

Form PTO-1594 (Rev. 03/01) OMB No. 0651-0027 (exp. 5/31/2002) Tab settings

RECORDATION FORM COVER SHEET TRADEMARKS ONLY

U.S. DEPARTMENT OF COMMERCE U.S. Patent and Trademark Office

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies): American Science and Engineering, Inc. [] Individual(s) [] Association [] General Partnership [] Limited Partnership [x] Corporation-State MA [] Other Additional name(s) of conveying party(ies) attached? [] Yes [x] No

2. Name and address of receiving party(ies) Name: Silicon Valley Bank dba Silicon Valley East Internal Address: Street Address: 3003 Tasman Drive City: Santa Clara State: CA Zip: 95064 [] Individual(s) citizenship [] Association [] General Partnership [] Limited Partnership [] Corporation-State [x] Other California-Chartered Bank If assignor is not domiciled in the United States, a domestic representative designation is attached: [] Yes [x] No (Designations must be a separate document from assignment) Additional name(s) & address(es) attached? [] Yes [x] No

3. Nature of conveyance: [] Assignment [] Merger [x] Security Agreement [] Change of Name [] Other Execution Date: 8/11/03

4. Application number(s) or registration number(s): A. Trademark Application No.(s) 76/051,582; 76/051,575; Additional number(s) attached [] Yes [x] No

B. Trademark Registration No.(s) 1,120,895; 1,002,673; 1,439,038; 1,476,637

5. Name and address of party to whom correspondence concerning document should be mailed: Name: Christopher E. Kondracki Internal Address: Street Address: 2001 Jefferson Davis, Hwy. Suite 505 City: Arlington State: VA Zip: 22202

6. Total number of applications and registrations involved: 6 7. Total fee (37 CFR 3.41) \$ 165.00 [] Enclosed [x] Authorized to be charged to deposit account 8. Deposit account number: 19-3545

DO NOT USE THIS SPACE

9. Signature. Christopher E. Kondracki Name of Person Signing [Signature] Signature 9/25/03 Date [33] Total number of pages including cover sheet, attachments, and document:

Mail documents to be recorded with required cover sheet information to: Commissioner of Patent & Trademarks, Box Assignments Washington, D.C. 20231

CH \$165.00 193646 76051682

INTELLECTUAL PROPERTY SECURITY AGREEMENT

This Intellectual Property Security Agreement (this "IP Agreement") is made as of the 11th day of ~~August~~, 2003 by and between **AMERICAN SCIENCE AND ENGINEERING, INC.**, a Massachusetts corporation with offices at 829 Middlesex Turnpike, Billerica, Massachusetts 01821 ("Grantor"), and **SILICON VALLEY BANK**, a California-chartered bank, with its principal place of business at 3003 Tasman Drive, Santa Clara, California 95054 and with a loan production office located at One Newton Executive Park, Suite 200, 2221 Washington Street, Newton, Massachusetts 02462, doing business under the name "Silicon Valley East" ("Lender").

RECITALS

A. Lender has agreed to make advances of money and to extend certain financial accommodations to Grantor (the "Loan"), pursuant to a certain Loan and Security Agreement of even date between Grantor and Lender and a certain Export-Import Bank Loan and Security Agreement of even date between Grantor and Lender, each as amended from time to time (as amended, collectively, the "Loan Agreement"). The Loan is secured pursuant to the terms of the Loan Agreement. Lender is willing to enter into certain financial accommodations with Grantor, but only upon the condition, among others, that Grantor shall grant to Lender a security interest in certain Copyrights, Trademarks, Patents, and Mask Works, and other assets, to secure the obligations of Grantor under the Loan Agreement. Defined terms used but not defined herein shall have the same meanings as in the Loan Agreement.

B. Pursuant to the terms of the Loan Agreement, Grantor has granted to Lender a security interest in all of Grantor's right title and interest, whether presently existing or hereafter acquired in, to and under all of the Collateral (as defined therein).

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged and intending to be legally bound, as collateral security for the prompt and complete payment when due of Grantor's Indebtedness (as defined below), Grantor hereby represents, warrants, covenants and agrees as follows:

1. Grant of Security Interest. As collateral security for the prompt and complete payment and performance of all of Grantor's present or future indebtedness, obligations and liabilities to Lender under the Loan Agreement (hereinafter, the "Indebtedness"), Grantor hereby grants a security interest in all of Grantor's right, title and interest in, to and under its registered and unregistered intellectual property collateral (all of which shall collectively be called the "Intellectual Property Collateral"), including, without limitation, the following:

(a) Any and all copyright rights, copyright applications, copyright registrations and like protections in each work or authorship and derivative work thereof, whether published or unpublished, registered or unregistered, and whether or not the same also constitutes a trade secret, now or hereafter existing, created, acquired or held, including without limitation those set forth on EXHIBIT A attached hereto (collectively, the "Copyrights");

(b) Any and all trade secret rights, including any rights to unpatented inventions, know-how, operating manuals, license rights and agreements, and confidential information, and any and all intellectual property rights in computer software and computer software products now or hereafter existing, created, acquired or held;

(c) Any and all design rights which may be available to Grantor now or hereafter existing, created, acquired or held;

(d) All patents, patent applications and like protections including, without limitation, improvements, divisions, continuations, renewals, reissues, extensions and continuations-in-part of the same, including without limitation the patents and patent applications set forth on EXHIBIT B attached hereto (collectively, the "Patents");

(e) Any trademark and service mark rights, slogans, trade dress, and tradenames, trade styles, whether registered or not, applications to register and registrations of the same and like protections, and the entire goodwill of the business of Grantor connected with and symbolized by such trademarks, including without limitation those set forth on EXHIBIT C attached hereto (collectively, the "Trademarks");

(f) All mask works or similar rights available for the protection of semiconductor chips, now owned or hereafter acquired, including, without limitation those set forth on EXHIBIT D attached hereto (collectively, the "Mask Works");

(g) Any and all claims for damages by way of past, present and future infringements of any of the rights included above, with the right, but not the obligation, to sue for and collect such damages for said use or infringement of the intellectual property rights identified above;

(h) All licenses or other rights to use any of the Copyrights, Patents, Trademarks, or Mask Works and all license fees and royalties arising from such use to the extent permitted by such license or rights, including, without limitation those set forth on EXHIBIT E attached hereto; and

(i) All amendments, extensions, renewals and extensions of any of the Copyrights, Trademarks, Patents, or Mask Works; and

(j) All proceeds and products of the foregoing, including without limitation all payments under insurance or any indemnity or warranty payable in respect of any of the foregoing.

