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UNITED STATES PATENT AND TRADEMARK OFFICE

RECORDATION FORM COVER SHEET

PATENTS ONLY

To the Honorable Commissioner of Patents and Trademarks:

Please record the attached original document or copy thereof.

1. Name and address of conveying party:

ASTI Operating Company, Inc.
520 Clyde Avenue
Mountain View, CA 94043

a Delaware corporation

2. Name and address of receiving party:

Fleet National Bank, as Agent
100 Federal Street
Boston, MA 02110

3. Nature of conveyance: Patent Assignment and Security Agreement

Execution date: July 31, 2000

4. Application numbers and registration numbers:

A. Patent numbers:

See Schedule A attached hereto.

B. Patent application numbers:

See Schedule A attached hereto.

5. Name and address of party to whom correspondence concerning document should be mailed:

Sandra J. Vrejan, Esq.
Bingham Dana LLP
150 Federal Street
Boston, Massachusetts 02110

6. Total number of applications and patents involved: 9

7. Total fee enclosed: \$360.00

09/13/2000 NGUYEN 00000310 09254521

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360.00 DP

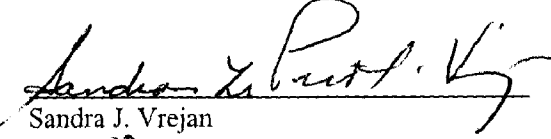
BUSDOCS:888689.1

PATENT
REEL: 011052 FRAME: 0572

8. Deposit account number: Not applicable

9. Statement and signature:

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.


Sandra J. Vrejan
August 20, 2000

Total number of pages submitted (including cover sheet and any attached Schedules, and conveyance document and any attached Schedules): 19

Mail documents to be recorded with required cover sheet information to:

U.S. Patent and Trademark Office
Office of Public Records
Crystal Gateway 4, Room 335
Washington, D.C. 20231

**SCHEDULE A TO PATENT ASSIGNMENT
AND SECURITY AGREEMENT**

CLASS 1 INTANGIBLE PROPERTY

| SELLER PARTY | PATENT APPLICATION NO. | ITEM | DATE ISSUED OR FILED | STATUS |
|--|---------------------------------------|------------------------------------|--------------------------|-----------------------------|
| Bio-Rad Micromasurements Limited | US App. No. 09/254,521 | Micro defects in semiconductors | Not readily available | Pending and transferable |
| Bio-Rad Micromasurements Limited | European App. No. 94939042.4 | Micro defects in semiconductors | Not readily available | Pending and transferable |
| Bio-Rad Micromasurements Limited | South Korea App. No. 99-7001700 | Micro defects in semiconductors | Not readily available | Pending and transferable |
| Bio-Rad Micromasurements Limited | Japanese App. No. H10-513344 | Micro defects in semiconductors | Not readily available | Pending and transferable |
| Bio-Rad Micromasurements Limited | PCT App. No. GB97/02388 | Micro defects in semiconductors | Not readily available | Pending and transferable |

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CLASS 2 INTANGIBLE PROPERTY**PATENTS**

| SELLER PARTY | PATENT/ APPLICATION NO. | ITEM | DATE ISSUED OR FILED | STATUS |
|---------------------------------|-------------------------------|---|----------------------------|-----------------------------|
| Bio-Rad Laboratories Inc. | US 4,710,642 | Optical scatterometer having improved sensitivity and bandwidth | 12/01/87 | Issued and transferable |
| Bio-Rad Laboratories Inc. | US 5,241,369 | Two-dimensional optical scatterometer apparatus and process | 08/31/93 | Issued and transferable |
| Bio-Rad Laboratories, Inc. | US 5,703,692 | Lens scatterometer system employing source light beam scanning means | 12/30/97 | Issued and transferable |
| Bio-Rad Microscience Limited | US 5,797,114 | Method and apparatus for mapping of semiconductor materials | 08/18/98 | Issued and transferable |
| Bio-Rad Laboratories, Inc. | US 5,867,276 | Method for broad wavelength scatterometry | 02/02/99 | Issued and transferable |
| Bio-Rad Laboratories, Inc. | GB 2,276,462 | Method and apparatus for mapping semiconductor materials | 01/22/97 | Issued and transferable |
| Bio-Rad Laboratories, Inc. | PCT GB94/00603 | Method and apparatus for mapping semiconductor materials | 3/23/94 | Pending and transferable |
| Bio-Rad Laboratories, Inc. | Japan App. No. 520829/94 | Method and apparatus for mapping semiconductor materials | 3/23/94 | Pending and transferable |

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PATENTS LICENSED TO BIO-RAD LABORATORIES, INC.

