro forma basis, with the change in the revenue recognition accounting principle being applied retroactively, net income per diluted share was \$.04, \$.41 and \$.45 in fiscal 2002, 2001 and 2000, respectively.



## LIQUIDITY AND CAPITAL RESOURCES

As of September 30, 2002 and 2001, cash and cash equivalents were \$8.0 million and \$6.0 million, respectively. Amtech's ratio of current assets to current liabilities was 5.5:1 and 3.4:1 at September 30, 2002 and 2001, respectively.

Amtech generated cash from operations in each of the last three fiscal years as follows: 2002 - \$2.4 million, 2001 - \$0.4 million and 2000 - \$0.2 million.

In each of these fiscal years, investing activities consisted of software, computers and equipment purchases and building improvements. Financing activities provided \$0- million, \$4 million and \$4.7 million in 2002, 2001 and 2000, respectively. In 2001, financing activities consisted mainly of the proceeds from stock options exercised and in 2000, the cash provided by financing activities came from a private placement of common stock.

At September 30, 2002, Amtech's principal sources of liquidity consisted of \$8.0 million of cash and cash equivalents. Since the only lien on the Company's assets is a \$.2 million mortgage loan, management believes that significant amounts of additional liquidity is available from various financing sources. Amtech believes that it has sufficient liquidity for current operations and for at least certain elements of its growth strategy. One element of that strategy is the development of new products such as the proposed new technology asher. Another is the acquisition of product lines or businesses that complement the company's existing business. Amtech's currently available cash and short-term investments are expected to be sufficient for existing operations, planned research and development and possibly an acquisition, depending on size. However, significant unplanned development of new products, or larger acquisitions may require additional capital resources that are expected to be obtained from one or more sources of financing, such as a private placement, a public offering, working capital loans or term loans from banks or other financial institutions, equipment leasing, mortgage financing and internally generated cash flow from operations. There can be no assurance of the availability or sufficiency of these or any other source of funding for those purposes.

## COMMITMENTS

Key suppliers include two steel mills, one domestic and one German, capable of meeting the material specification the Company requires. As of September 30, 2002, the Company had unconditional commitments to purchase \$.5 million of steel, with delivery dates to be determined in the future. Due to minimum order quantities for this steel and long lead times, the Company has made purchase commitments that may be in excess of future production requirements, and it could take several years to use all of the steel commitments in production of the Company's products. These purchase commitments are not expected to result in any significant losses.

The Company leases buildings, vehicles and equipment. As of September 30, 2002, minimum rental commitments under noncancellable operating leases total \$447,000, of which \$264,000, \$138,000 and \$45,000 are payable in fiscal years 2003, 2004 and 2005, respectively.

## CHANGE IN ACCOUNTING PRINCIPLE

**Revenue Recognition.** During the fourth quarter of fiscal 2001, the Company changed its revenue recognition policy retroactive to October 1, 2000, based on guidance provided in Securities and Exchange Commission ("SEC") Staff Accounting Bulletin No. 101 ("SAB 101"), "Revenue Recognition in Financial Statements." The Company recognizes revenue when persuasive evidence of an arrangement exists; title transfers, generally upon shipment or services have been rendered; the seller's price is fixed or determinable and collectibility is reasonably assured. Certain of the Company's product sales are accounted for as multiple-element arrangements. For the semiconductor equipment segment, if the Company has met defined customer specifications with similarly situated customers and the specific equipment and process involved, the Company recognizes equipment revenue upon shipment and transfer of title, with the remainder when it becomes due, generally upon acceptance. Product sales that are shipped but do not meet these criteria are deferred and recognized upon customer acceptance.

Equipment sold by the polishing supplies segment does not involve process guarantees or acceptance criteria, so the related revenue is recorded upon shipment. For all segments, sales of spare parts and consumables are recognized

upon shipment. Service revenues are recognized as services are performed. Revenue related to service contracts is recognized upon performance of the services requested by the customer.

In accordance with guidance provided in SAB 101, the Company recorded a non-cash charge of \$690,211 (after reduction for income taxes of \$410,000), or (\$0.26) per basic share, to reflect the cumulative effect of the accounting change as of the beginning of the 2001 fiscal year.

The deferred profit balance as of the beginning of fiscal 2001 was \$1,125,211. This amount is the deferred revenue net of the related cost of sales for equipment that was shipped and previously recorded as sales but had not been accepted or did not qualify for multiple-element accounting as of September 30, 2000. Of the \$1,125,211 in deferred profit as of the beginning of fiscal 2001, \$122,640 and \$936,994 was recognized in 2002 and 2001, respectively. The pro forma amounts presented on the consolidated statements of operations were calculated assuming the accounting change was retroactively adopted as of October 1, 1998.

Prior to fiscal 2001, the Company's revenue recognition policy was to recognize revenue and accrue the estimated installation costs at the time the customer took title to the product, generally at the time of shipment because the Company routinely met its installation obligations and installation costs represented a small percentage of total costs (approximately 3% - 5%.)

### **CRITICAL ACCOUNTING POLICIES**

"Management's Discussion and Analysis of Financial Condition and Results of Operations" discusses our consolidated financial statements that have been prepared in accordance with accounting principles generally accepted in the United States of America. The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amount of assets and liabilities at the date of the financial statements, the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period.

On an on-going basis, we evaluate our estimates and judgments, including those related to revenue recognition, valuation allowances for inventory and accounts receivable, warranty and impairment of long-lived assets. We base our estimates and judgments on historical experience and on various other factors that we believe to be reasonable under the circumstances. The result of these estimates and judgments form the basis for making conclusions about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

The SEC suggests that all registrants list their most "critical accounting policies" in Management's Discussion and Analysis of Financial Condition and Results of Operations. A critical accounting policy is one that is both important to the portrayal of the Company's financial condition and results and requires management's most difficult, subjective or complex judgments, often as a result of the need to make estimates about the effect of matters that are inherently uncertain. Management believes the following critical accounting policies affect its more significant judgments and estimates in the preparation of its consolidated financial statements.

**Revenue Recognition.** The Company recognizes revenue when persuasive evidence of an arrangement exists; title transfers; the seller's price is fixed or determinable and collectibility is reasonably assured. Certain of the Company's product sales are accounted for as multiple-element arrangements. For the semiconductor equipment segment, if the Company has met defined customer specifications with similarly situated customers, equipment and processes, the Company recognizes equipment revenue upon shipment and transfer of title, and the holdback portion of the revenue that is contingent upon installation and acceptance, generally 10% - 20% of a system's selling price, is deferred until those activities are completed. Revenues for products that are shipped but do not meet this criteria are deferred and recognized when the equipment and processes are proven, generally upon customer acceptance or upon obtaining customer acceptance on at least two similar systems. Collection of the holdback portion of a system sale is often based on system acceptance or final installation. We have, on occasion, experienced longer than expected delays in receiving cash from certain customers pending system acceptance or final installation. If some of our customers were to refuse to pay the remaining holdback, or otherwise delay final acceptance or installation, the deferred revenue would not be recognized, adversely affecting future operating results.

Equipment sold by the polishing supplies segment does not include process guarantees or acceptance criteria, so the related revenue is recorded upon shipment. For all segments, sales of spare parts and consumables are recognized upon shipment, as there are no post shipment obligations other than standard warranties. Service revenues are recognized upon performance of the services requested by the customer. Revenue related to service contracts is recognized as the services requested by the customer are performed.

**Inventory Valuation.** We value our inventory at the lower of cost or the current estimated market value. We regularly review inventory quantities on hand and record a write-down for excess and obsolete inventory. The provision is primarily based on our estimated forecast of product demand and production requirements. However, our industry is characterized by customers in highly cyclical industries, rapid technological changes, frequent new product developments and rapid product obsolescence. During 2001 and 2002, there was a significant decrease in the worldwide demand for semiconductor capital equipment. Demand for our products has fluctuated significantly and may do so in the future, which could result in an increase in the cost of inventory or an increase in excess inventory quantities on hand. The Company's ratio of inventories to operating levels is above, and is expected to remain above, the historic norms of our business due to order cancellations and the deferral of orders by customers. There can be no assurance that future developments will not necessitate further write-downs.

**Valuation Allowance for Accounts Receivable.** We maintain allowances for doubtful accounts for estimated losses resulting from the inability of our customers to make required payments. These allowances are based on historical experience, credit evaluations and specific customer collection issues we have identified. Since our accounts receivable are often concentrated in a relatively few number of customers, a significant change in the liquidity or financial position of any one of these customers could have a material adverse impact on the collectibility of our accounts receivable and our future operating results.

**Warranty.** The Company provides a limited warranty, generally twelve to twenty-four months, to all purchasers of its new products and systems. A provision for the estimated cost of providing warranty coverage is recorded upon shipment of all systems. On occasion, we have been required and may be required in the future to provide additional warranty coverage to ensure that the systems are ultimately accepted or to maintain customer goodwill. While our warranty costs have historically been within our expectations and management believes that the amounts accrued for warranty expenditures are sufficient for all systems sold through September 30, 2002, we cannot guarantee that we will continue to experience a similar level of predictability with regard to warranty costs we have in the past. In addition, technological changes or previously unknown defects in raw materials or components may result in more extensive and frequent warranty service than anticipated, which could have a material adverse impact on our operating results for the periods in which such additional costs materialize.

**Impairment of Long-lived Assets.** We evaluate whether events and circumstances have occurred that indicate the estimated useful lives of long-lived assets or intangible assets may warrant revision or that the remaining balance may not be recoverable. When factors indicate that an asset should be evaluated for possible impairment, we use an estimate of the related undiscounted net cash flows generated by the asset over the remaining estimated life of the asset in measuring whether the asset is recoverable. We make judgments and estimates used in establishing the carrying value of long-lived or intangible assets. Those judgments and estimates could be modified if adverse changes occurred in the future resulting in an inability to recover the carrying value of these assets. We have not experienced any impairment to long-lived assets during fiscal 2001 or fiscal 2002. Future adverse changes could be caused by, among other factors, a continued downturn in the semiconductor industry, a general economic slowdown, reduced demand for our products in the market place, poor operating results, inability to protect intellectual property or changing technologies and product obsolescence.

#### **ACCOUNTING PRONOUNCEMENTS NOT YET ADOPTED**

In July 2001, the Financial Accounting Standards Board issued Statements of Financial Accounting Standards No. 141, "Business Combinations" ("SFAS No. 141"), and No. 142, "Goodwill and Other Intangible Assets" ("SFAS No. 142"). SFAS No. 141 eliminates pooling of interest as a method for accounting for business combinations. SFAS No. 142 requires the discontinuation of the amortization of goodwill and intangible assets with indefinite lives and at least an annual assessment of whether there has been an impairment of such assets that needs to be recognized as an impairment charge. Effective as of October 1, 2002, Amtech will adopt SFAS Nos. 141 and 142. Since amortization of goodwill is currently \$74,000 per year, the discontinuation of such amortization will not have a

material effect on Amtech's results of operations or financial condition. Amtech does not expect to incur an impairment charge related to the \$728,000 of goodwill included in its assets as of September 30, 2002.

The FASB recently issued SFAS No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets," that is applicable to financial statements issued for fiscal years beginning after December 15, 2001. This statement supersedes SFAS No. 121, "Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to be Disposed Of," and portions of APB Opinion No. 30, "Reporting the Results of Operations." SFAS No. 144 provides a single accounting model for long-lived assets to be disposed of and significantly changes the criteria that must be met to classify an asset as "held for sale." Classification as "held for sale" is an important distinction since such assets are not depreciated and are stated at the lower of fair value and carrying amount. SFAS No. 144 also requires expected future operating losses from discontinued operations to be displayed in the period(s) in which the losses are incurred, rather than as of the measurement date as presently required. The provisions of SFAS No. 144 are not expected to have a material effect on Amtech's financial position or operating results.

