

SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM S-3

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

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 Number)

131 South Clark Drive, Tempe, Arizona 85281, (480) 967-5146

(Address, Including Zip Code, and Telephone Number, Including Area Code,  
of Registrant's Principal Executive Offices)

Jong S. Whang  
President and Chief Executive Officer  
AMTECH SYSTEMS, INC.  
131 South Clark Drive  
Tempe, Arizona 85281  
(480) 967-5146

Copy to:  
Gregory R. Hall, Esq.  
SQUIRE, SANDERS & DEMPSEY, LLP  
40 North Central Avenue, 27th Floor  
Phoenix, Arizona 85004  
(602) 528-4000

(Name, Address, Including Zip Code, and  
Telephone Number, Including Area Code,  
of Agent For Service)

Approximate date of commencement of proposed sale to the public: As soon as  
practicable after this Registration Statement becomes effective.

If the only securities being registered on this form are being offered  
pursuant to a dividend or interest reinvestment plans, please check the  
following box. [ ]

If any of the securities being registered on this form are to be offered on  
a delayed or continuous basis pursuant to Rule 415 under the Securities Act of  
1933, other than securities offered only in connection with dividend or interest  
reinvestment plans, check the following box. [X]

If this Form is filed to register additional securities for an offering  
pursuant to Rule 462(b) under the Securities Act, please check the following box  
and list the Securities Act registration statement number of the earlier  
effective registration statement for the same offering. [ ]

If this Form is a post-effective Act amendment filed pursuant to Rule  
462(c) under the Securities Act, please check the following box and list the  
Securities Act registration statement number of the earlier effective  
registration statement for the same offering. [ ]

If delivery of the prospectus is expected to be made pursuant to Rule 434,  
please check the following box. [ ]

CALCULATION OF REGISTRATION FEE

<TABLE>

<CAPTION>

<S>	<C>	<C>	<C>	<C>
Title of Securities to be registered	Amount to be Registered (1)	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common Stock \$.01 par value	572,300	\$13.875 (2)	\$7,940,662.50 (2)	\$2,096.33
			Total:	\$2,096.33

</TABLE>

(1) Pursuant to Rule 416(a), this registration statement also covers any  
additional securities that may be offered or issued in connection with any stock  
split, stock dividend or similar transaction. This number represents the number

of shares of common stock offered hereby and issuable upon conversion of outstanding warrants, as more fully described herein.

(2) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(c) under the Securities Act of 1933, based on the average of the high and low price of a share of common stock on September 25, 2000, as reported by the NASDAQ Small Cap Market.

The registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

THE INFORMATION IN THIS PROSPECTUS IS NOT COMPLETE AND MAY BE CHANGED. THE SELLING SHAREHOLDERS MAY NOT SELL THESE SECURITIES UNTIL THE REGISTRATION STATEMENT FILED WITH THE SECURITIES AND EXCHANGE COMMISSION IS EFFECTIVE. THIS PROSPECTUS IS NOT AN OFFER TO SELL THESE SECURITIES AND IT IS NOT SOLICITING AN OFFER TO BUY THESE SECURITIES IN ANY STATE WHERE THE OFFER OR SALE IS NOT PERMITTED

SUBJECT TO COMPLETION, DATED OCTOBER 2, 2000

572,300 shares of common stock of

Amtech Systems, Inc.

This prospectus relates to registering for resale, 60,000 shares of our common stock sold to a selling shareholder in a private transaction in February of 1994, 75,000 shares of our common stock issuable upon exercise of warrants issued by Amtech to the selling shareholders under a financial consulting agreement entered into as of July 1, 1997, and 383,000 shares of our common stock, and 54,300 shares issuable upon exercise of warrants issued by Amtech to the selling shareholders in a private placement completed in September of 2000.

We will not receive any proceeds from the sale of the shares. If all of the warrants we issued to the selling shareholders are exercised, we will receive \$1,271,016 of the warrant exercise price.

Our common stock is quoted on the NASDAQ Small Cap Market under the symbol ASYS. On September 28, 2000, the last sales price of our common stock as reported on the NASDAQ Small Cap Market was \$15.625.

These securities have not been approved or disapproved by the Securities and Exchange Commission or any state securities commission nor has the SEC or any state securities commission passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense.

Investing in our common stock involves a high degree of risk. See "Risk Factors" beginning on page 7.

The date of this prospectus is \_\_\_\_\_, 2000.  
WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and special reports, proxy statements and other information with the SEC. You may read and copy any document we file at the SEC's Public Reference Room at 450 Fifth Street, N.W. in Washington, D.C., 20549, or in Chicago, Illinois or New York, New York. Please call the SEC at 1-800-SEC-0330 for further information on the public reference rooms. Our SEC filings are also available to the public from the SEC's Website at "<http://www.sec.gov>."

Copies of publicly available documents that we have filed with the SEC can also be inspected and copied at the offices of the National Association of Securities Dealers, Inc., 1735 K Street, N.W., Washington, D.C. 20006.

This prospectus is a part of the registration statement that we filed on Form S-3 with the SEC. The registration statement contains more information than this prospectus about us and our common stock, including exhibits and schedules. You should refer to the registration statement for additional information about us and the common stock being offered in this prospectus. Statements that we make in this prospectus relating to any documents filed as an exhibit to the registration statement or by any document incorporated by reference into the registration statement may not be complete and you should review the referenced document itself for a complete understanding of its terms.

The SEC allows us to incorporate by reference the information we file with them, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus, and later information filed with the SEC will update and supersede this information. We incorporate by reference the documents listed below and any future filings made with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Securities Exchange Act of 1934 until the offering is

completed:

- \* Amtech's Annual Report on Form 10-K for the fiscal year ended September 30, 1999, as amended;
- \* Amtech's Quarterly Report on Form 10-Q for the quarter ended December 31, 1999;
- \* Amtech's Quarterly Report on Form 10-Q for the quarter ended March 31, 2000,
- \* Amtech's Quarterly Report on Form 10-Q for the quarter ended June 30, 2000,
- \* Amtech's definitive proxy statement for its Annual Meeting of Shareholders held on February 25, 2000; and
- \* the description of Amtech's Common Stock contained in its Registration Statement on Form 8-A filed with the Commission pursuant to Section 12(g) of the Exchange Act.

You may request a copy of these filings, at no cost, by writing or telephoning us at the following address:

Amtech Systems, Inc.  
131 South Clark Drive  
Tempe, Arizona 85281  
Attn: Investor Relations (480) 967-5146

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You should rely only on the information incorporated by reference or provided in this prospectus or any prospectus supplement to this prospectus. We have not authorized any person to provide you with different information. This prospectus does not constitute an offer of these securities in any state where the offer is not permitted. You should not assume that the information in this prospectus or any prospectus supplement to this prospectus is accurate as of any date other than the date on the front of the document.

We have not authorized any person to provide you with information different from that contained or incorporated by reference in this prospectus. The selling shareholders are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or of any sale of common stock.

You should read the following summary together with the more detailed information in other sections of this prospectus. You should also carefully consider the factors described under Risk Factors at page 7 of this prospectus. Throughout this prospectus, we refer to Amtech Systems, Inc. as Amtech, we, our, ours, and us.

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#### PROSPECTUS SUMMARY

We were incorporated in Arizona in October 1981, under the name Quartz Engineering & Materials, Inc. The name of the company was changed to Amtech Systems, Inc. in 1987. We also conduct operations through two wholly owned subsidiaries, Tempres Systems, Inc., a Texas corporation with all its operations in the Netherlands, and P.R. Hoffman Machine Products, Inc., an Arizona corporation, with all of its operations in Carlisle, Pennsylvania.

Our initial business was the manufacture of quartzware implements for use by manufacturers of semiconductor chips. Since 1987, we have been engaged in the manufacture and marketing of several items of capital equipment used by customers in the manufacture of semiconductors. We manufacture and sell horizontal and conveyor diffusion furnaces through Tempres Systems. In addition, we manufacture and sell a Processing/Robotic product line, including, Atmoscan(R), IBAL and load stations, that is designed to:

- \* enable customers to increase the degree of control over their semiconductor chip manufacturing environment,
- \* reduce exposure to contaminants by limiting human contact during the manufacturing process,
- \* and improve employee safety.

In fiscal 1994, we added research and product development of new technologies to our on-going development of new products and product improvements based on existing technologies. From fiscal 1994 through the end of fiscal 1998, the new technology under investigation consisted of photo-assisted CVD (chemical vapor deposition) research conducted by and in conjunction with the University of California at Santa Cruz. In this regard, the University of California at Santa Cruz studied several generations of higher intensity light

sources, none of which have yielded results that would enable us to produce a commercially viable product. While this research was partially successful, it was suspended indefinitely effective September 30, 1998, until such time as reliable higher intensity lamps are available and success appears more probable.

In fiscal 1995, we began the complementary business of producing and selling horizontal diffusion furnaces for use in semiconductor fabrication, through Tempres Systems. In fiscal 1998, through Tempres Systems, we began producing and selling conveyor diffusion furnaces for use in precision thermal processing of electronic parts. Tempres Systems conducts all of its operation in the Netherlands.

In July 1997, we acquired substantially all of the assets of P.R. Hoffman Machine Products Corporation. As a result of this acquisition we began developing, manufacturing, marketing and selling double sided precision lapping and polishing machines, replacement parts and related products including carriers and semiconductor polishing templates all through our wholly owned subsidiary, P.R. Hoffman Machine Products, Inc. These products are high throughput precision surface processing systems used in the manufacture of semiconductor wafers, precision optics and other thin wafer materials, such as computer disk media and ceramic components for wireless communication devices.

In the fourth quarter of fiscal 1997, we began offering manufacturing support services to one of our Texas-based customers. These services consist of wet and dry cleaning of semiconductor machine processing parts. We intend to offer manufacturing support services to other customers and third parties as such opportunities become available.

Beginning in fiscal 1999, we began research on a new technology asher. In November 1999, we announced a joint product development agreement with PSK Tech, Inc. to develop a new technology ashing machine using our damage-free technology and PSK Tech's expertise in the design of ashers and asher processes.

Our principal executive offices are located at 131 South Clark Drive, Tempe, Arizona 85281 and our telephone number is (480) 967-5146.

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THE OFFERING

Securities Offered by the Selling Shareholders .....	<p>A total of 572,300 shares of common stock are covered by this prospectus. These shares represent</p> <ul style="list-style-type: none"> <li>* 60,000 shares sold to a selling shareholder in a private transaction in 1994;</li> <li>* 75,000 shares issuable upon the exercise of outstanding warrants held by the selling shareholders that were issued pursuant to a financial consulting agreement dated as of July 1, 1997, and</li> <li>* 383,000 shares, and 54,300 shares issuable upon exercise of warrants (of which, 16,000 were issued to a placement agent), all issued in a private placement pursuant to a Stock and Warrant Purchase Agreement, dated as of September 8, 2000.</li> </ul> <p>A description of the terms of the warrants is included in this prospectus under the caption Description of Securities.</p>
Common Stock Outstanding as of September 29, 2000 .....	2,571,808
Use of Proceeds .....	We will not receive any of the proceeds of sales of common stock by the selling shareholders. We will receive up to \$1,271,016 from the exercise, if any, of the warrants. See Use of Proceeds.
Risk Factors .....	The shares of common stock offered hereby involve a high degree of risk. See Risk Factors on page 7.
NASDAQ Small Cap Market Symbol .....	ASYS

THROUGHOUT THIS PROSPECTUS AND THE OTHER DOCUMENTS INCORPORATED BY REFERENCE INTO THIS PROSPECTUS WE MAKE CERTAIN "FORWARD-LOOKING" STATEMENTS (AS SUCH TERM IS DEFINED IN THE PRIVATE SECURITIES LITIGATION REFORM ACT OF 1995). THESE ARE STATEMENTS ABOUT FUTURE EVENTS, RESULTS OF OPERATION, BUSINESS PLANS AND OTHER MATTERS. THESE STATEMENTS CAN BE IDENTIFIED BY THE USE OF FORWARD LOOKING TERMINOLOGY SUCH AS "BELIEVES," "EXPECTS," "MAY," "WILL," "SHOULD," OR "ANTICIPATES," OR THE NEGATIVE THEREOF OR OTHER WRITTEN VARIATIONS THEREOF OR COMPARABLE TERMINOLOGY. THE FORWARD-LOOKING STATEMENTS CONTAINED IN THIS PROSPECTUS ARE BASED ON CURRENT EXPECTATIONS THAT INVOLVE A NUMBER OF RISKS AND UNCERTAINTIES INCLUDING THOSE SET FORTH BELOW UNDER "RISK FACTORS. IN LIGHT OF THE SIGNIFICANT UNCERTAINTIES INHERENT IN THE FORWARD-LOOKING INFORMATION INCLUDED IN THIS PROSPECTUS, THAT FORWARD LOOKING INFORMATION SHOULD NOT BE REGARDED AS A REPRESENTATION BY US, OR ANY OTHER PERSON, THAT OUR OBJECTIVES OR PLANS WILL BE ACHIEVED. WE HAVE NO OBLIGATION TO UPDATE THE FORWARD-LOOKING STATEMENTS MADE IN THIS PROSPECTUS OR INCORPORATED BY REFERENCE HEREIN.

#### RISK FACTORS

BEFORE PURCHASING ANY OF THE SHARES OF COMMON STOCK BEING OFFERED BY THIS PROSPECTUS, YOU SHOULD CAREFULLY CONSIDER THE FOLLOWING RISK FACTORS WE HAVE DESCRIBED IN THIS SECTION.

IF THE DEMAND FOR HORIZONTAL DIFFUSION FURNACES AND EQUIPMENT USED IN CONJUNCTION WITH SUCH FURNACES DECLINES, WHICH ACCOUNT FOR MORE THAN ONE-HALF OF CONSOLIDATED REVENUE, OUR REVENUES MAY DECREASE AND OUR BUSINESS OPERATIONS AND FINANCIAL CONDITION COULD BE MATERIALLY ADVERSELY AFFECTED.

The revenue of our semiconductor production equipment segment, which accounts for more than one-half of consolidated revenues, is comprised of horizontal diffusion furnaces and our Processing/Robotic product line. Our Processing/Robot 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 received significant orders for our horizontal diffusion furnaces from optical component manufacturers, a new market for us;
- \* 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.

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

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THE VOLATILITY OF THE SEMICONDUCTOR EQUIPMENT INDUSTRY CAN NEGATIVELY IMPACT OUR OPERATIONS AND OUR ABILITY TO EFFICIENTLY BUDGET OUR EXPENSES, WHICH CAN HAVE AN ADVERSE AFFECT ON OUR RESULTS OF OPERATIONS.

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. For example, demand for our products increased in fiscal 1998 compared to fiscal 1997, but decreased in fiscal 1999, primarily as a result of widespread economic difficulties experienced in Japan and other parts of the Asia Pacific region. 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. For example, during the fourth quarter of fiscal 1998 and the first quarter of fiscal 1999, we implemented a cost reduction plan that required lay-offs within certain operations. During a down cycle we must be in a position to adjust our cost and expense structure to the prevailing market condition and to continue to motivate and retain our key employees. 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, 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 operating results and financial condition.

WE ARE DEPENDENT ON THE ACTIVE PARTICIPATION OF MR. JONG S. WHANG, THE PRESIDENT AND CHIEF EXECUTIVE OFFICER, FOR BUSINESS DEVELOPMENT, AND IMPORTANT BUSINESS RELATIONSHIPS, AND THE LOSS OF HIS SERVICES WOULD MATERIALLY AND ADVERSELY AFFECT OUR BUSINESS AND FUTURE PROSPECTS.

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 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.

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WE RELY ON KEY PERSONNEL FOR PRODUCT DEVELOPMENT AND SALES, AND ANY LOSS OF OUR KEY PERSONNEL TO COMPETITORS OR OTHER INDUSTRIES COULD DRAMATICALLY IMPACT OUR ABILITY TO CONTINUE OPERATIONS.

We depend to a great extent 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(R) 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, and six technicians at our Tempe, Arizona plant. We presently employ eight engineers, one with a Ph.D., and seven technicians 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 and one technician 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.

THE TECHNOLOGY WE USE IN OUR PRODUCTS IS CHANGING RAPIDLY AND WE MAY NOT BE ABLE TO TAKE ADVANTAGE OF THESE CHANGES.

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 that successfully address changing customer needs, win market acceptance of these new products and manufacture these new products in a timely and cost-effective manner. If we do not develop and introduce new products and technologies in a timely manner in response to changing market conditions or customer requirements, our business could be seriously harmed. In this environment, we must continue to make investments in research and development in order to enhance the performance and functionality of our products, to keep pace with competitive products and to 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 September 29, 2000, there were 2,571,808 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

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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 of \$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.

Having the outstanding rights, and a substantial number of authorized and unreserved shares of common stock and preferred stock 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.