2. Authorization and Request. Grantor authorizes and requests that the Register of Copyrights and the Commissioner of Patents and Trademarks record this IP Agreement, and any amendments thereto, or copies thereof.

3. Covenants and Warranties. Grantor represents, warrants, covenants and agrees as follows:

(a) Grantor is now the sole owner of the Intellectual Property Collateral, except for non-exclusive licenses granted by Grantor to its customers in the ordinary course of business.

(b) Performance of this IP Agreement does not conflict with or result in a breach of any material agreement to which Grantor is bound.

(c) During the term of this IP Agreement, Grantor will not transfer or otherwise encumber any interest in the Intellectual Property Collateral, except for non-exclusive licenses granted by Grantor in the ordinary course of business or as set forth in this IP Agreement;

(d) To its knowledge, each of the Patents is valid and enforceable, and no part of the Intellectual Property Collateral has been judged invalid or unenforceable, in whole or in part, and no claim has been made that any part of the Intellectual Property Collateral violates the rights of any third party;

(e) Grantor shall promptly advise Lender of any material adverse change in the composition of the Collateral, including but not limited to any subsequent ownership right of the Grantor in or to any Trademark, Patent, Copyright, or Mask Work specified in this IP Agreement;

(f) Grantor shall subject to the exercise of reasonable business judgment: (i) protect, defend and maintain the validity and enforceability of the Trademarks, Patents, Copyrights, and Mask Works, (ii) use its best efforts to detect infringements of the Trademarks, Patents, Copyrights, and Mask Works and promptly advise Lender in writing of material infringements detected and (iii) not allow any Trademarks, Patents, Copyrights, or Mask Works to be abandoned, forfeited or dedicated to the public without the written consent of Lender, which shall not be unreasonably withheld, unless Grantor determines that reasonable business practices suggest that abandonment is appropriate.

(g) Grantor shall take such further actions as Lender may reasonably request from time to time to perfect or continue the perfection of Lender's interest in the Intellectual Property Collateral;

(h) This IP Agreement creates, and in the case of after acquired Intellectual Property Collateral, this IP Agreement will create at the time Grantor first has rights in such after acquired Intellectual Property Collateral, in favor of Lender a valid and perfected first priority security interest and collateral assignment in the Intellectual Property Collateral in the United States securing the payment and performance of the obligations evidenced by the Loan Agreement;

(i) To its knowledge, except for, and upon, the filing of UCC financing statements, or other notice filings or notations in appropriate filing offices, if necessary to perfect the security interests created hereunder, no authorization, approval or other action by, and no notice to or filing with, any U.S. governmental authority or U.S. regulatory body is required either (a) for the grant by Grantor of the security interest granted hereby, or for the execution, delivery or performance of this IP Agreement by Grantor in the U.S. or (b) for the perfection in the United States or the exercise by Lender of its rights and remedies thereunder;

(j) All information heretofore, herein or hereafter supplied to Lender by or on behalf of Grantor with respect to the Intellectual Property Collateral is accurate and complete in all material respects.

(k) Grantor shall not enter into any agreement that would materially impair or conflict with Grantor's obligations hereunder without Lender's prior written consent, which consent shall not be unreasonably withheld. Grantor shall not permit the inclusion in any material contract to which it becomes a party of any provisions that could or might in any way prevent the creation of a security interest in Grantor's rights and interest in any property included within the definition of the Intellectual property Collateral acquired under such contracts.

(l) Upon any executive officer of Grantor obtaining actual knowledge thereof, Grantor will promptly notify Lender in writing of any event that materially adversely affects the value of any material Intellectual Property Collateral, the ability of Grantor to dispose of any material Intellectual Property Collateral of the rights and remedies of Lender in relation thereto, including the levy of any legal process against any of the Intellectual Property Collateral.

4. Lender's Rights. Lender shall have the right, but not the obligation, to take, at Grantor's sole expense, any actions that Grantor is required under this IP Agreement to take but which Grantor fails to take, after fifteen (15) days' notice to Grantor. Grantor shall reimburse and indemnify Lender for all reasonable costs and reasonable expenses incurred in the reasonable exercise of its rights under this section 4.

5. Inspection Rights. Grantor hereby grants to Lender and its employees, representatives and agents the right to visit, during reasonable hours upon prior reasonable written notice to Grantor, any of Grantor's plants and facilities that manufacture, install or store products (or that have done so during the prior six-month period) that are sold utilizing any of the Intellectual Property Collateral, and to inspect the products and quality control records relating thereto upon reasonable written notice to Grantor and as often as may be reasonably requested, but not more than once in every six (6) months; provided, however, nothing herein shall entitle Lender access to Grantor's trade secrets and other proprietary information.

6. Further Assurances; Attorney in Fact.

(a) On a continuing basis, Grantor will, upon request by Lender, subject to any prior licenses, encumbrances and restrictions and prospective licenses, make, execute, acknowledge and deliver, and file and record in the proper filing and recording places in the United States, all such instruments, including appropriate financing and continuation statements and collateral agreements and filings with the United States Patent and Trademarks Office and the Register of Copyrights, and take all such action as may reasonably be deemed necessary or advisable, or as requested by Lender, to perfect Lender's security interest in all Copyrights, Patents, Trademarks, and Mask Works and otherwise to carry out the intent and purposes of this IP Agreement, or for assuring and confirming to Lender the grant or perfection of a security interest in all Intellectual Property Collateral.

(b) In addition to section 6(a) above, Grantor shall not register any of its Copyrights or Mask Works with the Register of Copyrights without first executing and simultaneously registering an IP Agreement, in the identical form of this IP Agreement, with the Register of Copyrights, listing such Copyrights(s) on Exhibit A thereto and/or such Mask Works on Exhibit D in order to protect and perfect Lender's security interest in such Copyrights or Mask Works. Promptly after such registration, Grantor shall forward to the Lender, at the address listed above, a copy of, and the original IP Agreement as filed with the Register of Copyrights.

(c) Grantor hereby irrevocably appoints Lender as Grantor's attorney-in-fact, with full authority in the place and stead of Grantor and in the name of Grantor, Lender or otherwise, from time to time in Lender's discretion, upon Grantor's failure or inability to do so, to take any action and to execute any instrument which Lender may deem necessary or advisable to accomplish the purposes of this IP Agreement, including:

(i) To modify, in its sole discretion, this IP Agreement without first obtaining Grantor's approval of or signature to such modification by amending Exhibit A, Exhibit B, Exhibit C, and Exhibit D hereof, as appropriate, to include reference to any right, title or interest in any Copyrights, Patents, Trademarks or Mask Works acquired by Grantor after the execution hereof or to delete any reference to any right, title or interest in any Copyrights, Patents, Trademarks, or Mask Works in which Grantor no longer has or claims any right, title or interest; and

(ii) To file, in its sole discretion, one or more financing or continuation statements and amendments thereto, or other notice filings or notations in appropriate filing offices, relative to any of the Intellectual Property Collateral, without notice to Grantor, with all appropriate jurisdictions, as Lender deems appropriate, in order to further perfect or protect Lender's interest in the Intellectual Property Collateral.

