

SECURITIES AND EXCHANGE COMMISSION
 WASHINGTON, D.C. 20549

FORM S-8
 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 No.)

131 South Clark Drive, Tempe, Arizona 85281

(Address of Principal Executive Offices) (Zip Code)

Non-Employee Directors Stock Option Plan

(Full title of the plan)

Jong S. Whang
 President
 Amtech Systems, Inc.
 131 South Clark Drive
 Tempe, Arizona 85281

(Name and address of agent for service)

(602) 967-5146

(Telephone number, including area code, of agent for service)

With copy to:

Christopher D. Johnson, Esq.
 Squire, Sanders & Dempsey
 40 North Central Avenue, Suite 2700
 Phoenix, Arizona 85004
 (602) 528-4000

Approximate Date of Commencement of Proposed Sale: As soon as practicable after the Registration Statement becomes effective.

CALCULATION OF REGISTRATION FEE

Title of Securities To Be Registered	Amount To Be Registered	Proposed Maximum Offering Price Per Share *	Proposed Maximum Aggregate Offering Price *	Amount of Registration Fee
Common Stock, \$.01 par value	200,000	\$4.375	\$875,000	\$302

* Estimated solely for the purpose of calculating the amount of the registration fee, pursuant to Rules 457(c) and 457(h) of the Securities Act of 1933, on the basis of the average of the bid and asked prices for shares of Common Stock on August 6, 1996.

3
PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Certain Documents by Reference.

The following documents are hereby incorporated by reference into this Registration Statement: (a) the Registrant's Annual Report on Form 10-K for the fiscal year ended September 30, 1995; (b) all reports filed with the Securities and Exchange Commission pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 subsequent to September 30, 1995; and (c) the description of the Registrant's capital stock contained in the Registrant's Registration Statement on Form 8-A filed with the Securities and Exchange Commission pursuant to Section 12(g) of the Securities Exchange Act of 1934.

All documents subsequently filed by the Registrant pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, prior to the filing of a post-effective amendment to this Registration Statement which indicates that all securities offered have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference in this Registration Statement and to be a part hereof from the date of filing such documents.

Item 4. Description of Securities. Not applicable.

Item 5. Interests of Named Experts and Counsel. Not applicable.

Item 6. Indemnification of Directors and Officers.

The right of the shareholders to sue any director for misconduct in conducting the affairs of the Company is limited by Article 14 of the Company'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.

The Company also has the right, pursuant to Article 11 of the Company's Articles of Incorporation, to indemnify any present or former director or officer of the Company 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 the Company, 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

4

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 of 1933 may be permitted to directors, officers or persons controlling the Company pursuant to the foregoing provision, the Company has been informed that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in such Act and is therefore unenforceable.

Item 7. Exemption from Registration Claimed. Not applicable.

Item 8. Exhibits.

Exhibit Index located at Page 8.

Item 9. 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;

(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 (i) and (ii) do not apply if the registration statement is on Form S-3 or Form S-8 and 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 of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

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

5

(b) The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in 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) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the 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 of whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

6

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Tempe, and the State of Arizona, on August 7, 1996.

AMTECH SYSTEMS, INC.
an Arizona corporation

By /s/ Jong S. Whang

Jong S. Whang, President

SPECIAL POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that the undersigned, constitutes and appoints Jong S. Whang and Robert T. Hass, and each of them, his true and lawful attorney-in-fact and agent with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Form S-8 Registration Statement, and to file the same with all exhibits thereto, and all documents in connection therewith, with the Securities and Exchange Commission,

granting such attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully and to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that such attorneys-in-fact and agents, or each of them, may lawfully do or cause to be done by virtue hereof.

