

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

1. **Submission Type**

New

Restubmission (Non-Recordation)
Document ID # _____

Correction of PTO Error
Reel # _____ Frame # _____

Corrective Document
Reel # _____ Frame # _____

2. **Name and address of receiving party:**
Name: **U.S. Trust Company of New York**
DBA/AKA/TA: _____
Address: **114 W. 47th Street**
City: **New York** State: **NY** Zip: **10036**

Individual Corporation
 Association Limited Partnership
 General Partnership Other

3. **Name of Conveying Party:**
Name: **Phase Metrics, Inc.**
Formerly: _____

Execution Date: MONTH DAY YEAR
Execution Date: **05 31 00**

Individual(s) Association
 General Partnership Limited Partnership
 Corporation Other _____
 Citizenship/State of Incorporation/Organization: **Delaware**

Additional name(s) of conveying parties attached? Yes No

Citizenship/State of Incorporation: **New York**

Additional name(s) of receiving parties attached: Yes No

If assignee is not domiciled in the United States, a domestic representative designation is attached:
 Yes No

(Designations must be a separate document from Assignment)

4. **Conveyance Type:**

Assignment Merger License
 Security Agreement Change of Name Nunc Pro Tunc Assignment
 Other _____

Effective Date: _____ (if nunc pro tunc assignment)

5. Application number(s) or registration number(s):

A. Trademark Application No.(s)

Additional numbers attached? Yes No

B. Trademark registration No.(s)
2,058,724; 2,056,767

6. Name and address of party to whom correspondence concerning document should be mailed (and Domestic Representative Address, if applicable):

Name: **Janis Nici**
MILBANK, TWEED, HADLEY & McCLOY LLP

(07/06/2000 DNHUYEN 00000056 2058724)
(01 FC:481 40.00 OP)
(02 FC:482 25.00 OP)

Address: **One Chase Manhattan Plaza**
City: **New York** State: **NY** Zip: **10005**
Area Code and Telephone No: **212-530-5423**

7. Total number of applications and registration involved: **2**

8. Total fee (37 CFR 3.41): **\$65.00**

Enclosed
 Authorized to be charged to deposit account

9. Deposit account number: **13-3250**

Authorized to charge additional fees Yes No

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10. 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. Charges to deposit account are authorized, as indicated herein.

Janis Nici *Janis Nici*
Name of Person Signing Signature

Date **6-9-00**

Total number of pages: **1**
in cover sheet

Mail Documents to Commissioner of Patents and Trademarks

07-06-2000



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TRADEMARK
REEL: 002096 FRAME: 0285

SECURITY AGREEMENT

Dated as of May 31, 2000

between

PHASE METRICS, INC.

and

U.S. TRUST COMPANY OF NEW YORK

as the Collateral Agent

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SECURITY AGREEMENT

This SECURITY AGREEMENT (this "Agreement") dated as of May 31, 2000 is made between PHASE METRICS, INC., a Delaware corporation (the "Obligor") and U.S. TRUST COMPANY OF NEW YORK, as the agent (in that capacity, the "Collateral Agent") for the Lenders referred to below.

The Credit Agreement dated as of May 31, 2000 (the "Credit Agreement") between the Obligor and the lenders identified in the Credit Agreement (the "Lenders") for whom the Collateral Agent acts as the administrative agent provides, subject to its terms and conditions, for certain extensions of credit to the Obligor. It is a condition to the obligations of the Collateral Agent and the Lenders under the Credit Agreement that the Obligor executes and delivers, and grants the Liens provided for in, this Agreement.

To induce the Lender Parties to enter into, and to extend credit under, the Credit Agreement and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Obligor agrees to pledge and grant a security interest in the Collateral as security for the Secured Obligations. Accordingly, the Obligor agrees with the Collateral Agent as follows:

ARTICLE I

DEFINITIONS

Section 1.01 Certain Defined Terms. Unless otherwise defined, all capitalized terms used in this Agreement that are defined in the Credit Agreement (including terms incorporated by reference) shall have the respective meanings assigned to them in the Credit Agreement. In addition, the following terms shall have the following meanings under this Agreement:

"Accounts" shall have the meaning assigned to that term in Section 2.01(b).

"Collateral" shall have the meaning assigned to that term in Section 2.01.

"Collateral Account" shall have the meaning assigned to that term in Section 3.01.

"Copyright Collateral" shall mean all Copyrights, whether now owned or in the future acquired by the Obligor, including each Copyright identified in Annex 2.

"Copyrights" shall mean, collectively, (a) all copyrights, copyright registrations and applications for copyright registrations, (b) all renewals and extensions of all copyrights, copyright registrations and applications for copyright registration and (c) all rights, now existing or in the future coming into existence, (i) to all income, royalties, damages and other payments (including in respect of all past, present or future infringements) now or in the future due or payable under or with respect to any of the foregoing, (ii) to sue for all past, present and future

infringements with respect to any of the foregoing and (iii) otherwise accruing under or pertaining to any of the foregoing throughout the world.