In April 2002, the FASB issued SFAS No. 145, "Rescission of FASB Statements No. 4, 44, and 64, Amendment of FASB Statement No. 13, and Technical Corrections." This Statement rescinds the requirement to report gains and losses from extinguishment of debt as an extraordinary item. Additionally, this statement amends Statement 13 to require sale-leaseback accounting for certain lease modifications that have economic effects similar to sale-leaseback transactions. The provisions of this statement relating to Statement 4 are applicable in fiscal years beginning after May 15, 2002. The provisions of this Statement related to Statement 13 are effective for transactions occurring after May 15, 2002. All other provisions of this Statement are effective for financial statements issued on or after May 15, 2002. The adoption of SFAS No. 145 did not have an effect on Amtech's financial statements.

In June 2002, the FASB issued SFAS No. 146, "Accounting for Costs Associated with Exit or Disposal Activities". SFAS 146 nullifies Emerging Issues Task Force (EITF) Issue No. 94-3, "Liability Recognition for Certain Employee Termination Benefits and Other Costs to Exit an Activity. For purposes of this Statement, an exit activity includes, but is not limited to a restructuring as that term is defined in IAS 37, "Provisions, Contingent Liabilities, and Contingent Assets". The Statement is effective for exit or disposal activities initiated after December 31, 2002. The adoption of SFAS No. 146 is not expected to have an effect on Amtech's financial statements.

## TRENDS, RISKS AND UNCERTAINTIES

*If demand for horizontal diffusion furnaces and related equipment declines, our results of operations and financial condition could be materially adversely affected.*

The revenue of our semiconductor equipment segment, which accounts for approximately three quarters of consolidated revenues, is comprised of sales of horizontal diffusion furnaces and our processing/robotic product line. Our processing/robotic product line is useable only with horizontal diffusion furnaces. There is a trend in the semiconductor industry, related to the trend to produce smaller chips, toward the use in semiconductor manufacturing facilities of newer technology, such as vertical diffusion furnaces. Vertical diffusion furnaces are more efficient to use than the horizontal diffusion furnaces in certain manufacturing processes of smaller chips on larger wafers. Because of this trend, we had expected that demand for our horizontal diffusion furnaces would decline. We believe this trend has not adversely affected us yet primarily because:

- we have experienced increased demand from manufacturers that do not require the more expensive vertical furnaces, such as from manufacturers of wireless communication chips and micro-controllers used in a number of consumer applications; and
- we believe that because of improvements in automation for horizontal diffusion furnaces, such as our robotic product line, horizontal diffusion furnaces may be becoming a more favorable alternative to the vertical furnaces than they previously had been; and
- we are pursuing alternative markets, such as solar cell manufacturers and research and development facilities, which accounted for \$1.7 million and \$.5, respectively, of revenues in 2002.

However, to the extent that the trend to use vertical diffusion furnaces over horizontal diffusion furnaces continues, our revenues may decline and our corresponding ability to generate income may be adversely affected.

***The ongoing volatility of the semiconductor equipment industry may negatively impact our business and results of operations and our corresponding ability to efficiently budget our expenses.***

The semiconductor equipment industry is highly cyclical. The purchasing decisions of our customers are highly dependent on the economies of both their domestic markets and the semiconductor industry worldwide. The timing, length and severity of the up-and-down cycles in the semiconductor equipment industry are difficult to predict. This cyclical nature of our marketplace affects our ability to accurately budget our expense levels, which are based in part on our projections of future revenues.

When cyclical fluctuations result in lower than expected revenue levels, operating results may be adversely affected and cost reduction measures may be necessary in order for us to remain competitive and financially sound. During a down cycle, we must be able to make timely adjustments to our cost and expense structure to correspond to the prevailing market conditions. In addition, during periods of rapid growth, we must be able to increase manufacturing capacity and personnel to meet customer demand. We can provide no assurance that these objectives can be met in a timely manner in response to industry cycles. If we fail to respond to industry cycles, our business could be seriously harmed.

During the most recent down cycle, beginning in the first half of fiscal 2001, the semiconductor industry experienced excess production capacity that caused semiconductor manufacturers to decrease capital spending. We do not have long-term volume production contracts with our customers and we do not control the timing or volume of orders placed by our customers. Whether and to what extent our customers place orders for any specific products and the mix and quantities of products included in those orders are factors beyond our control. Insufficient orders will result in under-utilization of our manufacturing facilities and infrastructure and will negatively affect our results of operations and financial condition.

***We are dependent on key personnel for our business development, product development and sales, and any loss of our key personnel to competitors or other industries could dramatically impact our ability to continue operations.***

Amtech is the beneficiary of a life insurance policy on the life of Mr. Whang in the amount of \$1,000,000, but there is no assurance that such amount will be sufficient to cover the cost of finding and hiring a suitable replacement for Mr. Whang. It may not be feasible for any successor to maintain the same business relationships that Mr. Whang has established. If we were to lose the services of Mr. Whang for any reason, it could have a material adverse affect on our business.

In addition, historically, our product development has been accomplished through cooperative efforts with two key customers. Our relationship with one of these customers as well as with our joint development partner for the new technology asher, are substantially dependent on the personal relations established by Mr. Whang. While there can be no assurance that such relationships will continue, such cooperation is expected to continue to be a significant element in our future development efforts.

We also depend on the management efforts of our officers and other key personnel and on the ability to attract new key personnel and retain existing key personnel. Most of our products, other than the Atmoscan® and products acquired in the P.R. Hoffman acquisition, were developed by our own personnel. We presently employ three engineers, including one with a Ph.D., and one in the sales department at our Tempe, Arizona plant. We employ six engineers, including one with a Ph.D., in our Netherlands operation. These employees design and support the horizontal diffusion furnace and conveyor furnace product lines manufactured in the Netherlands and the related Process/Robotic products manufactured in Tempe. Two engineers are employed in our Carlisle, Pennsylvania operation. They design wafer lapping machines and carriers to meet customers' processing requirements. Competition is intense for highly skilled employees. There can be no assurance that we will be successful in attracting and retaining such personnel or that we can avoid increased costs in order to do so. There can be no assurance that employees will not leave Amtech or compete against us. Our failure to attract additional qualified employees or to retain the services of key personnel could negatively impact our operating results and financial condition.

*We may not be able to keep pace with the rapid change in the technology we use in our products.*

Success in the semiconductor equipment industry depends, in part, on continual improvement of existing technologies and rapid innovation of new solutions. For example, the semiconductor industry continues to shrink the size of semiconductor devices. These and other evolving customer needs require us to respond with continued development programs.

Technical innovations are inherently complex and require long development cycles and appropriate professional staffing. Our future business success depends on our ability to develop and introduce new products or uses for existing products that successfully address changing customer needs, win market acceptance of these new products or uses and manufacture any new products in a timely and cost-effective manner. If we do not develop and introduce new products, technologies or uses for existing products in a timely manner in response to changing market conditions or customer requirements, our business could be seriously harmed.

**Our results of operations may be materially harmed if we are unable to recoup our investment in research and development.**

The rapid change in technology in our industry requires that we continue to make investments in research and development in order to enhance the performance and functionality of our products and to keep pace with competitive products and satisfy customer demands for improved performance, features and functionality. There can be no assurance that revenues from future products or product enhancements will be sufficient to recover the development costs associated with such products or enhancements or that we will be able to secure the financial resources necessary to fund future development. Research and development costs typically are incurred before we confirm the technical feasibility and commercial viability of a product, and not all development activities result in commercially viable products. In addition, we cannot ensure that these products or enhancements will receive market acceptance or that we will be able to sell these products at prices that are favorable to us. Our business could be seriously harmed if we are unable to sell our products at favorable prices or if our products are not accepted by the market in which we operate.

*Our current capitalization could delay, defer or prevent a change of control.*

We are authorized to issue up to 100,000,000 shares of common stock and up to 100,000,000 shares of preferred stock. As of December 13, 2002, there were 2,689,571 shares outstanding. Authorized but unissued common stock may be issued for such consideration as the board of directors determines to be adequate. The board of directors may issue preferred stock with such rights and preferences as they determine, without shareholder vote. Although we do not currently intend to issue any shares of our preferred stock there can be no assurance that we will not do so in the future. Shareholders may or may not be given the opportunity to vote thereon, depending upon the nature of any such transactions, applicable law, the rules and policies of the national securities exchange on which the common stock is then trading, if any, and the judgment of the board of directors. Shareholders have no preemptive rights to subscribe for newly issued shares of our capital stock.

On May 17, 1999, we declared a dividend distribution of one preferred share purchase right for each outstanding share of common stock. The dividend was payable on June 9, 1999, to stockholders of record as of the close of business on that date. Each right entitles the registered holder to purchase one one-hundredth of a share of Series A Participating Preferred Stock, subject to adjustment, at a price \$8.50 per one one-hundredth of a share of Preferred Stock, subject to adjustment. The rights issuance was adopted as protection against a takeover by a third party.

Mr. Whang and certain other key employees have severance arrangements that require Amtech to make significant lump sum payments in the event of a change of control in ownership.

Having the outstanding rights, and a substantial number of authorized and unreserved shares of common stock, preferred stock and severance arrangements with key employees could have the effect of making it more difficult for a third party to acquire a majority of our outstanding voting stock. Management could use the additional shares to resist a takeover effort even if the terms of the takeover offer are favored by a majority of the independent shareholders. This could delay, defer, or prevent a change in control.

***If third parties violate our proprietary rights, in which we have made significant investment, or accuse us of infringing upon their proprietary rights, such events could result in loss of the value of some of our intellectual property or costly litigation.***

Our success is dependent in part on our technology and other proprietary rights. We own various United States and international patents and have additional pending patent applications relating to some of our products and technologies. The process of seeking patent protection is lengthy and expensive, and we cannot be certain that pending or future applications will actually result in issued patents, or that, issued patents will be of sufficient scope or strength to provide meaningful protection or commercial advantage to us. Other companies and individuals, including our larger competitors, may develop technologies that are similar or superior to our technology or design around the patents we own. We also maintain trademarks on certain of our products and claim copyright protection for certain proprietary software and documentation. However, we can give no assurance that our trademarks and copyrights will be upheld or successfully deter infringement by third parties.

While patent, copyright and trademark protection for our intellectual property is important, we believe our future success in highly dynamic markets is most dependent upon the technical competence and creative skills of our personnel. We attempt to protect our trade secrets and other proprietary information through agreements with our customers, suppliers, employees and consultants and through other security measures. We also rely on trade secret protection for our technology, in part through confidentiality agreements with our employees, consultants and third parties. We also maintain exclusive and non-exclusive licenses with third parties for the technology used in certain products. However, these employees, consultants and third parties may breach these agreements, and we may not have adequate remedies for wrongdoing. In addition, the laws of certain territories in which we develop, manufacture or sell our products may not protect our intellectual property rights to the same extent as do the laws of the United States.

From time to time we have received communications from other parties asserting the existence of patent rights or other intellectual property rights that they believe cover certain of our products, processes, technologies or information. In such cases, we evaluate our position and consider the available alternatives, which may include seeking licenses to use the technology in question on commercially reasonable terms or defending our position. Based on industry practice and prior experience, we believe that licenses or other rights, if necessary, will be available on commercially reasonable terms for existing or future claims. Nevertheless, we cannot ensure that licenses can be obtained, or if obtained will be on acceptable terms or that litigation or other administrative proceedings will not occur. Defending our intellectual property rights through litigation could be very costly. If we are not able to negotiate the necessary licenses on commercially reasonable terms or successfully defend our position, our financial condition and results of operations could be materially and adversely affected.

***Our reliance on sales to a few major customers and granting credit to those customers places us at financial risk.***

As of September 30, 2002, receivables from two customers comprised 34% of accounts receivable. A concentration of our receivables from a small number of customers places us at risk. If any one or more of our major customers is unable to pay us it could adversely affect our results of operation and financial condition. Amtech attempts to manage this credit risk by performing credit checks, requiring significant partial payments prior to shipment where appropriate, and actively monitoring collections.