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

Signature - -----	Title -----	Date ----
/s/ Jong S. Whang - ----- Jong S. Whang	Chairman of the Board, President (Chief Executive Officer)	August 7, 1996
/s/ Robert T. Hass - ----- Robert T. Hass	Vice President-Finance (Chief Financial & Accounting Officer) and Director	August 7, 1996
/s/ Donald F. Johnston - ----- Donald F. Johnston	Director	August 7, 1996
/s/ Alvin Katz - ----- Alvin Katz	Director	August 7, 1996
/s/ Bruce R. Thaw - ----- Bruce R. Thaw	Director	August 7, 1996

7
EXHIBIT INDEX

<TABLE> <CAPTION>		
Exhibit Number -----	Description -----	Page or Method of Filing -----
<S>	<C>	<C>
4.1	Non-Employee Directors Stock Option Plan	*
4.2	Form of Stock Option Agreement	*
5	Form of opinion rendered by Squire, Sanders & Dempsey, counsel for the Registrant (including consent)	*
23.1	Consent of Arthur Andersen LLP	*
23.2	Consent of Counsel	See Exhibit 5
24	Powers of Attorney	See Signature Page

</TABLE>
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* Filed herewith.

EXHIBIT 4.1

AMTECH SYSTEMS, INC.

NON-EMPLOYEE DIRECTORS STOCK OPTION PLAN

Purposes of the Plan. The purposes of this Plan are to attract and retain the best available individuals to serve as non-employee members of the Board of Directors of Amtech Systems, Inc. (the "Company"), to reward such directors for their contributions to the profitable growth of the Company, and to maximize the identity of interest between such directors and stockholders generally.

1. Definitions. As used herein, the following definitions shall apply:

(a) "Board" shall mean the Board of Directors of the Company.

(b) "Company" shall mean Amtech Systems, Inc., an Arizona corporation.

(c) "Effective Date" shall be the date that the Board of Directors of the Company adopts this Plan.

(d) "Eligible Director" shall mean (i) those individuals who are serving as non-employee members of the Board on the Effective Date, or (ii) those individuals who are elected or appointed as non-employee members of the Board after the Effective Date, whether through appointment by the Board or election of the Company's stockholders.

(e) "Exercise Price" shall mean, with respect to Shares of Optioned Stock, the Fair Market Value of such Shares on the date of grant of the Option.

(f) "Fair Market Value" shall mean, with respect to the date a given Option is granted or exercised, the value of the Common Stock determined by the Board in such manner as it may deem equitable for Plan purposes; provided, however, that where there is a public market for the Common Stock, the Fair Market Value per Share shall be the mean of the bid and asked prices of the Common Stock on the date of grant, as reported in the Wall Street Journal (or, if not reported, as otherwise reported by the National Association of Securities Dealers Automated Quotation System) or, in the event the Common Stock is listed on the New York Stock Exchange or the American Stock exchange, the Fair Market Value per Share shall be the closing price on such exchange on the date of grant of the Option, as reported in the Wall Street Journal.

(g) "Option" shall mean a right to purchase Stock, granted pursuant to the Plan.

(h) "Optioned Stock" shall mean the Stock subject to an Option.

(i) "Optionee" shall mean a non-employee director of the Company who has been granted an Option.

(j) "Plan" shall mean this Non-Employee Directors Stock Option Plan.

(k) "Share" shall mean a share of the Stock.

(l) "Stock" shall mean the Common Stock of the Company described in the Certificate of Incorporation of the Company.

(m) "Stock Option Agreement" shall mean the written agreement evidencing the grant of an Option.

(n) "Trading Day" shall mean a day on which the Fair Market Value of the Stock can be determined.

2. Common Stock Subject to the Plan. Subject to increases and adjustments pursuant to Section 9 of the Plan, the number of Shares reserved and available for distribution under the Plan shall be two hundred thousand (200,000). If an Option shall expire or become unexercisable for any reason without having been exercised in full, the unauthorized Shares covered by the Option shall, unless the Plan shall have terminated, be available for future grants of Options.

3. Option Grants.

(a) Each individual who first becomes an Eligible Director after the Effective Date, whether through election by the stockholders or appointment of the Board, shall automatically be granted at the time

of such initial election or appointment, an Option to purchase 12,000 shares of Stock.