WE ARE DEPENDENT ON THE USE OF INTELLECTUAL PROPERTY RIGHTS, WHICH ARE EXPENSIVE TO OBTAIN, AND MAINTAIN, AND WE ARE EXPOSED TO THE RISK THAT THIRD PARTIES MAY VIOLATE OUR PROPRIETARY RIGHTS OR ACCUSE US OF INFRINGING UPON THEIR PROPRIETARY RIGHTS, WHICH 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.

As is typical in the semiconductor equipment industry, from time to time we have received communications from other parties asserting the existence of patent rights or other intellectual property rights which 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

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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 CUSTOMER PLACES US AT FINANCIAL RISK.

Receivables from one of our customers comprised 16% of accounts receivable at September 30, 1999. Receivables from three customers comprised 43% of accounts receivable at September 30, 1998, representing a concentration of credit risk. Reliance on such a concentration of our receivables on such 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 financial condition.

OUR BUSINESS MIGHT BE ADVERSELY AFFECTED BY OUR DEPENDENCE ON FOREIGN BUSINESS.

During our most recent fiscal year, ended on September 30, 1999, 41% of our sales were made to customers outside the United States as follows:

- \* Asia (including Singapore, Indonesia, Malaysia and India) - 5%
- \* Europe (including Israel and Africa) - 29%
- \* Australia - 7%

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.

Foreign sales are expected to increase significantly because of our expansion of horizontal diffusion business in Europe as a result of the new optical component market for certain of our products. We recorded charges of \$98,000 and \$93,000 to shareholders' equity for the first three quarters of Fiscal 2000 and for Fiscal 1999, respectively, as a result of foreign currency translation adjustments. We also had losses from foreign currency transactions of \$83,000 in fiscal 1999. While our business has not been materially affected in the past by foreign business, 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, 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

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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.

ALTHOUGH ONLY 5% OF OUR REVENUES WERE GENERATED FROM SALES IN ASIA IN FISCAL 1999, IF THE HEALTH OF THE ASIAN ECONOMIES DO NOT CONTINUE TO IMPROVE, ACHIEVEMENT OF OUR GOALS FOR AGGRESSIVE GROWTH COULD BE ADVERSELY AFFECTED.

In the past we have at times generated a significant portion of our revenue from customers in Asia (SEE Risk Factor - "Our business might be adversely affected by our dependence on foreign business."). Although Asian economies have stabilized to some degree since early to mid-fiscal 1998, Amtech remains cautious about general macroeconomic developments in Asia, particularly in Japan and Taiwan. The economies of Japan and Taiwan are important to the overall financial health of the Asian region and, if they do not continue to improve, the economies of other countries, particularly those in Asia, could also be negatively affected. Negative economic developments in Asia could have a material adverse effect on our ability to reach our aggressive goals for growth.

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 are currently evaluating 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;
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- \* 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 38,300 shares of common stock, in a private placement pursuant to a Stock and Warrant Purchase Agreement. See "RECENT EVENTS". Net proceeds to the company, after deducting fees of the placement agents, but before deduction of legal, accounting and registration fees were \$4,690,000. 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

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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 15c-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 SmallCap Market, continued inclusion will depend on our ability to meet certain eligibility requirements established for the Nasdaq SmallCap 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.

#### SELLING SHAREHOLDERS

In February of 1994, Alvin Katz purchased 60,000 shares of common stock from Jong S. Whang, our current President and Chief Executive Officer, in a private transaction. As part of that transaction, Mr. Katz succeeded to certain registration rights. Those registration rights have since terminated, however, our board of directors has determined to include registration of Mr. Katz's shares. We are registering these shares in order to permit Mr. Katz to offer the 60,000 shares of common stock.

On July 1, 1997, we issued warrants to purchase an aggregate of up to 150,000 shares of common stock (on a pre-split basis) to the selling shareholders under seven separate Warrants to Purchase Common Stock certificates, relating to the acquisition of certain assets of P.R. Hoffman Machine Products Corporation. These warrants were initially exercisable at a price per share of \$3.00. On March 15, 1999, we conducted a 1 for 2 reverse stock split. As a result, the warrants were automatically adjusted so that they are now, in the aggregate, exercisable for up to 75,000 shares at an exercise price of \$6.00 per share.

In addition, in September of 2000, we issued 383,000 shares of common stock, and warrants to purchase an aggregate of up to 54,300 shares of common stock to the selling shareholders. Of the 54,300 shares issuable upon exercise of warrants, 16,000 were issued to a private placement agent. The shares and the warrants were issued pursuant to a Stock and Warrant Purchase Agreement, dated as of September 8, 2000, and related Warrants to Purchase Common Stock, dated as of September 8, 2000. These warrants are exercisable at a price per share of \$15.12.

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We are registering shares in order to permit the selling shareholders to offer the 383,000 shares of common stock issued pursuant to the Stock and Warrant Purchase Agreement, as well as the 75,000 shares issuable upon exercise of the warrants dated as of July 1, 1997 and the 54,300 shares issuable upon exercise of the warrants dated as of September 8, 2000.

The following table provides information as of September 28, 2000, with respect to the common stock beneficially owned by the selling shareholders. For purposes of the information set forth in this table we assume that all of the warrants are exercised. We believe that the selling shareholders each have sole voting and investment power with respect to their respective shares of common stock set forth opposite their names.

<TABLE>  
<CAPTION>

Name	Number of Shares Owned Prior to the Offering	Number of Shares being Offered	Number of Shares Owned After the Offering	Percentage Ownership
------	--	-----------------------------------	---	-------------------------

<S>	<C>	<C>	<C>	<C>
Steven N. Bronson	-0-	45,450 (1)	--	**
James S. Cassel and Mindy Cassel, TBE	-0-	23,100 (1)	--	**
Bruce C. Barber	-0-	1,650 (1)	--	**
Eric R. Elliot	-0-	1,650 (1)	--	**
Barry J. Booth	-0-	1,650 (1)	--	**
Barry E. Steiner	-0-	750 (1)	--	**
Scott E. Salpeter	-0-	750 (1)	--	**
Gryphon Partners, L.P.	25,000	27,500 (2) *	--	**
Scout Mountain LP	10,000	11,000 (3) *	--	**
Scout Capital Partners, LP	40,000	44,000 (4) *	--	**
Lancaster Investment Partners, LP	40,000	44,000 (5) *	--	**
Robert A. Berlacher	18,000	19,800 (6) *	--	**
North Olmsted Partners, LP	100,000	110,000 (7) *	--	**
Strong River Investments, Inc.	72,700	79,970 (8) *	--	**
Bay Harbor Investments, Inc.	36,300	39,022 (9) *	--	**
Managed Risk Trading, LP	29,000	31,535 (10) *	--	**
Redwood Partners LLC	7,200	7,830 (11) *	--	**
VFT Special Ventures, LP	4,800	5,280 (12) *	--	**
RAM Capital Resources, LLC	-0-	1,363 (13) *	--	**
Wharton Capital Partners	-0-	10,000 (13) *	--	**
Broadband Capital Management	-0-	6,000 (13) *	--	**
Alvin Katz++	70,000	60,000	10,000	**

</TABLE>

- -----
- (1) Represents shares issuable upon exercise of warrants. Each warrant is currently exercisable to purchase one share of common stock at an exercise price of \$6.00 per share, subject to adjustment. The warrants are exercisable until July 1, 2002.
- (2) Of this number, 2,500 are issuable upon exercise of warrants.
- (3) Of this number, 1,000 are issuable upon exercise of warrants.
- (4) Of this number, 4,000 are issuable upon exercise of warrants.
- (5) Of this number, 4,000 are issuable upon exercise of warrants.
- (6) Of this number, 1,800 are issuable upon exercise of warrants.
- (7) Of this number, 10,000 are issuable upon exercise of warrants.
- (8) Of this number, 7,270 are issuable upon exercise of warrants.
- (9) Of this number, 2,722 are issuable upon exercise of warrants.
- (10) Of this number, 2,535 are issuable upon exercise of warrants.
- (11) Of this number, 630 are issuable upon exercise of warrants.
- (12) Of this number, 480 are issuable upon exercise of warrants.
- (13) All issuable upon exercise of warrants.

\* Of the number of shares represented by warrants, each warrant is currently exercisable to purchase one share of common stock at an exercise price of \$15.12 per share, subject to adjustment. The warrants are exercisable until September 8, 2005.

\*\* This represents less than 1% of the outstanding common stock, assuming all warrants are exercised and all shares offered are sold.

++ Alvin Katz has been a Director of Amtech since May 1, 1995.

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DESCRIPTION OF SECURITIES

COMMON STOCK. We are authorized to issue 100,000,000 shares of common stock, \$0.01 par value. Each outstanding share of common stock is entitled to one vote in all matters for which stockholders are entitled to vote. Shares of common stock do not have preemptive rights.

PREFERRED STOCK. We are authorized to issue 100,000,000 shares of preferred stock. No shares of preferred stock are outstanding and the terms of the preferred stock have not been specified.

WARRANTS. On July 1, 1997, we issued warrants to purchase an aggregate of up to 150,000 shares of common stock under seven separate Warrants to Purchase Common Stock certificates, relating to the acquisition of certain assets of P.R. Hoffman Machine Products Corporation. These warrants were initially exercisable at a price per share of \$3.00. On March 15, 1999, we implemented a 1 for 2 reverse stock split. As a result, the warrants were automatically adjusted so that they are now, in the aggregate, exercisable for up to 75,000 shares at an exercise price of \$6.00 per shares. The warrants may be exercised until 5:00 p.m., Miami, Florida Time, on July 1, 2002. Under the Warrants to Purchase Common Stock, the holders are granted certain rights to request that we register the shares underlying the warrants. This prospectus is part of a registration statement filed by us at the request of the holders of the warrants.

In addition, in September of 2000, we issued warrants to purchase an aggregate of up to 38,300 shares of common stock to the selling shareholders. The shares and the warrants were issued pursuant to a Stock and Warrant Purchase Agreement. Eleven warrant certificates outstanding represent warrants to purchase an aggregate of 38,300 shares of common stock. The exercise price of the warrants is \$15.12 per share, subject to typical anti-dilution adjustment. The warrants may be exercised until 11:59 p.m., Eastern Time, on September 8,

2005. Under the Stock and Warrant Purchase Agreement, we are required to use our best efforts to effect the registration of the shares underlying the warrants. See "RECENT EVENTS". This prospectus is part of a registration statement filed by us to effect that registration.

#### PLAN OF DISTRIBUTION

The sale or distribution of the shares registered by this prospectus may be effected directly to purchasers by the selling shareholder as principal or through one or more underwriters, brokers, dealers or agents from time to time. Such sale or distribution may occur by one or more of the following transactions (which may involve crosses or block transactions):

- on any exchange or in the over-the-counter market,
- in transactions other than in the over-the-counter market, or
- through the writing of options (whether such options are listed on an options exchange or otherwise), or settlement of short sales.

Any of the transactions listed above may be made at market prices prevailing at the time of sale or otherwise or at negotiated or fixed prices, in each case as determined by the selling shareholder or by agreement between the selling shareholder and underwriters, brokers, dealers, or agents, or purchasers. If the selling shareholder effects such transactions by selling shares to or through underwriters, brokers, dealers or agents, such underwriters, brokers, dealers, or agents may receive compensation in the form of customary or other discounts, concessions or commissions from the selling shareholder or commissions from purchasers of the shares for whom they may act as agent. The selling shareholder and any brokers, dealers or agents that participate in the distribution of the shares may be deemed to be underwriters,

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and any profit on the sale of shares by them and any discounts, concessions or commissions received by any such underwriters, brokers, dealers or agents may be deemed to be underwriting discounts and commissions under the Securities Act.

Under the securities laws of certain states, the shares may be sold in such states only through registered or licensed brokers or dealers.

We pay all of the expenses incident to the registration, offering and sale of the shares to the public hereunder other than commissions, fees and discounts of underwriters, brokers, dealers and agents. We have agreed to indemnify the selling shareholder and any underwriters against certain liabilities, including liabilities under the Securities Act. We will not receive any of the proceeds from the sale of any of the shares by the selling shareholder.

We have agreed to use our best efforts to keep the registration statement, of which this prospectus constitutes a part, effective until the earlier of (i) such date as all of the shares of common stock have been sold, or (ii) until in the opinion of counsel for Amtech, such shares may be sold without registration under the Securities Act, or (iii) until the warrants expire.

#### USE OF PROCEEDS

The selling shareholders will receive the net proceeds from the sale of their shares of common stock. However, we will receive up to \$1,271,016 for the exercise of all of the outstanding warrants, if exercised. We anticipate using any proceeds received from the exercise of the warrants as general working capital for our operations.

#### LEGAL MATTERS

Certain legal matters have been passed upon for us by Squire, Sanders & Dempsey, LLP, Phoenix, Arizona 85004.

#### EXPERTS

The consolidated financial statements and schedule incorporated by reference in this prospectus and elsewhere in this registration statement have been audited by Arthur Andersen LLP, independent public accountants, as indicated in their report with respect thereto, and are incorporated by reference herein in reliance upon the authority of said firm as experts in giving said reports.

#### INDEMNIFICATION

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers or persons controlling the company, the company has been informed that in the opinion of the Commission such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

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PRIVATE PLACEMENT

On September 8, 2000, we issued 383,000 shares of common stock, and warrants to purchase an aggregate of up to 54,300 shares of common stock, pursuant to a Stock and Warrant Purchase Agreement. Of the warrants issued, warrants to purchase up to 16,000 shares of common stock were issued to a placement agent.

The shares and warrants were sold in a private placement. The 383,000 shares were sold at a price of \$13.75 per share. The warrants are exercisable at a price per share of \$15.12. The warrants may be exercised until 11:59 p.m., Eastern Time, on September 8, 2005. We have agreed to register 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, after deducting fees of the placement agents, but before deduction of legal, accounting and registration fees were \$4,690,000. The proceeds will be used to fund the company's growth initiatives. The first two components of our growth strategy are essentially organic growth, which generally can be financed with existing resources. We intend to use the funds raised from the private placement to bring the new technology asher to market and for acquisitions.

In addition, we are also negotiating a bank line of credit to further increase funds available for implementing our growth plan.

LEGAL PROCEEDING

On or about August 31, 2000, we learned that a company named 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. This information was reported in a local newspaper. To date, our subsidiary, P.R. Hoffman Machine Products, Inc., has not been served with any lawsuit. We acquired the assets of P.R. Hoffman Machine Products Corporation in an asset transaction consummated on or about July 1, 1997. Under the terms of the Asset Purchase Agreement governing such transaction, the P.R. Hoffman Machine Products Corporation is obligated to indemnify us for any breaches of its representations and warranties in the Asset Purchase Agreement, including representations relating to environmental matters.

WE HAVE NOT AUTHORIZED ANY PERSON TO MAKE A STATEMENT THAT DIFFERS FROM WHAT IS IN THIS PROSPECTUS. IF ANY PERSON DOES MAKE A STATEMENT THAT DIFFERS FROM WHAT IS IN THIS PROSPECTUS, YOU SHOULD NOT RELY ON IT. THIS PROSPECTUS IS NOT AN OFFER TO SELL, NOR IS IT SEEKING AN OFFER TO BUY, THESE SECURITIES IN ANY STATE IN WHICH THE OFFER OR SALE IS NOT PERMITTED. THE INFORMATION IN THIS PROSPECTUS IS COMPLETE AND ACCURATE AS OF ITS DATE, BUT THE INFORMATION MAY CHANGE AFTER THAT DATE.

AMTECH SYSTEMS, INC.

572,300 SHARES OF  
COMMON STOCK

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\_\_\_\_\_, 2000

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 14. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION.

The following table sets forth the costs and expenses in connection with

the sale and distribution of the securities being registered, other than underwriting discounts and commissions. All of the amounts shown are estimates except the Securities and Exchange Commission registration fee.

SEC Registration Fee	\$ 2,097
Legal Fees	\$ 5,000
Accounting Fees	\$ 25,000
	-----
Total	\$ 32,097
	=====

Amtech will pay all expenses of registration, issuance and distribution of the shares being sold by the selling shareholder, but excluding any underwriting commissions and discounts, filing fees and transfer or other taxes, which shall be borne by the selling shareholder.

#### ITEM 15. INDEMNIFICATION OF DIRECTORS AND OFFICERS.

The right of the shareholders to sue any director for misconduct in conducting the affairs of Amtech is limited by Article 14 of Amtech's Articles of Incorporation and Arizona statutory law to actions for damages resulting from a breach of a director's fiduciary duty of loyalty, acts or omissions not in good faith or involving intentional misconduct or knowing violations of the law, the unlawful payment of dividends or stock repurchases or transactions in which a director receives an improper personal benefit. Ordinary negligence is not a ground for such a suit.