7. Events of Default. The occurrence of any of the following shall constitute an Event of Default under this IP Agreement:

- (a) An Event of Default occurs under the Loan Agreement; or
- (b) Grantor breaches any warranty or agreement made by Grantor in this IP Agreement.

8. Remedies. Upon the occurrence and continuance of an Event of Default, Lender shall have the right to exercise all the remedies of a secured party under the Massachusetts Uniform Commercial Code, including without limitation the right to require Grantor to assemble the Intellectual Property Collateral and any tangible property in which Lender has a security interest and to make it available to Lender at a place designated by Lender. Lender shall have a nonexclusive, royalty free license to use the Copyrights, Patents, Trademarks, and Mask Works to the extent reasonably necessary to permit Lender to exercise its rights and remedies upon the occurrence of an Event of Default. Grantor will pay any expenses (including reasonable attorney's fees) incurred by Lender in connection with the exercise of any of Lender's rights hereunder, including without limitation any expense incurred in disposing of the Intellectual Property Collateral. All of Lender's rights and remedies with respect to the Intellectual Property Collateral shall be cumulative.

9. Indemnity. Grantor agrees to defend, indemnify and hold harmless Lender and its officers, employees, and agents against: (a) all obligations, demands, claims, and liabilities claimed or asserted by any other party in connection with the transactions contemplated by this IP Agreement, and (b) all losses or expenses in any way suffered, incurred, or paid by Lender as a result of or in any way arising out of, following or consequential to transactions between Lender and Grantor, whether under this IP Agreement or otherwise (including without limitation, reasonable attorneys fees and reasonable expenses), except for losses arising from or out of Lender's gross negligence or willful misconduct.

10. Termination. At such time as Grantor shall completely satisfy all of the obligations secured hereunder, Lender shall execute and deliver to Grantor all releases, terminations, and other instruments as may be necessary or proper to release the security interest hereunder.

11. Course of Dealing. No course of dealing, nor any failure to exercise, nor any delay in exercising any right, power or privilege hereunder shall operate as a waiver thereof.

12. Amendments. This IP Agreement may be amended only by a written instrument signed by both parties hereto.

13. Counterparts. This IP Agreement may be executed in two or more counterparts, each of which shall be deemed an original but all of which together shall constitute the same instrument.

14. Law and Jurisdiction. This IP Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Massachusetts. GRANTOR ACCEPTS FOR ITSELF AND IN CONNECTION WITH ITS PROPERTIES, UNCONDITIONALLY, THE NON-EXCLUSIVE JURISDICTION OF ANY STATE OR FEDERAL COURT OF COMPETENT JURISDICTION IN THE COMMONWEALTH OF MASSACHUSETTS IN ANY ACTION, SUIT, OR PROCEEDING OF ANY KIND, AGAINST IT WHICH ARISES OUT OF OR BY REASON OF THIS AGREEMENT; PROVIDED, HOWEVER, THAT IF FOR ANY REASON LENDER CANNOT AVAIL ITSELF OF THE COURTS OF THE COMMONWEALTH OF MASSACHUSETTS, GRANTOR ACCEPTS JURISDICTION OF THE COURTS AND VENUE IN SANTA CLARA COUNTY, CALIFORNIA. NOTWITHSTANDING THE FOREGOING, THE LENDER SHALL HAVE THE RIGHT TO BRING ANY ACTION OR PROCEEDING AGAINST THE GRANTOR OR ITS PROPERTY IN THE COURTS OF ANY OTHER JURISDICTION WHICH THE LENDER DEEMS NECESSARY OR APPROPRIATE IN ORDER TO REALIZE ON THE COLLATERAL OR TO OTHERWISE ENFORCE THE LENDER'S RIGHTS AGAINST THE GRANTOR OR ITS PROPERTY.

GRANTOR AND LENDER EACH HEREBY WAIVE THEIR RESPECTIVE RIGHTS TO A JURY TRIAL OF ANY CLAIM OR CAUSE OF ACTION BASED UPON OR ARISING OUT OF ANY OF THE LOAN DOCUMENTS OR ANY OF THE TRANSACTIONS CONTEMPLATED THEREIN, INCLUDING CONTRACT CLAIMS, TORT CLAIMS, BREACH OF DUTY CLAIMS, AND ALL OTHER COMMON LAW OR STATUTORY CLAIMS. EACH PARTY RECOGNIZES AND AGREES THAT THE FOREGOING WAIVER CONSTITUTES A MATERIAL INDUCEMENT FOR IT TO ENTER INTO THIS AGREEMENT. EACH PARTY REPRESENTS AND WARRANTS THAT IT HAS REVIEWED THIS WAIVER WITH ITS LEGAL COUNSEL AND THAT IT KNOWINGLY AND VOLUNTARILY WAIVES ITS JURY TRIAL RIGHTS FOLLOWING CONSULTATION WITH LEGAL COUNSEL.

15. Confidentiality. In handling any confidential information, Lender shall exercise the same degree of care that it exercises for its own proprietary information, but disclosure of information may be made: (i) to Lender's subsidiaries or affiliates in connection with their present or prospective business relations with Grantor; (ii) to prospective transferees or purchasers of any interest in the Loans; (iii) as required by law, regulation, subpoena, or other order; (iv) as required in connection with Lender's examination or audit; (v) as Lender considers appropriate in exercising remedies under this Agreement; and (vi) consistent with federal securities laws as to any tax related matters. Confidential information does not include information that either: (a) is in the public domain or in Lender's possession when disclosed to Lender, or becomes part of the public domain after disclosure to Lender; or (b) is disclosed to Lender by a third party, if Lender reasonably does not know that the third party is prohibited from disclosing the information.

EXECUTED as a sealed instrument under the laws of the Commonwealth of Massachusetts on the day and year first written above.

GRANTOR:

AMERICAN SCIENCE AND ENGINEERING, INC.

By: *Paul Theodore Owens*

Name: Paul Theodore Owens

Title: Vice President, Treasurer and
Chief Financial Officer

7842103

Exhibit "A" attached to that certain Intellectual Property Security Agreement dated 8/11, 2003.