| LICENSOR | PATENT NO. | ITEM | DATE ISSUED OR FILED | STATUS |
|----------------------------------|---|---|---|--|
| Cherkassky | US Provisional Patent Serial No. 60/082,639 | Method and apparatus for nondestructive determination of film thickness and dopant concentration using fourier transform infra-red spectrometry | 4/21/98 | Pending and Assignable |
| Cherkassky | US App. No. 09/294,247 | Method and apparatus for nondestructive determination of film thickness and dopant concentration using fourier transform infra-red spectrometry | 4/19/99 | Pending and Assignable |
| Cherkassky | PCT US99/08721 | Method and apparatus for nondestructive determination of film thickness and dopant concentration using fourier transform infra-red spectrometry | 4/20/99 | Pending and Assignable |
| British Technology Group Ltd. | GB No. 2119520 | | 04/24/83 | Issued, consent needed to transfer |
| British Technology Group Ltd. | Canada No. 1207083 | Applied Potential Tomography | Issued on 07/02/86 Filed on 04/29/83 | Issued, consent needed to transfer |
| British Technology Group Ltd. | Japan App. No. 83/074178 | | 04/28/83 | Issued, consent needed to transfer |
| British Technology Group Ltd. | US Patent No. 4617939 | Tomography | 10/21/86 | Issued, consent needed to transfer |

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PATENT ASSIGNMENT AND SECURITY AGREEMENT

PATENT ASSIGNMENT AND SECURITY AGREEMENT dated as of July 31 2000, between **ASTI OPERATING COMPANY, INC.**, a Delaware corporation having its principal place of business at 520 Clyde Avenue, Mountain View, California 94043, (the "Assignor"), and **FLEET NATIONAL BANK**, a national banking association having an office at 100 Federal Street, Boston, Massachusetts 02110, as agent (hereinafter, in such capacity, the "Agent") for itself and other lending institutions (hereinafter, collectively, the "Banks") which are, or may in the future become parties to a Revolving Credit and Term Loan Agreement, dated as of July 31, 2000 (as amended and in effect from time to time, the "Credit Agreement"), among the Assignor, Accent Semiconductor Technologies (Switzerland) GmbH (collectively with the Assignor, the "Borrowers"), Accent Semiconductor Technologies, Inc. (formerly known as Disruptive Semiconductor Technologies, Inc., the Banks and the Agent.

WHEREAS, it is a condition precedent to the Banks making any loans or otherwise extending credit to the Borrowers under the Credit Agreement that the Assignor execute and deliver to the Agent, for the benefit of the Banks and the Agent, a patent agreement in substantially the form hereof;

WHEREAS, the Assignor has executed and delivered to the Agent, for the benefit of the Banks and the Agent, the Security Agreement (as defined in the Credit Agreement), pursuant to which the Assignor has granted to the Agent, for the benefit of the Banks and the Agent, a security interest in certain of the Assignor's personal property and fixture assets, including without limitation the patents and patent applications listed on Schedule A attached hereto, all to secure the payment and performance of the Obligations (as defined in the Credit Agreement); and

WHEREAS, this Patent Agreement is supplemental to the provisions contained in the Security Agreement;

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

1. DEFINITIONS.

Capitalized terms used herein and not otherwise defined herein shall have the respective meanings provided therefor in the Credit Agreement and the Security Agreement. In addition, the following terms shall have the meanings set forth in this §1 or elsewhere in this Patent Agreement referred to below:

Patent Agreement. This Patent Assignment and Security Agreement, as amended and in effect from time to time.

Patent Collateral. All of the Assignor's right, title and interest in and to all of the Patents, the Patent License Rights, and all other Patent Rights, and all additions, improvements, and accessions to, all substitutions for and replacements of, and all products and Proceeds (including insurance proceeds) of any and all of the foregoing, and all books and records and technical information and data describing or used in connection with any and all such rights, interests, assets or property.

Patent License Rights. Any and all past, present or future rights and interests of the Assignor pursuant to any and all past, present and future licensing agreements in favor of the Assignor, or to which the Assignor is a party, pertaining to any Patents, or Patent Rights, owned or used by third parties in the past, present or future, including the right in the name of the Assignor or the Agent to enforce, and sue and recover for, any past, present or future breach or violation of any such agreement.

Patent Rights. Any and all past, present or future rights in, to and associated with the Patents throughout the world, whether arising under federal law, state law, common law, foreign law, or otherwise, including but not limited to the following: all such rights arising out of or associated with the Patents; the right (but not the obligation) to register claims under any federal, state or foreign patent law or regulation; the right (but not the obligation) to sue or bring opposition or bring cancellation proceedings in the name of the Assignor or the Agent for any and all past, present and future infringements of or any other damages or injury to the Patents or the Patent Rights, and the rights to damages or profits due or accrued arising out of or in connection with any such past, present or future infringement, damage or injury; and the Patent License Rights.