Amtech also has the right, pursuant to Article 11 of Amtech's Articles of Incorporation, to indemnify any present or former director or officer of Amtech for all expenses incurred by them in connection with any legal action brought or threatened against such person for or on account of any action or omission alleged to have been committed while acting in the course and scope of the person's duties, if the person acted in good faith and in a manner which the person reasonably believed to be in or not opposed to the best interests of Amtech, and with respect to criminal actions, had no reasonable cause to believe the person's conduct was unlawful, provided that such indemnification is made pursuant to then existing provisions of Arizona statutory law at the time of any such indemnification. The statute does not limit the liability of directors or officers for monetary damages under the Federal securities laws. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers or persons controlling Amtech, Amtech has been informed that in the opinion of the Commission such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

At present, there is no pending litigation or proceeding involving a director, officer, employee or other agent of Amtech in which indemnification is being sought.

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#### ITEM 16. EXHIBITS.

The following exhibits are filed with this Registration Statement:

<S>	<C>	<C>
4.1	Articles of Incorporation	(A)
4.2	Articles of Amendment to Articles of Incorporation, dated April 27, 1983	(A)
4.3	Articles of Amendment to Articles of Incorporation, dated May 19, 1987	(B)
4.4	Articles of Amendment to Articles of Incorporation, dated May 2, 1988	(C)
4.5	Articles of Amendment to Articles of Incorporation, dated May 28, 1993	(D)
4.6	Amended and Restated Bylaws	(E)
4.7	Form of Warrant to Purchase Common Stock, dated as of July 2, 1997	*
4.8	Stock and Warrant Purchase Agreement, dated as of September 8, 2000	*
4.9	Form of Warrant to Purchase Common Stock, dated as of September 8, 2000	*
5	Opinion re legality	*
23.1	Consent of Counsel (included in Exhibit 5)	*
23.2	Consent of Independent Public Accountants	*

\* 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 Form S-1 Registration Statement No. 33-77368
- (E) Incorporated by reference to Amtech's Annual Report on Form 10-K for the fiscal year ended September 30, 1991

#### ITEM 17. UNDERTAKINGS.

A. The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum

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aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

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

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

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

B. The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the Registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

C. The undersigned Registrant hereby undertakes to deliver or cause to be delivered with the prospectus, to each person to whom the prospectus is sent or given, the latest annual report to security holders that is incorporated by reference in the prospectus and furnished pursuant to and meeting the requirements of Rule 14a-3 or Rule 14c-3 under the Securities Exchange Act of 1934; and, where interim financial information required to be presented by Article 3 of Regulation S-X are not set forth in the prospectus, to deliver, or cause to be delivered to each person to whom the prospectus is sent or given, the latest quarterly report that is specifically incorporated by reference in the prospectus to provide such interim financial information.

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

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly

authorized, in the City of Phoenix, State of Arizona, on October 2, 2000.

AMTECH SYSTEMS, INC.

By: /s/ Jong S. Whang

Jong S. Whang, President  
(Principal Executive Officer)

SIGNATURES AND POWER OF ATTORNEY

The officers and directors of Amtech Systems, Inc. whose signatures appear below, hereby constitute and appoint Robert T. Haas as their true and lawful attorney-in-fact and agent, with full power of substitution, with power to act alone, to sign and execute on behalf of the undersigned any amendment or amendments to this registration statement on Form S-3, and each of the undersigned does hereby ratify and confirm all that said attorney-in-fact and agent, or his substitutes, shall do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

SIGNATURE	TITLE	DATE
/s/ Jong S. Whang ----- Jong S. Whang	Chairman of the Board, President Chief Executive Officer, (Principal Executive Officer)	October 2, 2000
/s/ Robert T. Hass ----- Robert T. Hass	Vice President-Finance (Principal Financial and Accounting Officer)	October 2, 2000
/s/ Donald F. Johnston ----- Donald F. Johnston	Director	October 2, 2000
/s/ Alvin Katz ----- Alvin Katz	Director	October 2, 2000
/s/ Bruce R. Thaw ----- Bruce R. Thaw	Director	October 2, 2000

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EXHIBIT INDEX

The following exhibits are filed with this Registration Statement:

<TABLE> <CAPTION>	<S> <C>	<C>
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4.5	Articles of Amendment to Articles of Incorporation, dated May 28, 1993	(D)
4.6	Amended and Restated Bylaws	(E)
4.7	Form of Warrant to Purchase Common Stock, dated as of July 2, 1997	*
4.8	Stock and Warrant Purchase Agreement, dated as of September 8, 2000	*
4.9	Form of Warrant to Purchase Common Stock, dated as of September 8, 2000	*
5	Opinion re: legality	*
23.1	Consent of Counsel (included in Exhibit 5)	*
23.2	Consent of Independent Public Accountants	*

</TABLE>  
-----



\* 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 Form S-1 Registration Statement No. 33-77368
- (E) Incorporated by reference to Amtech's Annual Report on Form 10-K for the fiscal year ended September 30, 1991

THE WARRANT REPRESENTED BY THIS CERTIFICATE AND THE SECURITIES ISSUABLE UPON EXERCISE THEREOF MAY NOT BE SOLD, TRANSFERRED, ASSIGNED, PLEDGED OR OTHERWISE DISPOSED OF, IN WHOLE OR IN PART, UNLESS ANY SUCH TRANSACTION IS REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR AN EXEMPTION FROM THE REGISTRATION REQUIREMENTS UNDER SAID ACT IS AVAILABLE, AND THE COMPANY HAS RECEIVED AN OPINION OF COUNSEL TO SUCH EFFECT, WHICH OPINION IS REASONABLY SATISFACTORY TO THE COMPANY.

AMTECH SYSTEMS, INC.

W \_\_\_\_\_

WARRANT TO PURCHASE COMMON STOCK

SECURITIES SUBJECT TO WARRANT TO PURCHASE COMMON STOCK. Subject to the terms and conditions hereinafter set forth, \_\_\_\_\_ (the "Holder"), is entitled to purchase from Amtech Systems, Inc., an Arizona corporation (the "Company"), at any time and from time to time during the period from July 1, 1997 (the "Commencement Date") until 5:00 p.m., Miami, Florida Time, on July 1, 2002 (the "Expiration Date"), at which time this Warrant to Purchase Common Stock (the "Warrant") shall expire and become void, an aggregate of \_\_\_\_\_ shares of the Company's common stock, par value \$.01 per share (the "Common Stock"), which number of shares of Common Stock is subject to adjustment from time to time, as described below, upon payment therefore of the exercise price of \$3.00 per share of Common Stock in lawful funds of the United States of America, such amounts (the "Basic Exercise Price") being subject to adjustment in the circumstances set forth herein below. This applicable Basic Exercise Price, until such adjustment is made and thereafter as adjusted from time to time, is called the "Exercise Price."

1. EXERCISE OF WARRANT. This Warrant may be exercised in whole or in part at any time from and after the Commencement Date and on or before the Expiration Date, provided however, if such Expiration Date is a day on which Federal or State chartered banking institutions located in the State of Florida are authorized by law to close, then the Expiration Date shall be deemed to be the next succeeding day which shall not be such a day, by presentation and surrender to the Company at its principal office, or at the office of any transfer agent for the Warrants ("Transfer Agent"), designated by the Company, of this Warrant accompanied by the form of election to purchase on the last page hereof signed by the Holder and upon payment of the Exercise Price for the Common Stock purchased thereby, by cashier's check or by wire transfer of immediately available funds. If this Warrant is exercised in part only, the Company or Transfer Agent shall, promptly after presentation of this Warrant upon such exercise, execute and deliver a new Warrant, dated the date hereof, evidencing the rights of the Holder to purchase the balance of the Common Stock purchasable hereunder upon the same terms and conditions herein set forth.

This Warrant shall be deemed to have been exercised immediately prior to the close of business on the date of its surrender for exercise as provided above, and the person entitled to receive the Common Stock shall be treated for all purposes as the holder of such shares of record as of the close of business on such date. As promptly as practicable, the Company shall issue and deliver to the person or persons entitled to receive the same a certificate or certificates for the number of shares of Common Stock issuable upon such exercise, together with cash in lieu of any fraction of a share as provided below.

2. REGISTRATION RIGHTS.

2.1 If, at any time after March 15, 1998 and prior to the Expiration Date, other than a time when the Securities (as hereinafter defined) are covered for sale or resale by an effective and current registration statement, the Holders of a majority of the Warrants and the shares of Common Stock issued upon exercise of the Warrants (collectively, the "Securities") shall give notice to the Company requesting that the Company file with the Securities and Exchange Commission (the "Commission") a registration statement (the "Registration Statement") relating to the shares of Common Stock issuable upon the exercise of the Warrants, the Company shall promptly give written notice of such proposed Registration Statement to the Holders of such Securities, and to any subsequent permissible transferee of any of the Securities (at the address of such persons appearing on the books of the Company or its transfer agent) which notice shall offer to include the shares of Common Stock in the requested Registration Statement. The Company shall, within six months from receipt of the acceptance of such offer, file and use its best efforts to cause to become effective under the Securities Act of 1933, as amended (the "Securities Act"), the Registration Statement covering such of the shares of Common Stock as the Company has been requested to register for disposition by the Holders thereof, to the extent required to permit the public sale or other public disposition thereof by the Holders. The Company shall use its best efforts to cause the Registration Statement to remain effective until the earlier of (i) such date as all of the shares of Common Stock have been sold or (ii) until in the opinion of counsel for the Company, such shares may be sold without registration under the Securities Act, or (iii) until the Warrants expire.

2.2 In addition, if at any time during the five (5) years after the Commencement Date, the Company shall prepare and file one or more registration statements under the Securities Act, with respect to a public offering of equity

securities of the Company, or of any such securities of the Company held by its security holders, the Company will include in any such registration statement such information as is required, and such number of shares of Common Stock held by the Holders thereof or their respective designees or transferees as may be requested by them, to permit a public offering of the shares of Common Stock so requested; provided, however, that if, in the written opinion of the Company's managing underwriter, if any, for such offering, the inclusion of the shares of Common Stock requested to be registered, when added to the securities being registered by the Company or the selling security holder(s), would exceed the maximum amount of the Company's securities that can be marketed without otherwise materially and adversely affecting the entire offering, then the Company may exclude from such offering that portion of the shares of Common Stock requested to be so registered, so that the total number of securities to be registered is within the maximum number of shares that, in the opinion of the managing underwriter, may be marketed without otherwise materially and adversely affecting the entire offering. The Company shall bear all fees and expenses incurred by it in connection with the preparation and filing of such registration statement. In the event of such a proposed registration, the Company shall furnish the then Holders with not less than thirty (30) days' written notice prior to the proposed date of filing of such registration statement. The holders of shares of Common Stock shall exercise the rights provided for in this Subsection 2.2 by giving written notice to the Company, within twenty (20) days of receipt of the Company's notice of its intention to file a registration statement.

2.3 The Company shall bear all expenses incurred in the preparation and filing of such registration statements or post-effective amendment (and related state registrations, to the extent permitted by applicable law) and the furnishing of copies of the preliminary and final prospectus thereof to the Holder, other than expenses of the Holder's counsel, and other than underwriting discounts and sales commissions incurred by the then holders with respect to the sale of such securities.

2.4 Notwithstanding anything contained herein to the contrary, if on the Expiration Date a registration statement requested under Section 2.1 hereof covering any portion of shares issuable upon the exercise of the Warrants has not been declared effective by the Commission, the Expiration Date shall be extended to the date that is 90 days following the date of effectiveness of such registration statement.

3. RESERVATION OF COMMON STOCK. The Company covenants that, during the period this Warrant is exercisable, the Company will reserve from its authorized and unissued Common Stock a sufficient number of shares of Common Stock to provide for the issuance of the shares of Common Stock upon the exercise of this Warrant. This Company agrees that its issuance of this Warrant shall constitute full authority to its officers who are charged with the duty of executing stock certificates to execute and issue the necessary certificates for shares of Common Stock upon the exercise of this Warrant.

4. NO SHAREHOLDER RIGHTS. This Warrant, as such, shall not entitle the Holder to any rights of a shareholder of the Company, until the Holder has exercised this Warrant in accordance with Section 1 hereof.

#### 5. ADJUSTMENT OF EXERCISE PRICE AND NUMBER OF SHARES.

5.1 The number and kind of securities issuable upon the exercise of this Warrant shall be subject to adjustment from time to time, and the Company agrees to provide notice upon the happening of certain events, as follows:

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a. If the Company is recapitalized through the subdivision or combination of its outstanding shares of Common Stock into a larger or smaller number of shares of Common Stock, the number of shares of Common Stock for which this Warrant may be exercised shall be increased or reduced, as of the record date for such recapitalization, in the same proportion as the increase or decrease in the outstanding shares of Common Stock, and the Exercise Price shall be adjusted so that the aggregate amount payable for the purchase of all of the shares of Common Stock issuable hereunder immediately after the record date for such recapitalization shall equal the aggregate amount so payable immediately before such record date.

b. If the Company declares a dividend on its Common Stock payable in shares of its Common Stock or securities convertible into shares of its Common Stock, the number of shares of Common Stock for which this Warrant may be exercised shall be increased as of the record date for determining which holders of Common Stock shall be entitled to receive such dividend, in proportion to the increase in the number of outstanding shares of Common Stock (and shares of Common Stock issuable upon conversion of all such securities convertible into shares of Common Stock) as a result of such dividend, and the Exercise Price shall be adjusted so that the aggregate amount payable for the purchase of all the shares of Common Stock issuable hereunder immediately after the record date for such dividend shall equal the aggregate amount so payable immediately before such record date.

c. If the Company effects a general distribution to holders of its Common Stock, other than as part of the Company's dissolution or liquidation or the winding up of its affairs, of any shares of its capital stock, any evidence of indebtedness or any of its assets (other than cash, shares of Common Stock or securities convertible into shares of Common Stock), the Company shall give written notice to the Holder of any such general distribution at least fifteen (15) days prior to the proposed record date in order to permit the Holder to exercise this Warrant on or before the record date. There shall be no adjustment in the number of shares of Common Stock for which this Warrant may be exercised, or in the Exercise Price, by virtue of any such general distribution, except as otherwise provided herein.

d. If the Company offers rights or warrants (other than the Warrant) to all holders of its Common Stock which entitle them to subscribe to or purchase additional shares of Common Stock or securities convertible into shares of Common Stock, the Company shall give written notice of any such proposed offering to the Holder at least fifteen (15) days prior to the proposed record date in order to permit the Holder to exercise this Warrant on or before such record date.

e. In the event an adjustment in the Exercise Price or the number of shares of Common Stock issuable hereunder is made under subsection a. or b. above, and such an event does not occur, then any adjustments in the Exercise Price or number of shares of Common Stock issuable upon exercise of this Warrant that were made in accordance with such subsection a. or b. shall be re-adjusted to the Exercise Price and number of shares of Common Stock as were in effect immediately prior to the record date for such an event.

f. The number of shares of Common Stock deemed outstanding at any given time shall include the number of shares of Common Stock outstanding, as adjusted as provided herein, but shall not include shares owned or held by or for the account of the Company, and the disposition of any shares so owned or held will be considered an issuance or sale of Common Stock hereunder.

g. No adjustment of the Exercise Price shall be made if the amount of such adjustment would be less than one cent per share of Common Stock, but in such case any adjustment that otherwise would be required to be made shall be carried forward and shall be made at the time and together with the next subsequent adjustment that, together with any adjustment or adjustments so carried forward, shall amount to not less than one cent per share of Common Stock.

5.2 In the event of any reorganization or reclassification of the outstanding shares of Common Stock (other than a change in par value, or from no par value to par value, or from par value to no par value, or as a result of a subdivision or combination) or in the event of any consolidation or merger of the Company with another entity at any time prior to the expiration of this Warrant, the Holder shall have the right to exercise this Warrant. Upon such exercise, the Holder shall have the right to receive the same kind and number of shares of capital stock and other securities, cash or other property as would

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have been distributed to the Holder upon such reorganization, reclassification, consolidation or merger. The Holder shall pay upon such exercise the Exercise Price that otherwise would have been payable pursuant to the terms of this Warrant. If any such reorganization, reclassification, consolidation or merger results in a cash distribution in excess of the then applicable Exercise Price, the Holder may, at the Holder's option, exercise this Warrant without making payment of the Exercise Price, and in such case the Company shall, upon distribution to the Holder, consider the Exercise Price to have been paid in full, and in making settlement to the Holder, shall deduct an amount equal to the Exercise Price from the amount payable to the Holder. In the event of any such reorganization, merger or consolidation, the corporation formed by such consolidation or merger or the corporation which shall have acquired the assets of the Company shall execute and deliver a supplement hereto to the foregoing effect, which supplement shall also provide for adjustments which shall be as nearly equivalent as may be practicable to the adjustments provided in the Warrant.