EXHIBIT "A"

COPYRIGHTS

SCHEDULE A - ISSUED COPYRIGHTS

| <u>COPYRIGHT DESCRIPTION</u> | <u>REGISTRATION NUMBER</u> | <u>DATE OF ISSUANCE</u> |
|------------------------------|----------------------------|-------------------------|
|------------------------------|----------------------------|-------------------------|

SCHEDULE B - PENDING COPYRIGHT APPLICATIONS

| <u>COPYRIGHT DESCRIPTION</u> | <u>APPLICATION NUMBER</u> | <u>DATE OF FILING</u> | <u>DATE OF CREATION</u> | <u>FIRST DATE OF PUBLIC DISTRIBUTION</u> |
|------------------------------|---------------------------|-----------------------|-------------------------|--|
|------------------------------|---------------------------|-----------------------|-------------------------|--|

SCHEDULE C - UNREGISTERED COPYRIGHTS (Where No Copyright Application is Pending)

| <u>COPYRIGHT DESCRIPTION</u> | <u>DATE OF CREATION</u> | <u>FIRST DATE OF DISTRIBUTION</u> | <u>DATE AND RECORDATION NUMBER OF IP AGREEMENT WITH OWNER OR ORIGINAL GRANTOR IF AUTHOR OR OWNER OF COPYRIGHT IS DIFFERENT FROM GRANTOR</u> | <u>ORIGINAL AUTHOR OR OWNER OF COPYRIGHT IS DIFFERENT FROM GRANTOR</u> |
|------------------------------|-------------------------|-----------------------------------|---|--|
|------------------------------|-------------------------|-----------------------------------|---|--|

Exhibit "B" attached to that certain Intellectual Property Security Agreement dated 8/11, 2003.

EXHIBIT "B"

PATENTS

| <u>PATENT</u> | <u>DOCKET NO.</u> | <u>COUNTRY</u> | <u>SERIAL NO.</u> | <u>FILING DATE</u> | <u>STATUS</u> |
|---------------|-------------------|----------------|-------------------|--------------------|---------------|
|---------------|-------------------|----------------|-------------------|--------------------|---------------|

As set forth on the attached Exhibit B.

Exhibit B

Patent List

| Client Matter # | Country | Client | Patent Number | Date of Grant | Date of Filing | Status | Inventor(s) |
|--|---------|--------|---------------|---------------|----------------|--------|--|
| 1945.144 | US | 1945 | 5,483,569 | 09-Jan-1996 | 14-Oct-1993 | Issued | Annis |
| Title Inspection System with No Intervening Belt | | | | | | | |
| 1945.145 | DE | 1945 | 42 40 757.5 | 24-Jun-1993 | 03-Dec-1992 | Issued | Annis Riley |
| Title Inspection Method and Apparatus With Single Color Pixel Imaging | | | | | | | |
| 1945.145 | US | 1945 | 5,253,283 | 12-Oct-1993 | 23-Dec-1991 | Issued | Annis Riley |
| Title Inspection Method and Apparatus With Single Color Pixel Imaging | | | | | | | |
| 1945.147 | US | 1945 | 4,899,283 | 06-Feb-1990 | 23-Nov-1987 | Issued | Annis |
| Title Tomographic Apparatus Including Means to Illuminate the Bounded Field of View from a Plurality of Directions | | | | | | | |
| 1945.157 | US | 1945 | 5,764,683 | 09-Jun-1998 | 12-Feb-1997 | Issued | Swift, Roderick Tybinkowski, Andrew |
| Title Mobile X-Ray Inspection System for Large Objects | | | | | | | |
| 1945.161 | US | 1945 | 5,930,326 | 27-Jul-1999 | 08-Jul-1997 | Issued | Grotzins, Lee Rotschild, Peter |
| Title Side Scatter Tomography | | | | | | | |

SILICON PATENT SCHEDULE A -- NEW (21).DOC9229477-1

Patent List

| Client Matter # | Country | Client | Patent Number | Date of Grant | Date of Filing | Status | Inventor(s) |
|--|---------|--------|---------------|---------------|----------------|--------|-------------------|
| 1945.170 | US | 1945 | 5,642,394 | 24-Jun-1997 | 03-Apr-1996 | Issued | Rothschild, Peter |
| Title Side Scatter X-Ray Detection System | | | | | | | |
| 1945.171 | US | 1945 | 5,910,973 | 08-Jun-1999 | 22-Jul-1997 | Issued | Grodzins |
| Title Rapid X-Ray Inspection System | | | | | | | |
| 1945.173 | US | 1945 | 5,940,468 | 17-Aug-1999 | 07-Nov-1997 | Issued | Huang Hynes |
| Title Coded Aperture X-Ray Imaging System | | | | | | | |
| 1945.180 | US | 1945 | 5,666,393 | 09-Sep-1997 | 04-Jun-1996 | Issued | |
| Title Method and Apparatus for Reducing Afterglow Noise (Issued) | | | | | | | |
| 1945.181 | US | 1945 | 5,528,656 | 18-Jun-1996 | | Issued | |
| Title Method and Apparatus for Sampling an Object (Issued) | | | | | | | |
| 1945.182 | US | 1945 | 5,493,596 | 20-Feb-1996 | 07-Jul-1995 | Issued | |
| Title High Energy X-Ray Inspection System (Issued) | | | | | | | |

SILICON PATENT SCHEDULE A -- NEW (2)1.DOC9229477-1

Patent List

| Client Matter # | Country | Client | Patent Number | Date of Grant | Date of Filing | Status | Inventor(s) |
|-----------------|---------|--|---------------|--------------------------------|----------------|--------|--|
| 1945.184 | US | 1945 | 5,903,623 | 11-May-1999 | 04-May-1998 | Issued | Swift |
| | | Title | | Mobile X-ray Inspection System | | | |
| 1945.187 | US | 1945 | 6,192,101 | 20-Feb-2001 | 19-Aug-1998 | Issued | Lee Grodzins |
| | | Title X-Ray Determination of the Mass Distribution in Containers | | | | | |
| 1945.189 | US | 1945 | 6,081,580 | 27-Jun-2000 | 08-Sep-1998 | Issued | Lee Grodzins William L. Adams |
| | | Title A Tomographic Inspection System | | | | | |
| 1945.190 | US | 1945 | 6,067,344 | 23-May-2000 | 01-Dec-1998 | Issued | Adams Grodzins Huang Sapp |
| | | Title X-Ray Ambient Level Safety System | | | | | |
| 1945.191 | US | 1945 | 6,151,381 | 21-Nov-2000 | 27-Jan-1999 | Issued | Grodzins Swift |
| | | Title Gated Transmission and Scatter Detection for X-Ray Imaging | | | | | |
| 1945.193 | US | 1945 | 6,252,929 | 26-Jun-2001 | 05-May-1999 | Issued | Swift, Roderick Tybinkowski, Andrew |
| | | Title Mobile X-Ray Inspection System for Large Objects | | | | | |