“Documents” shall have the meaning assigned to that term in Section 2.01(f).

“Equipment” shall have the meaning assigned to that term in Section 2.01(e).

“Instruments” shall have the meaning assigned to that term in Section 2.01(c).

“Intellectual Property” shall mean all Copyright Collateral, all Patent Collateral and all Trademark Collateral, together with (a) all inventions, processes, production methods, proprietary information, know-how and trade secrets; (b) all licenses or user or other agreements granted to the Obligor with respect to any of the foregoing, in each case whether now or in the future owned or used, including the licenses or other agreements with respect to the Copyright Collateral, the Patent Collateral or the Trademark Collateral listed in Annex 5; (c) all information, customer lists, identification of suppliers, data, plans, blueprints, specifications, designs, drawings, recorded knowledge, surveys, engineering reports, test reports, manuals, materials standards, processing standards, performance standards, catalogs, computer and automatic machinery software and programs; (d) all field repair data, sales data and other information relating to sales or service of products now or in the future manufactured; (e) all accounting information and all media in which or on which any information or knowledge or data or records may be recorded or stored and all computer programs used for the compilation or printout of that information, knowledge, records or data; (f) all Governmental Approvals now held or in the future obtained by the Obligor in respect of any of the foregoing; and (g) all causes of action, claims and warranties now owned or in the future acquired by the Obligor in respect of any of the foregoing. Intellectual Property shall include all of the foregoing owned or acquired by the Obligor on a worldwide basis.

“Inventory” shall have the meaning assigned to that term in Section 2.01(d).

“Issuers” shall mean, collectively, each direct or indirect Subsidiary of the Obligor that is the issuer (as defined in the Uniform Commercial Code) of any shares of capital stock now owned or in the future acquired by the Obligor, including the respective corporations identified in Annex 1 under the caption “Issuer.”

“Motor Vehicles” shall mean motor vehicles, tractors, trailers and other like property, whether or not the title to any such property is governed by a certificate of title or ownership.

“Patent Collateral” shall mean all Patents, whether now owned or in the future acquired by the Obligor, including each Patent identified in Annex 3.

“Patents” shall mean, collectively, (a) all patents and patent applications, (b) all reissues, divisions, continuations, renewals, extensions and continuations-in-part of all patents or patent applications and (c) all rights, now existing or in the future coming into existence, (i) to all income, royalties, damages, and other payments (including in respect of all past, present and future infringements) now or in the future due or payable under or with respect to any of the foregoing, (ii) to sue for all past, present and future infringements with respect to any of the

foregoing and (iii) otherwise accruing under or pertaining to any of the foregoing throughout the world, including all inventions and improvements described or discussed in all such patents and patent applications.

“Pledged Stock” shall have the meaning assigned to that term in Section 2.01(a).

“Secured Obligations” shall mean (a) any and all Obligations and (b) any and all obligations of the Obligor for the performance of its agreements, covenants and undertakings under or in respect of the Basic Documents.

“Stock Collateral” shall have the meaning assigned to that term in Section 2.01(a).

“Trademark Collateral” shall mean all Trademarks, whether now owned or in the future acquired by the Obligor, including each Trademark identified in Annex 4. Notwithstanding the foregoing, the Trademark Collateral shall not include any Trademark that would be rendered invalid, abandoned, void or unenforceable by reason of its being included as part of the Trademark Collateral.

“Trademarks” shall mean, collectively, (a) all trade names, trademarks and service marks, logos, trademark and service mark registrations and applications for trademark and service mark registrations, (b) all renewals and extensions of any of the foregoing and (c) all rights, now existing or in the future coming into existence, (i) to all income, royalties, damages and other payments (including in respect of all past, present and future infringements) now or in the future due or payable under or with respect to any of the foregoing, (ii) to sue for all past, present and future infringements with respect to any of the foregoing and (iii) otherwise accruing under or pertaining to any of the foregoing throughout the world, together, in each case, with the product lines and goodwill of the business connected with the use of, or otherwise symbolized by, each such trade name, trademark and service mark.

“Uniform Commercial Code” shall mean the Uniform Commercial Code as in effect in the State of New York from time to time or, by reason of mandatory application, any other applicable jurisdiction.

Section 1.02 Interpretation. In this Agreement, unless otherwise indicated, the singular shall include the plural and plural the singular; words importing any gender shall include the other gender; references to statutes or regulations shall be construed as including all statutory or regulatory provisions consolidating, amending or replacing the statute or regulation referred to; references to “writing” shall include printing, typing, lithography and other means of reproducing words in a tangible visible form; the words “including,” “includes” and “include” shall be deemed to be followed by the words “without limitation”; references to articles, sections (or subdivisions of sections), exhibits, annexes or schedules are to this Agreement; references to agreements and other contractual instruments shall be deemed to include all subsequent amendments, extensions and other modifications to those instruments (without, however, limiting any prohibition on any such amendments, extensions or modifications by the terms of the Basic Documents); and references to Persons shall include their respective successors and permitted assigns and, in the case of Governmental Authorities, Persons succeeding to their respective functions and capacities.