***Our business might be adversely affected by our dependence on foreign business.***

During the fiscal year ended September 30, 2002, 53% of our sales were made to customers outside the United States as follows:

- Asia (including Singapore, Indonesia, Malaysia and India) – 20%
- Europe (including Israel and Africa) – 33%

Because of our significant dependence on international revenues, our operating results could be negatively affected by a continued or additional decline in the economies of any of the countries or regions in which we do business. Each region in the global semiconductor equipment market exhibits unique characteristics that can cause capital equipment investment patterns to vary significantly from period to period. Periodic local or international

economic downturns, trade balance issues, political instability and fluctuations in interest and currency exchange rates could negatively affect our business and results of operations.

We recorded a gain of \$.2 million and a charge of \$.1 million during fiscal 2002 and fiscal 2001, respectively, as a result of foreign currency transactions. While our business has not been materially affected in the past by foreign business or currency fluctuations, there is a risk that it may be materially adversely affected in the future. Such risk includes possible losses on account of currency exchange rate fluctuations, possible future prohibitions against repatriation of earnings, or proceeds from disposition of investments, and from possible social and military instability in the case of India, South Korea, Taiwan and possibly elsewhere. Our wholly owned subsidiary, Tempres Systems, has conducted its operations in the Netherlands since fiscal 1995. As a result, such operations are subject to the taxation policies, employment and labor laws, transportation regulations, import and export regulations and tariffs, possible foreign exchange restrictions, international monetary fluctuations, and other political, economic and legal policies of that nation, the European Economic Union and the other European nations in which it conducts business. Consequently, we might encounter unforeseen or unfamiliar difficulties in conducting our European operations. Changes in such laws and regulations may have a material adverse effect on our revenue and costs.

***The semiconductor equipment industry is competitive and we are relatively small in size and have fewer resources in comparison with our competitors.***

Our industry includes large manufacturers with substantial resources to support customers worldwide. Our future performance depends, in part, upon our ability to continue to compete successfully worldwide. Some of our competitors are diversified companies with greater financial resources and more extensive research, engineering, manufacturing, marketing and customer service and support capabilities than we can provide. We face competition from companies whose strategy is to provide a broad array of products, some of which compete with the products and services that we offer. These competitors may bundle their products in a manner that may discourage customers from purchasing our products. In addition, we face competition from smaller emerging semiconductor equipment companies whose strategy is to provide a portion of the products and services that we offer, using innovative technology to sell products into specialized markets. Loss of competitive position could impair our prices, customer orders, revenues, gross margins, and market share, any of which would negatively affect our operating results and financial condition. Our failure to compete successfully with these other companies would seriously harm our business. There is risk that larger, better-financed competitors will develop and market more advanced products than those that we currently offer, or that competitors with greater financial resources may decrease prices thereby putting us under financial pressure. The occurrence of any of these events could have a negative impact on our revenues.

***If we make additional acquisitions it could result in an increase in our costs of operations, divert management's attention away from other operational matters, and expose us to other risks associated with potential acquisitions.***

We continually evaluate potential acquisitions. We might make acquisitions of, or significant investments in, other businesses with synergistic products, services and technologies. Acquisitions involve numerous risks, including, but not limited to:

- difficulties and increased costs in connection with integration of the personnel, operations, technologies and products of acquired companies;
- diversion of management's attention from other operational matters;
- the potential loss of key employees of acquired companies;
- lack of synergy, or inability to realize expected synergies, resulting from the acquisition;
- the risk that the issuance of Amtech common stock in an acquisition or merger could be dilutive to Amtech stockholders if anticipated synergies are not realized; and
- acquired assets becoming impaired as a result of technological advancements or worse-than-expected performance of the acquired company.



***If our critical suppliers fail to deliver sufficient quantities of product in a timely and cost-effective manner it could negatively affect our business.***

We use a wide range of materials and services in the production of our products including custom electronic and mechanical components, and we use numerous suppliers to supply materials. We generally do not have guaranteed supply arrangements with our suppliers. Because of the variability and uniqueness of customers' orders, we do not maintain an extensive inventory of materials for manufacturing. Key suppliers include two steel mills capable of holding the type and tolerances that we require, an injection molder that provides plastic insets for steel carriers, an adhesive manufacturer that supplies the critical glue used in the production of the semiconductor polishing templates, and a pad supplier that produces a unique material used to attach semiconductor wafers to the polishing template. We also rely on third parties for laser cutting, machined parts, steel frames and metal panels and other components used particularly in the assembly of semiconductor production equipment.

Although we make reasonable efforts to ensure that parts are available from multiple suppliers, this is not always possible; accordingly, some key parts are being procured from a single supplier or a limited group of suppliers. The semiconductor industry's recent increase in demand for capital equipment has resulted in longer lead-times for many important system components, which could cause delays in meeting shipments to our customers. Because the selling price of some systems exceeds \$1 million, the delay in the shipment of even a single system could cause significant variation in quarterly revenue, operating results and the market value of our stock. We have sought, and will continue to seek, to minimize the risk of production and service interruptions and shortages of key parts by:

- selecting and qualifying alternative suppliers for key parts;
- monitoring the financial stability of key suppliers; and
- maintaining appropriate inventories of key parts.

There can be no assurance that results of operations will not be materially and adversely affected if, in the future, we do not receive in a timely and cost-effective manner a sufficient quantity of parts to meet our production requirements.

***We might require additional financing to expand our operations.***

On September 13, 2000, we issued 383,000 shares of common stock, and warrants to purchase an aggregate of up to 59,300 shares of common stock, in a private placement pursuant to a Stock and Warrant Purchase Agreement. Net proceeds to the company, after deducting placement agents', legal, accounting and registration fees, were approximately \$4.6 million. The proceeds will be used to fund the company's growth initiatives. While we believe that revenues generated from our operations, as well as the proceeds received from this private placement, are sufficient to provide adequate working capital for the foreseeable future and for a limited number of growth initiatives, additional financing is expected to be required for further implementation of our plans for expansion. There is no assurance that any additional financing will be available if and when required, or, even if available, that it would not materially dilute the ownership percentage of the then existing shareholders.

***If our securities become ineligible for trading on the Nasdaq system, they might be subject to Rule 15g-9 of the Securities Exchange Act of 1934, which imposes additional sales practice requirements on broker-dealers who sell such securities to persons other than established customers and accredited investors.***

While our common stock is now included on the Nasdaq National Market, continued inclusion will depend on our ability to meet certain eligibility requirements established for the Nasdaq National Market. Loss of Nasdaq eligibility could result if we sustain material operating losses or if the market price of our common stock falls below \$1.00 per share. For transactions covered by the rule, the broker-dealer must make a special suitability determination for the purchaser and receive the purchaser's written consent to the transaction prior to the sale. The rule may adversely affect the ability of broker-dealers to sell our securities, and consequently may limit the public market for and the trading price of our common stock.

*Terrorist attacks and threats or actual war may negatively impact all aspects of our operations, revenues, costs and stock price.*

Recent terrorist attacks in the United States, as well as future events occurring in response or connection to them, including, without limitation, future terrorist attacks against United States targets, rumors or threats of war, actual conflicts involving the United States or its allies or military or trade disruptions impacting our domestic or foreign suppliers of parts, components and subassemblies, may impact our operations, including, among other things, causing delays or losses in the delivery of supplies to us and decreased sales of our products. More generally, any of these events could cause consumer confidence and spending to decrease or result in increased volatility in the United States and worldwide financial markets and economy. They also could result in economic recession in the United States or abroad. Any of these occurrences could have a significant impact on our operating results, revenues and costs.

*We are subject to environmental regulations and our inability or failure to comply with these regulations could adversely affect our business.*

We are subject to environmental regulations in connection with our business operations, including but not limited to regulations related to manufacturing and our customers' use of our products. From time to time, we receive notices regarding these regulations. It is our policy to respond promptly to these notices and to take any necessary corrective action. Failure or inability to comply with existing or future environmental regulations could result in significant remediation liabilities, the imposition of fines and/or the suspension or termination of development, manufacturing or use of certain of our products, each of which could damage our financial condition and results of operations.

#### **ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK**

Amtech is exposed to financial market risks, including changes in foreign currency exchange rates and interest rates. Its operations in the United States are conducted in United States dollars. Amtech's operation in The Netherlands, a component of the semiconductor equipment segment, conducts business primarily in the Euro and the United States dollar. The functional currency of Amtech's Netherlands operation is Euro.

Amtech estimates that more than 95% of its transactions are denominated in one of its two functional currencies or currencies that have fixed exchange rates with one of its functional currencies. As of September 30, 2002, Amtech did not hold any stand alone or separate derivative instruments. Amtech incurred a net foreign currency transaction gain of \$.2 million in 2002 and loss of \$.1 million in 2001. Amtech's investment in and advances to its Netherlands' operation totals \$3.9 million. A 10% change in the value of the Euro relative to the United States dollar would cause a \$.4 million foreign currency translation adjustment, a type of other comprehensive income (loss), which would be a direct adjustment to stockholders' equity.

When the value of the Euro declines relative to the value of the United States dollar, operations in The Netherlands can be more competitive against the United States based equipment suppliers and the cost of purchases denominated in United States dollars become more expensive. When the value of the Euro increases relative to the value of the United States dollar, operations in The Netherlands must raise prices to those customers that normally make purchases in United States dollars, in order to maintain the same profit margins. When this occurs, this operation attempts to have transactions denominated in the Euro and to increase its purchases denominated in United States dollars. Amtech estimates that its fiscal 2002 purchases and sales of this foreign operation that are denominated in currencies not linked to its functional currency, including United States dollars, were approximately \$.8 million and \$.2 million, respectively. Amtech estimates that its fiscal 2001 purchases and sales of this foreign operation that are denominated in currencies not linked to its functional currency, including United States dollars, were approximately \$.65 million and \$.22 million, respectively. Most of those purchases are denominated in United States dollars and provide a partial hedge against fluctuations in exchange rates on sales denominated in that currency. Because it is difficult to predict the volume of dollar denominated transactions arising from The Netherlands operations, Amtech does not hedge against the effects of exchange rate changes on future transactions. The Euro is at a relatively high value relative to the United States dollar at the end of fiscal 2002, giving Amtech's operation based in The Netherlands a competitive disadvantage over other suppliers based in the United States.

**ITEM 8: Financial Statements and Supplementary Data**

(a)	The following documents are filed as part of this Annual Report on Form 10-K:	<u>PAGE</u>
(1)	Financial Statements:	
	Independent Auditors' Reports .....	30
	Consolidated Balance Sheets September 30, 2002 and 2001 .....	32
	Consolidated Statements of Operations for the years ended September 30, 2002, 2001 and 2000.....	33
	Consolidated Statements of Stockholders' Equity for the years ended September 30,2002, 2001 and 2000 .....	34
	Consolidated Statements of Cash Flows for the years ended September 30, 2002, 2001 and 2000.....	35
	Notes to Consolidated Financial Statements September 30, 2002, 2001 and 2000.....	36

## INDEPENDENT AUDITORS' REPORT

The Board of Directors Amtech Systems, Inc.:

We have audited the accompanying consolidated balance sheet of AMTECH SYSTEMS, INC. and subsidiaries as of September 30, 2002, and the related consolidated statements of operations, stockholders' equity and cash flows for the year then ended. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audit. The consolidated financial statements and financial statement schedule of Amtech Systems, Inc. and subsidiaries as of September 30, 2001 and 2000 and for each of the years in the two-year period then ended were audited by other auditors who have ceased operations. Those auditors expressed an unqualified opinion on those consolidated financial statements and financial statement schedule in their report dated January 9, 2002.

We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Amtech Systems, Inc. and subsidiaries as of September 30, 2002 and the results of their operations and their cash flows for the year then ended, in conformity with accounting principles generally accepted in the United States of America.