SILICON PATENT SCHEDULE A -- NEW (2)1.DOC9229477_1

Patent List

| Client Matter # | Country | Client | Patent Number | Date of Grant | Date of Filing | Status | Inventor(s) |
|---|---------|--------|---------------|---------------|----------------|--------|--|
| 1945.194 | US | 1945 | 6,249,567 | 19-Jun-2001 | 13-Sep-1999 | Issued | Rothschild, Peter Grodzins, Lee |
| TITLE X-Ray Backscatter Imaging System for Undercarriage Inspection | | | | | | | |
| 1945.508 | US | 1945 | 5,313,511C | 30-Jan-2001 | 19-Feb-1999 | Issued | |
| TITLE Reexamination of 5,313,511 | | | | | | | |
| 1945.A01 | US | 1945 | 6,320,933 | 20-Nov-2001 | 24-Nov-1999 | Issued | Lee Grodzins William Adams |
| TITLE Multiple Scatter System for Threat Identification | | | | | | | |
| 1945.A02 | US | 1945 | 6,192,104 | 20-Feb-2001 | 24-Nov-1999 | Issued | Adams, William Grodzins, Lee |
| TITLE Fan and Pencil Beams From a Common Source for X-Ray Inspection | | | | | | | |
| 1945.A03 | US | 1945 | RU 37899 | 05-Nov-2002 | 08-Dec-1999 | Issued | Grodzins, Lee Parsons, Charles G. |
| TITLE Tomographic Method of X-Ray Imaging (Reissue Application of 1945/167) | | | | | | | |
| 1945.A04 | US | 1945 | 6,442,233 | 27-Aug-2002 | 11-Aug-2000 | Issued | Grodzins, Lee Adams, William Rothschild, Peter |
| TITLE Coherent X-Ray Scatter Inspection System with Sidescatter and Energy-Resolved Detection | | | | | | | |

SILICON PATENT SCHEDULE A -- NEW (2)1.DOC9229477-1

Patent List

| Client | Country | Client | Patent Number | Date of Grant | Date of Filing | Status | Inventor(s) |
|--|---------|--------|---------------|---------------|----------------|--------|------------------------------------|
| 1945.A05 | US | 1945 | 6,424,695 | 23-Jul-2002 | 16-Dec-1999 | Issued | Grodzins, Lee Adams, William |
| Title Separate Lateral Processing of Backscatter Signals (based on provisional 163) | | | | | | | |
| 1945.A06 | US | 1945 | 6,282,260 | 28-Aug-2001 | 09-Dec-1999 | Issued | Lee Grodzins |
| Title Unilateral Hand-held X-Ray Inspection Apparatus (based on provisional 188) | | | | | | | |
| 1945.A07 | US | 1945 | 6,459,764 | 01-Oct-2002 | 02-Aug-2000 | Issued | Chalmers, Alex |
| Title Drive-Through Vehicle Inspection System | | | | | | | |
| 1945.A09 | US | 1945 | 6,459,761 | 01-Oct-2002 | 10-Feb-2000 | Issued | Grodzins, Lee Rothschild, Peter |
| Title Spectrally Shaped X-Ray Inspection System | | | | | | | |
| 1945.A12 | US | 1945 | 6,421,420 | 16-Jul-2002 | 22-Jun-2000 | Issued | Grodzins, Lee |
| Title Method and Apparatus for Generating Sequential Beams of Penetrating Radiation (based on 1945/174) | | | | | | | |
| 1945.A13 | US | 1945 | 6,546,072 | 08-Apr-2003 | 24-Jul-2000 | Issued | Chalmers, Alex |
| Title Transmission Enhanced Scatter Imaging | | | | | | | |

SILICON PATENT SCHEDULE A -- NEW (21).DOC9229477_1

Patent List

| Client | Country | Client | Patent Number | Date of Grant | Date of Filing | Status | Inventor(s) |
|---|---------|--------|---------------|---------------|----------------|--------|--|
| 1945.A14 | US | 1945 | 6,356,620 | 12-Mar-2002 | 26-Jul-2000 | Issued | Peter Rothschild Lee Grodzins |
| Title Method For Raster Scanning an X-ray Tube Focal Spot | | | | | | | |
| 1945.A16 | US | 1945 | 6,453,007 | 17-Sep-2002 | 16-Feb-2001 | Issued | Adams, William Grodzins, Lee |
| Title X-Ray Inspection Using Co-Planar Pencil and Fan Beams | | | | | | | |
| 1945.A21 | US | 1945 | 6,292,533 | 18-Sep-2001 | 15-May-2001 | Issued | Swift, Roderick Tybinkowski, Andrew |
| Title Mobile X-Ray Inspection System for Large Objects | | | | | | | |
| 1945.A23 | US | 1945 | 6,434,219 | 13-Aug-2002 | 24-Jul-2001 | Issued | Rothschild, Peter Grodzins, Lee |
| Title Chopper Wheel with Two Axes of Rotation | | | | | | | |
| 1945.A30 | US | 1945 | 6,542,574 | 01-Apr-2003 | 20-Mar-2002 | Issued | Grodzins, Lee |
| Title System for Inspecting the Contents of a Container | | | | | | | |

SILICON PATENT SCHEDULE A -- NEW (2)1.DOC9229477_1

Patent List

| Client Matter # | Country | Client | Patent Number | Date of Grant | Date of Filing | Status | Inventor(s) |
|-----------------|---------|--------|---------------|---------------|----------------|--------|-------------|
|-----------------|---------|--------|---------------|---------------|----------------|--------|-------------|

The following patents have been added to this schedule - based on the patent ownership search conducted via Dialog.