(b) On the first business day following the Company's Annual Meeting of Shareholders each year (the "Annual Grant Date"), beginning with March 1, 1997, each individual who is at that time an Eligible Director shall automatically be granted an Option under the Plan to purchase an additional 6,000 shares of Stock; provided such individual (i) has attended 75% of the meetings of the Board held during the 12-month period immediately preceding the Annual Grant Date, or (ii) if such individual was appointed or elected as a director during such 12-month period, he or she has attended 75% of the meetings of the Board held during his or her term as a director, and (iii) has attended 75% of the meetings of any Committee of the Board to which such individual has been appointed as a member during such 12-month period.

(c) The purchase price of Shares subject to an Option shall be the Fair Market Value on the date of grant.

(d) Each Option granted pursuant to this Plan shall vest and become exercisable according to the following schedule, provided that the Optionee remains an Eligible Director at such vesting date:

2

Vesting Date	Percentage of Shares Vesting
First Anniversary of Grant	33-1/3%
Second Anniversary of Grant	66-2/3%
Third Anniversary of Grant	100%

4. Stockholder Approval. This Plan was adopted by the Board of Directors of the Company on December 21, 1995 (the "Effective Date"). Options may be granted under the Plan on and after the Effective Date. The Plan shall be submitted for stockholder approval at the next annual or special meeting of stockholders. However, the failure to obtain such approval shall not affect the effectiveness of the Plan. No Option may be granted after the expiration of ten (10) years from the effective date of the Plan; provided, however, that the Plan and all outstanding Options shall remain in effect until such Options shall have been exercised, shall have expired or shall otherwise be terminated.

5. Term; Exercise; Rights as a Stockholder.

(a) The term of each Option shall be ten (10) years from the date of grant thereof. To the extent vested the Option may be exercised in whole or in part at any time and during the term of the Option. No fractional Shares will be issued upon exercise of the Option and, if the exercise results in a fractional interest, an amount will be paid in cash equal to the value of such fractional interest based on the Fair Market Value of the Shares on the date of exercise.

(b) An Option shall be deemed to be exercised upon receipt by the Company from the Optionee of written notice of such exercise. Such notice shall be accompanied by full payment for the Shares subject to such exercise.

6. Payment. The Exercise Price shall be paid:

(a) In United States dollars in cash or by check payable to the order of the Company; or

(b) Subject to the approval of the Board, by delivery of Shares with an aggregate Fair Market Value equal to the Exercise Price; or

(c) By any combination of (a) and (b) above.

The Board shall determine acceptable methods for tendering Stock as payment upon exercise of an Option and may impose such limitations and prohibitions on the use of Stock to exercise an Option as it deems appropriate.

7. Transferability of Options. The Option may not be sold, pledged, assigned, hypothecated, transferred, or disposed of in any manner other than by will or by the laws of descent and distribution to the limited extent provided herein or pursuant to a "qualified domestic relations order" as defined by the Internal Revenue Code or the Employee Retirement Income Security Act

3

or the rules thereunder. Except as permitted herein, an Option may be exercised, during the lifetime of the Optionee, only by the Optionee or by his guardian or legal representative.

In the event of the Optionee's death, his or her Option shall be exercisable, prior to the expiration of the Option, by the person or persons

to whom his or her accrued and vested rights pass by will or by the laws of descent and distribution.

8. Adjustments Upon Changes in Capitalization or Merger. Subject to any required action by the stockholders of the Company, the number of Shares covered by each outstanding Option, and the number of Shares which have been authorized for issuance under the Plan but as to which no Options have yet been granted or which have been returned to the Plan upon cancellation or expiration of an Option, as well as the price per Share covered by each such outstanding Option, shall be proportionately adjusted for any increase or decrease in the number of issued Shares resulting from a stock split, reverse stock split, consolidation, subdivision, stock dividend, combination or reclassification of the Shares, or any other increase or decrease in the number of issued Shares effected without receipt of consideration by the Company; provided, however, that conversion of any convertible securities of the Company shall not be deemed to have been "effected without receipt of consideration." Such adjustment shall be made by the Board, whose determination in that respect shall be final, binding and conclusive. Except as expressly provided herein, no issuance by the Company of shares of stock of any class, or securities convertible into shares of stock of any class, shall affect, and no adjustment by reason thereof shall be made, with respect to the number or price of Shares subject to an Option.