Our audit was made for the purpose of forming an opinion on the consolidated financial statements taken as a whole. The schedule listed in the index of financial statements, required by the Securities and Exchange Commission's rules is presented for additional analysis and is not part of the consolidated financial statements. This schedule has been subjected to the auditing procedures applied in the audit of the consolidated financial statements and, in our opinion, is fairly stated in all material respects in relation to the consolidated financial statements taken as a whole.

/s/ KPMG LLP

Phoenix, Arizona  
November 27, 2002

**THE REPORT PRESENTED BELOW IS A COPY OF THE INDEPENDENT AUDITORS' REPORT OF ARTHUR ANDERSEN LLP, THE FORMER AUDITOR OF AMTECH SYSTEMS, INC., ISSUED ON JANUARY 9, 2002. ARTHUR ANDERSEN LLP HAS BEEN UNABLE TO ISSUE AN UPDATED REPORT. ADDITIONALLY, THE OPINION PRESENTED BELOW COVERS THE BALANCE SHEET AS OF SEPTEMBER 30, 2000 AND THE STATEMENTS OF OPERATIONS, STOCKHOLDERS' EQUITY AND CASH FLOWS FOR THE YEAR ENDED SEPTEMBER 30, 1999, WHICH STATEMENTS ARE NOT INCLUDED IN THIS REPORT ON FORM 10-K.**

#### **REPORT OF INDEPENDENT PUBLIC ACCOUNTANTS**

To Amtech Systems, Inc.:

We have audited the accompanying consolidated balance sheets of AMTECH SYSTEMS, INC. (an Arizona corporation) and subsidiaries (the "Company") as of September 30, 2001 and 2000, and the related consolidated statements of operations, stockholders' equity and cash flows for each of the three years ended September 30, 2001. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Company as of September 30, 2001 and 2000, and the results of its operations and its cash flows for each of the three years ended September 30, 2001, in conformity with accounting principles generally accepted in the United States.

As explained in Note 2 to the financial statements, effective October 1, 2000, the Company changed its method of accounting for revenue recognition.

Our audits were made for the purpose of forming an opinion on the basic financial statements taken as a whole. The schedule listed in the index of financial statements is presented for purposes of complying with the Securities and Exchange Commission's rules and is not part of the basic financial statements. This schedule has been subjected to the auditing procedures applied in the audits of the basic financial statements and, in our opinion, fairly states in all material respects the financial data required to be set forth therein in relation to the basic financial statements taken as a whole.

/s/ ARTHUR ANDERSEN LLP

Phoenix, Arizona  
January 9, 2002

**AMTECH SYSTEMS, INC. AND SUBSIDIARIES**  
**CONSOLIDATED BALANCE SHEETS**

	September 30,	
	2002	2001
<b>ASSETS</b>		
<b>CURRENT ASSETS:</b>		
Cash and cash equivalents	\$ 8,045,663	\$ 5,998,120
Accounts receivable (less allowance for doubtful accounts of \$152,000 and \$630,000, at September 30, 2002 and 2001, respectively)	2,695,323	3,829,867
Inventories	3,020,890	4,804,457
Deferred income taxes	1,044,000	1,477,000
Prepaid expenses	82,291	85,643
Total current assets	14,888,167	16,195,087
PROPERTY, PLANT AND EQUIPMENT - net	1,642,084	1,484,437
DEFERRED INCOME TAXES - LONG TERM	88,000	48,000
GOODWILL AND OTHER ASSETS - net	774,849	843,046
TOTAL ASSETS	\$ 17,393,100	\$ 18,570,570
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
<b>CURRENT LIABILITIES:</b>		
Accounts payable	\$ 891,640	\$ 880,006
Accrued compensation and related taxes	653,045	671,075
Accrued warranty expense	262,573	304,228
Deferred profit	479,964	1,612,013
Customer deposits	91,417	367,523
Income taxes payable	37,000	135,000
Other accrued liabilities	306,601	605,547
Total current liabilities	2,722,240	4,575,392
DEFERRED PROFIT - LONG TERM	199,966	165,160
LONG-TERM OBLIGATIONS	259,217	246,184
COMMITMENTS AND CONTINGENCIES (Notes 3, 7 and 10)		
<b>STOCKHOLDERS' EQUITY:</b>		
Preferred stock; no specified terms; 100,000,000 shares authorized; none issued	-	-
Common stock; \$0.01 par value; 100,000,000 shares authorized; 2,688,571 (2,649,171 in 2001) shares issued and outstanding	26,886	26,492
Additional paid-in capital	12,859,715	12,539,040
Accumulated other comprehensive loss - cumulative foreign currency translation adjustment	(179,639)	(368,242)
Retained earnings	1,504,715	1,386,544
Total stockholders' equity	14,211,677	13,583,834
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	\$ 17,393,100	\$ 18,570,570

The accompanying notes are an integral part of these consolidated financial statements.

**AMTECH SYSTEMS, INC. AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF OPERATIONS**

	Year Ended September 30,		
	2002	2001	2000
Net revenues	\$ 20,532,768	\$ 22,851,920	\$ 19,027,446
Cost of sales	15,715,909	15,974,260	12,398,560
Gross margin	4,816,859	6,877,660	6,628,886
Selling, general and administrative	4,422,352	4,918,902	4,169,631
Research and development	317,375	382,186	476,975
Operating income	77,132	1,576,572	1,982,280
Interest income, net	91,039	246,720	93,141
Income before income taxes and cumulative effect of change in accounting principle	168,171	1,823,292	2,075,421
Income tax provision	50,000	670,000	750,000
Income before cumulative effect of change in accounting principle	118,171	1,153,292	1,325,421
Cumulative effect of change in accounting principle, net of tax benefit of \$410,000	-	(690,211)	-
<b>NET INCOME</b>	<b>\$ 118,171</b>	<b>\$ 463,081</b>	<b>\$ 1,325,421</b>

**EARNINGS PER SHARE:**

Basic

Income before cumulative effect of change in accounting principle	\$ .04	\$ .43	\$ .61
Cumulative effect of change in accounting principle, net of tax	-	(.26)	-
Basic earnings per share	<u>\$ .04</u>	<u>\$ .17</u>	<u>\$ .61</u>

Diluted

Income before cumulative effect of change in accounting principle	\$ .04	\$ .41	\$ .56
Cumulative effect of change in accounting principle, net of tax	-	(0.25)	-
Diluted earnings per share	<u>\$ .04</u>	<u>\$ .16</u>	<u>\$ .56</u>

Number of shares used in per share calculations:

Basic	2,683,030	2,661,001	2,158,562
Diluted	2,765,553	2,821,583	2,336,497

**PRO FORMA AMOUNTS WITH THE CHANGE IN ACCOUNTING PRINCIPLE RELATED TO REVENUE RECOGNITION APPLIED RETROACTIVELY (UNAUDITED):**

Net revenues	\$ 20,532,768	\$ 22,851,920	\$ 18,908,378
Net income	\$ 118,171	\$ 1,153,292	\$ 1,060,619
Earnings per share:			
Basic	\$ .04	\$ .43	\$ .49
Diluted	\$ .04	\$ .41	\$ .45

The accompanying notes are an integral part of these consolidated financial statements.

**AMTECH SYSTEMS, INC. AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY**  
For the Years Ended September 30, 2002, 2001 and 2000

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive (Loss)	Retained Earnings (Accumulated Deficit)	Total Stockholders' Equity
	Number of Shares	Amount				
<b>BALANCE AT SEPTEMBER 30, 1999</b>	2,108,679	\$21,087	\$ 7,400,152	\$ (309,064)	\$ (401,958)	\$ 6,710,217
Net income	-	-	-	-	1,325,421	1,325,421
Translation adjustment	-	-	-	(193,292)	-	(193,292)
Comprehensive income						<u>1,132,129</u>
Issuance of common stock, net of related expenses	383,000	3,830	4,612,117	-	-	4,615,947
Stock options exercised and other including a \$59,000 related tax benefit	<u>80,129</u>	<u>801</u>	<u>120,789</u>	<u>-</u>	<u>-</u>	<u>121,590</u>
<b>BALANCE AT SEPTEMBER 30, 2000</b>	<u>2,571,808</u>	<u>25,718</u>	<u>12,133,058</u>	<u>(502,356)</u>	<u>923,463</u>	<u>12,579,883</u>
Net income	-	-	-	-	463,081	463,081
Translation adjustment	-	-	-	134,114	-	134,114
Comprehensive income						<u>597,195</u>
Warrants and stock options exercised	<u>77,363</u>	<u>774</u>	<u>405,982</u>	<u>-</u>	<u>-</u>	<u>406,756</u>
<b>BALANCE AT SEPTEMBER 30, 2001</b>	<u>2,649,171</u>	<u>26,492</u>	<u>12,539,040</u>	<u>(368,242)</u>	<u>1,386,544</u>	<u>13,583,834</u>
Net income	-	-	-	-	118,171	118,171
Translation adjustment	-	-	-	188,603	-	188,603
Comprehensive income						<u>306,774</u>
Common Stock issued pursuant to P.R. Hoffman earn-out	30,600	306	309,523	-	-	309,829
Stock options exercised	<u>8,800</u>	<u>88</u>	<u>11,152</u>	<u>-</u>	<u>-</u>	<u>11,240</u>
<b>BALANCE AT SEPTEMBER 30, 2002</b>	<u>2,688,571</u>	<u>\$26,886</u>	<u>\$ 12,859,715</u>	<u>\$ (179,639)</u>	<u>\$ 1,504,715</u>	<u>\$ 14,211,677</u>

The accompanying notes are an integral part of these consolidated financial statements.



**AMTECH SYSTEMS, INC. AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**

	Year Ended September 30,		
	2002	2001	2000
<b>OPERATING ACTIVITIES:</b>			
Net income	\$ 118,171	\$ 463,081	\$ 1,325,421
Adjustments to reconcile net income to net cash provided by operating activities:			
Cumulative effect of change in accounting principle, net of tax	-	690,211	-
Depreciation and amortization	447,321	376,308	294,122
Provision for inventory valuation	528,153	336,806	65,272
Provision for doubtful accounts	372,058	496,548	11,579
Loss on disposals of long-lived assets	-	1,660	431
Deferred income taxes	393,000	(538,000)	(156,000)
(Increase) decrease in:			
Accounts receivable	881,332	691,529	(1,973,716)
Inventories	1,382,943	(848,402)	(2,265,693)
Prepaid expenses and other assets	(14,645)	(139,745)	(327,954)
Increase (decrease) in:			
Accounts payable	(24,675)	(1,293,612)	1,636,815
Accrued liabilities and customer deposits	(556,595)	59,015	846,877
Deferred profit	(973,010)	676,962	-
Income taxes payable	(114,629)	(532,273)	759,672
Net Cash Provided By Operating Activities	<u>2,439,424</u>	<u>440,088</u>	<u>216,826</u>
<b>INVESTING ACTIVITIES:</b>			
Purchases of property, plant and equipment	(464,322)	(664,733)	(322,292)
Net Cash Used In Investing Activities	<u>(464,322)</u>	<u>(664,733)</u>	<u>(322,292)</u>
<b>FINANCING ACTIVITIES:</b>			
Common Stock issued	11,240	406,757	62,590
Net proceeds from private placement of common stock	-	-	4,615,947
Net payments and borrowings on mortgage loan	-	930	(10,605)
Net Cash Provided By Financing Activities	<u>11,240</u>	<u>407,687</u>	<u>4,667,932</u>
EFFECT OF EXCHANGE RATE CHANGES ON CASH	<u>61,201</u>	<u>30,578</u>	<u>97,349</u>
NET INCREASE IN CASH AND CASH EQUIVALENTS	2,047,543	213,620	4,659,815
CASH AND CASH EQUIVALENTS, BEGINNING OF YEAR	5,998,120	5,784,500	1,124,685
CASH AND CASH EQUIVALENTS, END OF YEAR	<u>\$ 8,045,663</u>	<u>\$ 5,998,120</u>	<u>\$ 5,784,500</u>
<b>SUPPLEMENTAL CASH FLOW INFORMATION:</b>			
Cash paid (received) during the year for:			
Interest expense	\$ 16,926	\$ 29,816	\$ 12,805
Income taxes paid (refunded) - net	\$ (209,000)	\$ 1,743,000	\$ 143,000
<b>NONCASH ITEMS:</b>			
Common stock issued pursuant to PR Hoffman acquisition	\$ 309,829	\$ -	\$ -

The accompanying notes are an integral part of these consolidated financial statements.