| | | | | | | | |
|---|----|------|-----------|-------------|-------------|--------|------------------|
| 1945.117 | US | 1945 | 4,472,822 | 18-Sep-1984 | 07-Jul-1982 | Issued | SJP Swift KLW |
| Title X-Ray Computed Tomography Using Flying Spot Mechanical Scanning | | | | | | | |

| | | | | | | | |
|---------------------------|----|------|-----------|-------------|-------------|--------|----------------------|
| 1945.126 | US | 1945 | 4,511,799 | 16-Apr-1985 | 16-Apr-1985 | Issued | SJP Bjorkholm KLW |
| Title Dual Energy Imaging | | | | | | | |

| | | | | | | | |
|---------------------------------------|----|------|-----------|-------------|-------------|--------|-----------------------------|
| 1945.131 | US | 1945 | 4,845,769 | 04-Jul-1989 | 17-Jan-1986 | Issued | SJP Ubrstein KLW Krieger |
| Title Another X-Ray Inspection System | | | | | | | |

| | | | | | | | |
|--|----|------|-----------|-------------|-------------|--------|--------------------------|
| 1945.136 | US | 1945 | 4,839,913 | 13-Jun-1989 | 20-Apr-1987 | Issued | SJP Annis KLW Krieger |
| Title Shadowgraph Imaging Using Scatter and Fluorescence | | | | | | | |

| | | | | | | | |
|---|----|------|-----------|-------------|-------------|--------|------------|
| 1945.167 | US | 1945 | 5,696,806 | 09-Dec-1997 | 11-Mar-1996 | Issued | SJP KLW |
| Title Tomographic Method of X-Ray Imaging | | | | | | | |

Patent Application List

| Client Matter # | Country | Client | Application Number | Date of Filing | Status | Inventor(s) |
|---|---------|--------|--------------------|----------------|-----------|----------------------------------|
| 1945.170 | EP | 1945 | 97921382.4 | 02-Apr-1997 | Published | Roitshchild, Peter |
| Title Side Scaller X-Ray Detection System | | | | | | |
| 1945.171 | EP | 1945 | 97936144.1 | 22-Jul-1997 | Published | Grodzins |
| Title Rapid X-Ray Inspection System | | | | | | |
| 1945.179 | DE | 1945 | P 37 45 172.3 | 15-Jun-1987 | Pending | Annis Bjorkholm |
| Title X-Ray Imaging System (divisional of 1945/133 DE) | | | | | | |
| 1945.187 | EP | 1945 | 98944458.3 | 19-Aug-1998 | Published | Lee Grodzins |
| Title X-Ray Determination of the Mass Distribution in Containers | | | | | | |
| 1945.189 | EP | 1945 | 98953165.2 | 08-Sep-1998 | Published | Lee Grodzins William L. Adams |
| Title A Tomographic Inspection System | | | | | | |

Patent Application List

| Client Matter # | Country | Client | Application Number | Date of Filing | Status | Inventor(s) |
|---|---------|--------|--------------------|----------------|-----------|------------------------------------|
| 1945.190 | EP | 1945 | 98 960 599.3 | 01-Dec-1998 | Published | Adams Grodzins Huang Sapp |
| Title X-Ray Ambient Level Safety System | | | | | | |
| 1945.191 | EP | 1945 | 99905489.3 | 27-Jan-1999 | Published | Grodzins Swill |
| Title Gated Transmission and Scatter Detection for X-Ray Imaging | | | | | | |
| 1945.A02 | EP | 1945 | 99 961 822.6 | 24-Nov-1999 | Published | Adams, William Grodzins, Lee |
| Title Fan and Pencil Beams From a Common Source for X-Ray Inspection | | | | | | |
| 1945.A06 | EP | 1945 | 99 967 241.3 | 09-Dec-1999 | Published | Lee Grodzins |
| Title Unilateral Hand-held X-Ray Inspection Apparatus (based on provisional 188) | | | | | | |
| 1945.A09 | CN | 1945 | 01 8 04813.7 | 09-Feb-2001 | Pending | Grodzins, Lee Rothschild, Peter |
| Title Spectrally Shaped X-Ray Inspection System | | | | | | |

Patent Application List

| Client Matter # | Country | Client | Application Number | Date of Filing | Status | Inventor(s) |
|--|---------|--------|--------------------|----------------|-----------|--|
| 1945.A09 | EP | 1945 | 01 910 478.5 | 09-Feb-2001 | Published | Grodzins, Lee Rothschild, Peter |
| Title Spectrally Shaped X-Ray Inspection System | | | | | | |
| 1945.A14 | EP | 1945 | 00 950 724.5 | 26-Jul-2000 | Published | Peter Rothschild Lee Grodzins |
| Title Method For Raster Scanning an X-ray Tube Focal Spot | | | | | | |
| 1945.A18 | EP | 1945 | 01 932 513.3 | 27-Mar-2001 | Published | Grodzins, Lee |
| Title Detection of Fissile Material | | | | | | |
| 1945.A18 | US | 1945 | 09/818,987 | 27-Mar-2001 | Pending | Grodzins, Lee |
| Title Detection of Fissile Material | | | | | | |
| 1945.A19 | EP | 1945 | 01946115.1 | 06-Jun-2001 | Pending | Callerane, Joseph Adams, William Grodzins, Lee |
| Title X-Ray Scatter and Transmission System with Coded Beams | | | | | | |

Patent Application List

| Client Matter # | Country | Client | Application Number | Date of Filing | Status | Inventor(s) |
|--|---------|--------|--------------------|----------------|-----------|--|
| 1945.A19 | US | 1945 | 09/875,793 | 06-Jun-2001 | Published | Callerame, Joseph Adams, William Grodzins, Lee |
| Title X-Ray Scatter and Transmission System with Coded Beams | | | | | | |
| 1945.A22 | US | 1945 | 60/410,790 | 13-Sep-2002 | Pending | Adams, William Grodzins, Lee Sapp, William Wade |
| Title System and Method for X-Ray Inspection using a Hybrid X-Ray Source | | | | | | |
| 1945.A27 | US | 1945 | 10/229,993 | 28-Aug-2002 | Pending | Swift, Roderick Tybinkowski, Andrew |
| Title Mobile X-Ray Inspection System for Large Objects | | | | | | |
| 1945.A28 | EG | 1945 | | 26-Jul-2002 | Pending | Grodzins, Lee Rohlschild, Peter Swift, Roderick Perich, Louis W. Mention, David Holham, David |
| Title X-Ray Inspection Using Spatially and Spectrally Tailored Beams (CIP of | | | | | | |

Patent Application List

| Client Matter # | Country | Client | Application Number | Date of Filing | Status | Inventor(s) |
|-----------------|---------|--------|--------------------|----------------|-----------|---|
| 1945.A28 | US | 1945 | 10/161,037 | 31-May-2002 | Published | Grodzins, Lee Rohschild, Peter Swift, Roderick Perich, Louis W. Montion, David Hohann, David |
| 1945.A28 | WO | 1945 | 02/23948 | 26-Jul-2002 | Published | Grodzins, Lee Rohschild, Peter Swift, Roderick Perich, Louis W. Montion, David Hohann, David |
| 1945.A31 | US | 1945 | 10/137,715 | 02-May-2002 | Published | Chalmers, Alex Squires, Charles |
| 1945.A31 | WO | 1945 | 02/13595 | 02-May-2002 | Published | Chalmers, Alex Squires, Charles |