Patents. All patents and patent applications, whether United States or foreign, that are owned by the Assignor or in which the Assignor has any right, title or interest, now or in the future, including but not limited to:

- (a) the patents and patent applications listed on Schedule A hereto (as the same may be amended pursuant hereto from time to time);
- (b) all letters patent of the United States or any other country, and all applications for letters patent of the United States or any other country;
- (c) all re-issues, continuations, divisions, continuations-in-part, renewals or extensions thereof;
- (d) the inventions disclosed or claimed therein, including the right to make, use, practice and/or sell (or license or otherwise transfer or dispose of) the inventions disclosed or claimed therein; and
- (e) the right (but not the obligation) to make and prosecute applications for such Patents.

Proceeds. Any consideration received from the sale, exchange, license, lease or other disposition or transfer of any right, interest, asset or property which constitutes all or any part of the Patent Collateral, any value received as a consequence of the ownership, possession, use or practice of any Patent Collateral, and any payment received from any insurer or other person or entity as a result of the destruction or the loss, theft or other involuntary conversion of whatever nature of any right, interest, asset or property which constitutes all or any part of the Patent Collateral.

PTO. The United States Patent and Trademark Office.

2. GRANT OF SECURITY INTEREST.

To secure the payment and performance in full of all of the Obligations, the Assignor hereby grants, assigns, transfers and conveys to the Agent, for the benefit of the Banks and the Agent, BY WAY OF COLLATERAL SECURITY, all of the Patent Collateral. NEITHER THE AGENT NOR ANY OF THE BANKS ASSUMES ANY LIABILITY ARISING IN ANY WAY BY REASON OF ITS HOLDING SUCH COLLATERAL SECURITY.

3. REPRESENTATIONS, WARRANTIES AND COVENANTS.

The Assignor represents, warrants and covenants that: (a) Schedule A attached hereto sets forth a true and complete list of all the patents, rights to patents and patent applications now owned, licensed, controlled or used by the Assignor; (b) the issued Patents are subsisting and have not been adjudged invalid or unenforceable, in whole or in part, and there is no litigation or proceeding pending concerning the validity or enforceability of the issued Patents; (c) to the best of the Assignor's knowledge, each of the issued Patents is valid and enforceable; (d) to the best of the Assignor's knowledge, there is no infringement by others of the issued Patents or Patent Rights; (e) no claim has been made that the use of any of the Patents does or may violate the rights of any third person, and to the best of the Assignor's knowledge there is no infringement by the Assignor of the patent rights of others; (f) the Assignor is the sole and exclusive owner of the entire and unencumbered right, title and interest in and to each of the Patents (other than ownership and other rights reserved by third party owners with respect to Patents which the Assignor is licensed to practice or use), free and clear of any liens, charges, encumbrances and adverse claims, including without limitation pledges, assignments, licenses, shop rights and covenants by the Assignor not to sue third persons, other than the security agreement and mortgage created by the Security Agreement and this Patent Agreement; (g) the Assignor has the unqualified right to enter into this Patent Agreement and perform its terms; (h) this Patent Agreement, together with the Security Agreement, will create in favor of the Agent, for the benefit of the Banks, a valid and perfected first priority security interest in the Patent Collateral upon making the filings referred to in clause (i) of this §3; and (i) except for the filing of financing statements with the Secretary of State for the State of California under the Uniform Commercial Code and the filing of this Patent Agreement with the PTO, no authorization, approval or other action by, and no notice to or filing with, any governmental or regulatory authority, agency or office is required either (i) for the grant by the Assignor or the

effectiveness of the security interest and assignment granted hereby or for the execution, delivery and performance of this Patent Agreement by the Assignor, or (ii) for the perfection of or the exercise by the Agent of any of its rights and remedies hereunder.

4. NO TRANSFER OR INCONSISTENT AGREEMENTS.

Without the Agent's prior written consent and except for licenses of the Patent Collateral in the ordinary course of the Assignor's business consistent with its past practices, the Assignor will not (a) mortgage, pledge, assign, encumber, grant a security interest in, transfer, license or alienate any of the Patent Collateral, except as expressly permitted by the Credit Agreement, or (b) enter into any agreement (for example, a license agreement) that is inconsistent with the Assignor's obligations under this Patent Agreement or the Security Agreement.