**AMTECH SYSTEMS, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
**FOR THE YEARS ENDED SEPTEMBER 30, 2002, 2001 AND 2000**

**(1) NATURE OF OPERATIONS:**

Amtech Systems, Inc. (an Arizona corporation), and its wholly-owned subsidiaries, P. R. Hoffman Machine Products, Inc. ("P. R. Hoffman") based in the United States, and Tempress Systems, Inc. ("Tempress") based in The Netherlands, comprise the "Company." The Company designs, assembles, sells and installs capital equipment and related consumables used in the manufacture of wafers of various materials, primarily silicon wafers for the semiconductor industry, and in certain semiconductor fabrication processes. These products are sold to manufacturers of silicon wafers and semiconductors worldwide, particularly in the United States, Asia and northern Europe. In addition, the Company provides semiconductor manufacturing support services.

The Company serves a niche market in an industry which experiences rapid technological advances and which in the past has been very cyclical. Therefore, the Company's future profitability and growth depend on its ability to develop or acquire and market profitable new products and its ability to adapt to cyclical trends.

**(2) SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:**

**Basis of Presentation** - The accompanying consolidated financial statements include the accounts of Amtech Systems, Inc. and its wholly-owned subsidiaries, P. R. Hoffman (see Note 3) and Tempress. All significant intercompany accounts and transactions have been eliminated in consolidation.

**Revenue Recognition** - During its fourth quarter of fiscal 2001, the Company changed its revenue recognition policy retroactively to effective October 1, 2000, based on guidance provided in Securities and Exchange Commission ("SEC") Staff Accounting Bulletin No. 101 ("SAB 101"), "Revenue Recognition in Financial Statements." The Company recognizes revenue when persuasive evidence of an arrangement exists; title transfers, generally upon shipment; the seller's price is fixed or determinable and collectibility is reasonably assured. Certain of the Company's product sales are accounted for as multiple-element arrangements. For the semiconductor equipment segment, if the Company has met defined customer specifications with similarly situated customers and the specific equipment and process involved, the Company recognizes equipment revenue upon shipment and transfer of title, and the remainder when it becomes due, generally upon acceptance. Product sales that are shipped but do not meet this criteria are deferred and recognized upon customer acceptance.

Equipment sold by the polishing supplies segment does not involve process guarantees or acceptance criteria, so the related revenue is recorded upon shipment. For all segments, sales of spare parts and consumables are recognized upon shipment, as there are no post shipment obligations other than standard warranties. Service revenues are recognized as services are performed. Revenue related to service contracts is recognized upon performance of the services requested by the customer.

In accordance with guidance provided in SAB 101, the Company recorded a non-cash charge of \$690,211 (after reduction for income taxes of \$410,000), or \$0.26 per basic share, to reflect the cumulative effect of the accounting change as of the beginning of the 2001 fiscal year.

The deferred profit balance as of the beginning of fiscal 2001 was \$1,125,211. This amount represents the revenue net of the related cost of sales for systems that were shipped and that had not been

accepted and did not qualify for multiple-element accounting as of September 30, 2000. Of the \$1,125,211 in deferred profit as of the beginning of fiscal 2001, \$122,640 and \$936,994 was recognized in 2002 and 2001, respectively. The pro forma amounts presented on the consolidated statements of operations were calculated assuming the accounting change was retroactively adopted as of October 1, 1999.

Prior to fiscal 2001, the Company's revenue recognition policy was to recognize revenue and accrue the estimated installation costs at the time the customer took title to the product, generally at the time of shipment because the Company routinely met its installation obligations and installation costs represented a small percentage of total costs.

As revenue is not reported on a consistent basis between years, certain data contained in these financial statements may not be comparable between years.

**Cash Equivalents** - Cash equivalents consist of money market mutual funds, time certificates of deposit and U.S. treasury bills. The Company considers certificates of deposit and treasury bills to be cash equivalents if their original maturity is 90 days or less.

**Inventories** - Inventories are stated at the lower of cost (first-in, first-out method) or market value. The components of inventory are as follows:

	September 30,	
	2002	2001
Purchased parts	\$1,720,728	\$2,487,470
Work-in-progress	534,057	1,255,676
Finished goods	766,105	1,061,311
	<u>\$3,020,890</u>	<u>\$4,804,457</u>

**Property, Plant and Equipment** - Maintenance and repairs are charged to expense as incurred. The costs of additions and improvements are capitalized. The cost of property retired or sold and the related accumulated depreciation are removed from the applicable accounts when disposition occurs and any gain or loss is recognized. Depreciation is computed using the straight-line method. Useful lives for equipment, machinery and leasehold improvements range from three to seven years; for furniture and fixtures from five to ten years; and for buildings twenty years. Depreciation and amortization expense for fiscal years 2002, 2001, and 2000 was approximately \$390,000, \$296,000, and \$241,000 respectively.

Long-lived assets are reviewed for impairment whenever events or circumstances indicate that the carrying amount of the asset may not be recoverable. If the sum of the undiscounted expected cash flows from an asset to be held and used in operations is less than the carrying value of the asset, an impairment loss is recognized.

The following is a summary of property, plant and equipment:

	September 30,	
	2002	2001
Building and leasehold improvements	\$ 732,739	\$ 691,405
Equipment and machinery	1,622,640	1,435,427
Furniture and fixtures	1,156,932	837,623
	3,512,311	2,964,455
Accumulated depreciation and amortization	(1,870,227)	(1,480,018)
	<u>\$1,642,084</u>	<u>\$1,484,437</u>

**Goodwill** - The purchase price in excess of net assets acquired, commonly referred to as goodwill, is \$727,837 and \$789,250 at September 30, 2002 and 2001, respectively, and is being amortized over fifteen years using the straight-line method. Amortization expense was approximately \$74,000, \$67,000 and \$37,000 for fiscal years 2002, 2001 and 2000 respectively.

**Warranty** - The Company provides free of charge a limited warranty, generally twelve to twenty-four months, to all purchasers of its new products and systems. Warranty expense for fiscal 2002, 2001, and 2000 amounted to approximately \$210,000, \$370,000 and \$110,000, respectively. Management believes these amounts and the amounts accrued for future warranty expenditures are sufficient for all warranty costs on systems sold through September 30, 2002.

**Research and Development Expenses** - The Company expenses product development costs as they are incurred.

**Foreign Currency Transactions and Translation** - Financial information relating to the Company's foreign subsidiary is reported in accordance with Statement of Financial Accounting Standards ("SFAS") No. 52, "Foreign Currency Translation." The functional currency of Tempres is the Euro. Net income includes pretax gains from foreign currency transactions of \$157,000 and \$25,000 in 2002 and 2000 and a loss of \$118,000 in 2001. The gains or losses resulting from the translation of Tempres' financial statements have been included in other comprehensive income (loss).

**Income Taxes** - The Company files consolidated federal income tax returns and computes deferred income tax assets and liabilities based upon cumulative temporary differences between financial reporting and taxable income, carryforwards available and enacted tax law. (See Note 12).

**Stock-Based Compensation** - The Company accounts for its employee stock-based compensation plans under SFAS No. 123, "Accounting for Stock-Based Compensation." SFAS No. 123 permits companies to record employee stock-based transactions under Accounting Principles Board Opinion ("APB") No. 25, under which no compensation cost is recognized and the pro forma effects on earnings and earnings per share are disclosed as if the fair market value approach had been adopted. (See Note 14).

**Concentration of Credit Risk and Use of Estimates** - The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the year. Actual results could differ from those estimates.

As of September 30, 2002, receivables from two customers comprised 23% and 12%, respectively, of accounts receivable. As of September 30, 2001, receivables from customers in the optical component industry comprised 51% of total receivables, of which three accounts comprised 39% of total receivables, representing a concentration of credit risk as defined by SFAS No. 105, "Disclosure of Information about Financial Instruments with Off-Balance Sheet Risk and Financial Instruments with Concentration of Credit Risk." As of September 30, 2002, receivables from customers in the optical component industry comprised only 1% of total receivables.

In July 2001, an optical component customer filed a petition for protection from creditors under Chapter 11 of the U.S. bankruptcy code. The amount of the sale was \$1,609,000. The customer had made payments of \$794,000 before filing in bankruptcy court, leaving an unpaid balance of approximately \$815,000. Through increased reserves at September 30, 2001, the Company had written

down this receivable to an estimated net realizable value of \$225,000. As of September 30, 2002, the net realizable value of this receivable had been written down to \$0.

**Fair Value of Financial Instruments** - The carrying values of the Company's current financial instruments approximate fair value due to the short term in which these instruments mature. The carrying values of the Company's lines of credit (see Note 4) and long-term debt (see Note 5) approximate fair value because the variable interest rates approximate the prevailing interest rates for similar debt instruments.

**Reclassification** - Certain amounts in the 2001 financial statements have been reclassified to conform with the 2002 financial statement presentation.

**Accounting Pronouncements Not Yet Adopted** - In July 2001, the Financial Accounting Standards Board issued Statements of Financial Accounting Standards No. 141, "Business Combinations" ("SFAS No. 141"), and No. 142, "Goodwill and Other Intangible Assets" ("SFAS No. 142"). SFAS No. 141 eliminates pooling of interest as a method for accounting for business combinations. SFAS No. 142 requires the discontinuation of the amortization of goodwill and intangible assets with indefinite lives and at least an annual assessment of whether there has been an impairment of such assets that needs to be recognized as an impairment charge. The Company must adopt SFAS Nos. 141 and 142 no later than October 1, 2002. Since amortization of goodwill is currently \$67,000 per year, the discontinuation of such amortization will not have a material effect on the Company's results of operations or financial condition. The Company does not expect to incur an impairment charge related to the \$728,000 of goodwill included in its assets as of September 30, 2002.

The FASB recently issued SFAS No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets," that is applicable to financial statements issued for fiscal years beginning after December 15, 2001. This statement supersedes SFAS No. 121, "Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to be Disposed Of," and portions of APB Opinion No. 30, "Reporting the Results of Operations." SFAS No. 144 provides a single accounting model for long-lived assets to be disposed of and significantly changes the criteria that must be met to classify an asset as "held for sale." Classification as "held for sale" is an important distinction since such assets are not depreciated and are stated at the lower of fair value and carrying amount. SFAS No. 144 also requires expected future operating losses from discontinued operations to be displayed in the period(s) in which the losses are incurred, rather than as of the measurement date as presently required. The provisions of SFAS No. 144 are not expected to have a material effect on the Company's financial position or operating results.

In April 2002, the FASB issued SFAS No. 145, "Rescission of FASB Statements No. 4, 44, and 64, Amendment of FASB Statement No. 13, and Technical Corrections". This Statement rescinds the requirement to report gains and losses from extinguishment of debt as an extraordinary item. Additionally, this statement amends Statement 13 to require sale-leaseback accounting for certain lease modifications that have economic effects similar to sale-leaseback transactions. The provisions of this statement relating to Statement 4 are applicable in fiscal years beginning after May 15, 2002. The provisions of this Statement related to Statement 13 are effective for transactions occurring after May 15, 2002. All other provisions of this Statement are effective for financial statements issued on or after May 15, 2002. The adoption of SFAS No. 145 did not have an effect on the Company's financial statements.

In June 2002, the FASB issued SFAS No. 146, "Accounting for Costs Associated with Exit or Disposal Activities". SFAS 146 nullifies Emerging Issues Task Force (EITF) Issue No. 94-3, "Liability Recognition for Certain Employee Termination Benefits and Other Costs to Exit an Activity. For purposes of this Statement, an exit activity includes, but is not limited to a restructuring as that term is defined in IAS 37, "Provisions, Contingent Liabilities, and Contingent Assets". The Statement is

effective for exit or disposal activities initiated after December 31, 2002. The adoption of SFAS No. 146 is not expected to have an effect on the Company's financial statements.