ARTICLE II

COLLATERAL

Section 2.01 Grant. As collateral security for the prompt payment in full when due (whether at stated maturity, upon acceleration, on any optional or mandatory prepayment date or otherwise) and performance of the Secured Obligations, the Obligor hereby pledges and grants to the Collateral Agent, for the benefit of the Lender Parties, a security interest in all of the Obligor's right, title and interest in and to the following property, whether now owned or in the future acquired by the Obligor and whether now existing or in the future coming into existence (collectively, the "Collateral"):

- (a) (i) all of the shares of capital stock of the Issuers represented by the respective certificates identified in Annex 1 and all other shares of capital stock of whatever class of the Issuers, now owned or in the future acquired by the Obligor, together with in each case the certificates representing the same (collectively, the "Pledged Stock");
- (ii) all shares, securities, moneys or property representing a dividend on, or a distribution or return of capital in respect of, any of the Pledged Stock, resulting from a split-up, revision, reclassification or other like change of any of the Pledged Stock or otherwise received in exchange for any of the Pledged Stock and all rights issued to the holders of, or otherwise in respect of, any of the Pledged Stock; and
- (iii) without affecting the obligations of the Obligor under any provision prohibiting that action under any Basic Document, in the event of any consolidation or merger in which any Issuer is not the surviving corporation, all shares of each class of the capital stock of the successor corporation (unless that successor corporation is the Obligor itself) formed by or resulting from that consolidation or merger (collectively, and together with the property described in clauses (i) and (ii) above, the "Stock Collateral");
- (b) all accounts and general intangibles (each as defined in the Uniform Commercial Code) of the Obligor constituting a right to the payment of money, whether or not earned by performance, including all moneys due and to become due to the Obligor in repayment of any loans or advances, in payment for goods (including Inventory and Equipment) sold or leased or for services rendered, in payment of tax refunds and in payment of any guarantee of any of the foregoing (collectively, the "Accounts");
- (c) all instruments, chattel paper or letters of credit (each as defined in the Uniform Commercial Code) of the Obligor evidencing, representing, arising from or existing in respect of, relating to, securing or otherwise supporting the payment of, any of the Accounts (collectively, the "Instruments");
- (d) all inventory (as defined in the Uniform Commercial Code) and all other goods (including Motor Vehicles) of the Obligor that are held by the Obligor for sale, lease or furnishing under a contract of service (including to its Subsidiaries or Affiliates), that are so leased or furnished or that constitute raw materials, work in process or material used or consumed in its business, including all spare parts and related supplies, all goods obtained by the

Obligor in exchange for any such goods, all products made or processed from any such goods and all substances, if any, commingled with or added to any such goods (collectively, the "Inventory");

(e) all equipment (as defined in the Uniform Commercial Code) and all other goods (including Motor Vehicles) of the Obligor that are used or acquired for use primarily in its business, including all spare parts and related supplies, all goods obtained by the Obligor in exchange for any such goods, all substances, if any, commingled with or added to those goods and all upgrades and other improvements to those goods, in each case to the extent not constituting Inventory (collectively, the "Equipment");

(f) all documents of title (as defined in the Uniform Commercial Code) or other receipts of the Obligor covering, evidencing or representing Inventory or Equipment (collectively, the "Documents");

(g) all contracts and other agreements of the Obligor relating to the sale or other disposition of all or any part of the Inventory, Equipment or Documents and all rights, warranties, claims and benefits of the Obligor against any Person arising out of, relating to or in connection with all or any part of the Inventory, Equipment or Documents of the Obligor, including any such rights, warranties, claims or benefits against any Person storing or transporting any such Inventory or Equipment or issuing any such Documents;

(h) all other accounts or general intangibles of the Obligor not constituting Accounts, including, to the extent related to all or any part of the other Collateral, all books, correspondence, credit files, records, invoices, tapes, cards, computer runs and other papers and documents in the possession or under the control of the Obligor or any computer bureau or service company from time to time acting for the Obligor;

(i) the balance from time to time in the Collateral Account;

(j) all other tangible and intangible property of the Obligor, including all Intellectual Property; and

(k) all proceeds and products in whatever form of all or any part of the other Collateral, including all proceeds of insurance and all condemnation awards and all other compensation for any Casualty Event with respect to all or any part of the other Collateral (together with all rights to recover and proceed with respect to the same), and all accessories to, substitutions for and replacements of all or any part of the other Collateral.

Section 2.02 Intellectual Property. For the purpose of enabling the Collateral Agent to exercise its rights, remedies, powers and privileges under Section 6.01 at that time or times as the Collateral Agent is lawfully entitled to exercise those rights, remedies, powers and privileges, and for no other purpose, the Obligor hereby grants to the Collateral Agent, to the extent assignable, an irrevocable, nonexclusive license (exercisable without payment of royalty or other compensation to the Obligor) to use, assign, license or sublicense any of the Intellectual Property of the Obligor, together with reasonable access to all media in which any of the licensed items may be recorded or stored and to all computer programs used for the compilation or printout of those items.