Patent Application List

| Client Matter # | Country | Client | Application Number | Date of Filing | Status | Inventor(s) |
|---|---------|--------|--------------------|----------------|---------|--|
| 1945.A32 | US | 1945 | 10/156,989 | 29-May-2002 | Pending | Grodzins, Lee Rothschild, Peter |
| Title Detectors for X-Rays and Neutrons | | | | | | |
| 1945.A32 | WO | 1945 | 03/05958 | 27-Feb-2003 | Pending | Grodzins, Lee Rothschild, Peter |
| Title Detectors for X-Rays and Neutrons | | | | | | |
| 1945.A35 | US | 1945 | 10/190,903 | 08-Jul-2002 | Allowed | Grodzins, Lee Adams, William Rothschild, Peter |
| Title X-Ray Inspection by Coherent-Scattering from Variably Disposed Scatterers Identified as Suspect Objects | | | | | | |
| 1945.A35 | WO | 1945 | 03/21199 | 07-Jul-2003 | Pending | Grodzins, Lee Adams, William Rothschild, Peter |
| Title X-Ray Inspection by Coherent-Scattering from Variably Disposed Scatterers Identified as Suspect Objects | | | | | | |
| 1945.A36 | US | 1945 | 10/274,822 | 21-Oct-2002 | Pending | Foose, Ralph Grodzins, Lee |
| Title High-Speed X-Ray Inspection of Personnel and Light Baggage | | | | | | |

Patent Application List

| Client Matter # | Country | Client | Application Number | Date of Filing | Status | Inventor(s) |
|---|---------|--------|--------------------|----------------|---------|--|
| 1945.A38 | US | 1945 | 60/424,357 | 06-Nov-2002 | Pending | Roose, Ralph Grodzins, Lee Perich, Louis W. Adams, William |
| Title Bi-Lateral X-Ray Backscatter Mobile Inspection Van | | | | | | |
| 1945.A39 | US | 1945 | 10/330,000 | 26-Dec-2002 | Pending | Adams, William Chalmers, Alex Grodzins, Lee Perich, Louis W. Rothschild, Peter |
| Title X-Ray Backscatter Mobile Inspection Van (based on A38) | | | | | | |
| 1945.A41 | US | 1945 | 10/442,687 | 21-May-2003 | Pending | Adams, William Chalmers, Alex Grodzins, Lee Perich, Louis W. Rothschild, Peter |
| Title X-Ray Backscatter Mobile Inspection Van | | | | | | |
| 1945.A42 | US | 1945 | 10/458,077 | 10-Jun-2003 | Pending | Swift, Roderick |
| Title Collimator Aperture Scheduling for Enhanced Pencil-Beam Resolution (based on A29) | | | | | | |

Patent Application List

| Client Matter # | Country | Client | Application Number | Date of Filing | Status | Inventor(s) |
|---|---------|--------|--------------------|----------------|---------|--|
| 1945.A42 | WO | 1945 | 03/18465 | 10-Jun-2003 | Pending | Swift, Roderick |
| Title Collimator Aperture Scheduling for Enhanced Pencil-Beam Resolution (based on A29) | | | | | | |
| 1945.A43 | US | 1945 | | 15-Jul-2003 | Pending | Adams, William Grodzins, Lee Rothschild, Peter |
| Title Detection of Fissile and Radioactive Material in Inspection Contexts and from Mobile Platforms | | | | | | |

Patent List

| Client Matter # | Country | Client | Patent Number | Date of Grant | Date of Filing | Status | Inventor(s) |
|--|---------|--------|---------------|---------------|----------------|------------|---------------------------------------|
| 1945.125 | US | 1945 | 4,768,214 | 30-Aug-1988 | 15-Apr-1986 | Issued | Bjorkholm |
| Title Imaging | | | | | | | |
| 1945.127 | GB | 1945 | 2,137,453 | 03-Oct-1984 | 03-Oct-1984 | Issued | Annis Burstein Chase Krieger |
| Title High Energy Computed Tomography | | | | | | | |
| 1945.127 | US | 1945 | 4,691,332 | 01-Sep-1987 | 14-Mar-1984 | Issued | Annis Burstein Chuse Krieger |
| Title High Energy Computed Tomography | | | | | | | |
| 1945.130 | US | 1945 | 4,807,637 | 28-Feb-1989 | 08-May-1986 | Issued | Bjorkholm |
| Title Diaphanography Method and Apparatus | | | | | | | |
| 1945.132 | US | 1945 | 5,463,224 | 31-Oct-1995 | 01-Jul-1986 | Let Expire | Burstein Krieger |
| Title X-Ray Detector Suited for High Energy Applications with Wide Dynamic Range, High Stopping Power & Good Protection | | | | | | | |
| | | | | | | | Kubierschky |

SILICON PATENT SCHEDULE A -- NEW (2)1.DOC9229477-1

Patent List

| Client Matter # | Country | Client | Patent Number | Date of Grant | Date of Filing | Status | Inventor(s) |
|--|---------|--------|------------------|------------------|-------------------|------------|--------------------|
| 1945.133 | DE | 1945 | 37 19 923 | 20-Jan-1998 | 15-Jun-1987 | Issued | Annis Bjorkholm |
| Title X-Ray Imaging Particularly Adapted for Low Z Materials | | | | | | | |
| 1945.133 | JP | 1945 | 2641208 | 02-May-1997 | 18-May-1987 | Let Expire | Annis Bjorkholm |
| Title X-Ray Imaging Particularly Adapted for Low Z Materials | | | | | | | |
| 1945.133 | US | 1945 | 4,799,247 | 17-Jan-1989 | 20-Jun-1986 | Issued | Annis Bjorkholm |
| Title X-Ray Imaging Particularly Adapted for Low Z Materials | | | | | | | |
| 1945.134 | US | 1945 | 5,313,511 | 17-May-1994 | 18-Dec-1991 | Issued | Annis Bjorkholm |
| Title X-Ray Imaging Particularly Adapted for Low Z Materials | | | | | | | |
| 1945.135 | US | 1945 | 4,809,312 | 28-Feb-1989 | 22-Jul-1986 | Issued | Annis |
| Title Method and Apparatus for Producing Tomographic Images | | | | | | | |
| 1945.137 | US | 1945 | 4,819,256 | 04-Apr-1989 | 20-Apr-1987 | Issued | Annis Bjorkholm |
| Title Radiographic Sensitivity for Detection of Flaws and Cracks | | | | | | | |