In the event of the proposed dissolution or liquidation of the Company, all Options will terminate immediately prior to the consummation of such proposed action, unless otherwise provided by the Board. The Board may, in the exercise of its sole discretion in such instances, declare that any Option shall terminate as of a date fixed by the Board and give each holder the right to exercise the Option as to all or any part thereof, including Shares as to which the Option would not otherwise be exercisable. In the event of a proposed sale of all or substantially all of the assets of the Company, or the merger of the Company with or into another corporation, the Option shall be assumed or an equivalent Option shall be substituted by such successor corporation or a parent or subsidiary of such successor corporation, unless the Board determines, in the exercise of its sole discretion and in lieu of such assumption or substitution, that the holder shall have the right to exercise the Option as to all of the Shares, including Shares as to which the Option would not otherwise be exercisable. If the Board makes an Option exercisable in lieu of assumption or substitution in the event of a merger or sale of assets, the Board shall notify the holder that the Option shall be fully exercisable for a period of 30 days from the date of such notice (but not later than the expiration of the term of the Option), and the Option will terminate upon the expiration of such period.

9. Amendment and Termination of the Plan. The Board may amend the Plan from time to time in such respects as the Board may deem advisable or terminate the Plan; provided, however, that amendments to the Plan relating to the amount, price or timing of Option grants shall not be made more than once in any six month period, other than amendments necessary to comply with changes in the Internal Revenue Code of 1986, as amended, the Employee Retirement Income Security Act, as amended, or the rules thereunder. Any amendment or termination of the Plan shall not affect Options already granted and such Options shall remain in full force and effect as if this Plan had not been amended or terminated.

4

Notwithstanding the foregoing, revisions or amendments that accomplish any of the following shall require approval of the stockholders of the Company, to the extent required by law, rule or regulation:

(a) Materially increase the benefits accruing to participants under the Plan;

(b) Materially increase the number of Shares which may be issued under the Plan;

(c) Materially modify the Plan as to eligibility for participation in the Plan; or

(d) Otherwise cause the Plan to lose its exemption under Section 16(b) of the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

10. Conditions Upon Issuance of Shares. Shares shall not be issued pursuant to the exercise of an Option unless the exercise of such Option and the issuance and delivery of such Shares pursuant thereto shall comply with all relevant provisions of law, including, without limitation the Securities Act of 1933, as amended, the Securities Exchange Act of 1934, as amended, the rules and regulations promulgated thereunder, and the requirements of any stock exchange or market system upon which the Shares may be listed, and shall be further subject to the approval of counsel for the Company with respect to such compliance.

As a condition to the exercise of an Option, the Company may require the Optionee to represent and warrant at the time of any such exercise that the Shares are being purchased only for investment and without any present intention to sell or distribute such Shares if, in the opinion of counsel for the Company, such a representation is required or advisable.

Inability of the Company to obtain authority from a regulatory body having jurisdiction, which authority is deemed by the Company's counsel to be necessary or advisable to the lawful issuance and sale of any Shares hereunder, shall relieve the Company of any liability in respect of the failure to issue or sell such Shares as to which such requisite authority shall not have been obtained.

11. Termination of Option.

(a) Termination as a Director. If an Optionee ceases to be a director, unless such cessation occurs due to death or disability, then the Option shall terminate on the date thirty days after the date the Optionee ceases to be a director.

(b) Disability. Unless otherwise provided in the Stock Option Agreement, in the event an Optionee is unable to continue to be a member of the Board as a result of his permanent and total disability (as defined in Section 22(e)(3) of the Internal Revenue Code of 1986, as amended), he may exercise the Option at any time within twelve (12) months following the date he ceased to be a director, but only to the extent he was entitled to exercise it on the date he ceased to be a director. To

5

the extent that he was not entitled to exercise the Option on the date he ceased to be a director, or if he does not exercise such Option (which he was entitled to exercise) within the time specified herein, the Option shall terminate.