5.3 If the Company shall, at any time before the expiration of this Warrant, dissolve, liquidate or wind up its affairs, the Holder shall have the right to exercise this Warrant. Upon such exercise the Holder shall have the right to receive, in lieu of the shares of Common Stock of the Company that the Holder otherwise would have been entitled to receive, the same kind and amount of assets as would have been issued, distributed or paid to the Holder upon any such dissolution, liquidation or winding up with respect to such stock receivable upon exercise of this Warrant on the date for determining those entitled to receive any such distribution. If any such dissolution, liquidation or winding up results in any cash distribution in excess of the Exercise Price provided by this Warrant, the Holder may, at the Holder's option, exercise this Warrant without making payment of the Exercise Price and, in such case, the Company shall, upon distribution to the Holder, consider the Exercise Price to

have been paid in full and, in making settlement to the Holder, shall deduct an amount equal to the Exercise Price from the amount payable to the Holder.

5.4 Upon each adjustment of the Exercise Price pursuant to Section 5 hereof, the Holder shall thereafter (until another such adjustment) be entitled to purchase, at the adjusted Exercise Price in effect on the date this Warrant is exercised, the number of shares of Common Stock, calculated to the nearest whole number of shares, determined by (a) multiplying the number of shares of Common Stock purchasable hereunder immediately prior to the adjustment of the Exercise Price by the Exercise Price in effect immediately prior to such adjustment, and (b) dividing the product so obtained by the adjusted Exercise Price in effect on the date of such exercise. The provisions of Section 8 shall apply, however, so that no fractional share of Common Stock or fractional Warrant shall be issued upon exercise of this Warrant.

5.5 The Company may retain a firm of independent public accountants of recognized standing (who may be any such firm regularly employed by the Company) to make any computation required under this Section 5, and a certificate signed by such firm shall be conclusive evidence of the correctness of any computation made under this Section 5.

6. NOTICE TO HOLDER. So long as this Warrant shall be outstanding (a) if the Company shall pay any dividends or make any distribution upon the Common Stock otherwise than in cash or (b) if the Company shall offer generally to the holders of Common Stock the right to subscribe to or purchase any shares of any class of capital stock or securities convertible into capital stock or any similar rights or (c) if there shall be any capital reorganization of the Company in which the Company is not the surviving entity, recapitalization of the capital stock of the Company, consolidation or merger of the Company with or into another corporation, sale, lease or other transfer of all or substantially all of the property and assets of the Company, or voluntary or involuntary dissolution, liquidation or winding up of the Company, then in such event, the Company shall cause to be mailed by registered or certified mail to the Holder, at least thirty (30) days prior to the relevant date described below (or such shorter period as is reasonably possible if thirty (30) days is not reasonably possible), a notice containing a description of the proposed action and stating the date or expected date on which a record of the Company's shareholders is to be taken for the purpose of any such dividend, distribution of rights, or such reorganization, recapitalization, consolidation, merger, sale, lease or transfer, dissolution, liquidation or winding up is to take place and the date or expected date, if any is to be fixed, as of which the holders of Common Stock of record shall be entitled to exchange their shares of Common Stock for securities or other property deliverable upon such event.

7. CERTIFICATE OF ADJUSTMENT. Whenever the Exercise Price or number or type of securities issuable upon exercise of this Warrant is adjusted, as herein provided, the Company shall promptly deliver to the Holder of this Warrant a

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certificate of an officer of the Company setting forth the nature of such adjustment and a brief statement of the facts requiring such adjustment.

8. NO FRACTIONAL SHARES. No fractional shares of Common Stock will be issued in connection with any subscription hereunder. In lieu of any fractional shares which would otherwise be issuable, the Company shall pay cash equal to the product of such fraction multiplied by the fair market value of one share of Common Stock on the date of exercise, as determined in good faith by the Company's Board of Directors.

9. TRANSFER OR LOSS OF WARRANT.

9.1 Prior to any proposed transfer of the Securities, unless there is in effect a registration statement under the Securities Act, covering the proposed transfer, the Holder thereof shall give written notice to the Company of such Holder's intention to effect such transfer. Each such notice shall describe the manner and circumstances of the proposed transfer in sufficient detail, and shall, if the Company so requests, be accompanied by an unqualified written opinion of legal counsel who shall be reasonably satisfactory to the Company addressed to the Company and reasonably satisfactory in form and substance to the Company's counsel, to the effect that the proposed transfer of the Securities may be effected without registration under the Securities Act, whereupon the Holder of the Securities shall be entitled to transfer the Securities in accordance with the terms of the notice delivered by the Holder to the Company. Each certificate evidencing the Securities transferred as above provided shall not bear such restrictive legends if in the opinion of counsel for the Company such legends are not required in order to establish compliance with any provisions of the Securities Act.

9.2 Upon receipt by the Company of evidence satisfactory to it of loss, theft, destruction or mutilation of this Warrant and, in the case of loss, theft or destruction, of reasonably satisfactory indemnification, or, in the case of mutilation, upon surrender of this Warrant, the Company will execute and deliver, or instruct the Transfer Agent to execute and deliver, a new Warrant of like tenor and date and any such lost, stolen or destroyed Warrant thereupon shall become void.

10. NOTICES. Notices and other communications to be given to the Holder shall be deemed sufficiently given if delivered by hand, or five (5) days after mailing by registered or certified mail, postage prepaid, to the Holder at c/o BC Capital Corp., 201 South Biscayne Boulevard, Suite 2950, Miami, Florida 33131. Notices or other communications to the Company shall be deemed to have been sufficiently given if delivered by hand or five (5) days after mailing if mailed by registered or certified mail postage prepaid, to the Company at 131 S. Clark Drive, Tempe, AZ 85281. A party may change the address to which notice shall be given by notice pursuant to this Section 10.

11. ENTIRE AGREEMENT AND MODIFICATION. The Company and the Holder of this Warrant hereby represent and warrant that this Warrant is intended to and does contain and embody all of the understandings and agreements, both written and oral, of the parties hereto with respect to the subject matter of this Warrant, and that there exists no oral agreement or understanding, express or implied, whereby the absolute, final and unconditional character and nature of this Warrant shall be in any way invalidated, impaired or affected. A modification or waiver of any of the terms, conditions or provisions of this Warrant shall be effective only if made in writing and executed with the same formality of this Warrant.

12. GOVERNING LAW. This Warrant shall be governed by and construed in accordance with the laws of the State of Arizona, without application of the principles of conflicts of laws.

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IN WITNESS WHEREOF, the Company has executed this Warrant as of the \_\_\_\_ day of \_\_\_\_\_.

AMTECH SYSTEMS, INC.,  
an Arizona corporation

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

ELECTION TO PURCHASE

TO: AMTECH SYSTEMS, INC.

The undersigned hereby irrevocably elects to exercise Warrants represented by this Purchase Warrant to Purchase Common Stock to purchase \_\_\_\_\_ shares of Common Stock issuable upon the exercise of such Warrants and requests that certificates for such shares and Warrants be issued in the name of:

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(Please insert social security or other identifying number)

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(Please print name and address)

Dated: \_\_\_\_\_, \_\_\_\_\_

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(Signature must conform in all respects to name of holder as specified on the face of the Warrant)

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STOCK AND WARRANT PURCHASE AGREEMENT

STOCK AND WARRANT PURCHASE AGREEMENT ("Agreement"), dated as of September 8, 2000, by and among Amtech Systems, Inc., an Arizona corporation (the "Company"), and each person or entity who executes a counterpart signature page to this Agreement and is listed as an investor on SCHEDULE I attached to this Agreement (each individually an "Investor" and collectively the "Investors").

WITNESSETH:

WHEREAS, the Company desires to sell and issue to the Investors listed on SCHEDULE I, and the Investors listed on SCHEDULE I desire to purchase from the Company, up to an aggregate of 383,000 shares of Common Stock, \$.01 par value per share (the "Common Stock"), of the Company on the terms and conditions set forth herein;

WHEREAS, each Investor listed on SCHEDULE I will also receive five year warrants (the "Warrants"), in the identical form and substance of EXHIBIT A attached hereto, to purchase that number of additional shares of Common Stock equal to the product of ten percent (10%) multiplied by the number of shares of Common Stock purchased by such Investor at a per share exercise price equal to the product of 110% multiplied by the Common Stock Purchase Price (as defined below);

WHEREAS, the Company has granted the Investors registration rights with respect to the shares of Common Stock purchased hereunder and the shares of Common Stock issuable upon exercise of the Warrants (the "Warrant Shares") pursuant to the terms hereof; and

NOW, THEREFORE, in consideration of the foregoing premises and the covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

CERTAIN DEFINITIONS. As used in this Agreement, the following terms shall have the following respective meanings:

"Closing" and "Closing Date" shall have the meanings ascribed to such terms in Section 1.3 herein.

"Commission" shall mean the Securities and Exchange Commission or any other federal agency at the time administering the Securities Act.

"Exchange Act" shall mean the Securities Exchange Act of 1934, as amended.

"Holder" and "Holders" shall include an Investor or Investors, respectively, and any transferee of the shares of Common Stock, the Warrants or the Warrant Shares or Registrable Securities which have not been sold to the public to whom the registration rights conferred by this Agreement have been transferred in compliance with this Agreement.

"Registrable Securities" shall mean: (i) the shares of Common Stock and the Warrant Shares issued or issuable to each Holder or the respective permitted transferee or designee; (ii) any securities issued to each Holder as a result of any stock split, stock dividend, recapitalization or similar event or upon the exchange of the shares of Common Stock, the Warrants or the Warrant Shares; or (iii) any other security of the Company issued as a dividend or other distribution with respect to, in exchange of or in replacement of Registrable Securities.

The terms "register", "registered" and "registration" shall refer to a registration effected by preparing and filing a registration statement in compliance with the Securities Act and applicable rules and regulations thereunder, including without limitation, Rule 415 under the Securities Act or any successor rule providing for offering securities on a continuous or delayed basis, and the declaration or ordering of the effectiveness of such registration statement by the Commission.

"Registration Expenses" shall mean all expenses to be incurred by the Company in connection with each Holder's registration rights under this Agreement, including, without limitation, all registration and filing fees, printing expenses, fees and disbursements of counsel for the Company, blue sky fees and expenses, reasonable fees and disbursements of counsel for Holders (using a single counsel selected by a majority in the interest of the Holders) for a "due diligence" examination of the Company and review of the Registration Statement and related documents, and the expense of any special audits incident to or required by any such registration (but excluding the compensation of regular employees of the Company, which shall be paid in any event by the Company).

"Registration Statement" shall have the meaning set forth in Section 4.1(a) herein.

"Regulation D" shall mean Regulation D as promulgated pursuant to the Securities Act, and as subsequently amended.

"Securities" shall mean the shares of Common Stock, the Warrants and the Warrant Shares, collectively.

"Securities Act" or "Act" shall mean the Securities Act of 1933, as amended.

"Selling Expenses" shall mean all underwriting discounts and selling commissions applicable to the sale of Registrable Securities, if any, and all fees and disbursements of counsel for Holders not included within "Registration Expenses".

## ARTICLE I

### PURCHASE AND SALE OF THE STOCK AND WARRANTS

Section 1.1 PURCHASE AND SALE. Upon the following terms and conditions, the Company shall issue and sell to each Investor listed on SCHEDULE I severally, and each Investor listed on SCHEDULE I severally shall purchase from the Company, the number of shares of Common Stock and the number of Warrants indicated next to such Investor's name on SCHEDULE I attached hereto.

Section 1.2 PURCHASE PRICE. The per share purchase price for the shares of Common Stock shall be equal to \$13.75 per share of Common Stock (the "Common Stock Purchase Price"). Each Investor listed on SCHEDULE I will also receive Warrants to purchase such number of shares of Common Stock equal to the product of 10% multiplied by the number of shares of Common Stock purchased at a per share exercise price equal to 110% of the Common Stock Purchase Price.

Section 1.3 THE CLOSING. (a) The closing of the purchase and sale of the Common Stock and Warrants (the "Closing"), shall take place at the offices of Squire, Sanders & Dempsey L.L.P, at 10:00 a.m., local time following acceptance by the Company of subscriptions representing an aggregate of \$5,266,250.00 of shares of Common Stock, which acceptance shall not occur until the conditions set forth in Article V hereof shall be fulfilled or waived in accordance herewith. The date on which the Closing occurs is referred to herein as the "Closing Date."

(b) On the Closing Date, the Company shall deliver to each Investor certificates (with the number of and denomination of such certificates reasonably requested by such Investor) representing the Common Stock purchased hereunder by such Investor registered in the name of such Investor or its nominee or deposit such Common Stock into accounts designated by such Investor, and such Investor shall deliver to the Company the purchase price for the Common Stock purchased by such Investor hereunder by wire transfer in immediately available funds to an account designated in writing by the Company. In addition, each party shall deliver all documents, instruments and writings required to be delivered by such party pursuant to this Agreement at or prior to the Closing

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Date. The foregoing notwithstanding, the Company may, in lieu of delivering certificates on the Closing Date, deliver an irrevocable instruction letter addressed to the Company's transfer agent authorizing such transfer agent to issue the applicable share certificates (the "Irrevocable Instruction Letter").

## ARTICLE II

### REPRESENTATIONS AND WARRANTIES

Section 2.1 REPRESENTATIONS AND WARRANTIES OF THE COMPANY. The Company hereby makes the following representations and warranties to each of the Investors from and as of the date hereof through the Closing Date:

(a) ORGANIZATION AND QUALIFICATION; MATERIAL ADVERSE EFFECT. The Company owns 100% of the outstanding capital stock of each of Tempres Systems, Inc., a Texas corporation, and P.R. Hoffman Machine Products, Inc., an Arizona corporation (collectively, the "Subsidiaries"). The Company does not have any other direct or indirect subsidiaries. Each of the Company and its Subsidiaries is a corporation duly incorporated and validly existing and in good standing under the laws of its respective jurisdiction of incorporation and the Company and the Subsidiaries each have the requisite corporate power to own its properties and to carry on its business as now being conducted. Each of the Company and each Subsidiary is duly qualified as a foreign corporation to do business and is in good standing in every jurisdiction in which the nature of the business conducted or property owned by it makes such qualification necessary other than those in which the failure so to qualify would not have a Material Adverse Effect. "Material Adverse Effect" means any adverse effect on the business, operations, properties, or financial condition of the entity with respect to which such term is used and which is material to such entity and other entities controlling or controlled by such entity, taken as a whole, and any material adverse effect on the transactions contemplated under the Agreement or any other agreement or document contemplated hereby.



(b) AUTHORIZATION; ENFORCEMENT. (i) The Company has the requisite corporate power and authority to enter into and perform this Agreement and to issue the Securities in accordance with the terms hereof, (ii) the execution and delivery of this Agreement by the Company and the consummation by it of the transactions contemplated hereby, including the issuance of the Common Stock in accordance with the terms of this Agreement have been duly authorized by all necessary corporate action, and no further consent or authorization of the Company or its Board of Directors or stockholders is required, (iii) this Agreement has been duly executed and delivered by the Company, and (iv) this Agreement constitutes the valid and binding obligations of the Company enforceable against the Company in accordance with its terms, subject to applicable bankruptcy, insolvency, reorganization, moratorium, liquidation and other similar laws affecting the enforcement of creditors' rights generally, general equitable principles and the discretion of courts in granting equitable remedies.

(c) CAPITALIZATION. The authorized capital stock of the Company consists of 100,000,000 shares of Common Stock and 100,000,000 shares of preferred stock, par value \$.01 per share ("Preferred Stock"); without giving effect to this offering, there are 2,186,558 shares of Common Stock and no shares of Preferred Stock issued and outstanding, respectively. All of the outstanding shares of the Common Stock have been validly issued and are fully paid and non-assessable. No shares of Common Stock or preferred stock are entitled to preemptive rights; without giving effect to this offering, 75,000 shares of Common Stock (including any shares of Common Stock issuable upon the exercise of any outstanding options, warrants or rights or upon the exchange or conversion of any exchangeable or convertible securities of the Company and excluding an indeterminate number of shares potentially issuable pursuant to an earn-out right granted in connection with the Company's acquisition of P.R. Hoffman Machine Products Corporation) are entitled to registration rights (which registration rights do not adversely impact the registration rights granted to the Investors); and without giving effect to this offering, there are outstanding options for 154,267 shares of Common Stock and outstanding warrants for 75,000 shares of Common Stock. Except for warrants issuable to Wharton Capital Partners, Ltd. and the Investors in connection with this offering and except as disclosed in the prior sentence and as contemplated by this Agreement or disclosed in the SEC Documents (as defined below), there are no other scrip, rights to subscribe for, calls or commitments of any character whatsoever

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relating to, or securities or rights exchangeable or convertible into, any shares of capital stock of the Company, or contracts, commitments, understandings or arrangements by which the Company is or may become bound to issue additional shares of capital stock of the Company or options, warrants, scrip, rights to subscribe for, or commitments to purchase or acquire, any shares, or securities or rights convertible into shares, of capital stock of the Company.