5. AFTER-ACQUIRED PATENTS, ETC.

5.1. After-acquired Patents. If, before the Obligations shall have been finally paid and satisfied in full, the Assignor shall obtain any right, title or interest in or to any other or new patents, patent applications or patentable inventions, or become entitled to the benefit of any patent application or patent or any reissue, division, continuation, renewal, extension, or continuation-in-part of any of the Patent Collateral or any improvement on any of the Patent Collateral, the provisions of this Patent Agreement shall automatically apply thereto and the Assignor shall promptly give to the Agent notice thereof in writing and execute and deliver to the Agent such documents or instruments as the Agent may reasonably request further to transfer title thereto to the Agent, for the benefit of the Banks and the Agent.

5.2. Amendment to Schedule. The Assignor authorizes the Agent to modify this Patent Agreement, without the necessity of the Assignor's further approval or signature, by amending Schedule A hereto to include any future or other Patents or Patent Rights under §2 or §5 hereof.

6. PATENT PROSECUTION.

6.1. Assignor Responsible. The Assignor shall assume full and complete responsibility for the prosecution, grant, enforcement or any other necessary or desirable actions in connection with the Patent Collateral, and shall hold the Agent and the Banks harmless from any and all costs, damages, liabilities and expenses which may be incurred by the Agent or any of the Banks in connection with the Agent's title to any of the Patent Collateral or any other action or failure to act in connection with this Patent Agreement or the transactions contemplated hereby. In respect of such responsibility, after the occurrence and during the continuation of any Event of Default, the Assignor shall retain patent counsel acceptable to the Agent.

6.2. Assignor's Duties, etc. The Assignor shall have the duty, through patent counsel acceptable to the Agent, to prosecute diligently any patent applications of the Patents pending as of the date of this Patent Agreement or thereafter, to make

application for unpatented but reasonably patentable inventions and to preserve and maintain all rights in the Patents, including without limitation the payment when due of all maintenance fees and other fees, taxes and other expenses which shall be incurred or which shall accrue with respect to any of the Patents. Any expenses incurred in connection with such applications and actions shall be borne by the Assignor. The Assignor shall not abandon any filed patent application, or any pending patent application or patent, without the consent of the Agent, which consent shall not be unreasonably withheld. The Agent hereby appoints the Assignor as its agent for all matters referred to in the foregoing provisions of this §6 and agrees to execute any documents necessary to confirm such appointment. Upon the occurrence and during the continuance of an Event of Default, the Agent may terminate such agency by providing written notice of termination to the Assignor. Notwithstanding anything to the contrary contained in this §6.2, so long as no Event of Default has occurred and is continuing, nothing in this §6.2 shall require the Assignor to obtain the Agent's consent to the selection of any patent counsel, to prosecute any patent applications, to make an application for unpatented inventions, to preserve and maintain all rights in the Patents and not abandon any patent application or patent if the taking of such action is not in the Assignor's reasonable judgment desirable in the conduct of its business and the failure to take such action does not have a materially adverse effect on the business, assets or financial condition of the Assignor and its Subsidiaries, taken as a whole.

6.3. Assignor's Enforcement Rights. The Assignor shall have the right, with the consent of the Agent which shall not be unreasonably withheld, to bring suit or other action in the Assignor's own name to enforce the Patents and the Patent Rights; provided, however, so long as no Event of Default shall have occurred and is continuing, nothing in this §6.3 shall require the Assignor to take such action if the taking of such action is not in the Assignor's reasonable judgment desirable in the conduct of its business and the failure to take such action does not have a materially adverse effect on the business, assets or financial condition of the Assignor and its Subsidiaries, taken as a whole. The Agent shall be required to join in such suit or action as may be necessary to assure the Assignor's ability to bring and maintain any such suit or action in any proper forum so long as the Agent is completely satisfied that such joinder will not subject the Agent or any of the Banks to any risk of liability. The Assignor shall promptly, upon demand, reimburse and indemnify the Agent and the Banks for all damages, costs and expenses, including legal fees, incurred by the Agent and any of the Banks pursuant to this §6.

6.4. Protection of Patents, etc. In general, the Assignor shall take any and all such actions (including but not limited to institution and maintenance of suits, proceedings or actions) as may be necessary or appropriate to properly maintain, protect, preserve, care for and enforce the Patent Collateral. The Assignor shall not take or fail to take any action, nor permit any action to be taken or not taken by others under its control, which would affect the validity, grant or enforcement of any of the Patent Collateral. Notwithstanding anything to the contrary contained in this §6.4, so long as no Event of Default shall have occurred and is continuing, nothing in this §6.4 shall require the Assignor to take any action or not take any action, as the case may be, if such

requirement is not in the Assignor's reasonable judgment desirable in the conduct of its business and the failure to take such action or not take such action, as the case may be, does not have a materially adverse effect on the business, assets or financial condition of the Assignor and its Subsidiaries, taken as a whole.