**(3) PURCHASE OF P. R. HOFFMAN'S ASSETS:**

P.R. Hoffman specializes in the development, manufacture and marketing of double-sided lapping and polishing machines and related consumables used in the manufacture of semiconductor silicon wafers. As a result of the July 1, 1997 acquisition of substantially all of the assets and operating liabilities of P.R. Hoffman, the Company is obligated to make additional payments to the former owner of P.R. Hoffman equal to 50% of pretax income of the P. R. Hoffman operation in excess of \$800,000 per year for a period of 5 years ending September 30, 2002, limited to a maximum aggregate amount of \$2 million of such payments. Those payments are payable in cash or the Company's common stock, at the Company's option, with a minimum of thirty-five percent (35%) of such payments being either cash or registered shares. No contingent consideration was earned in fiscal 2002. Contingent consideration of \$120,000 and \$313,000 was earned in fiscal 2001 and 2000, respectively. This additional consideration was treated as part of the purchase price.

As a part of the transaction, the Company subleases a 21,740 square foot building, located in Carlisle, Pennsylvania, from John R. Krieger, the Company's Director of Corporate Development and former owner of the P. R. Hoffman operation. The lease requires monthly payments of \$10,810 on a triple net basis, expires on June 30, 2004 and includes an option to renew the lease for five successive one-year terms. Monthly lease payments increase to \$10,860 on July 1, 2003. The Company also entered into an employment agreement with Mr. Krieger, which required payments of \$150,000 per year and expired on June 30, 2001.

**(4) LINE OF CREDIT:**

In June 2001, the Company was granted a line of credit in the amount of Euro 283,613, approximately \$249,610 as of September 30, 2002, at an interest rate of 1.75% over a Netherlands bank's basic interest rate, which was 4.0% as of September 30, 2002. The line of credit declines by Euro 5,672 per quarter until it reaches Euro 113,445 on January 1, 2009 and is secured by a lien of approximately \$110,938 on the Company's land and buildings in The Netherlands and certain accounts receivable, which amounted to approximately \$1,167,752 as of September 30, 2002. As of September 30, 2002 and 2001, there were no borrowings on this line of credit.

**(5) LONG-TERM OBLIGATIONS:**

Long-term debt included in long-term obligations includes a fifteen-year mortgage secured by the Company's land and building located in The Netherlands. The principal amount of the mortgage was \$161,000 and \$149,000 as of September 30, 2002 and 2001, respectively. As of September 30, 2002, the collateral has a carrying value of \$440,000. No principal payments are due until June 30, 2016, when the loan matures. Interest is paid monthly at a variable rate of 1.25% over a Netherlands bank's basic rate, which was 4.0% as of September 30, 2002. There is no penalty for prepayment of the loan.

Long-term obligations also include pension liabilities related to the pension plan for P.R. Hoffman hourly employees in the amount of \$98,000 and \$97,000 at September 30, 2002 and 2001, respectively.

**(6) STOCKHOLDERS' EQUITY:**

On September 8, 2000, the Company issued 383,000 shares of common stock and warrants to purchase an aggregate amount of up to 59,300 shares of common stock, pursuant to a Stock and Warrant Purchase Agreement and related commitments. One share and one warrant for one-tenth of a share were sold at a combined price of \$13.75. An additional 21,000 warrants were issued to the placement agents. The warrants are exercisable at a price per share of \$15.12 and expire on September 8, 2005. The Company has registered the resale of the shares issued in the transaction, including those issuable upon exercise of the warrants. Gross proceeds in the transaction were \$5,266,000. Net proceeds to the company were approximately \$4,616,000.

The Company's stockholder rights plan authorizes the distribution of one right for each outstanding common share to purchase one one-hundredth of a share of Series A Participating Preferred Stock, at a purchase price of \$8.50, subject to certain antidilution adjustments. The rights will expire 10 years after issuance and will be exercisable if (a) a person or group becomes the beneficial owner of 15% or more of the Company's common stock or (b) a person or group commences a tender or exchange offer that would result in the offeror beneficially owning 15% or more of the common stock (a "Stock Acquisition Date"). If a Stock Acquisition Date occurs, each right, unless redeemed by the Company at \$.01 per right, entitles the holder to purchase an amount of common stock of the Company, or in certain circumstances a combination of securities and/or assets or the common stock of the acquirer, having an equivalent market value of \$17.00 per right at a purchase price of \$8.50. Rights held by the acquiring person or group will become void and will not be exercisable.

In fiscal 2001, 67,050 warrants were exercised. These are related to warrants issued in the fiscal 1997 acquisition of substantially all of the assets and operating liabilities of P.R. Hoffman.

**(7) COMMITMENTS AND CONTINGENCIES:**

Key suppliers include two steel mills, one domestic and one German, capable of meeting the material specification the Company requires. As of September 30, 2002, the Company had unconditional commitments to purchase \$.5 million of steel, with delivery dates to be determined in the future. Due to minimum order quantities for this steel and long lead times, the Company has made purchase commitments that may be in excess of future production requirements, and it could take several years to use all of the steel commitments in production of the Company's products. These purchase commitments are not expected to result in any significant losses.

On or about August 31, 2000, a "P.R. Hoffman Machine Products" was one of 11 companies named in a legal action being brought by North Middleton Township in Carlisle, Pennsylvania, the owner of a landfill allegedly found to be contaminated. No detailed allegations have been filed as part of this legal action, which appears to have been filed to preserve the right to file claims for contributions to the clean-up of the landfill at a later date. The Company acquired the assets of P.R. Hoffman Machine Products, Inc. in an asset transaction consummated on July 1, 1997. (See Note 3.) The landfill was closed and has not been used by P.R. Hoffman since sometime prior to completion of the Company's acquisition. Therefore, the Company believes that the named company is the prior owner of the acquired assets. Under the terms of the Asset Purchase Agreement governing the acquisition, the prior owner, P.R. Hoffman Machine Products, Inc. is obligated to indemnify the Company for any breaches of P.R. Hoffman's representations and warranties in the Asset Purchase Agreement, including representations relating to environmental matters. In accordance with the terms of the Asset Purchase Agreement, the Company has provided notice to the prior owner of P.R. Hoffman Machine Products, Inc. of the Company's intent to seek indemnification from such owner for any liabilities resulting from this legal action. Based on information available to the Company as of the date of this report, management believes the Company's costs, if any, to resolve this matter will not be material to its results of operations or financial position.

**(8) MAJOR CUSTOMERS AND FOREIGN SALES:**

In fiscal 2002 and 2000, no customer accounted for 10% or more of net revenues. The Company had one customer that represented 14% of sales for the fiscal year ended September 30, 2001.

The Company's shipments were to customers in the following geographic regions:

	Year Ended September 30,		
	2002	2001	2000
North America	47%	55%	61%
Asia (Korea, People's Republic of China, Taiwan, Japan, Singapore, Indonesia, Malaysia, Australia and India)	20	8	19
Europe (including 1% or less to Israel and Africa)	33	37	20
	<u>100%</u>	<u>100%</u>	<u>100%</u>

**(9) BUSINESS SEGMENT INFORMATION:**

The Company classifies its products into two core business segments. The semiconductor equipment segment designs, manufactures and markets semiconductor wafer processing and handling equipment used in the fabrication of integrated circuits. Also aggregated in the semiconductor equipment segment are the manufacturing support service business and any difference between the planned corporate expenses, which are allocated to the segments based upon their revenue and the Company's investment in each, and actual corporate expenses. The polishing supplies segment designs, manufactures and markets carriers, templates and equipment used in the lapping and polishing of wafer thin materials, including silicon wafers used in the production of semiconductors. Information concerning the Company's business segments is as follows:

	Year Ended September 30,		
	2002	2001	2000
<u>Net revenues:</u>			
Semiconductor equipment	\$ 15,410,513	\$ 15,445,469	\$ 10,859,625
Polishing supplies	5,122,255	7,406,451	8,167,821
	<u>\$ 20,532,768</u>	<u>\$ 22,851,920</u>	<u>\$ 19,027,446</u>
<u>Operating income (loss):</u>			
Semiconductor equipment	\$ 196,509	\$ 930,915	\$ 985,157
Polishing supplies	(119,377)	645,657	997,123
Total operating income	77,132	1,576,572	1,982,280
Interest income, net	91,039	246,720	93,141
Income before income taxes and cumulative effect of change in accounting principle	<u>\$ 168,171</u>	<u>\$ 1,823,292</u>	<u>\$ 2,075,421</u>
<u>Capital expenditures:</u>			
Semiconductor equipment	\$ 464,322	\$ 664,733	\$ 206,740
Polishing supplies	-	-	115,552
	<u>\$ 464,322</u>	<u>\$ 664,733</u>	<u>\$ 322,292</u>
<u>Depreciation and amortization expense:</u>			
Semiconductor equipment	\$ 286,696	\$ 218,903	\$ 176,526
Polishing supplies	160,625	157,405	117,596
	<u>\$ 447,321</u>	<u>\$ 376,308</u>	<u>\$ 294,122</u>



	September 30,	
	2002	2001
<u>Identifiable assets:</u>		
Semiconductor equipment	\$ 15,030,365	\$ 15,682,289
Polishing supplies	2,817,735	2,888,281
	<u>\$ 17,848,100</u>	<u>\$ 18,570,570</u>

The Company has manufacturing operations in the United States and The Netherlands. Revenues, operating income (loss) and identifiable assets by geographic region of the locations are as follows:

	Year Ended September 30,		
	2002	2001	2000
<u>Net revenues:</u>			
United States	\$ 9,948,296	\$ 11,148,373	\$ 13,923,506
The Netherlands	10,584,472	11,703,547	5,103,940
	<u>\$ 20,532,768</u>	<u>\$ 22,851,920</u>	<u>\$ 19,027,446</u>
 <u>Operating income (loss):</u>			
United States	\$ (756,023)	\$ (76,979)	\$ 1,474,950
The Netherlands	833,155	1,653,551	507,330
	<u>\$ 77,132</u>	<u>\$ 1,576,572</u>	<u>\$ 1,982,280</u>
 <u>Identifiable assets:</u>			
United States	\$ 13,400,689	\$ 13,654,635	
The Netherlands	4,447,411	4,915,935	
	<u>\$ 17,848,100</u>	<u>\$ 18,570,570</u>	

**(10) LEASES:**

The Company leases buildings, vehicles and equipment. As of September 30, 2002, minimum rental commitments under noncancellable operating leases total \$447,000, of which \$264,000, \$138,000 and \$45,000 are payable in fiscal years 2003, 2004 and 2005, respectively.

Rental expense for 2002, 2001 and 2000 was approximately \$308,000, \$277,000 and \$220,000, respectively.

**(11) PROPRIETARY PRODUCT RIGHTS:**

Through the acquisition of the net assets of P. R. Hoffman (see Note 3), the Company acquired the license for the design of its steel carriers with plastic inserts for abrasive machining of silicon wafers. In 1995, P. R. Hoffman Machine Products, Inc. licensed the patent rights from the patent holder.

Royalty expense for all licenses included in cost of product sales totaled approximately \$66,000, \$74,000 and \$108,000 in 2002, 2001 and 2000, respectively.