Section 2.03 Perfection. The Obligor will (i) concurrently with the execution and delivery of this Agreement, file or deliver for filing such financing statements and other documents in such offices as are necessary or as the Collateral Agent may request to perfect and establish the priority (subject only to Liens permitted under Section 7.11 of the Credit Agreement) of the Liens granted by this Agreement, (ii) concurrently with the execution and delivery of this Agreement, deliver and pledge to the Collateral Agent any and all Instruments, endorsed or accompanied by such instruments of assignment and transfer in such form and substance as the Collateral Agent may request (other than a certificate of deposit in the amount of approximately One Million Eight Hundred Thousand Dollars (\$1,800,000) pledged to Fleet National Bank and a promissory note issued by Dewey Hockemeyer of approximately Three Hundred Thousand Dollars (\$300,000) (collectively, the "Excluded Instruments")), (iii) as soon as possible and in any event no later than the ninth (9th) day following execution and delivery of this Agreement deliver to the Collateral Agent all certificates identified in Annex 1, accompanied by undated stock powers duly executed in blank, (iv) concurrently with the execution and delivery of this Agreement, deliver access agreements satisfactory to the Collateral Agent from the owners and lessors of real property at which any Collateral is located and (v) take all such other actions as are necessary or as the Collateral Agent may request to perfect and establish the priority (subject only to those permitted Liens) of the Liens granted by this Agreement, including as soon as possible following the Signing Date, filing this Agreement (or any other form or instrument as the Collateral Agent may request) with the U.S. Patent and Trademark Office and the Copyright Office (as the case may be); provided that the Obligor is not obligated to take any action to perfect the Liens granted by this Agreement as to any Motor Vehicle perfection as to which would require the Collateral Agent to be reflected as a lienholder on any certificate of title or ownership.

Section 2.04 Preservation and Protection of Security Interests. The Obligor

will:

(a) upon the acquisition after the Signing Date by the Obligor of any Stock Collateral, promptly either (x) deliver to the Collateral Agent all such Stock Collateral (together with the certificates representing that Stock Collateral duly endorsed in blank or accompanied by undated stock powers duly executed in blank) or (y) take such other action as the Collateral Agent deems necessary or appropriate to create, perfect and establish the priority (subject only to Liens permitted under Section 7.11 of the Credit Agreement) of the Liens granted by this Agreement in that stock Collateral;

(b) upon the acquisition after the Signing Date by the Obligor of any Instrument, promptly deliver and pledge to the Collateral Agent all such Instruments, endorsed or accompanied by such instruments of assignment and transfer in such form and substance as the Collateral Agent may request;

(c) upon the acquisition after the Signing Date by the Obligor of any Equipment (other than a Motor Vehicle) covered by a certificate of title or ownership, promptly cause the Collateral Agent to be listed as the lienholder on that certificate of title and within one hundred and twenty (120) days of the acquisition of that equipment deliver evidence of the same to the Collateral Agent;

(d) upon the Obligor's acquiring, or otherwise becoming entitled to the benefits of, any Copyright (or copyrightable material), Patent (or patentable invention), Trademark (or associated goodwill) or other Intellectual Property or upon or prior to the Obligor's filing, either directly or through the Collateral Agent, any licensee or any other designee, of any application with any Governmental Authority for any Copyright, Patent, Trademark or other Intellectual Property, in each case after the Signing Date, execute and deliver such contracts, agreements and other instruments as the Collateral Agent may request to create, perfect and establish the priority (subject only to Liens permitted under Section 7.11 of the Credit Agreement) of the Liens granted by this Agreement in that and any related Intellectual Property and, if requested by the Collateral Agent, amend Annex 2, 3 or 4 (as the case may be) to reflect the inclusion of any such Intellectual Property as part of the Collateral (it being agreed that the failure to amend any such Annex shall not affect the Liens granted by this Agreement on any such Intellectual Property); and

(e) give, execute, deliver, file or record any and all financing statements, notices, contracts, agreements or other instruments, obtain any and all Governmental Approvals and take any and all steps that may be necessary or as the Collateral Agent may request to create, perfect, establish the priority (subject only to Liens permitted under Section 7.11 of the Credit Agreement) of, or to preserve the validity, perfection or priority (subject only to those permitted Liens) of, the Liens granted by this Agreement or to enable the Collateral Agent to exercise and enforce its rights, remedies, powers and privileges under this Agreement with respect to those Liens, including causing any or all of the Stock Collateral to be transferred of record into the name of the Collateral Agent or its nominee (and the Collateral Agent agrees that if any Stock Collateral is transferred into its name or the name of its nominee, the Collateral Agent will thereafter promptly give to the Obligor copies of any notices and communications received by it with respect to the Stock Collateral pledged by the Obligor), provided that notices to account debtors in respect of any Accounts or Instruments shall be subject to the provisions of Section 3.02(b).