6.5. Notification by Assignor. Promptly upon obtaining knowledge thereof, the Assignor will notify the Agent in writing of the institution of, or any final adverse determination in, any proceeding in the PTO or any similar office or agency of the United States or any foreign country, or any court, regarding the validity of any of the Patents or the Assignor's rights, title or interests in and to any of the Patent Collateral, and of any event which does or reasonably could materially adversely affect the ability of the Assignor or the Agent to dispose of any of the Patent Collateral or the rights and remedies of the Agent and the Banks in relation thereto (including but not limited to the levy of any legal process against any of the Patent Collateral).

7. LICENSE BACK TO ASSIGNOR.

Unless and until there shall have occurred and be continuing an Event of Default and the Agent has notified the Assignor that the license granted hereunder is terminated, the Agent hereby grants to the Assignor the sole and exclusive, nontransferable, royalty-free, worldwide right and license under the Patents to make, have made for it, use, sell and otherwise practice the inventions disclosed and claimed in the Patents for the Assignor's own benefit and account and for none other; provided, however, that the foregoing right and license shall be no greater in scope than, and limited by, the rights assigned to the Agent, for the benefit of the Banks and the Agent, by the Assignor hereby. The Assignor agrees not to sell, assign, transfer, encumber or sublicense its interest in the license granted to the Assignor in this §7, without the prior written consent of the Agent. Any such sublicenses granted on or after the date hereof shall be terminable by the Agent upon termination of the Assignor's license hereunder.

8. REMEDIES.

If any Event of Default shall have occurred and be continuing, then at the discretion of the Agent, or upon instructions by the Majority Banks to the Agent, and upon notice by the Agent to the Assignor: (a) the Assignor's license with respect to the Patents as set forth in §7 shall terminate; (b) the Assignor shall immediately cease and desist from the practice, manufacture, use and sale of the inventions claimed, disclosed or covered by the Patents; and (c) the Agent shall have, in addition to all other rights and remedies given it by this Patent Agreement, the Credit Agreement, the Security Agreement, and the other Loan Documents, those allowed by law and the rights and remedies of a secured party under the Uniform Commercial Code as enacted in the Commonwealth of Massachusetts and, without limiting the generality of the foregoing, the Agent may immediately, without demand of performance and without other notice (except as set forth next below) or demand whatsoever to the Assignor, all of which are hereby expressly waived, and without advertisement, sell or license at public or private sale or otherwise realize upon the whole or from time to time any part of the Patent Collateral, or any interest which the Assignor may have therein, and after deducting

from the proceeds of sale or other disposition of the Patent Collateral all expenses (including all reasonable expenses for broker's fees and legal services), shall apply the residue of such proceeds toward the payment of the Obligations as set forth in the Security Agreement. Notice of any sale, license or other disposition of any of the Patent Collateral shall be given to the Assignor at least five (5) days before the time that any intended public sale or other disposition of such Patent Collateral is to be made or after which any private sale or other disposition of such Patent Collateral may be made, which the Assignor hereby agrees shall be reasonable notice of such public or private sale or other disposition. At any such sale or other disposition, the Agent may, to the extent permitted under applicable law, purchase or license the whole or any part of the Patent Collateral or interests therein sold, licensed or otherwise disposed of.

9. COLLATERAL PROTECTION.

If the Assignor shall fail to do any act that it has covenanted to do hereunder, or if any representation or warranty of the Assignor shall be breached, the Agent, in its own name or that of the Assignor (in the sole discretion of the Agent), may (but shall not be obligated to) do such act or remedy such breach (or cause such act to be done or such breach to be remedied), and the Assignor agrees promptly to reimburse the Agent for any cost or expense incurred by the Agent in so doing.

10. POWER OF ATTORNEY.

If any Event of Default shall have occurred and be continuing, the Assignor does hereby make, constitute and appoint the Agent (and any officer or agent of the Agent as the Agent may select in its exclusive discretion) as the Assignor's true and lawful attorney-in-fact, with the power to endorse the Assignor's name on all applications, documents, papers and instruments necessary for the Agent to use any of the Patent Collateral, to practice, make, use or sell the inventions disclosed or claimed in any of the Patent Collateral, to grant or issue any exclusive or nonexclusive license of any of the Patent Collateral to any third person, or necessary for the Agent to assign, pledge, convey or otherwise transfer title in or dispose of the Patent Collateral or any part thereof or interest therein to any third person, and, in general, to execute and deliver any instruments or documents and do all other acts which the Assignor is obligated to execute and do hereunder. The Assignor hereby ratifies all that such attorney shall lawfully do or cause to be done by virtue hereof, and releases the Agent from any claims, liabilities, causes of action or demands arising out of or in connection with any action taken or omitted to be taken by the Agent under this power of attorney (except for the Agent's gross negligence or willful misconduct). This power of attorney shall be irrevocable for the duration of this Patent Agreement.