(12) INCOME TAXES:

The provision for (benefit from) income taxes consists of:

	Year Ended September 30,		
	2002	2001	2000
<u>Current:</u>			
Domestic federal	\$ (439,000)	\$ 494,000	\$ 705,000
Foreign	117,000	606,000	125,000
Domestic state	(21,000)	108,000	76,000
	<u>(343,000)</u>	<u>1,208,000</u>	<u>906,000</u>
<u>Deferred:</u>			
Domestic federal	210,000	(275,000)	(89,000)
Foreign	175,000	(187,000)	3,000
Domestic state	8,000	(76,000)	(70,000)
	<u>393,000</u>	<u>(538,000)</u>	<u>(156,000)</u>
Income tax provision	<u>\$ 50,000</u>	<u>\$ 670,000</u>	<u>\$ 750,000</u>

The provision for income taxes before the cumulative effect of a change in accounting principle is different from the amount that would be computed by applying the United States corporate income tax rate to the income from operations before income taxes. The differences are summarized as follows:

	Year Ended September 30,		
	2002	2001	2000
Provision at the federal rate	\$ 57,000	\$ 620,000	\$ 706,000
Effect of expenses not deductible for tax	22,000	13,000	32,000
State tax provision	(29,000)	32,000	105,000
Change in valuation allowance	-	-	(93,000)
Other items	-	5,000	-
Income tax provision	<u>\$ 50,000</u>	<u>\$ 670,000</u>	<u>\$ 750,000</u>

The tax assets (liabilities) comprising the net deferred tax asset are as follows:

	September 30,	
	2002	2001
Allowance for doubtful accounts	\$ 57,000	\$ 263,000
Uniform capitalization of inventory costs	100,000	102,000
Inventory write-downs not currently deductible	387,000	202,000
State net operating losses	45,000	-
Book vs. tax depreciation	8,000	(18,000)
Unrealized currency losses (gains)	(2,000)	2,000
Deferred profit	267,000	603,000
Liabilities not currently deductible	270,000	371,000
Deferred income taxes	<u>\$ 1,132,000</u>	<u>\$ 1,525,000</u>

The Company has \$640,000 Arizona state net operating loss carryforwards at September 30, 2002 that expire in 2007. The Company believes that it is more likely than not that all deferred tax assets will be realized.

(13) EARNINGS PER SHARE:

EPS are calculated as follows:

	2002	2001	2000
Net income	\$ 118,171	\$ 463,081	\$ 1,325,421
Amortization of contingent consideration (Note 3)	-	-	(17,155)
	<u>\$ 118,171</u>	<u>\$ 463,081</u>	<u>\$ 1,308,266</u>
Weighted average shares outstanding:			
Common stock	2,683,030	2,661,001	2,158,562
Common stock equivalents issuable upon exercise of warrants and stock options (1)	82,523	160,582	144,053
Estimated common shares issuable as contingent consideration (Note 3)	-	-	33,882
Diluted shares	<u>2,765,553</u>	<u>2,821,583</u>	<u>2,336,497</u>
Earnings Per Share:			
Basic	\$ .04	\$ .17	\$ .61
Diluted	\$ .04	\$ .16	\$ .56

- (1) Number of common stock equivalents calculated using the treasury stock method and the average market price during the period. Options and warrants on 234,700 shares, 45,700 shares and 143,300 shares had an exercise price greater than the average market price during the years ended September 30, 2002, 2001 and 2000, respectively, and therefore did not enter into the EPS calculation.

(14) STOCK-BASED COMPENSATION:

**Stock Warrants** – In connection with the acquisition of the net assets of P.R. Hoffman Machine Products, Inc. during fiscal 1997, the Company issued 75,000 warrants to purchase one share each of \$.01 par value common stock at a per share exercise price of \$6.00. These warrants expired July 1, 2002 and were valued at \$167,000 using the Black-Scholes valuation method. The primary assumptions used in the valuation of these warrants were a risk free interest rate of 6.29%, expected dividend yield of 0%, average holding period of 2.5 years, and 69% volatility. The value of these warrants has been included in the acquisition cost associated with the purchase of the P. R. Hoffman net assets (see Note 3).

On September 8, 2000 the Company issued 59,300 warrants to purchase one share each of \$.01 par value common stock in connection with the issuance of 383,000 shares of common stock. The warrants are exercisable at a price per share of \$15.12 and expire on September 8, 2005.

**Stock Option Plans** – The board of directors has reserved 10,000 shares of common stock for issuance upon exercise of the outstanding options granted to directors under Director Stock Purchase Agreements prior to 1996. The Non-Employee Directors Stock Option Plan was approved by the stockholders in 1996 for the issuance of up to 100,000 shares of common stock to directors. The Amended and Restated 1995 Stock Option Plan and the 1995 Stock Bonus Plan were also approved by stockholders in 1996 under which a combined total of 160,000 shares were authorized. The 1998 Employee Stock Option Plan, under which 50,000 shares could be granted, was adopted by the board of directors on January 31, 1998 and approved by shareholders on March 20, 1998. On October 13, 2000, the Board of Directors authorized an increase in the number of options available under the 1998 Employee Stock Option Plan to 300,000. The amendment was approved by the shareholders at the annual meeting on March 15, 2001. All of the plans expire in 2006. Qualified stock options issued under the terms of the plans have or will have an exercise price equal to or greater than the fair market value of the common stock at the date of the option grant and expire no later than 10 years from the date of grant, with

the most recent grant expiring July 19, 2012. Under the terms of the 1995 Stock Option Plan, nonqualified stock options may also be issued. Options issued in fiscal years 2002, 2001 and 2000 vest at the rate of 20% - 33% per year. As of September 30, 2002, the Company had 209,258 options available for issuance under the plans. The stock option transactions and the options outstanding are summarized as follows:

	Year Ended September 30,					
	2002		2001		2000	
	Options	Weighted Average Exercise Price	Options	Weighted Average Exercise Price	Options	Weighted Average Exercise Price
Outstanding at beginning of year	386,617	\$ 4.56	163,017	\$ 1.74	227,292	\$ 1.17
Granted	60,000	5.64	258,750	5.88	25,000	4.75
Exercised	(8,800)	1.28	(9,950)	1.32	(89,275)	1.14
Terminated	(3,250)	5.10	(25,200)	1.13	-	-
Outstanding at end of year	<u>434,567</u>	4.78	<u>386,617</u>	4.56	<u>163,017</u>	1.74
Exercisable at end of year	147,568	\$ 3.20	60,049	\$ 1.58	59,544	\$ 1.16
Weighted average fair value of options granted		\$ 3.27		\$ 4.64		\$ 3.08

No compensation expense has been recognized, as all options have been granted with an exercise price equal to the fair value of the common stock upon date of grant. No adjustment has been made for the non-transferability of the options or for the risk of forfeiture at the time of issuance. Forfeitures are instead recorded as incurred. The fair value of each option grant has been estimated as of the date of grant using the Black-Scholes option pricing model with the following weighted average assumptions:

	Year Ended September 30,		
	2002	2001	2000
Risk free interest rate	4.6% to 5.3%	4.5% to 5.5%	6.1% to 6.7%
Expected life	4 to 6 years	4 to 6 years	4 to 6 years
Dividend rate	0%	0%	0%
Expected volatility	61%	92.0% to 110.3%	64.6% to 76.0%

Had the effects of stock-based compensation been accounted for in the financial statements using the Black-Scholes option pricing method, the net income and the basic and diluted earnings per share would have been approximately as follows:

	Year Ended September 30,		
	2002	2001	2000
Net Income:			
As reported.....	\$ 118,171	\$ 463,081	\$ 1,325,421
Pro forma.....	(78,000)	290,000	1,240,000
Basic Earnings per share:			
As reported.....	\$ .04	\$ .17	\$ .61
Pro forma.....	(.03)	.11	.57
Diluted Earnings per share:			
As reported.....	\$ .04	\$ .16	\$ .56
Pro forma.....	(.03)	.10	.52

The following table summarizes information about stock options outstanding at September 30, 2002:

Exercise Price	Options Outstanding			Options Exercisable	
	Number Outstanding at September 30, 2002	Remaining Contractual Life	Weighted Average Exercise Price	Number Exercisable at September 30, 2002	Weighted Average Exercise Price
\$1.13 – 1.49	75,767	4.43	\$1.13	70,767	\$1.13
1.50 – 1.99	19,500	6.41	1.50	12,500	1.50
2.00 – 3.24	2,300	7.00	2.00	200	2.00
3.25 – 4.24	5,000	7.63	3.25	2,000	3.25
4.25 – 5.49	95,000	8.86	4.42	14,500	4.41
5.50 – 6.49	48,000	8.41	5.83	11,601	5.84
6.50 – 6.99	189,000	8.55	6.56	36,000	6.55
	<u>434,567</u>			<u>147,568</u>	

**(15) SELECTED QUARTERLY DATA (UNAUDITED):**

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
<u>Fiscal Year 2002:</u>				
Revenue	\$5,456,916	\$5,577,314	\$4,446,385	\$5,052,153
Gross margin	\$1,319,483	\$1,359,671	\$1,267,114	\$ 870,591
Net income (loss)	\$ 166,862	\$ (38,607)	\$ 134,441	\$ (144,525)
Net income (loss) per share:				
Basic	\$ .06	\$ (.01)	\$ .05	\$ (.05)
Diluted	\$ .06	\$ (.01)	\$ .05	\$ (.05)
<u>Fiscal Year 2001:</u>				
Revenue	\$3,602,650	\$6,802,822	\$8,022,911	\$4,423,537
Gross margin	\$1,154,845	\$2,469,904	\$2,121,635	\$1,131,276
Net income (loss)	\$ (717,094)	\$ 685,305	\$ 478,765	\$ 16,105
Net income (loss) per share:				
Basic	\$ (.26)	\$ .26	\$ .18	\$ .01
Diluted	\$ (.26)	\$ .25	\$ .17	\$ .00

AMTECH SYSTEMS, INC. AND SUBSIDIARIES

SCHEDULE II - VALUATION AND QUALIFYING ACCOUNTS

FOR THE YEARS ENDED SEPTEMBER 30, 2002, 2001 and 2000

	<u>For the Year Ended September 30,</u>	<u>Balance at Beginning of Year</u>	<u>Charged (credited) to Expense</u>	<u>Write-offs</u>	<u>Balance at End of Year</u>
<u>1. Allowance for Doubtful Accounts</u>					
	2002	\$ 630,000	\$ 372,058	\$ 850,058	\$ 152,000
	2001	149,000	496,548	15,548	630,000
	2000	140,000	11,579	2,579	149,000
<u>2. Deferred Tax Valuation Allowance</u>					
	2002	\$ -	\$ -	\$ -	\$ -
	2001	-	-	-	-
	2000	93,000	(93,000)	-	-
<u>3. Reserve for Obsolete Inventory</u>					
	2002	\$ 515,363	\$ 528,153	\$ 36,686	\$ 1,006,830
	2001	370,125	336,806	191,568	515,363
	2000	301,439	74,239	5,553	370,125

#### **ITEM 9: Changes in and Disagreements with Accountants on Accounting and Financial Disclosure**

As previously reported in the Company's Current Report on Form 8-K filed on July 11, 2002, on July 3, 2002 the Company dismissed its independent auditor, Arthur Andersen LLP and appointed KPMG LLP ("KPMG") as its new independent auditor, effective immediately. These actions were approved by the Company's Board of Directors upon the recommendation of its Audit Committee. KPMG audited the consolidated financial statements of the Company for the fiscal year ending September 30, 2002.

#### **PART III**

Pursuant to Paragraph G(3) of the General Instructions to Form 10-K, portions of the information required by Part III of Form 10-K are incorporated by reference from Amtech's proxy statement to be filed with the SEC in connection with the 2003 Annual Meeting of Stockholders.

#### **ITEM 10: Directors and Executive Officers of the Registrant**

The information required by Item 10 is incorporated herein by reference to the information contained under the heading "Information Concerning Directors and Executive Officers" as set forth in the Company's definitive proxy statement for its 2003 Annual Meeting of Stockholders.

#### **ITEM 11: Executive Compensation**

The information required by Item 11 is incorporated herein by reference to the information contained under the heading "Executive Compensation" as set forth in the Company's definitive proxy statement for its 2003 Annual Meeting of Stockholders.