Section 2.05 Attorney-in-Fact.

(a) Subject to the rights of the Obligor under Sections 2.06, 2.07, 2.08 and 2.09, the Obligor hereby appoints the Collateral Agent its attorney-in-fact effective on the Signing Date and terminating upon the termination of this Agreement for the purpose of carrying out the provisions of this Agreement and taking any action and executing any instruments that the Collateral Agent may deem necessary or advisable to accomplish the purposes of this Agreement, to preserve the validity, perfection and priority (subject only to Liens permitted under Section 7.11 of the Credit Agreement) of the Liens granted by this Agreement and, following any Default, to exercise its rights, remedies, powers and privileges under this Agreement. This appointment as attorney-in-fact is irrevocable and coupled with an interest. Without limiting the generality of the foregoing, the Collateral Agent shall be entitled under this Agreement upon the occurrence and continuation of any Event of Default (or, in respect of Section 3.01, any Default) (i) to ask, demand, collect, sue for, recover, receive and give receipt and discharge for amounts due and to become due under and in respect of all or any part of the Collateral; (ii) to receive, endorse and collect any Instruments or other drafts, instruments, documents and chattel paper in connection with clause (i) above (including any draft or check representing the proceeds of insurance or the return of unearned premiums); (iii) to file any

claims or take any action or proceeding that the Collateral Agent may deem necessary or advisable for the collection of all or any part of the Collateral, including the collection of any compensation due and to become due under any contract or agreement with respect to all or any part of the Collateral; and (iv) to execute, in connection with any sale or disposition of the Collateral under Section 6.01, any endorsements, assignments, bills of sale or other instruments of conveyance or transfer with respect to all or any part of the Collateral.

(b) Without limiting the rights and powers of the Collateral Agent under Section 2.05(a), the Obligor hereby appoints the Collateral Agent as its attorney-in-fact, effective the Signing Date and terminating upon the termination of this Agreement, for the purpose of executing and filing all such contracts, agreements and other documents as are contemplated by Section 2.04(d). This appointment as attorney-in-fact is irrevocable and coupled with an interest.

Section 2.06 Special Provisions Relating to Stock Collateral.

(a) So long as no Event of Default has occurred and is continuing, the Obligor shall have the right to exercise all voting, consensual and other powers of ownership pertaining to the Stock Collateral for all purposes not inconsistent with the terms of any Basic Document, provided that the Obligor will not vote the Stock Collateral in any manner that is inconsistent with the terms of any Basic Document; and the Collateral Agent will, at the Obligor's expense, execute and deliver to the Obligor or cause to be executed and delivered to the Obligor all such proxies, powers of attorney, dividend and other orders and other instruments, without recourse, as the Obligor may reasonably request for the purpose of enabling the Obligor to exercise the rights and powers that it is entitled to exercise pursuant to this Section 2.06(a).

(b) So long as no Event of Default has occurred and is continuing, the Obligor shall be entitled to receive and retain any dividends on the Stock Collateral paid in cash out of earned surplus.

(c) If any Event of Default has occurred and is continuing, and whether or not any Lender Party exercises any available right to declare any Secured Obligation due and payable or seeks or pursues any other right, remedy, power or privilege available to it under applicable law, this Agreement or any other Basic Document, all dividends and other distributions on the Stock Collateral shall be paid directly to the Collateral Agent and retained by it in the Collateral Account as part of the Stock Collateral, subject to the terms of this Agreement, and, if the Collateral Agent so requests, the Obligor will execute and deliver to the Collateral Agent appropriate additional dividend, distribution and other orders and instruments to that end, provided that if that Event of Default is cured, any such dividend or distribution paid to the Collateral Agent prior to that cure shall, upon request of the Obligor (except to the extent applied to the Secured Obligations), be returned by the Collateral Agent to the Obligor.

Section 2.07 Use of Intellectual Property. Subject to that action not otherwise constituting a Default and so long as no Event of Default has occurred and is continuing, the Obligor shall be permitted to exploit, use, enjoy, protect, license, sublicense, assign, sell, dispose of or take other actions with respect to the Intellectual Property in the ordinary course of the business of the Obligor. In furtherance of the foregoing, so long as no Event of Default has occurred and is continuing, the Collateral Agent will from time to time, upon the request of the

Obligor, execute and deliver any instruments, certificates or other documents, in the form so requested, which such Obligor certifies are appropriate (in its judgment) to allow them to take any action permitted above or by the other Basic Documents (including relinquishment of the license provided pursuant to Section 2.02 as to any specific Intellectual Property). The exercise of rights, remedies, powers and privileges under Section 6.01 by the Collateral Agent shall not terminate the rights of the holders of any licenses or sublicenses previously granted by the Obligor in accordance with the first sentence of this Section 2.07.