11. FURTHER ASSURANCES.

The Assignor shall, at any time and from time to time, and at its expense, make, execute, acknowledge and deliver, and file and record as necessary or appropriate with governmental or regulatory authorities, agencies or offices, such agreements, assignments, documents and instruments, and do such other and further acts and things

(including, without limitation, obtaining consents of third parties), as the Agent may request or as may be necessary or appropriate in order to implement and effect fully the intentions, purposes and provisions of this Patent Agreement, or to assure and confirm to the Agent the grant, perfection and priority of the Agent's security interest in any of the Patent Collateral.

12. TERMINATION.

At such time as all of the Obligations have been finally paid and satisfied in full, this Patent Agreement shall terminate and the Agent shall, upon the written request and at the expense of the Assignor, execute and deliver to the Assignor all deeds, assignments and other instruments as may be necessary or proper to reassign and reconvey to and re-vest in the Assignor the entire right, title and interest to the Patent Collateral previously granted, assigned, transferred and conveyed to the Agent and the Banks by the Assignor pursuant to this Patent Agreement, as fully as if this Patent Agreement had not been made, subject to any disposition of all or any part thereof which may have been made by the Agent and the Banks pursuant hereto or the Security Agreement.

13. COURSE OF DEALING.

No course of dealing among the Assignor, the Banks and the Agent, nor any failure to exercise, nor any delay in exercising, on the part of the Agent or any of the Banks, any right, power or privilege hereunder or under the Security Agreement shall operate as a waiver thereof; nor shall any single or partial exercise of any right, power or privilege hereunder or thereunder preclude any other or further exercise thereof or the exercise of any other right, power or privilege.

14. EXPENSES.

Any and all fees, costs and expenses, of whatever kind or nature, including the reasonable attorneys' fees and legal expenses incurred by the Agent in connection with the preparation of this Patent Agreement and all other documents relating hereto, the consummation of the transactions contemplated hereby or the enforcement hereof, the filing or recording of any documents (including all taxes in connection therewith) in public offices, the payment or discharge of any taxes, counsel fees, maintenance fees, encumbrances or otherwise protecting, maintaining or preserving any of the Patent Collateral, or in defending or prosecuting any actions or proceedings arising out of or related to any of the Patent Collateral, shall be borne and paid by the Assignor.

15. OVERDUE AMOUNTS.

Until paid, all amounts due and payable by the Assignor hereunder shall be a debt secured by the Patent Collateral and other Collateral and shall bear, whether before or after judgment, interest at the rate of interest for overdue principal set forth in the Credit Agreement.

16. NO ASSUMPTION OF LIABILITY; INDEMNIFICATION.

NOTWITHSTANDING ANYTHING TO THE CONTRARY CONTAINED HEREIN, NEITHER THE AGENT NOR ANY BANK ASSUMES ANY LIABILITIES OF THE ASSIGNOR WITH RESPECT TO ANY CLAIM OR CLAIMS REGARDING THE ASSIGNOR'S OWNERSHIP OR PURPORTED OWNERSHIP OF, OR RIGHTS OR PURPORTED RIGHTS ARISING FROM, ANY OF THE PATENT COLLATERAL OR ANY PRACTICE, USE, LICENSE OR SUBLICENSE THEREOF, OR ANY PRACTICE, MANUFACTURE, USE OR SALE OF ANY OF THE INVENTIONS DISCLOSED OR CLAIMED THEREIN, WHETHER ARISING OUT OF ANY PAST, CURRENT OR FUTURE EVENT, CIRCUMSTANCE, ACT OR OMISSION OR OTHERWISE. ALL OF SUCH LIABILITIES SHALL BE EXCLUSIVELY BORNE BY THE ASSIGNOR, AND THE ASSIGNOR SHALL INDEMNIFY THE AGENT AND THE BANKS FOR ANY AND ALL COSTS, EXPENSES, DAMAGES AND CLAIMS, INCLUDING LEGAL FEES, INCURRED BY THE AGENT OR ANY BANK WITH RESPECT TO SUCH LIABILITIES.