(d) NO CONFLICTS. The execution, delivery and performance of this Agreement by the Company and the consummation by the Company of the transactions contemplated hereby do not and will not (i) result in a violation of the charter or By-Laws of the Company or any Subsidiary or (ii) conflict with, or constitute a default (or an event which with notice or lapse of time or both would become a default) under, or give to others any rights of termination, amendment, acceleration or cancellation of, any agreement, indenture, patent, patent license or instrument to which the Company or any Subsidiary is a party, or result in a violation of any Federal, state, local or foreign law, rule, regulation, order, judgment or decree (including Federal and state securities laws and regulations) applicable to the Company or any Subsidiary or by which any property or asset of the Company or any Subsidiary is bound or affected (except for such conflicts, defaults, terminations, amendments, accelerations, cancellations and violations as would not, individually or in the aggregate, have a Material Adverse Effect); provided that, for purposes of such representation as to Federal, state, local or foreign law, rule or regulation, no representation is made herein with respect to any of the same applicable solely to the Investors and not to the Company or any Subsidiary. Neither the business of the Company nor of any Subsidiary is being conducted in violation of any law, ordinance or regulation of any governmental entity, except for violations which either singly or in the aggregate do not and will not have a Material Adverse Effect. The Company is not required under Federal, state, local or foreign law, rule or regulation to obtain any consent, authorization or order of, or to make any filing or registration with, any court or governmental agency in order for it to execute, deliver or perform any of its obligations under this Agreement or the Warrants or issue and sell the Common Stock or the Warrants in accordance with the terms hereof or issue the Warrant Shares upon exercise of the Warrants, except for the registration provisions provided for herein, provided that, for purposes of the representation made in this sentence, the Company is assuming and relying upon the accuracy of the relevant representations and agreements of the Investors herein.

(e) SEC DOCUMENTS; FINANCIAL STATEMENTS. The Common Stock of the Company is registered pursuant to Section 12(g) of the Exchange Act and the Company has timely filed all reports, schedules, forms, statements and other documents required to be filed by it with the Commission pursuant to the reporting requirements of the Exchange Act, including material filed pursuant to Section 13(a) or 15(d), in addition to one or more registration statements and

amendments thereto heretofore filed by the Company with the Commission (all of the foregoing including filings incorporated by reference therein being referred to herein as the "SEC Documents"). The Company has delivered or made available to the Investors true and complete copies of all SEC Documents (including, without limitation, proxy information and solicitation materials and registration statements) filed with the Commission since September 30, 1999. As of their respective dates, the SEC Documents (as amended by any amendments filed prior to the date of this Agreement or any Closing Date and provided to each Investor) complied or will comply in all material respects with the requirements of the Exchange Act and the rules and regulations of the Commission promulgated thereunder and other Federal, state and local laws, rules and regulations applicable to such SEC Documents, and none of the SEC Documents contained or will contain any untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading. The financial statements of the Company included in the SEC Documents comply as to form in all material respects with applicable accounting requirements and the published rules and regulations of the Commission or other applicable rules and regulations with respect thereto. Such financial statements have been prepared in accordance with generally accepted accounting principles applied on a consistent basis during the periods involved (except (i) as may be otherwise indicated in such financial statements or the notes thereto or (ii) in the case of unaudited interim statements, to the extent they may not include footnotes or may be condensed or summary statements) and fairly present in all material respects the financial position of the Company as of the dates thereof and the results of operations and cash flows for the periods then ended (subject, in the case of unaudited statements, to normal year-end audit adjustments and the lack of footnotes).

(f) PRINCIPAL EXCHANGE/MARKET. The principal market on which the Common Stock is currently traded is the Nasdaq SmallCap Market ("Nasdaq").

(g) NO MATERIAL ADVERSE CHANGE. Since June 30, 2000, the date through which the most recent quarterly report of the Company on Form 10-Q has been prepared and filed with the Commission, a copy of which is included in the SEC Documents, no event which had or is likely to have a Material Adverse Effect has occurred

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or exists with respect to the Company or any Subsidiary, except as otherwise disclosed or reflected in press releases or other SEC Documents prepared through or as of a date subsequent to June 30, 2000 and provided to the Investors.

(h) NO UNDISCLOSED LIABILITIES. Neither the Company nor any Subsidiary has any liabilities or obligations not disclosed in the SEC Documents, other than those liabilities incurred in the ordinary course of its respective business since June 30, 2000 or liabilities or obligations, individually or in the aggregate, which do not or would not have a Material Adverse Effect on the Company or the Subsidiaries, taken as a whole.

(i) NO UNDISCLOSED EVENTS OR CIRCUMSTANCES. No event or circumstance has occurred or exists with respect to the Company, any Subsidiary or their respective business, properties, operations or financial condition, which, under applicable law, rule or regulation, requires public disclosure or announcement by the Company but which has not been so publicly announced or disclosed.

(j) NO GENERAL SOLICITATION. None of the Company, the Subsidiaries or, to the Company's knowledge, any of their respective affiliates or any person acting on its or their behalf has engaged in any form of general solicitation or general advertising (within the meaning of Regulation D) in connection with the offer or sale of the Securities.

(k) NO INTEGRATED OFFERING. None of the Company, the Subsidiaries, or, to the Company's knowledge, any of their respective affiliates, or any person acting on its or their behalf has, directly or indirectly, made any offers or sales of any security or solicited any offers to buy any security, under circumstances that would require registration of any of the Securities.

(l) INTELLECTUAL PROPERTY. Each of the Company and the Subsidiaries owns or has licenses to use certain copyrights and trademarks ("intellectual property") associated with its respective business. Each of the Company and the Subsidiaries has all intellectual property rights which are needed to conduct its respective business as it is now being conducted or as proposed to be conducted as disclosed in the SEC Documents. The Company has no reason to believe that the intellectual property rights owned by the Company or any of its Subsidiaries are invalid or unenforceable or that the use of such intellectual property by the Company or the Subsidiaries infringes upon or conflicts with any right of any third party, and neither the Company nor any Subsidiary has received notice of any such infringement or conflict. The Company has no knowledge of any infringement of the Company's or any Subsidiary's intellectual property by any third party.

(m) NO LITIGATION. Except as set forth in the SEC Documents delivered to the Investors or in Schedule 2.1(m) hereto, no litigation or claim against the Company or any Subsidiary is pending or, to the Company's knowledge, threatened,

and no other event has occurred, which if determined adversely would have a Material Adverse Effect on the Company or any Subsidiary, taken as a whole, or would materially adversely effect the transactions contemplated hereby.

(n) BROKERS. The Company has taken no action which would give rise to any claim by any person, other than Ferris, Baker Watts, Incorporated and Wharton Capital Partners, Ltd., for brokerage commissions, finder's fees or similar payments by the Company relating to this Agreement or the transactions contemplated hereby. The Company has taken no action which would give rise to any claim by any person for brokerage commissions, finder's fees or similar payments by any Investor relating to this Agreement or the transactions contemplated hereby.

(o) FORMS S-3. The Company is eligible to file a Registration Statement on Form S-3 under the Act and the rules promulgated thereunder, and Form S-3 is permitted to be used for the transactions contemplated hereby under the Act and the rules promulgated thereunder.

Section 2.2 REPRESENTATIONS AND WARRANTIES OF THE INVESTORS. Each of the Investors, severally and not jointly, hereby makes the following representations and warranties to the Company as of the date hereof and on the Closing Date:

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(a) AUTHORIZATION; ENFORCEMENT. (i) Such Investor has the requisite power and authority, or the legal capacity, as the case may be, to enter into and perform this Agreement and to purchase the Securities being sold to such Investor hereunder, (ii) the execution and delivery of this Agreement by such Investor and the consummation by it of the transactions contemplated hereby have been duly authorized by all necessary corporate or partnership action, as required, and (iii) this Agreement constitutes the valid and binding obligation of such Investor enforceable against such Investor in accordance its terms, except as such enforceability may be limited by applicable bankruptcy, insolvency, reorganization, moratorium, liquidation or similar laws relating to, or affecting generally the enforcement of creditors' rights and remedies or by other equitable principles of general application.

(b) NO CONFLICTS. The execution, delivery and performance of this Agreement and the consummation by such Investor of the transactions contemplated hereby do not and will not (i) result in a violation of such Investor's organizational documents, or (ii) conflict with any agreement, indenture, or instrument to which such Investor is a party, or (iii) result in a violation of any law, rule, or regulation or any order, judgment or decree of any court or governmental agency applicable to such Investor. Such Investor is not required to obtain any consent or authorization of any governmental agency in order for it to perform its obligations under this Agreement.

(c) INVESTMENT REPRESENTATION. Such Investor is purchasing the securities purchased hereunder for its own account and not with a view to distribution in violation of any securities laws. Such Investor has no present intention to sell the securities purchased hereunder and such Investor has no present arrangement (whether or not legally binding) to sell the Securities purchased hereunder to or through any person or entity; provided, however, that by the representations herein, such Investor does not agree to hold any of the Securities for any minimum or other specific term and reserves the right to dispose of any of the Securities at any time in accordance with Federal and state securities laws applicable to such disposition.

(d) ACCREDITED INVESTOR. Such Investor is an "accredited investor" as defined in Rule 501 promulgated under the Act. The Investor has such knowledge and experience in financial and business matters in general and investments in particular, so that such Investor is able to evaluate the merits and risks of an investment in the securities purchased hereunder and to protect its own interests in connection with such investment. In addition (but without limiting the effect of the Company's representations and warranties contained herein), such Investor has received such information as it considers necessary or appropriate for deciding whether to purchase the Securities purchased hereunder.

(e) RULE 144. Such Investor understands that there is no public trading market for the Warrants, that none is expected to develop, and that the Warrants must be held indefinitely unless exercised or unless such securities are registered under the Act or an exemption from registration is available. Such Investor understands that the Common Stock and the Warrant Shares must be held indefinitely unless such securities are registered under the Act or an exemption from registration is available. Such Investor has been advised or is aware of the provisions of Rule 144 promulgated under the Act.

(f) BROKERS. Such Investor has taken no action which would give rise to any claim by any person for brokerage commissions, finder's fees or similar payments by the Company relating to this Agreement or the transactions contemplated hereby.

(g) RELIANCE BY THE COMPANY. Such Investor understands that the Common Stock is being offered and sold in reliance on a transactional exemption from the registration requirements of Federal and state securities laws and that the Company is relying upon the truth and accuracy of the representations,

warranties, agreements, acknowledgments and understandings of such Investor set forth herein in order to determine the applicability of such exemptions and the suitability of such Investor to acquire the Securities.

### ARTICLE III

#### COVENANTS

Section 3.1 REGISTRATION AND LISTING. Until the expiration of the Effectiveness Period (as hereinafter defined in Section 4.3), the Company will cause the Common Stock to continue to be registered under Section 12(g) of the

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Exchange Act, will comply in all respects, with its reporting and filing obligations under the Exchange Act, and will not take any action or file any document (whether or not permitted by the Exchange Act or the rules thereunder) to terminate or suspend such reporting and filing obligations. Until the expiration of the Effectiveness Period, the Company shall use its best efforts to continue the listing or trading of the Common Stock on Nasdaq or a principal exchange (which consists exclusively of the NYSE or AMEX) and comply in all respects with the Company's reporting, filing and other obligations under the bylaws or rules of Nasdaq or such principal exchange, as the case may be.

Section 3.2 CERTIFICATES ON EXERCISE. Upon the exercise of any Warrants in accordance with the terms of the Warrants, the Company shall issue and deliver to such Investor (or the then holder) within three (3) business days of the exercise date, (x) a Certificate or Certificates for the Warrant Shares issuable upon such exercise and (y) a new certificate or certificates for the Warrants of such Investor (or holder) which have not yet been exercised but which are evidenced in part by the certificate(s) submitted to the Company in connection with such exercise (with the number of and denomination of such new certificate(s) designated by such Investor or holder).

Section 3.3 REPLACEMENT CERTIFICATES. The certificate(s) representing the shares of Common Stock, Warrant Shares or the Warrants held by any Investor (or then holder) may be exchanged by such Investor (or such holder) at any time and from time to time for certificates with different denominations representing an equal number of shares of Common Stock, Warrant Shares or Warrants, as the case may be, as reasonably requested by such Investor (or such holder) upon surrendering the same. No service charge will be made for such registration, transfer or exchange.

Section 3.4 SECURITIES COMPLIANCE. The Company shall notify the Commission and Nasdaq, in accordance with their requirements, of the transactions contemplated by this Agreement and the Warrants and shall take all other necessary action and proceedings as may be required and permitted by applicable law, rule and regulation, for the legal and valid issuance of the Securities.

Section 3.5 RESERVATION OF STOCK ISSUABLE UPON EXERCISE. The Company shall at all times reserve and keep available out of its authorized but unissued Common Stock, solely for the purpose of affecting the exercise of the Warrants, such number of shares of Common Stock as shall from time to time be sufficient to effect the exercise of all outstanding Warrants.

### ARTICLE IV

#### REGISTRATION

Section 4.1 REGISTRATION REQUIREMENTS. The Company shall use its best efforts to effect the registration of the Registrable Securities (including, without limitation, the execution of an undertaking to file post-effective amendments, appropriate qualification under applicable blue sky or other state securities laws and appropriate compliance with applicable regulations issued under the Securities Act) as would permit or facilitate the public sale or distribution of all the Registrable Securities in the manner (including manner of sale) and in all states reasonably requested by the Holders. Such best efforts by the Company shall include the following:

(a) The filing by the Company no later than thirty (30) days after the Closing of a registration statement or registration statements (as necessary) with the Commission pursuant to Rule 415 under the Securities Act on Form S-3 (or such other appropriate registration form if the Company is ineligible to use Form S-3) covering the resale of the Registrable Securities acquired (or underlying the Securities so acquired) at the Closing ("Registration Statement(s)"). In the event that such Registration Statement is not filed within thirty (30) days after the Closing, then the Company shall until the Registration Statement is filed, pay in cash to each Holder an amount equal to 1.5% of the respective purchase price paid by such Holder (the "Damages") for each 30 day period beginning on the 31st day following the Closing Date at which the Registrable Securities were acquired (the "Default Period") that the Registration Statement has not been filed; provided, however, that the Default Period shall terminate and Damages shall cease to accrue on the date upon which such Registrable Securities may be sold under Rule 144(k) in the reasonable opinion of counsel to the Company (provided that the Company's transfer agent has accepted an instruction from the Company to such effect). If any applicable

Default Period is less than 30 days such cash payment shall be on a pro rata

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basis. The amount of such cash payment shall be calculated by the Company on the earlier of (i) the effective date of such Registration Statement or (ii) the last day of each Default Period, and a certified or bank check in lawful money of the United States of America shall be sent within three (3) business days of such calculation to the address of each Holder as listed in the stock transfer ledger maintained by the Company or its transfer agent. Notwithstanding the foregoing, if the Default Period commences from the failure of the Company to cause to be filed the Registration Statement solely by reason of the failure of any Holder to provide such information as (i) the Company may reasonably request from such Holder to be included in the Registration Statement or (ii) the Commission or Nasdaq may request in connection with such Registration Statement (which request was provided to the Holder in writing) (the "Late Holder"), the Company shall not be required to pay such Damages to any of the Holders; provided, that the Company shall file the Registration Statement excluding the Late Holder or take such other action as necessary to cause the Registration Statement to be filed effective, within two (2) business days after the initial day of the original Default Period, provided that a new Default Period will commence three (3) business days after the initial day of the original Default Period if the Registration Statement is not filed. The Company agrees to promptly file an amendment to such Registration Statement including the Late Holder once the requested information has been provided.

(b) Prepare and file with the Commission such amendments (including post-effective amendments) and supplements to such Registration Statement and the prospectus used in connection with such Registration Statement as may be necessary to keep such Registration Statement effective at all times during the Effectiveness Period (as defined below) and comply with the provisions of the Act with respect to the disposition of all securities covered by such Registration Statement and notify the Holders of the filing and effectiveness of such Registration Statement and any amendments or supplements. In the case of amendments and supplements to a Registration Statement which are required to be filed pursuant to this Agreement by reason of the Company filing a report on Form 10-K, Form 10-Q or Form 8-K or any analogous report under the Exchange Act, the Company shall have incorporated such report by reference into the Registration Statement, if applicable, or shall file such amendments or supplements with the Commission on the same day on which the Exchange Act report is filed which created the requirement for the Company to amend or supplement the Registration Statement.

(c) Furnish to each Holder such numbers of copies of a current prospectus conforming with the requirements of the Act, copies of the Registration Statement, any amendment or supplement thereto and any documents incorporated by reference therein and such other documents as such Holder may reasonably require in order to facilitate the disposition of Registrable Securities owned by such Holder.

(d) Use its best efforts to register and qualify the securities covered by such Registration Statement under such other securities or "Blue Sky" laws of such jurisdictions as shall be reasonably requested by each Holder; provided that the Company shall not be required in connection therewith or as a condition thereto to (i) qualify to do business where it would not otherwise be required to qualify, (ii) file a general consent to service of process in any such states or jurisdictions, (iii) make any change in the Company's charter or By-Laws, or (iv) subject itself to general taxation in any such jurisdiction.