(c) Death. Unless otherwise provided in the Stock Option Agreement, if an Optionee dies during the term of the Option, the Option may be exercised at any time within twelve (12) months following the date of death, but only to the extent that an Optionee was entitled to exercise the Option on the date of death. To the extent that decedent was not entitled to exercise the Option on the date of death, or if the Optionee's estate, or person who acquired the right to exercise the Option by bequest or inheritance, does not exercise such Option (which he was entitled to exercise) within the time specified herein, the Option shall terminate.

12. Option Agreement. Options shall be evidenced by Stock Option Agreements in such form as the Board shall approve.

13. Miscellaneous Provisions.

(a) Plan Expense. Any expenses of administering this Plan shall be borne by the Company.

(b) Construction of Plan. The validity, construction, interpretation, administration and effect of the Plan and of its rules and regulations, and rights relating to the Plan, shall be determined by the Board in accordance with the laws of the State of Arizona.

(c) Taxes. The Company shall be entitled if necessary or desirable to pay or withhold the amount of any tax attributable to the delivery of Common Shares under the Plan after giving the person entitled to receive such Shares notice as far in advance as practical, and the Company may defer making delivery of such Shares if any such tax may be pending unless and until indemnified to its satisfaction.

(d) Gender. For purposes of this Plan, words used in the masculine gender shall include the female and neuter, and the singular shall include the plural and vice versa, as appropriate.

6

EXHIBIT 4.2

AMTECH SYSTEMS, INC.

NON-EMPLOYEE DIRECTORS STOCK OPTION AGREEMENT

BY THIS DIRECTORS STOCK OPTION AGREEMENT (the "Agreement"), AMTECH SYSTEMS, INC., an Arizona corporation (the "Company"), and the undersigned, a non-employee director of the Company (the "Optionee"), desire to establish the terms and conditions upon which the Company is willing to grant the Optionee, and upon which the Optionee is willing to accept from the Company, an Option to purchase shares of Common Stock from the Company, pursuant to the terms and conditions of the Company's Non-Employee Directors Stock Option Plan (the "Plan").

The Company and the Optionee hereby agree as follows:

1. The Plan. All the terms, conditions and definitions of the Plan are hereby incorporated by reference into this Agreement, as if fully set forth herein.

2. Terms of Grant.

(a) Exercise Price: \$ _____

(b) Number of Shares Subject to Option: _____ Shares of
Common Stock

(c) Grant Date: _____, 19__

DATED: _____, 19__

AMTECH SYSTEMS, INC.

By _____

Its _____

OPTIONEE:

August 7, 1996

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

Re: Amtech Systems, Inc.
Non-Employee Directors Stock Option Plan

Ladies and Gentlemen:

We have acted as counsel to Amtech Systems, Inc., an Arizona corporation (the "Company"), in connection with its Registration Statement on Form S-8 (the "Registration Statement") filed under the Securities Act of 1933 relating to the registration of 200,000 shares of its Common Stock, \$.01 par value (the "Shares"), issuable pursuant to the Company's Non-Employee Directors Stock Option Plan (the "Plan").

In that connection, we have examined such documents, corporate records and other instruments as we have deemed necessary or appropriate for purposes of this opinion, including the Articles of Incorporation, as amended, and the Bylaws of the Company.

Based upon the foregoing, we are of the opinion that:

1. The Company has been duly organized and is validly existing as a corporation under the laws of the State of Arizona.

2. The Shares, when issued and sold in accordance with the terms of the Plan, will be validly issued, fully paid and nonassessable.

We hereby consent to the use of this opinion as an exhibit to the Registration Statement.

Very truly yours,

SQUIRE, SANDERS & DEMPSEY

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 6, 1995 included in Amtech Systems Inc.'s Form 10-K for the year ended September 30, 1995 and to all references to our firm included in this Registration Statement.

ARTHUR ANDERSEN LLP

Phoenix, Arizona
July 30, 1996