17. RIGHTS AND REMEDIES CUMULATIVE.

All of the Agent's and the Banks' rights and remedies with respect to the Patent Collateral, whether established hereby or by the Security Agreement or by any other agreements or by law, shall be cumulative and may be exercised singularly or concurrently. This Patent Agreement is supplemental to the Security Agreement, and nothing contained herein shall in any way derogate from any of the rights or remedies of the Agent and the Banks contained therein. Nothing contained in this Patent Agreement shall be deemed to extend the time of attachment or perfection of or otherwise impair the security interest in any of the Patent Collateral granted to the Agent for the benefit of the Banks and the Agent under the Security Agreement.

18. NOTICES.

All notices and other communications made or required to be given pursuant to this Patent Agreement shall be made and effective in the manner set forth in §21 of the Credit Agreement, or at such other address as may be set forth or in a notice from the notifying party to the other parties hereunder.

19. AMENDMENT AND WAIVER.

This Patent Agreement is subject to modification only by a writing signed by the Agent (with the consent of the Majority Banks) and the Assignor, except as provided in §5.2. The Agent shall not be deemed to have waived any right hereunder unless such waiver shall be in writing and signed by the Agent and the Majority Banks. A waiver on any one occasion shall not be construed as a bar to or waiver of any right on any future occasion.

20. GOVERNING LAW; CONSENT TO JURISDICTION.

THIS PATENT AGREEMENT IS INTENDED TO TAKE EFFECT AS A SEALED INSTRUMENT AND SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS. The Assignor agrees that any suit for the enforcement of this Patent Agreement may be brought in the courts of the Commonwealth of Massachusetts or any federal court sitting therein and consents to the non-exclusive jurisdiction of such court and to service of process in any such suit being made upon the Assignor by mail at the address specified in §18. The Assignor hereby waives any objection that it may now or hereafter have to the venue of any such suit or any such court or that such suit is brought in an inconvenient court.

21. WAIVER OF JURY TRIAL.


THE ASSIGNOR WAIVES ITS RIGHT TO A JURY TRIAL WITH RESPECT TO ANY ACTION OR CLAIM ARISING OUT OF ANY DISPUTE IN CONNECTION WITH THIS PATENT AGREEMENT, ANY RIGHTS OR OBLIGATIONS HEREUNDER OR THE PERFORMANCE OF ANY SUCH RIGHTS OR OBLIGATIONS. Except as prohibited by law, the Assignor waives any right which it may have to claim or recover in any litigation referred to in the preceding sentence any special, exemplary, punitive or consequential damages or any damages other than, or in addition to, actual damages. The Assignor (a) certifies that neither the Agent or any Bank nor any representative, agent or attorney of the Agent or any Bank has represented, expressly or otherwise, that the Agent or any Bank would not, in the event of litigation, seek to enforce the foregoing waivers, and (b) acknowledges that, in entering into the Credit Agreement and the other Loan Documents to which the Agent or any Bank is a party, the Agent and the Banks are relying upon, among other things, the waivers and certifications contained in this §21.

22. MISCELLANEOUS.

The headings of each section of this Patent Agreement are for convenience only and shall not define or limit the provisions thereof. This Patent Agreement and all rights and obligations hereunder shall be binding upon the Assignor and its respective successors and assigns, and shall inure to the benefit of the Agent, the Banks and their respective successors and assigns. In the event of any irreconcilable conflict between the provisions of this Patent Agreement and the Credit Agreement, or between this Patent Agreement and the Security Agreement, the provisions of the Credit Agreement or the Security Agreement, as the case may be, shall control. If any term of this Patent Agreement shall be held to be invalid, illegal or unenforceable, the validity of all other terms hereof shall in no way be affected thereby, and this Patent Agreement shall be construed and be enforceable as if such invalid, illegal or unenforceable term had not been included herein.

IN WITNESS WHEREOF, this Patent Agreement has been executed as of the day and year first above written.

ASTI OPERATING COMPANY, INC.

By: 
Name:
Title:

FLEET NATIONAL BANK, as Agent

By: _____
Name:
Title:

IN WITNESS WHEREOF, this Patent Agreement has been executed as of the day and year first above written.

ASTI OPERATING COMPANY, INC.

By: _____

Name:

Title:

FLEET NATIONAL BANK, as Agent

By: Sharon A. Stone

Name: Sharon A. Stone

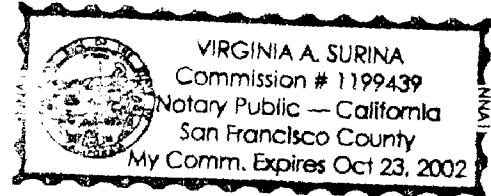
Title: Director

CERTIFICATE OF ACKNOWLEDGMENT

COMMONWEALTH OR STATE OF California)
COUNTY OF San Francisco) ss.