(e) Notify each Holder immediately of the happening of any event as a result of which the prospectus (including any supplement thereto or thereof) included in such Registration Statement, as then in effect, includes an untrue statement of material fact or omits to state a material fact required to be stated therein or necessary to make the statements therein not misleading in light of the circumstances then existing, and use its best efforts to promptly update and/or correct such prospectus.

(f) Notify each Holder immediately of the issuance by the Commission or any state securities commission or agency of any stop order suspending the effectiveness of the Registration Statement or the initiation of any proceedings for that purpose. The Company shall use its reasonable best efforts to prevent the issuance of any stop order and, if any stop order is issued, to obtain the lifting thereof at the earliest possible time.

(g) Permit a single firm of counsel, designated as Holders' counsel by the Holders of a majority of the Registrable Securities included in the Registration Statement, to review the Registration Statement and all amendments and supplements thereto within a reasonable period of time prior to each filing, and shall not file any document in a form to which such counsel reasonably objects, provided such counsel shall provide such counsel's comments or objection within three (3) business days after receipt of any document.

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(h) As of the date the Registration Statement is declared effective by the Commission, the Company shall have caused the Registrable Securities covered by such Registration Statement to be listed with all securities exchange(s) and/or

markets on which the Common Stock is then listed, and prepared and filed any required filings with the National Association of Securities Dealers, Inc. or any exchange or market where the Common Stock is traded.

(i) The Company shall make available for inspection by the Holders, representative(s) of all the Holders together, any underwriter participating in any disposition pursuant to a Registration Statement, and any attorney or accountant retained by any Holder or underwriter, all financial and other records customary for purposes of the Holders' due diligence examination of the Company and all SEC Documents filed subsequent to the Closing Date, pertinent corporate documents and properties of the Company, and cause the Company's officers, directors and employees to supply all information reasonably requested by any such representative, underwriter, attorney or accountant in connection with such Registration Statement, provided that such parties agree to enter into a Confidentiality Agreement in the form and substance mutually agreeable to the Company and the Investors.

(j) The term "best efforts" as used in this Agreement shall include, without limitation, that the Company shall submit to the Commission, within five (5) business days after the Company learns that no review of a particular Registration Statement will be made by the staff of the Commission or that the staff has no further comments on the Registration Statement, as the case may be, a request for acceleration of effectiveness of such Registration Statement to a time and date not later than 72 hours after the submission of such request.

Section 4.2 EXPENSES OF REGISTRATION. All Registration Expenses incurred in connection with any registration, qualification or compliance with registration pursuant to this Section 4 shall be borne by the Company, and all Selling Expenses of a Holder shall be borne by such Holder.

Section 4.3 REGISTRATION PERIOD. In the case of the registration effected by the Company pursuant to this Section 4, the Company will use its best efforts to keep such registration effective (the "Effectiveness Period") until the earlier to occur of (a) one year from the Closing Date, provided, however, that the period of time which such Registration Statement is required to be effective shall be increased by the number of days that the Registration Statement's effectiveness was suspended, if any, during the one year period from the Closing Date, (b) the date on which all the Holders have completed the sales or distributions of the Registrable Securities included in the Registration Statement or, (c) the date on which such Registrable Securities of all Holders may be sold without restriction under Rule 144(k) promulgated under the Securities Act (or any successor thereto) in the reasonable opinion of counsel to the Company (provided that the Company's transfer agent has accepted an instruction from the Company to such effect and will issue certificates representing such Registrable Securities without any legend endorsed thereon).

Section 4.4 OBLIGATION OF HOLDER. It shall be a condition precedent to the obligations of the Company to complete the registration pursuant to this Agreement with respect to Registrable Securities of the Holder that:

(a) the Holder by such Holder's acceptance of the Registrable Securities agrees to cooperate with the Company as reasonably requested by the Company in connection with the preparation and filing of any Registration Statement hereunder, unless the Holder has notified the Company in writing of the Holder's election to exclude all of the Holder's Registrable Securities from such Registration Statement.

(b) the Holder shall furnish to the Company such information regarding the Holder, the Registrable Securities held by the Holder and the intended method of disposition of the Registrable Securities held by the Holder as shall be reasonably required to effect the registration of such Registrable Securities and the Holder shall execute such documents as are customary in connection with such registration as the Company may reasonably request.

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Section 4.5 INDEMNIFICATION.

(a) COMPANY INDEMNITY. The Company will indemnify each Holder, each of its officers, directors and partners, and each person controlling each Holder, within the meaning of Section 15 of the Securities Act and the rules and regulations thereunder with respect to which registration, qualification or compliance has been effected pursuant to this Agreement, and each underwriter, if any, and each person who controls, within the meaning of Section 15 of the Securities Act and the rules and regulations thereunder, any underwriter, against all claims, losses, damages and liabilities (or actions in respect thereof) arising out of or based on any untrue statement (or alleged untrue statement) of a material fact contained in any prospectus, offering circular or other document (including any related registration statement, notification or the like) incident to any such registration, qualification or compliance, or based on any omission (or alleged omission) to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, or any violation by the Company of the Securities Act or any state securities law or in either case, any rule or regulation thereunder applicable to the Company and relating to action or inaction required of the Company in

connection with any such registration, qualification or compliance, and will reimburse each Holder, each of its officers, directors and partners, and each person controlling such Holder, each such underwriter and each person who controls any such underwriter, for any legal and any other expenses reasonably incurred in connection with investigating and defending any such claim, loss, damage, liability or action, provided that the Company will not be liable in any such case to a Holder to the extent that any such claim, loss, damage, liability or expense arises out of or is based on any untrue statement or omission based upon written information furnished to the Company by such Holder or the underwriter (if any) therefor and stated to be specifically for use therein. The indemnity agreement contained in this Section 4.5(a) shall not apply to amounts paid in settlement of any such loss, claim, damage, liability or action if such settlement is effected without the consent of the Company (which consent will not be unreasonably withheld).

(b) HOLDER INDEMNITY. Each Holder will, severally and not jointly, if Registrable Securities held by it are included in the securities as to which such registration, qualification or compliance is being effected, indemnify the Company, each of its directors, officers, partners, and each underwriter, if any, of the Company's securities covered by such registration statement, each person who controls the Company or such underwriter within the meaning of Section 15 of the Securities Act and the rules and regulations thereunder, each other Holder (if any), and each of their directors, officers and partners, and each person controlling such other Holder(s) against all claims, losses, damages and liabilities (or actions in respect thereof) arising out of or based on any untrue statement (or alleged untrue statement) of a material fact contained in any such registration statement, prospectus, offering circular or other document, or any omission (or alleged omission) to state therein a material fact required to be stated therein or necessary to make the statement therein not misleading, in each case only insofar as such untrue statement or alleged untrue statement or omission relates to such Holder, and will reimburse the Company and such other Holder(s) and their directors, officers and partners, underwriters or control persons for any legal or any other expenses reasonably incurred in connection with investigating and defending any such claim, loss, damage, liability or action, in each case to the extent, but only to the extent, that such untrue statement (or alleged untrue statement) or omission (or alleged omission) is made in such registration statement, prospectus, offering circular or other document in reliance upon and in conformity with written information furnished to the Company by such Holder and stated to be specifically for use therein, and provided that the maximum amount for which such Holder shall be liable under this indemnity shall not exceed the net proceeds received by such Holder from the sale of the Registrable Securities. The indemnity agreement contained in this Section 4.5(b) shall not apply to amounts paid in settlement of any such claims, losses, damages or liabilities if such settlement is effected without the consent of such Holder (which consent will not be unreasonably withheld).

(c) PROCEDURE. Each party entitled to indemnification under this Article (the "Indemnified Party") shall give notice to the party required to provide indemnification (the "Indemnifying Party") promptly after such Indemnified Party has actual knowledge of any claim as to which indemnity may be sought, and shall permit the Indemnifying Party to assume the defense of any such claim in any litigation resulting therefrom, provided that counsel for the Indemnifying Party, who shall conduct the defense of such claim or any litigation resulting therefrom, shall be approved by the Indemnified Party (whose approval shall not be unreasonably withheld), and the Indemnified Party may participate in such defense at such party's expense, and provided further that the failure of any Indemnified Party to give notice as provided herein shall not relieve the Indemnifying Party of its obligations under this Article except to the extent that the Indemnifying Party is materially and adversely affected by such failure to provide notice. No Indemnifying Party, in the defense of any such claim or litigation, shall, except with the consent of each Indemnified Party, consent to entry of any judgment or enter into any settlement which does not include as an unconditional term thereof the giving by the claimant or plaintiff to such Indemnified Party of a release from all liability in respect to such claim or

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litigation. Each Indemnified Party shall furnish such information regarding itself or the claim in question as an Indemnifying Party may reasonably request in writing and as shall be reasonably required in connection with the defense of such claim and litigation resulting therefrom.

4.6 CONTRIBUTION. If the indemnification provided for in Section 4 herein is unavailable to the Indemnified Parties in respect of any losses, claims, damages or liabilities referred to herein (other than by reason of the exceptions provided therein), then each such Indemnifying Party, in lieu of indemnifying such Indemnified Party, shall contribute to the amount paid or payable by such Indemnified Party as a result of such losses, claims, damages or liabilities as between the Company on the one hand and any Holder on the other, in such proportion as is appropriate to reflect the relative fault of the Company and of such Holder in connection with the statements or omissions which resulted in such losses, claims, damages or liabilities, as well as any other relevant equitable considerations. The relative fault of the Company on the one hand and of any Holder on the other shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact

or omission or alleged omission to state a material fact relates to information supplied by the Company or by such Holder.

In no event shall the obligation of any Indemnifying Party to contribute under this Section 4.6 exceed the amount that such Indemnifying Party would have been obligated to pay by way of indemnification if the indemnification provided for under Section 4.5(a) or 4.5(b) hereof had been available under the circumstances.

The Company and the Holders agree that it would not be just and equitable if contribution pursuant to this Section 4.6 were determined by PRO RATA allocation (even if the Holders or the underwriters were treated as one entity for such purpose) or by any other method of allocation which does not take account of the equitable considerations referred to in the immediately preceding paragraphs. The amount paid or payable by an Indemnified Party as a result of the losses, claims, damages and liabilities referred to in the immediately preceding paragraphs shall be deemed to include, subject to the limitations set forth above, any legal or other expenses reasonably incurred by such Indemnified Party in connection with investigating or defending any such action or claim. Notwithstanding the provisions of this section, no Holder or underwriter shall be required to contribute any amount in excess of the an amount which equals (i) in the case of any Holder, the net proceeds received by such Holder from the sale of Registrable Securities or (ii) in the case of an underwriter, the underwriting discount applicable to the securities purchased by the underwriter. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation.

#### ARTICLE V

#### CONDITIONS

Section 5.1 CONDITIONS PRECEDENT TO THE OBLIGATION OF THE COMPANY TO ISSUE AND SELL THE SECURITIES. The obligation hereunder of the Company to issue and sell the Common Stock and Warrants to the Investors is subject to the satisfaction, at or before the Closing Date, of each of the conditions set forth below. These conditions are for the Company's sole benefit and may be waived by the Company at any time in its sole discretion.

(a) ACCURACY OF THE INVESTORS' REPRESENTATIONS AND WARRANTIES. The representations and warranties of each Investor shall be true and correct in all material respects as of the date when made and as of the Closing Date as though made at that time (except for representations and warranties that speak as of a particular date).

(b) PERFORMANCE BY THE INVESTORS. Each Investor shall have performed all agreements and satisfied all conditions required hereby to be performed or satisfied by such Investor at or prior to the Closing Date.

(c) NO INJUNCTION. No statute, rule, regulation, executive order, decree, ruling or injunction shall have been enacted, entered, promulgated or endorsed by any court or governmental authority of competent jurisdiction which prohibits the consummation of any of the transactions contemplated by this Agreement.

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(d) EXECUTION OF AGREEMENT. The Company shall have signified its acceptance of the Investors subscription to purchase the Securities by executing this Agreement.

Section 5.2 CONDITIONS PRECEDENT TO THE OBLIGATION OF THE INVESTORS TO PURCHASE THE STOCK AND THE WARRANTS. The obligation hereunder of each Investor to acquire and pay for the Common Stock and Warrants is subject to the satisfaction, at or before the Closing Date, of each of the conditions set forth below. These conditions are for each Investor's sole benefit and may be waived by each Investor at any time in its sole discretion.

(a) ACCURACY OF THE COMPANY'S REPRESENTATIONS AND WARRANTIES. The representation and warranties of the Company shall be true and correct in all material respects as of the date when made and as of the Closing Date as though made at that time (except for representations and warranties that speak as of a particular date).

(b) PERFORMANCE BY THE COMPANY. The Company shall have performed all agreements and satisfied all conditions required to be performed or satisfied by the Company at or prior to the Closing Date.

(c) NASDAQ. From the date hereof to the Closing Date, trading in the Company's Common Stock shall not have been suspended by the Commission or Nasdaq and trading in securities generally as reported by Nasdaq, shall not have been suspended or limited, and the Common Stock shall not have been delisted from any exchange or market where they are currently listed.

(d) NO INJUNCTION. No statute, rule, regulation, executive order, decree, ruling or injunction shall have been enacted, entered, promulgated or endorsed by any court or governmental authority or competent jurisdiction which prohibits



the consummation of any of the transactions contemplated by this Agreement.

(e) MINIMUM SUBSCRIPTION. An aggregate of \$5,266,250 of shares of Common Stock shall have been purchased by the Investors pursuant to this Agreement.

(f) SECRETARY'S CERTIFICATE. The Company shall have delivered to the Investors a certificate in form and substance reasonably satisfactory to the Investors, executed by the Secretary of the Company on behalf of the Company, certifying as to the satisfaction of all closing conditions, incumbency of signing officers, charter, By-Laws, good standing and authorizing resolutions of the Company.

## ARTICLE VI

### LEGEND AND STOCK

Section 6.1. LEGEND AND STOCK. Each certificate representing the Common Stock, the Warrants and the Warrant Shares shall be stamped or otherwise imprinted with a legend substantially in the following form:

THESE SECURITIES HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR QUALIFIED UNDER ANY STATE SECURITIES LAWS. THE SECURITIES MAY NOT BE OFFERED, SOLD, PLEDGED, HYPOTHECATED, ASSIGNED, TRANSFERRED OR OTHERWISE DISPOSED OF EXCEPT (I) PURSUANT TO A REGISTRATION STATEMENT UNDER THE SECURITIES ACT WHICH HAS BECOME EFFECTIVE AND IS CURRENT WITH RESPECT TO THESE SECURITIES OR (II) PURSUANT TO A SPECIFIC EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT, BUT ONLY UPON A HOLDER HEREOF FIRST HAVING OBTAINED THE WRITTEN OPINION OF COUNSEL OF THE ISSUER, OR OTHER COUNSEL REASONABLY ACCEPTABLE TO THE ISSUER, THAT THE PROPOSED DISPOSITION IS CONSISTENT WITH ALL APPLICABLE PROVISIONS OF THE SECURITIES ACT AS WELL AS ANY APPLICABLE "BLUE SKY" OR SIMILAR SECURITIES LAW.

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## ARTICLE VII

### TERMINATION

Section 7.1 TERMINATION BY MUTUAL CONSENT. This Agreement may be terminated at any time prior to the Closing Date by the mutual written consent of the Company and the Investors.

Section 7.2 OTHER TERMINATION. This Agreement may be terminated by action of the Board of Directors of the Company or by any of the Investors at any time if the Closing Date shall not have been consummated by the third business day following the date of this Agreement.

## ARTICLE VIII

### MISCELLANEOUS

Section 8.1 STAMP TAXES; AGENT FEES. The Company shall pay all stamp and other taxes and duties levied in connection with the issuance of the Common Stock and the Warrants pursuant hereto and the Warrant Shares issued upon exercise of the Warrants.

Section 8.2 SPECIFIC ENFORCEMENT; CONSENT TO JURISDICTION.

(a) The Company and the Investors acknowledge and agree that irreparable damage would occur in the event that any of the provisions of this Agreement were not performed in accordance with their specific terms or were otherwise breached. It is accordingly agreed that the parties shall be entitled to an injunction or injunctions to prevent or cure breaches of the provisions of this Agreement and to enforce specifically the terms and provisions hereof, this being in addition to any other remedy to which any of them may be entitled by law or equity.

(b) The Company and each of the Investors (i) hereby irrevocably submits to the exclusive jurisdiction of the United States District Court, the Arizona State courts and other courts of the United States sitting in Maricopa County, Arizona for the purposes of any suit, action or proceeding arising out of or relating to this Agreement and (ii) hereby waives, and agrees not to assert in any such suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of such court, that the suit, action or proceeding is brought in an inconvenient forum or that the venue of the suit, action or proceeding is improper. The Company and each of the Investors consents to process being served in any such suit, action or proceeding by mailing a copy thereof to such party at the address in effect for notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing in this paragraph shall affect or limit any right to serve process in any other manner permitted by law.