Section 2.08 Instruments. So long as no Default has occurred and is continuing, the Obligor may retain for collection in the ordinary course of business any Instruments obtained by it in the ordinary course of business, and the Collateral Agent will, promptly upon the request, and at the expense of, the Obligor, make appropriate arrangements for making any Instruments pledged by the Obligor available to the Obligor for purposes of presentation, collection or renewal. Any such arrangement shall be effected, to the extent deemed appropriate by the Collateral Agent, against a trust receipt or like document.

Section 2.09 Use of Collateral. So long as no Event of Default has occurred and is continuing, the Obligor shall, in addition to its rights under Sections 2.06, 2.07 and 2.08 in respect of the Collateral contemplated in those sections, be entitled to use and possess the other Collateral and to exercise its rights, title and interest in all contracts, agreements, licenses and Governmental Approvals, subject to the rights, remedies, powers and privileges of the Collateral Agent under Articles III and VI and to that use, possession or exercise not otherwise constituting a Default.

Section 2.10 Rights and Obligations.

(a) The Obligor shall remain liable to perform its duties and obligations under the contracts and agreements included in the Collateral in accordance with their respective terms to the same extent as if this Agreement had not been executed and delivered. The exercise by the Collateral Agent or any Lender of any right, remedy, power or privilege in respect of this Agreement shall not release the Obligor from any of its duties and obligations under those contracts and agreements. Neither the Collateral Agent nor any Lender shall have any duty, obligation or liability under those contracts and agreements or in respect to any Governmental Approval included in the Collateral by reason of this Agreement or any other Basic Document, nor shall the Collateral Agent or any Lender be obligated to perform any of the duties or obligations of the Obligor under any such contract or agreement or any such Governmental Approval or to take any action to collect or enforce any claim (for payment) under any such contract or agreement or Governmental Approval.

(b) No Lien granted by this Agreement in the Obligor's right, title and interest in any contract, agreement or Governmental Approval shall be deemed to be a consent by the Collateral Agent or any Lender to any such contract, agreement or Governmental Approval.

(c) No reference in this Agreement to proceeds or to the sale or other disposition of Collateral shall authorize the Obligor to sell or otherwise dispose of any Collateral except to the extent otherwise expressly permitted by the terms of any Basic Document.

(d) Neither the Collateral Agent nor any Lender shall be required to take steps necessary to preserve any rights against prior parties to any part of the Collateral.

Section 2.11 Termination. When all Secured Obligations have been paid in full and the Commitments have expired or been terminated, this Agreement shall terminate, and the Collateral Agent will forthwith cause to be assigned, transferred and delivered, against receipt but without any recourse, warranty or representation whatsoever, any remaining Collateral and money received in respect of the Collateral, to or on the order of the Obligor and to be released, canceled and granted back all licenses and rights referred to in Section 2.02. The Collateral Agent will also execute and deliver to the Obligor upon that termination such Uniform Commercial Code termination statements, certificates for terminating the Liens on the Motor Vehicles and such other documentation as is reasonably requested by the Obligor to effect the termination and release of the Liens granted by this Agreement on the Collateral.

ARTICLE III

CASH PROCEEDS OF COLLATERAL

Section 3.01 Collateral Account. There is hereby established with the Collateral Agent a cash collateral account (the "Collateral Account") in the name and under the control of the Collateral Agent into which there shall be deposited from time to time the cash proceeds of any of the Collateral required to be delivered to the Collateral Agent pursuant to this Agreement or the Credit Agreement (including under Section 3.03 of the Credit Agreement) and into which the Obligor may from time to time deposit any additional amounts that it wishes to pledge to the Collateral Agent for the benefit of the Lender Parties as additional collateral security under this Agreement. The balance from time to time in the Collateral Account shall constitute part of the Collateral and shall not constitute payment of the Secured Obligations until applied as provided in this Agreement. Subject to the next sentence and the applicable provisions of the Basic Documents, the Collateral Agent will remit the collected balance outstanding to the credit of the Collateral Account to or upon the order of the Obligor as it instructs. If any Event of Default has occurred and is continuing, the Collateral Agent may (and, if instructed by the Required Lenders, will) in its (or their) discretion apply or cause to be applied (subject to collection) the balance from time to time outstanding to the credit of the Collateral Account to the payment of the Secured Obligations in the manner specified in Section 6.04. The balance from time to time in the Collateral Account shall be subject to withdrawal only as provided in this Agreement.

Section 3.02 Certain Proceeds.

(a) If any Default has occurred and is continuing, the Obligor will, upon request of the Collateral Agent, promptly notify (and the Obligor hereby authorizes the Collateral Agent so to notify) each account debtor in respect of any Accounts and Instruments that such Collateral has been assigned to the Collateral Agent under this Agreement and that any payments due or to become due in respect of that Collateral are to be made directly to the Collateral Agent. All such payments made to the Collateral Agent shall be immediately deposited in the Collateral Account.

(b) The Obligor agrees that if the proceeds of any Collateral (including payments made in respect of Accounts and Instruments) shall be received by it if any Default has occurred and is continuing, the Obligor will as promptly as possible deposit those proceeds into the Collateral Account. Until so deposited, all such proceeds shall be held in trust by the Obligor for and as the property of the Collateral Agent and shall not be commingled with any other funds or property of the Obligor.