Before me, the undersigned, a Notary Public in and for the county aforesaid, on this 27 day of July, 2000, personally appeared Lydia C. Kuan to me known personally, and who, being by me duly sworn, deposes and says that he/she is the President of ASTI Operating Company, Inc., and that said instrument was signed and sealed on behalf of said corporation by authority of its Board of Directors, and said President acknowledged said instrument to be the free act and deed of said corporation.

Virginia A. Surina
Notary Public
My commission expires:



**SCHEDULE A TO PATENT ASSIGNMENT
AND SECURITY AGREEMENT**

CLASS 1 INTANGIBLE PROPERTY

| SELLER PARTY | PATENT APPLICATION NO. | ITEM | DATE ISSUED OR FILED | STATUS |
|----------------------------------|---------------------------------|---------------------------------|-----------------------|--------------------------|
| Bio-Rad Micromasurements Limited | US App. No. 09/254,521 | Micro defects in semiconductors | Not readily available | Pending and transferable |
| Bio-Rad Micromasurements Limited | European App. No. 94939042.4 | Micro defects in semiconductors | Not readily available | Pending and transferable |
| Bio-Rad Micromasurements Limited | South Korea App. No. 99-7001700 | Micro defects in semiconductors | Not readily available | Pending and transferable |
| Bio-Rad Micromasurements Limited | Japanese App. No. H10-513344 | Micro defects in semiconductors | Not readily available | Pending and transferable |
| Bio-Rad Micromasurements Limited | PCT App. No. GB97/02388 | Micro defects in semiconductors | Not readily available | Pending and transferable |

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CLASS 2 INTANGIBLE PROPERTY

PATENTS

| SELLER PARTY | PATENT/ APPLICATION NO. | ITEM | DATE ISSUED OR FILED | STATUS |
|---------------------------------|-------------------------------|---|----------------------------|-----------------------------|
| Bio-Rad Laboratories Inc. | US 4,710,642 | Optical scatterometer having improved sensitivity and bandwidth | 12/01/87 | Issued and transferable |
| Bio-Rad Laboratories Inc. | US 5,241,369 | Two-dimensional optical scatterometer apparatus and process | 08/31/93 | Issued and transferable |
| Bio-Rad Laboratories, Inc. | US 5,703,692 | Lens scatterometer system employing source light beam scanning means | 12/30/97 | Issued and transferable |
| Bio-Rad Microscience Limited | US 5,797,114 | Method and apparatus for mapping of semiconductor materials | 08/18/98 | Issued and transferable |
| Bio-Rad Laboratories, Inc. | US 5,867,276 | Method for broad wavelength scatterometry | 02/02/99 | Issued and transferable |
| Bio-Rad Laboratories, Inc. | GB 2,276,462 | Method and apparatus for mapping semiconductor materials | 01/22/97 | Issued and transferable |
| Bio-Rad Laboratories, Inc. | PCT GB94/00603 | Method and apparatus for mapping semiconductor materials | 3/23/94 | Pending and transferable |
| Bio-Rad Laboratories, Inc. | Japan App. No. 520829/94 | Method and apparatus for mapping semiconductor materials | 3/23/94 | Pending and transferable |

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PATENTS LICENSED TO BIO-RAD LABORATORIES, INC.

| LICENSOR | PATENT NO. | ITEM | DATE ISSUED OR FILED | STATUS |
|----------------------------------|---|---|---|--|
| Cherkassky | US Provisional Patent Serial No. 60/082,639 | Method and apparatus for nondestructive determination of film thickness and dopant concentration using fourier transform infra-red spectrometry | 4/21/98 | Pending and Assignable |
| Cherkassky | US App. No. 09/294,247 | Method and apparatus for nondestructive determination of film thickness and dopant concentration using fourier transform Infra-red spectrometry | 4/19/99 | Pending and Assignable |
| Cherkassky | PCT US99/08721 | Method and apparatus for nondestructive determination of film thickness and dopant concentration using fourier transform Infra-red spectrometry | 4/20/99 | Pending and Assignable |
| British Technology Group Ltd. | GB No. 2119520 | | 04/24/83 | Issued, consent needed to transfer |
| British Technology Group Ltd. | Canada No. 1207083 | Applied Potential Tomography | Issued on 07/02/86 Filed on 04/29/83 | Issued, consent needed to transfer |
| British Technology Group Ltd. | Japan App. No. 83/074178 | | 04/28/83 | Issued, consent needed to transfer |
| British Technology Group Ltd. | US Patent No. 4617939 | Tomography | 10/21/86 | Issued, consent needed to transfer |

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