Section 8.3 ENTIRE AGREEMENT; AMENDMENT. This Agreement together with the agreements and documents executed in connection herewith, contains the entire understanding of the parties with respect to the matters covered hereby and, except as specifically set forth herein, neither the Company nor any Investor

makes any representation, warranty, covenant or undertaking with respect to such matters. No provision of this Agreement may be waived or amended other than by a written instrument signed by the party against whom enforcement of any such amendment or waiver is sought.

Section 8.4 NOTICES. Any notices, consents, waivers or other communications required or permitted to be given under the terms of this Agreement must be in writing and will be deemed to have been delivered: (i) upon receipt, when delivered personally; (ii) upon receipt, when sent by facsimile (provided confirmation of transmission is mechanically or electronically generated and kept on file by the sending party); or (iii) one business day after deposit with a nationally recognized overnight delivery service, in each case properly addressed to the party to receive the same. The addresses and facsimile numbers for such communications shall be:

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to the Company: Amtech Systems, Inc.  
131 South Clark Drive  
Tempe, Arizona 85281  
Telephone: (480) 967-5146  
Facsimile: (480) 968-3763  
E-Mail: rthass@amtechsystems.com  
Attn: Robert T. Hass  
Vice President and Chief Financial  
Officer

with copies to: Squire, Sanders & Dempsey L.L.P.  
Two Renaissance Square  
40 North Central Avenue, Suite 2700  
Phoenix, Arizona 85004-4498  
Telephone: (602) 528-4134  
Facsimile: (602) 253-8129  
E-Mail: ghall@ssd.com  
Attn: Gregory R. Hall, Esq.

to the Investors: To each Investor and its representative at  
the addresses set forth on SCHEDULE I of  
this Agreement.

Any party hereto may from time to time change its address for notices by giving at least 5 days written notice of such changed address to the other parties hereto. Written confirmation of receipt (A) given by the recipient of such notice, consent, waiver or other communication, (B) mechanically or electronically generated by the sender's facsimile machine containing the time, date, recipient facsimile number and an image of the first page of such transmission or (C) provided by a nationally recognized overnight delivery service shall be rebuttable evidence of personal service, receipt by facsimile or receipt from a nationally recognized overnight delivery service in accordance with clause (i), (ii) or (iii) above.

Section 8.5 INDEMNITY. Each party shall indemnify each other party against any loss, cost or damages (including reasonable attorney's fees but excluding consequential damages) incurred as a result of such parties' breach of any representation, warranty, covenant or agreement in this Agreement.

Section 8.6 WAIVERS. No waiver by any party of any default with respect to any provision, condition or requirement of this Agreement shall be deemed to be a continuing waiver in the future or a waiver of any other provision, condition or requirement hereof, nor shall any delay or omission of any party to exercise any right hereunder in any manner impair the exercise of any such right accruing to it thereafter.

Section 8.7 HEADINGS. The headings herein are for convenience only, do not constitute a part of this Agreement and shall not be deemed to limit or affect any of the provisions hereof.

Section 8.8 SUCCESSORS AND ASSIGNS. Except as otherwise provided herein, this Agreement shall be binding upon and inure to the benefit of the parties and their successors and permitted assigns. The parties hereto may amend this Agreement without notice to or the consent of any third party. The Company may not assign this Agreement or any rights or obligations hereunder without the prior written consent of all Investors (which consent may be withheld for any reason in their sole discretion), except that the Company may assign this Agreement in connection with a merger, consolidation, business combination or the sale of all or substantially all of its assets provided that the Company is not released from any of its obligations hereunder, such successor in interest or assignee assumes all obligations of the Company hereunder, and appropriate adjustment of the provisions contained in this Agreement is made, in form and substance satisfactory to the Investors, to place the Investors in substantially the same position as they would have been but for such assignment. Any Investor may assign this Agreement (in whole or in part) or any rights or obligations hereunder with the consent of the Company in connection with any sale or transfer of all or any portion of the Securities held by such Investor.

Section 8.9 NO THIRD PARTY BENEFICIARIES. This Agreement is intended for

the benefit of the parties hereto and their respective permitted successors and assigns and is not for the benefit of, nor may any provision hereof be enforced by, any other person.

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Section 8.10 GOVERNING LAW. This Agreement shall be governed by and construed and enforced in accordance with the internal laws of the State of Arizona without regard to such state's principles of conflict of laws.

Section 8.11 SURVIVAL. The representations and warranties and the agreements and covenants of the Company and each Investor contained herein shall survive the Closing.

Section 8.12 EXECUTION. This Agreement may be executed in two or more counterparts, all of which shall be considered one and the same agreement, it being understood that all parties need not sign the same counterpart.

Section 8.13 PUBLICITY. The Company agrees that it will not disclose, and will not include in any public announcement, the name of any Investor without its consent, unless and until such disclosure is required by law or applicable regulation, and then only to the extent of such requirement.

Section 8.14 SEVERABILITY. The parties acknowledge and agree that the Investors are not agents, affiliates or partners of each other, that all representations, warranties, covenants and agreements of the Investors hereunder are several and not joint, that no Investor shall have any responsibility or liability for the representations, warrants, agreements, acts or omissions of any other Investor, and that any rights granted to "Investors" hereunder shall be enforceable by each Investor hereunder.

Section 8.15 LIKE TREATMENT OF HOLDERS. Neither the Company nor any of its affiliates shall, directly or indirectly, pay or cause to be paid any consideration, whether by way of interest, fee, payment for the redemption or exchange of Securities, or otherwise, to any holder of Securities, for or as an inducement to, or in connection with the solicitation of, any consent, waiver or amendment of any terms or provisions of the Securities or this Agreement, unless such consideration is required to be paid to all holders of Securities bound by such consent, waiver or amendment whether or not such holders so consent, waive or agree to amend and whether or not such holders tender their Securities for redemption or exchange. The Company shall not, directly or indirectly, redeem any Securities unless such offer of redemption is made pro rata to all holders of Securities on identical terms.

Section 8.16 COMPANY ACKNOWLEDGEMENT. Anything in this Agreement or elsewhere herein to the contrary notwithstanding, it is understood and agreed by the Company (1) that the undersigned Investor has not been asked to agree, nor has he agreed, to desist from purchasing or selling, long and/or short, securities issued by the Company, or "derivative" securities based on securities issued by, the Company or to hold the Securities purchased from the Company for any specified term; (2) that past or future open market or other transactions by Investor, including short sales, and specifically including, without limitation, short sales or "derivative" transactions, before or after the closing of this or future private placement transactions, may negatively impact the market price of the Company's publicly-traded securities; (3) that Investor, and counter parties in "derivative" transactions to which Investor is a party, directly or indirectly, presently have a "short" position in the Common Stock, and (4) that Investor shall not be deemed to have any affiliation with or control over any arm's length counter-party in any "derivative" transaction."

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IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed as of the date first above written.

AMTECH SYSTEMS, INC.

By:

-----  
Name: Robert T. Hass  
Title: Vice President and Chief  
Financial Officer

INVESTOR:

By:

-----  
Name:  
Title:

Exact Name in Which Securities Should  
be registered: \_\_\_\_\_

THE SECURITIES REPRESENTED BY THIS WARRANT HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR APPLICABLE STATE SECURITIES LAWS. THE SECURITIES HAVE BEEN ACQUIRED FOR INVESTMENT AND MAY NOT BE OFFERED FOR SALE, SOLD, TRANSFERRED OR ASSIGNED IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT FOR THE SECURITIES UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR APPLICABLE STATE SECURITIES LAWS, OR AN OPINION OF COUNSEL IN A FORM REASONABLY SATISFACTORY TO THE ISSUER THAT REGISTRATION IS NOT REQUIRED UNDER SAID ACT OR APPLICABLE STATE SECURITIES LAWS OR UNLESS SOLD PURSUANT TO RULE 144 UNDER SAID ACT.

AMTECH SYSTEMS, INC.

WARRANT TO PURCHASE COMMON STOCK

Warrant No.: W\_\_\_\_\_ Number of Shares: \_\_\_\_\_  
Date of Issuance: September 8, 2000

Amtech Systems, Inc., an Arizona corporation (the "Company"), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, \_\_\_\_\_, the registered holder hereof, or its permitted assigns (a "holder"), is entitled, subject to the terms set forth below, to purchase from the Company upon surrender of this Warrant, at any time or times on or after the date hereof, but, as to any specific Warrant Shares (as defined below), not after 11:59 P.M. Eastern Time on the applicable Expiration Date (as defined herein), up to \_\_\_\_\_ fully paid and nonassessable shares of Common Stock (as defined herein) of the Company (the "Warrant Shares") at the purchase price per share provided below.

1. DEFINITIONS.

(a) DEFINED TERMS. The following words and terms as used in this Warrant shall have the following meanings:

(i) "Business Day" means any day other than Saturday, Sunday or other day on which commercial banks in the City of New York are authorized or required by law to remain closed.

(ii) "Closing Bid Price" means, for any security as of any date, the last closing bid price for such security on the principal securities exchange or trading market where such security is listed or traded (the "Principal Market") as reported by Bloomberg Financial Markets ("Bloomberg"), or if the foregoing does not apply, the last closing bid price of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg, or, if no closing bid price is reported for such security by Bloomberg, the last closing trade price for such security as reported by Bloomberg, or, if no last closing trade price is reported for such security by Bloomberg, the average of the bid prices of any market makers for such security as reported in the "pink sheets" by the National Quotation Bureau, Inc. If the Closing Bid Price cannot be calculated for such security on such date on any of the foregoing bases, the Closing Bid Price of such security on such date shall be the fair market value as mutually determined by the Company and the holder of this Warrant. All such determinations are to be appropriately adjusted for any stock dividend, stock split or other similar transaction during such period.

(iii) "Closing Sale Price" means, for any security as of any date, the last closing trade price for such security on the Principal Market as reported by Bloomberg, or if the foregoing does not apply, the last closing trade price of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg, or, if no last closing trade price is reported for such security by Bloomberg, the last closing ask price of such security as reported by Bloomberg, or, if no last closing ask price is reported for such security by Bloomberg, the average of the lowest ask price and lowest bid price of any market makers for such security as reported in the "pink sheets" by the National Quotation Bureau, Inc. If the Closing Sale Price cannot be calculated for such security on such date on any of the foregoing bases, the Closing Sale Price of such security on such date shall be the fair market value as mutually determined by the Company and the holder of this Warrant. If the Company and the holder of this Warrant are unable to agree upon the fair market value of the Common Stock, then such dispute shall be resolved by the term "Market Price" being substituted for the term "Closing Sale Price." All such determinations are to be appropriately adjusted for any stock dividend, stock split or other similar transaction during such period.

(iv) "Common Stock" means (i) the Company's common stock, par value \$.01 per share, and (ii) any capital stock into which such Common Stock shall have been changed or any capital stock resulting from a reclassification of such Common Stock; provided, however, that, at the Company's option, the Company may substitute for any Warrant Shares to be issued hereunder a class or series of capital stock which is in all respects the same as the Common Stock, except that shares of such class or

series may have no or limited voting rights, in which event the term Common Stock will include such class or series for all purposes hereunder.

(v) "Expiration Date" means the fifth anniversary of the Issuance Date; provided, however, that if any such Expiration Date would otherwise fall on a Saturday, Sunday or other day on which banks are required or authorized to be closed in the City of New York or the State of New York or on which trading does not take place on the Principal Market (a "Holiday"), such Expiration Date shall be the next date that is not a Holiday.

(vi) "Issuance Date" means the date of issuance of this Warrant first referenced above.

(vii) "Market Price" means, with respect to any security for any date of determination, that price which shall be computed as the arithmetic average of the Closing Bid Prices for such security on each of the five (5) consecutive trading days immediately preceding such date of determination (all such determinations to be appropriately adjusted for any stock dividend, stock split or similar transaction during the pricing period).

(viii) "Person" means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization and a government or any department or agency thereof.

(ix) "Securities Act" means the Securities Act of 1933, as amended.

(x) "Warrant" means this Warrant and all warrants issued in exchange, transfer or replacement thereof.

(xi) "Warrant Exercise Price" shall be \$15.12.

(b) OTHER DEFINITIONAL PROVISIONS. Except as otherwise specified herein, all references herein (A) to the Company shall be deemed to include the Company's successors and (B) to any applicable law defined or referred to herein, shall be deemed references to such applicable law as the same may have been or may be amended or supplemented from time to time. When used in this Warrant, the words "herein," "hereof," and "hereunder," and words of similar import, shall refer to this Warrant as a whole and not to any provision of this Warrant, and the words "Section," "Schedule," and "Exhibit" shall refer to Sections of, and Schedules and Exhibits to, this Warrant unless otherwise specified. Whenever the context so requires, the neuter gender includes the masculine or feminine, and the singular number includes the plural, and vice versa.

## 2. EXERCISE OF WARRANT.

(a) Subject to the terms and conditions hereof, this Warrant may be exercised as to any Warrant Shares with respect to which the applicable Expiration Date has not passed by the holder hereof then registered on the books of the Company, in whole or in part, at any time on any Business Day on or after the opening of business on the date hereof and prior to 11:59 P.M. Eastern Time

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on the applicable Expiration Date by (i) delivery of a written notice, in the form of the subscription notice attached as EXHIBIT A hereto (the "Exercise Notice"), of such holder's election to exercise this Warrant, which notice shall specify the number of Warrant Shares to be purchased; (ii) (A) payment to the Company of an amount equal to the Warrant Exercise Price multiplied by the number of Warrant Shares as to which this Warrant is being exercised (the "Aggregate Exercise Price") in cash, certified or bank funds or wire transfer of immediately available funds or (B) notifying the Company that this Warrant is being exercised pursuant to a Cashless Exercise (as defined in Section 2(d)); and (iii) the surrender of this Warrant (or a Lost Warrant Affidavit in substantially the form annexed hereto as EXHIBIT B with respect to this Warrant in the case of its loss, theft or destruction) to the Company; provided, that if such Warrant Shares are to be issued in any name other than that of the registered holder of this Warrant, such issuance shall be deemed a transfer and the provisions of Section 8 shall be applicable. In the event of any exercise of the rights represented by this Warrant in compliance with this Section 2(a), the Company shall not later than the seventh Business Day following the date of receipt of the Exercise Notice, the Aggregate Exercise Price (or notice of a Cashless Exercise) and this Warrant (or a Lost Warrant Affidavit in substantially the form annexed hereto as EXHIBIT B with respect to this Warrant in the case of its loss, theft or destruction) (the "Exercise Delivery Documents"), deliver to the address specified in the Exercise Notice, a certificate, registered in the name of the holder (or its designee), for the number of Warrant Shares to which the holder (or its designee) shall be entitled. Upon delivery of the Exercise Notice and Aggregate Exercise Price referred to above or notification to the Company of a Cashless Exercise referred to in Section 2(d), the holder of this Warrant (or its designee) shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date of delivery of the certificates evidencing such Warrant Shares.

(b) Unless the rights represented by this Warrant shall have expired or

shall have been fully exercised, the Company shall, as soon as practicable and in no event later than seven (7) Business Days after delivery of the Exercise Delivery Documents and at its own expense, issue a new Warrant identical in all respects to this Warrant exercised except it shall represent rights to purchase the number of Warrant Shares purchasable immediately prior to such exercise under this Warrant exercised, less the number of Warrant Shares with respect to which such Warrant is exercised.

(c) No fractional shares of Common Stock are to be issued upon the exercise of this Warrant, but rather the number of shares of Common Stock issued upon exercise of this Warrant shall be rounded up to the nearest whole number.

(d) The Holder of this Warrant may, in its sole discretion, exercise this Warrant in whole or in part and, in lieu of making the cash payment otherwise contemplated to be made to the Company upon such exercise in payment of the Aggregate Exercise Price, elect instead to receive upon such exercise the "Net Number" of shares of Common Stock determined according to the following formula (a "Cashless Exercise"):

$$\text{Net Number} = \frac{(A \times B) - (A \times C)}{B}$$

For purposes of the foregoing formula:

A = the total number of shares with respect to which this Warrant is then being exercised.

B = the Market Price as of the date of the Exercise Notice.

C = the Warrant Exercise Price then in effect for the applicable Warrant Shares at the time of such exercise.

3. (a) ADJUSTMENT FOR DIVIDENDS IN OTHER STOCK AND PROPERTY; RECLASSIFICATIONS. In case at any time or from time to time the holders of the Common Stock (or any shares of stock or other securities at the time receivable upon the exercise of this Warrant) shall have received, or, on or after the record date fixed for the determination of eligible shareholders, shall have become entitled to receive, without payment therefor,

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(1) other or additional stock or other securities or property (other than cash) by way of dividend,

(2) any cash or other property paid or payable out of any source other than retained earnings (determined in accordance with generally accepted accounting principles), or

(3) other or additional stock or other securities or property (including cash) by way of stock-split, spin-off, reclassification, combination of shares or similar corporate rearrangement,

(other than (x) shares of Common Stock or any other stock or securities into which such Common Stock shall have been exchanged, or (y) any other stock or securities convertible into or exchangeable for such Common Stock or such other stock or securities), then and in each such case a holder, upon the exercise hereof as provided in Section 2, shall be entitled to receive the amount of stock and other securities and property (including cash in the cases referred to in clauses (2) and (3) above) which such holder would hold on the date of such exercise if on the Issuance Date such holder had been the holder of record of the number of shares of Common Stock called for on the face of this Warrant, and had thereafter, during the period from the Issuance Date to and including the date of such exercise, retained such shares and/or all other or additional stock and other securities and property (including cash in the cases referred to in clause (2) and (3) above) receivable by it as aforesaid during such period, giving effect to all adjustments called for during such period by Sections 3(a) and 3(b).