Section 3.03 Investment of Balance in Collateral Account. Amounts on deposit in the Collateral Account shall be invested from time to time in such Permitted Investments as the Obligor (or, if any Default has occurred and is continuing, the Collateral Agent) determines. All such Permitted Investments shall be held in the name and be under the control of the Collateral Agent. At any time after the occurrence and during the continuance of an Event of Default, the Collateral Agent may (and, if instructed by the Required Lenders, will) in its (or their) discretion at any time and from time to time elect to liquidate any such Permitted Investments and to apply or cause to be applied the proceeds of that action to the payment of the Secured Obligations in the manner specified in Section 6.04.

ARTICLE IV

REPRESENTATIONS

As of the Signing Date and as of the date of each extension of credit by the Lenders, the Obligor represents and warrants to each Lender Party as follows:

Section 4.01 Title. The Obligor is the sole beneficial owner of the Collateral in which it purports to grant a Lien pursuant to this Agreement, and the Collateral is free and clear of all Liens, except for Liens permitted under Section 7.11 of the Credit Agreement. The Liens granted by this Agreement in favor of the Collateral Agent for the benefit of the Collateral Agent and the Lenders have attached and (upon (a) the filing of a financing statement as to each Obligor with the California Secretary of State and with the Minnesota Secretary of State, (b) the filing of this Agreement (or any other form or instrument as the Collateral Agent may request) with the Copyright Office as called for under Section 2.03 and (c) the delivery of certificates representing Stock Collateral and instruments to the Collateral Agent) constitute a perfected security interest in all of that collateral (other than Intellectual Property registered or otherwise located outside of the United States of America, Motor Vehicles and the Excluded Instruments) prior to all other Liens (except those permitted Liens).

Section 4.02 Pledged Stock.

(a) The Pledged Stock evidenced by the certificates identified in Annex 1 is duly authorized, validly existing, fully paid and nonassessable, and none of that Pledged Stock is subject to any contractual restriction, or any restriction under the charter or by-laws of the respective Issuer of that Pledged Stock, upon the transfer of that Pledged Stock (except for any such restriction contained in any Basic Document).

(b) The Pledged Stock evidenced by the certificates identified in Annex 1 constitutes all of the issued and outstanding shares of capital stock of any class of the Issuers

beneficially owned by the Obligor on the Signing Date (whether or not registered in the name of the Obligor), and Annex 1 correctly identifies, as at the Signing Date, the respective Issuers of that Pledged Stock, the respective class and par value of the shares comprising that Pledged Stock and the respective number (and registered owners) of the shares evidenced by each such certificate.

Section 4.03 Intellectual Property.

(a) Annexes 2, 3 and 4 set forth completely and correctly all Copyrights, (to the extent registered), Patents and Trademarks owned by the Obligor on the Signing Date; except pursuant to licenses and other user agreements entered into by the Obligor in the ordinary course of business and listed in Annex 5, the Obligor owns and possesses the right to use, and has done nothing to authorize or enable any other Person to use, any Copyright, Patent or Trademark listed in Annex 2, 3 or 4 or that are otherwise material to the Obligor's business; all registrations listed in Annexes 2, 3 and 4 are valid and in full force and effect; and, except as may be set forth in Annex 5, the Obligor owns and possesses the right to use all Copyrights, Patents and Trademarks listed in Annexes 2, 3 and 4 or that are otherwise material to Obligor's business.

(b) Annex 5 sets forth completely and correctly all licenses and other user agreements included in the Intellectual Property on the Signing Date;

(c) To the Obligor's knowledge, (i) except as set forth in Annex 5, there is no violation by others of any right of the Obligor with respect to any Copyright, Patent or Trademark listed in Annex 2, 3 or 4 or that are otherwise material to the Obligor's business and (ii) the Obligor is not infringing in any respect upon any Copyright, Patent or Trademark of any other Person; and no proceedings have been instituted, are pending against the Obligor or, to the Obligor's knowledge, have been threatened against, and no claim has been received by, the Obligor, alleging any such violation, except as may be set forth in Annex 5.

(d) The Obligor does not own any Trademarks registered in the United States of America to which the last sentence of the definition of Trademark Collateral applies.

Section 4.04 Goods. Any goods now or in the future manufactured or otherwise produced by the Obligor or any of its Subsidiaries included in the Collateral have been and will be produced in compliance with the requirements of the Fair Labor Standards Act, except for certain claimed violations brought by certain employees or former employees as disclosed in Schedule 6.06 to the Credit Agreement and as to which the Obligor has established reasonable and adequate reserves on its books.