#### **ITEM 12: Security Ownership of Certain Beneficial Owners and Management**

The information required by Item 12 is incorporated herein by reference to the information contained under the heading "Security Ownership of Certain Beneficial Owners and Management" as set forth in the Company's definitive proxy statement for its 2003 Annual Meeting of Stockholders.

#### **ITEM 13: Certain Relationships and Related Transactions**

The information required by Item 13 is incorporated herein by reference to the information contained under the heading "Executive Compensation" as set forth in the Company's definitive proxy statement for its 2003 Annual Meeting of Stockholders.

#### **ITEM 14: Controls and Procedures**

Within the 90 days prior to the date of this report, Amtech carried out an evaluation, under the supervision and with the participation of Amtech's management, including Amtech's President and Chief Executive Officer along with Amtech's Chief Financial Officer, of the effectiveness of the design and operation of Amtech's disclosure controls and procedures pursuant to Exchange Act Rule 13a-14. Based upon that evaluation, Amtech's President and Chief Executive Officer along with Amtech's Chief Financial Officer concluded that Amtech's disclosure controls and procedures are effective in timely alerting them to material information relating to Amtech (including its consolidated subsidiaries) required to be included in Amtech's periodic SEC filings. There have been no significant changes in Amtech's internal controls or in other factors that would significantly affect internal controls subsequent to the date Amtech carried out its evaluation.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES, AND REPORTS ON FORM 8-K

(a)(1) The consolidated financial statements required by this item are set forth on the pages indicated at Item 8.

(2) Financial Statement Schedule for the years ended September 30, 2002, 2001 and 2000:

Schedule II - Valuation and Qualifying Accounts

All other schedules are omitted because they are not applicable or the required information is shown in the consolidated financial statements or notes thereto.

(3) Exhibits:

The exhibits listed in the accompanying index to exhibits are filed or incorporated by reference as part of this Annual Report on Form 10-K.

(b) Amtech did not file a report on Form 8-K during its fourth fiscal quarter of 2002.

<u>EXHIBIT NO.</u>	<u>DESCRIPTION</u>	<u>METHOD OF FILING</u>
3.1	Articles of Incorporation	A
3.2	Articles of Amendment to Articles of Incorporation, dated April 27, 1983	A
3.3	Articles of Amendment to Articles of Incorporation, dated May 19, 1987	B
3.4	Articles of Amendment to Articles of Incorporation, dated May 2, 1988	C
3.5	Articles of Amendment to Articles of Incorporation, dated May 28, 1993	F
3.6	Articles of Amendment to Articles of Incorporation, dated March 14, 1999	O
3.7	Amended and Restated Bylaws	D
4.1	Rights Agreement dated May 17, 1999	M
10.1	Amended and Restated 1995 Stock Option Plan	H
10.2	Non-Employee Director Stock Option Plan	I
10.3	Employment Agreement with Robert T. Hass, dated May 19, 1992	E
10.4	Registration Rights Agreement with J.S. Whang, dated January 24, 1994	F
10.5	Asset Purchase Agreement, dated July 1, 1997, among the Registrant, P.R. Hoffman Machines Corporation and John R. Krieger	J
10.6	1998 Employee Stock Option Plan	L
10.7	Sublease Agreement, dated July 1, 1999, between the Registrant and John R. Krieger	Q
10.8	Warrant to Purchase Common Stock, dated September 8, 2000	P
10.9	Stock and Warrant Purchase Agreement, dated September 8, 2000	P
10.10	Employment Agreement, dated March 15, 2001, between the Registrant and Jong S. Whang	R
21	Subsidiaries of the Registrant	N
23	Independent Auditors' Consent	*
24	Powers of Attorney	See
		Signature
99.1	Certification of Principal Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	Page 99.1
99.2	Certification of Principal Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	99.2

\* Filed herewith.



- A Incorporated by reference to Amtech's Form S-18 Registration Statement No. 2-83934-LA.
- B Incorporated by reference to Amtech's Annual Report on Form 10-K for the fiscal year ended September 30, 1987.
- C Incorporated by reference to Amtech's Annual Report on Form 10-K for the fiscal year ended September 30, 1988.
- D Incorporated by reference to Amtech's Annual Report on Form 10-K for the fiscal year ended September 30, 1991.
- E Incorporated by reference to Amtech's Annual Report on Form 10-K for the fiscal year ended September 30, 1993.
- F Incorporated by reference to Amtech's Form S-1 Registration Statement No. 33-77368.
- G Incorporated by reference to Amtech's Form S-8 Registration Statement relating to the Amended and Restated 1995 Stock Option Plan and the 1995 Stock Bonus Plan filed with the Securities and Exchange Commission on September 9, 1997.
- H Incorporated by reference to Amtech's Form S-8 Registration Statement relating to the Non-Employee Directors Stock Option Plan filed with the Securities and Exchange Commission on August 8, 1996.
- I Incorporated by reference to Amtech's Current Report on Form 8-K dated July 1, 1997.
- J Incorporated by reference to Amtech's Proxy Statement for shareholders meeting held on March 20, 1998.
- K Incorporated by reference to Amtech's Current Report on Form 8-K, dated May 17, 1999.
- L Incorporated by reference to Amtech's Annual Report on Form 10-K for the fiscal year ended September 30, 1997.
- M Incorporated by reference to Amtech's Proxy Statement for the annual shareholders meeting held on February 26, 1999.
- N Incorporated by reference to Amtech's Current Report on Form 8-K dated September 22, 2000.
- O Incorporated by reference to Amtech's Annual Report on Form 10-K for the fiscal year ended September 30, 1999.
- P Incorporated by reference to Amtech's Quarterly Report on Form 10-Q for the quarter ended March 31, 2001.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

AMTECH SYSTEMS, INC.

December 30, 2002

By: /s/ Jong S. Whang

-----  
Jong S. Whang, President

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints JONG S. WHANG and ROBERT T. HASS, and each of them, his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with all exhibits thereto, and other documents in connection therewith with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully and to all intents and purposes as he might or could do in person hereby ratifying and confirming all that said attorneys-in-fact and agents, or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report on Form 10-K has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated:

<u>SIGNATURE</u>	<u>TITLE</u>	<u>DATE</u>
/s/ Jong S. Whang ----- Jong S. Whang	Chairman of the Board, President (Principal Executive Officer)	December 30, 2002 -----
/s/ Robert T. Hass ----- Robert T. Hass	Vice President-Finance and Director (Chief Financial & Accounting Officer)	December 30, 2002 -----
/s/ Alvin Katz ----- Alvin Katz	Director	December 30, 2002 -----
/s/ Bruce R. Thaw ----- Bruce R. Thaw	Director	December 30, 2002 -----

# AMTECH SYSTEMS, INC.

## LIST of OFFICERS and DIRECTORS

### EXECUTIVE OFFICERS

**J.S. WHANG**  
PRESIDENT,  
CHIEF EXECUTIVE OFFICER  
AND DIRECTOR

**ROBERT T. HASS**  
VICE PRESIDENT – FINANCE,  
CORPORATE SECRETARY  
AND DIRECTOR

### OUTSIDE DIRECTORS

**ALVIN KATZ**  
DIRECTOR AND  
RETIRED ADJUNCT PROFESSOR  
OF BUSINESS MANAGEMENT  
FT. LAUDERDALE, FLORIDA

**BRUCE R. THAW**  
DIRECTOR AND  
ATTORNEY AT LAW  
FARMINGDALE, NEW YORK

## CORPORATE INFORMATION

### **CORPORATE OFFICE**

131 SOUTH CLARK DRIVE  
TEMPE, ARIZONA 85281  
TEL: (480) 967-5146  
FAX: (480) 968-3763

E-MAIL: [Corporate@AmtechSystems.com](mailto:Corporate@AmtechSystems.com)

### **LEGAL COUNSEL**

SQUIRE, SANDERS & DEMPSEY LLP  
TWO RENAISSANCE SQUARE  
40 NORTH CENTRAL AVE., SUITE 2700  
PHOENIX, ARIZONA 85004

### **TRANSFER AGENT & REGISTRAR**

COMPUTERSHARE TRUST COMPANY  
350 INDIANA STREET, SUITE 800  
GOLDEN, CO 80401  
TEL: (303) 262-0600  
FAX: (303) 262-0603

E-MAIL: [inquire@computershare.com](mailto:inquire@computershare.com)

WEBSITE: <http://www-us.computershare.com/>

### **INDEPENDENT AUDITORS**

KPMG LLP  
ONE ARIZONA CENTER  
400 E. VAN BUREN STREET, SUITE 1100  
PHOENIX, ARIZONA 85004-2207  
TEL: (602) 253-2000  
FAX: (602) 252-0011

## STOCK MARKET INFORMATION

LISTED ON THE NASDAQ NATIONAL MARKET

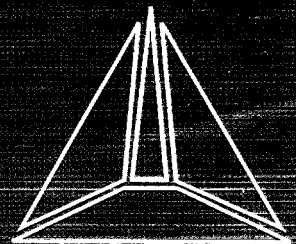
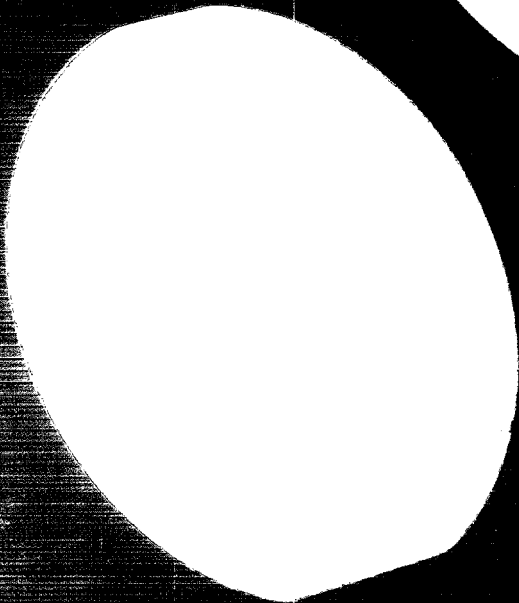
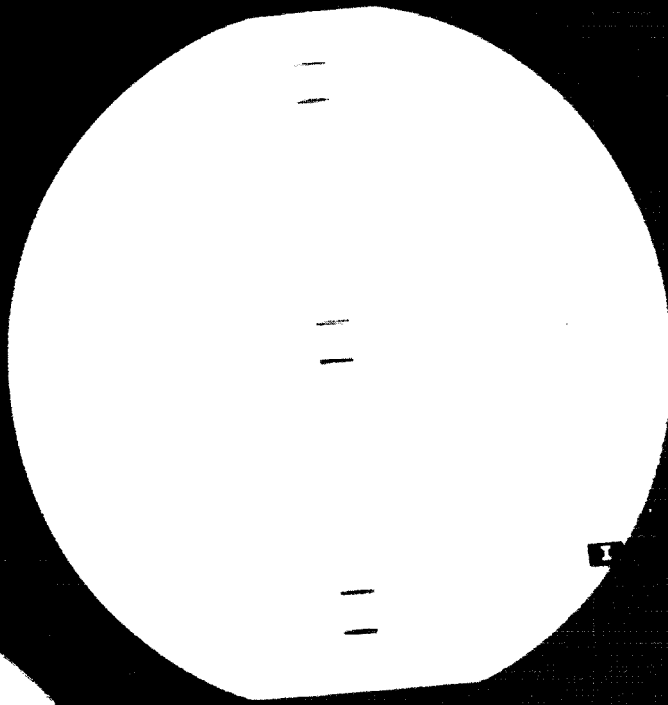
COMMON STOCK SYMBOL: ASYS

WEBSITE: [WWW.NASDAQ.COM](http://WWW.NASDAQ.COM)

## SUBSIDIARIES

**P.R. HOFFMAN MACHINE  
PRODUCTS, INC.**  
CARLISLE, PENNSYLVANIA

**TEMPRESS SYSTEMS, INC.**  
HEERDE, THE NETHERLANDS



AMTECH SYSTEMS, INC.

131 SOUTH CLARK DRIVE  
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