(b) ADJUSTMENT FOR REORGANIZATION, CONSOLIDATION AND MERGER. In case of any reorganization of the Company (or any other corporation the stock or other securities of which are at the time receivable on the exercise of this Warrant) or reclassification of its securities after the Issuance Date, or the Company (or any such other corporation) shall consolidate with or merge into another corporation or entity or convey or exchange all or substantially all its assets to another corporation or entity, then and in each such case the holder of this Warrant, upon the exercise hereof as provided in Section 2 at any time after the consummation of such reorganization, reclassification, consolidation, merger, conveyance or exchange, shall be entitled to receive, in lieu of the stock or other securities and property receivable upon the exercise of this Warrant prior to such consummation, the stock or other securities or property to which such holder would have been entitled upon such consummation if such holder had exercised this Warrant immediately prior thereto, all subject to further adjustment as provided in Sections 3(a), (b), (c) and (d); in each such case, the terms of this Warrant shall be applicable to the shares of stock or other securities or property receivable upon the exercise of this Warrant after such

consummation.

(c) ADJUSTMENT FOR CERTAIN DIVIDENDS AND DISTRIBUTIONS. If the Company at any time or from time to time makes, or fixes a record date for the determination of holders of Common Stock (or any shares of stock or other securities at the time receivable upon the exercise of this Warrant) entitled to receive, a dividend or other distribution payable in additional shares of (x) Common Stock or any other stock or securities into which such Common Stock shall have been exchanged, or (y) any other stock or securities convertible into or exchangeable for such Common Stock or such other stock or securities, then and in each such event

(1) the Warrant Exercise Price then in effect shall be decreased as of the time of the issuance of such additional shares or, in the event such record date is fixed, as of the close of business on such record date, by multiplying the Warrant Exercise Price then in effect by a fraction (A) the numerator of which is the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, and (B) the denominator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date as the case may be, plus the number of shares of Common Stock issuable in payment of such dividend or distribution; PROVIDED, HOWEVER, that if such record date is fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Warrant Exercise Price shall be recomputed accordingly as of the close of business on such record date, and thereafter the Warrant Exercise Price shall be adjusted pursuant to this Section 3(c) as of the time of actual payment of such dividends or distributions; and

(2) the number of shares of Common Stock theretofore receivable upon the exercise of this Warrant shall be increased, as of the time of such issuance or, in the event such record date is fixed, as of the close of business on such record date, in inverse proportion to the decrease in the Warrant Exercise Price.

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(d) STOCK SPLIT AND REVERSE STOCK SPLIT. If the Company at any time or from time to time effects a stock split or subdivision of the outstanding Common Stock, the Warrant Exercise Price then in effect immediately before that stock split or subdivision shall be proportionately decreased and the number of shares of Common Stock theretofore receivable upon the exercise of this Warrant shall be proportionately increased. If the Company at any time or from time to time effects a reverse stock split or combines the outstanding shares of Common Stock into a smaller number of shares, the Warrant Exercise Price then in effect immediately before that reverse stock split or combination shall be proportionately increased and the number of shares of Common Stock theretofore receivable upon the exercise of this Warrant shall be proportionately decreased. Each adjustment under this Section 3(d) shall become effective at the close of business on the date the stock split, subdivision, reverse stock split or combination becomes effective.

4. COVENANTS AS TO COMMON STOCK. The Company hereby covenants and agrees as follows:

(a) This Warrant is, and any Warrants issued in substitution for or replacement of this Warrant will upon issuance be, duly authorized and validly issued.

(b) All Warrant Shares which may be issued upon the exercise of the rights represented by this Warrant will, upon issuance, be validly issued, fully paid and nonassessable and free from all taxes, liens and charges with respect to the issuance thereof.

(c) During the period within which the rights represented by this Warrant may be exercised, the Company will at all times have authorized and reserved at least 100% of the number of shares of Common Stock needed to provide for the exercise of the rights then represented by this Warrant and the par value of said shares will at all times be less than or equal to the applicable Warrant Exercise Price.

(d) The Company shall secure the listing of the shares of Common Stock issuable upon exercise of this Warrant upon each national securities exchange or automated quotation system, if any, upon which shares of Common Stock are then listed within the time required by such exchange or quotation system's rules and regulations and shall maintain, so long as any other shares of Common Stock shall be so listed, such listing of all shares of Common Stock from time to time issuable upon the exercise of this Warrant; and the Company shall so list on each national securities exchange or automated quotation system within the time required by such exchange or quotation system's rules and regulations, as the case may be, and shall maintain such listing of, any other shares of capital stock of the Company issuable upon the exercise of this Warrant if and so long as any shares of the same class shall be listed on such national securities exchange or automated quotation system.

(e) The Company will not, by amendment of its Certificate of Incorporation

or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities, or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be observed or performed by it hereunder, but will at all times in good faith assist in the carrying out of all the provisions of this Warrant and in the taking of all such action as may reasonably be requested by the holder of this Warrant in order to protect the exercise privilege of the holder of this Warrant against dilution or other impairment, consistent with the tenor and purpose of this Warrant. Without limiting the generality of the foregoing, the Company (i) will not increase the par value of any shares of Common Stock receivable upon the exercise of this Warrant above the Warrant Exercise Price then in effect, and (ii) will take all such actions as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable shares of Common Stock upon the exercise of this Warrant.

(f) This Warrant will be binding upon any entity succeeding to the Company by merger, consolidation or acquisition of all or consolidations or acquisitions.

5. TAXES. The Company shall pay any and all taxes which may be payable with respect to the issuance and delivery of Warrant Shares upon exercise of this Warrant; provided, however, that the Company shall not be required to pay any tax that may be payable in respect of any transfer involved in the issue or delivery of Common Stock or other securities or property in a name other than that of the registered holders of this Warrant to be converted and such holder shall pay such amount, if any, to cover any applicable transfer or similar tax.

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6. WARRANT HOLDER NOT DEEMED A STOCKHOLDER. Except as otherwise specifically provided herein, no holder of this Warrant, solely by virtue of such holding, shall be entitled to vote or receive dividends or be deemed the holder of shares of the Company for any purpose, nor shall anything contained in this Warrant be construed to confer upon the holder hereof, as such, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent to any corporate action (whether a reorganization, issue of stock, reclassification of stock, consolidation, merger, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the holder of this Warrant of the Warrant Shares which he or she is then entitled to receive upon the due exercise of this Warrant. In addition, nothing contained in this Warrant shall be construed as imposing any liabilities on such holder to purchase any securities (upon exercise of this Warrant or otherwise) or as a stockholder of the Company, whether such liabilities are asserted by the Company or by creditors of the Company. Notwithstanding this Section 6, the Company will provide the holder of this Warrant with copies of the same notices and other information given to the stockholders of the Company generally, contemporaneously with the giving thereof to the stockholders.

7. REPRESENTATIONS OF HOLDER. The holder of this Warrant, by the acceptance hereof, represents that it is acquiring this Warrant and the Warrant Shares for its own account for investment only and not with a view towards, or for resale in connection with, the public sale or distribution of this Warrant or the Warrant Shares, except pursuant to sales registered or exempted under the Securities Act; provided, however, that by making the representations herein, the holder does not agree to hold this Warrant or any of the Warrant Shares for any minimum or other specific term and reserves the right to dispose of this Warrant and the Warrant Shares at any time in accordance with or pursuant to a registration statement or an exemption under the Securities Act. The holder of this Warrant further represents, by acceptance hereof, that, as of this date, such holder is an "accredited investor" as such term is defined in Rule 501(a)(1) of Regulation D promulgated by the Securities and Exchange Commission under the Securities Act (an "Accredited Investor").

#### 8. OWNERSHIP AND TRANSFER.

(a) The Company shall maintain at its principal executive offices (or such other office or agency of the Company as it may designate by notice to the holder hereof), a register for this Warrant, in which the Company shall record the name and address of the person in whose name this Warrant has been issued, as well as the name and address of each transferee. The Company may treat the person in whose name any Warrant is registered on the register as the owner and holder thereof for all purposes, but in all events recognizing any transfers made in accordance with the terms of this Warrant. Substantially all of the Company's assets and any such successive mergers,

(b) Subject to compliance with applicable securities laws, this Warrant and the rights granted hereunder shall be assignable by the holder hereof without the consent of the Company.

9. LOST, STOLEN, MUTILATED OR DESTROYED WARRANT. If this Warrant is lost, stolen, mutilated or destroyed, the Company shall, on receipt of an executed Lost Warrant Affidavit in substantially the form annexed hereto as EXHIBIT B (or, in the case of a mutilated Warrant, the Warrant), issue a new Warrant of like denomination and tenor as this Warrant so lost, stolen, mutilated or destroyed.



10. NOTICE. Any notices, consents, waivers or other communications required or permitted to be given under the terms of this Warrant must be in writing and will be deemed to have been delivered: (i) upon receipt, when delivered personally; (ii) upon receipt, when sent by facsimile (provided confirmation of transmission is mechanically or electronically generated and kept on file by the sending party); or (iii) one Business Day after deposit with a nationally recognized overnight delivery service, in each case properly addressed to the party to receive the same. The addresses and facsimile numbers for such communications shall be:

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If to the Company:

Amtech Systems, Inc.  
131 South Clark Drive  
Tempe, Arizona 85281  
Telephone: (480) 967-5146  
Facsimile: (480) 968-3763  
E-Mail: rthass@amtechsystems.com  
Attn: Robert T. Hass  
Vice President and Chief Financial Officer

With a copy to:

Squire, Sanders & Dempsey L.L.P.  
Two Renaissance Square  
40 North Central Avenue, Suite 2700  
Phoenix, Arizona 85004  
Telephone: (602) 528-4000  
Facsimile: (602) 253-8129  
Attention: Gregory R. Hall, Esq.

If to a holder of this Warrant, to it at the address and facsimile number set forth on the Company's register, or at such other address and facsimile as shall be delivered to the Company by the holder at any time. Each party shall provide five days' prior written notice to the other party of any change in address or facsimile number. Written confirmation of receipt (A) given by the recipient of such notice, consent, waiver or other communication, (B) mechanically or electronically generated by the sender's facsimile machine containing the time, date, recipient facsimile number and an image of the first page of such transmission or (C) provided by a nationally recognized overnight delivery service shall be rebuttable evidence of personal service, receipt by facsimile or receipt from a nationally recognized overnight delivery service in accordance with clause (i), (ii) or (iii) above, respectively.

11. AMENDMENT AND WAIVER. Except as otherwise provided herein, the provisions of this Warrant may be amended and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the holders of Warrants representing 51% of the shares of Common Stock obtainable upon exercise of the Warrants then outstanding.

12. DESCRIPTIVE HEADINGS; GOVERNING LAW. The descriptive headings of the several Sections and paragraphs of this Warrant are inserted for convenience only and do not constitute a part of this Warrant. The corporate laws of the State of Arizona shall govern all issues concerning the relative rights of the Company and its stockholders. All other questions concerning the construction, validity, enforcement and interpretation of this Warrant shall be governed by the internal laws of the State of Arizona, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of Arizona, or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of Arizona.

AMTECH SYSTEMS, INC.

By: \_\_\_\_\_

Name: Robert T. Hass

Title: Vice President & Chief Financial  
Officer

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EXHIBIT A TO WARRANT

SUBSCRIPTION FORM

TO BE EXECUTED BY THE REGISTERED HOLDER TO EXERCISE THIS WARRANT

AMTECH SYSTEMS, INC.

The undersigned holder hereby exercises the right to purchase

\_\_\_\_\_ of the shares of Common Stock ("Warrant Shares") of Amtech Systems, Inc., an Arizona corporation (the "Company"), evidenced by the attached Warrant (the "Warrant"). Capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Warrant.

1. Form of Warrant Exercise Price. The Holder intends that payment of the Warrant Exercise Price shall be made as:

\_\_\_\_\_ a "CASH EXERCISE" with respect to \_\_\_\_\_ Warrant Shares; and/or

\_\_\_\_\_ a "CASHLESS EXERCISE" with respect to \_\_\_\_\_ Warrant Shares (to the extent permitted by the terms of the Warrant).

2. Payment of Warrant Exercise Price. In the event that the holder has elected a Cash Exercise with respect to some or all of the Warrant Shares to be issued pursuant hereto, the holder shall pay the sum of \$\_\_\_\_\_ to the Company in accordance with the terms of the Warrant.

3. Delivery of Warrant Shares. The Company shall deliver to the holder \_\_\_\_\_ Warrant Shares in accordance with the terms of the Warrant.

Date: \_\_\_\_\_, \_\_\_\_\_

Name of Registered Holder

By: \_\_\_\_\_

Name:  
Title:

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EXHIBIT B TO WARRANT  
FORM OF AFFIDAVIT OF LOSS

STATE OF \_\_\_\_\_ )  
 ) ss:  
COUNTY OF \_\_\_\_\_ )

The undersigned (hereinafter "Deponent"), being duly sworn, deposes and says that:

1. Deponent is an adult whose mailing address is:

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2. Deponent is the recipient of a Warrant (the "Warrant") from Amtech Systems, Inc. (the "Company"), dated \_\_\_\_\_ for the purchase of \_\_\_\_\_ shares of Common Stock, par value \$.01 per share, of the Company, at an exercise price of \$\_\_\_\_\_ per share.

3. The Warrant has been lost, stolen, destroyed or misplaced, under the following circumstances:

4. The Warrant was not endorsed.

5. Deponent has made a diligent search for the Warrant, and has been unable to find or recover same, and Deponent was the unconditional owner of the Warrant at the time of loss, and is entitled to the full and exclusive possession thereof; that neither the Warrant nor the rights of Deponent therein have, in whole or in part, been assigned, transferred, hypothecated, pledged or otherwise disposed of, in any manner whatsoever, and that no person, firm or corporation other than the Deponent has any right, title, claim, equity or interest in, to, or respecting the Warrant.

6. Deponent makes this Affidavit for the purpose of requesting and inducing the Company and its agents to issue a new warrant in substitution for the Warrant.

7. If the Warrant should ever come into the hands, custody or power of the Deponent or the Deponent's representatives, agents or assigns, the Deponent will immediately and without consideration surrender the Warrant to the Company, its representatives, agents or assigns, its transfer agents or subscription agents for cancellation. 8. The Deponent hereby indemnifies and holds harmless the Company from any claim or demand for payment or reimbursement of any party arising in connection with the subject matter of this Affidavit.

Signed, sealed and dated: \_\_\_\_\_

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Deponent

Sworn to and subscribed before me this  
\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_

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Notary Public

October 2, 2000

Securities and Exchange Commission  
450 Fifth Street, N.W.  
Washington, D.C. 20549

Ladies and Gentlemen:

As legal counsel for Amtech Systems, Inc., a Nevada corporation (the "Company"), we are rendering this opinion in connection with the registration under the Securities Act of 1933, as amended, of 572,300 shares of the common stock, \$.01 par value, of Amtech, 129,300 of which may be issued upon exercise of warrants issued July 1, 1997, and September 8, 2000.

We have examined all instruments, documents and records that we deemed relevant and necessary for the basis of our opinion hereinafter expressed. In such examination, we have assumed the genuineness of all signatures and the authenticity of all documents submitted to us as originals and the conformity to the originals of all documents submitted to us as copies.

Based on such examination, we are of the opinion that the 572,300 shares of common stock, 129,300 of which may be issued upon exercise of the warrants, are duly authorized shares of Amtech's common stock, and, when issued against receipt of the consideration therefore in accordance with the provisions of the respective Warrant to Purchase Common Stock, seven of which are dated July 1, 1997, and fourteen of which were issued pursuant to the Stock and Warrant Purchase Agreement dated as of September 8, 2000, will be validly issued, fully paid and nonassessable. We hereby consent to the filing of this opinion as an exhibit to the Registration Statement referred to above and the use of our name wherever it appears in said Registration Statement.

Respectfully submitted,

/s/ Squire, Sanders & Dempsey L.L.P.

SQUIRE, SANDERS & DEMPSEY L.L.P.

CONSENT OF INDEPENDENT PUBLIC ACCOUNTANTS

As independent public accountants, we hereby consent to the incorporation by reference in this registration statement of our report dated December 15, 1999, included in the Company's Form 10-K for the year ended September 30, 1999, and to all references to our firm included in this registration statement.

/s/ ARTHUR ANDERSEN LLP

Phoenix, Arizona  
September 28, 2000