SILICON PATENT SCHEDULE A -- NEW (2)1.DOC9229477

Patent List

| Client Matter # | Country | Client | Patent Number | Date of Grant | Date of Filing | Status | Inventor(s) |
|---|---------|--------|---------------|---------------|----------------|--------|---------------------------------|
| 1945.138 | US | 1945 | 4,893,015 | 09-Jan-1990 | 01-Apr-1987 | Issued | Aronson Kubierscky |
| Title Dual Mode Radiographic Measurement Method and Device | | | | | | | |
| 1945.139 | US | 1945 | 4,825,454 | 25-Apr-1989 | 28-Dec-1987 | Issued | Annis Johnson Mastrorandi |
| Title Tomographic Imaging with Concentric Conical Collimator | | | | | | | |
| 1945.140 | US | 1945 | 5,127,030 | 30-Jun-1992 | 21-May-1990 | Issued | Annis Swift |
| Title Tomographic Imaging w/ Improved Collimator | | | | | | | |
| 1945.141 | US | 1945 | 5,022,062 | 04-Jul-1991 | 13-Sep-1989 | Issued | Annis |
| Title Automatic Threat Detection Based on Illumination by Penetrating Radiant Energy Using Histogram Processing | | | | | | | |
| 1945.142 | US | 1945 | 5,179,581 | 12-Jan-1993 | 04-Jun-1991 | Issued | Annis |
| Title Automatic Threat Detection Based on Illumination by Penetrating Radiant Energy | | | | | | | |
| 1945.143 | US | 1945 | 5,224,144 | 29-Jun-1993 | 12-Sep-1991 | Issued | Annis |
| Title Reduced Mass Flying Spot Scanner Having Arcuate Scanning Lines | | | | | | | |

SILICON PATENT SCHEDULE A -- NEW (21).DOC9229477_1

Exhibit "C" attached to that certain Intellectual Property Security Agreement dated 8/11, 2003.

EXHIBIT "C"

TRADEMARKS

| <u>TRADEMARK DESCRIPTION</u> | <u>COUNTRY</u> | <u>SERIAL NO.</u> | <u>REG. NO</u> | <u>STATUS</u> |
|------------------------------|----------------|-------------------|----------------|---------------|
|------------------------------|----------------|-------------------|----------------|---------------|

As set forth on the attached Exhibit C.

Exhibit C

Registered Trademark List

| Trademark Name | Client | Docket Number | Status | Application No./ Filing Date | Registration No./ Registration Date |
|--|--------|---------------|------------|------------------------------|-------------------------------------|
| AS E MICRODOSE Country France | 1945 | 1945.203 | Registered | 735262 12-Mar-1985 | 1,301,932 12-Mar-1985 |
| ASEP | 1945 | | Registered | 1287180 04-Jul-1980 | 386,374 08-Jan-1986 |
| AS&E Country United States of America | 1945 | 1945.201 | Registered | 73046,549 13-Mar-1975 | 1,120,895 26-Jun-1979 |
| MICRO-DOSE Country Canada | 1945 | 1945.203 | Registered | 373,607 19-Mar-1974 | 230,151 08-Sep-1978 |
| MICRO-DOSE Country Italy | 1945 | 1945.203 | Registered | 78,19617 06-Jul-1978 | 357,554 06-Jul-1978 |
| MICRO-DOSE Country United States of America | 1945 | 1945.203 | Registered | 73009,973 02-Jan-1974 | 1,602,673 28-Jan-1975 |
| MICRODOSE Country Italy | 1945 | 1945.207 | Registered | 94,9747 26-Oct-1994 | 700,157 30-Dec-1996 |
| MICRO-DOSE Z Country Japan | 1945 | | Registered | 562-085857 29-Jul-1987 | 2699074 30-Nov-1994 |
| MICRO-DOSE ZT Country Japan | 1945 | | Registered | H01-051363 09-May-1989 | 2716895 31-Oct-1996 |
| MICRO-DOSE ZZ Country Japan | 1945 | | Registered | S62-108719 29-Sep-1987 | 2699075 30-Nov-1994 |
| SE | 1945 | | Published | 76/051582 18-May-2000 | |

Registered Trademark List

| Trademark Name | Client | Docket Number | Status | Application No / Filing Date | Registration No / Registration Date |
|--|--------|---------------|------------|------------------------------|-------------------------------------|
| SHAPED ENERGY | 1945 | | Published | 76/051,575 18-May-2000 | |
| SHAPED ENERGY Country China | 1945 | 1945.210 | Registered | 2000178132 17-Nov-2000 | 1915786 28-Aug-2002 |
| SHAPED ENERGY Country European Community | 1945 | 1945.210 | Registered | 001938729 03-Nov-2000 | 1938729 23-Jan-2002 |
| SHAPED ENERGY Country Japan | 1945 | 1945.210 | Registered | 2000-124689 17-Nov-2000 | 4477626 25-May-2001 |
| SHAPED ENERGY Country China | 1945 | 1945.212 | Registered | 2000178133 17-Nov-2000 | 1769839 14-May-2002 |
| SHAPED ENERGY Country China | 1945 | 1945.213 | Registered | 2000179601 20-Nov-2000 | 1725029 07-Mar-2002 |
| SHAPED ENERGY Country China | 1945 | 1945.214 | Registered | 2000179602 20-Nov-2000 | 1779460 28-May-2002 |
| Z (stylized) Country United States of America | 1945 | 1945.204 | Registered | 73/603,798 12-Jun-1986 | 1,439,038 12-May-1987 |
| ZZ Country United States of America | 1945 | 1945.205 | Registered | 73/658,907 04-May-1987 | 1,476,637 16-Feb-1988 |

Exhibit "D" attached to that certain Intellectual Property Security Agreement dated 8/11, 2003.

EXHIBIT "D"

MASK WORKS

| <u>MASK WORK</u> <u>DESCRIPTION</u> | <u>COUNTRY</u> | <u>SERIAL NO.</u> | <u>REG. NO.</u> | <u>STATUS</u> |
|--|----------------|-------------------|-----------------|---------------|
|--|----------------|-------------------|-----------------|---------------|

NONE

is attached to that certain Intellectual Property Security Agreement dated 8/11, 2003.

EXHIBIT "E"

LICENSES

NONE