ARTICLE V

COVENANTS

Section 5.01 Books and Records. The Obligor will:

- (a) keep full and accurate books and records relating to the Collateral and stamp or otherwise mark those books and records in such manner as the Collateral Agent may reasonably require in order to reflect the Liens granted by this Agreement;
- (b) furnish to the Collateral Agent from time to time (but, unless a Default has occurred and is continuing, no more frequently than quarterly) statements and schedules further identifying and describing the Copyright Collateral, the Patent Collateral and the Trademark Collateral and such other reports in connection with the Copyright Collateral, the Patent Collateral and the Trademark Collateral, as the Collateral Agent may reasonably request, all in reasonable detail;
- (c) prior to filing, either directly or through an Collateral Agent, licensee or other designee, any application for any Copyright, Patent or Trademark, furnish to the Collateral Agent prompt notice of that proposed filing; and
- (d) permit representatives of the Collateral Agent, upon reasonable notice, at any time during normal business hours to inspect and make abstracts from its books and records pertaining to the Collateral and, following the occurrence and during the continuation of a Default, permit representatives of the Collateral Agent to be present at the Obligor's place of business to receive copies of all communications and remittances relating to the Collateral and forward copies of any notices or communications received by the Obligor with respect to the Collateral, all in such manner as the Collateral Agent may request.

Section 5.02 Removals, Etc. Without at least thirty (30) days' prior written notice to the Collateral Agent, the Obligor will not:

- (a) change its corporate name, or the name under which it does business, from the name shown on the signature pages to this Agreement; or
- (b) maintain any of its books and records with respect to the Collateral at any office, or maintain its principal place of business at any place, or permit any Inventory or Equipment to be located anywhere, other than at the address initially indicated for notices to it under Section 7.02 or at one of the locations identified in Annex 6 or in transit from one of those locations to another; provided that the Obligor may:
 - (i) temporarily remove certain Inventory for presentation at trade shows;
 - (ii) permit a customer to use certain Inventory on a trial basis, but only if and to the extent that:
 - (A) in the case of Inventory located outside of the United States of America, (1) the applicable Inventory is returned to one of the locations specified in this Section 5.02 not

later than within four (4) months after its initial removal from that location and (2) the book value of all of the Inventory located outside the United States of America, together with the book value of all Inventory located outside the United States of America pursuant to the provisions of Section 5.02(b)(ii)(A) of the Guarantee and Security Agreement, does not exceed One Million Five Hundred Thousand Dollars (\$1,500,000) in the aggregate,

(B) in the case of Inventory located in another state of the United States of America, the Obligor has provided to the Collateral Agent evidence that there has been duly filed in such other state one or more financing statements, substantially the same as that filed in California, in each office in such other state as is required by the Uniform Commercial Code of such other state prior to the removal of such Inventory to such other state;

(C) the Obligor causes each customer using such Inventory on a trial basis to sign a written agreement expressly acknowledging that such Inventory (1) is owned by the Obligor, (2) is subject to the Liens of the Collateral Agent under this Agreement and (3) in the case of Inventory located outside of the United States of America, must be returned to the Obligor not later than within the four (4) months after the date on which it is delivered to such customer; and

(D) at least monthly, the Obligor shall provide to each Lender Party a written notice specifying each item of Inventory located outside the State of California pursuant to this clause (ii), the location of each such item, the book value of each such item and the aggregate book value of all such items located outside the United States of America and certifying as to the Obligor's compliance with this clause (ii); and

(iii) maintain Inventory the book value of which does not exceed Seven Hundred Fifty Thousand Dollars (\$750,000) in the aggregate in the offices of one or more of its Foreign Subsidiaries in existence on the Signing Date, but only if and to the extent that the Obligor causes each Foreign Subsidiary to whose offices the applicable Inventory is moved to sign a written agreement expressly acknowledging that such Inventory (x) is owned by the Obligor, (y) is subject to the Liens of the Collateral Agent under this Agreement and (z) must be returned to the Obligor or as specified by the Collateral Agent, in either case upon the request of the Collateral Agent.

Section 5.03 Sales and Other Liens. Except as otherwise permitted under Section 7.11, 7.12 or 7.20 of the Credit Agreement, without the prior written consent of the Lenders (as required under the Credit Agreement), the Obligor will not dispose of any Collateral, create, incur, assume or suffer to exist any Lien upon any Collateral or file or suffer to be on file or authorize to be filed, in any jurisdiction, any financing statement or like instrument with respect to all or any part of the Collateral in which the Collateral Agent is not named as the sole secured party for the benefit of the Lenders.

Section 5.04 Stock Collateral. The Obligor will cause the Stock Collateral to constitute at all times one hundred percent (100%) (or, in the case of any Issuer that is a Foreign Subsidiary, sixty five percent (65%)) of the total number of shares of each class of capital stock of each Issuer then outstanding. The Obligor will cause all such shares to be duly authorized, validly issued, fully paid and nonassessable and to be free of any contractual restriction or any

restriction under the charter or bylaws of the respective Issuer of that Stock Collateral, upon the transfer of that Stock Collateral (except for any such restriction contained in any Basic Document). To the extent that the Collateral Agent at any time holds certificates representing more than sixty five percent (65%) of the capital stock of any Foreign Subsidiary, it shall, at the Obligor's request and expense, release that excess (but only that excess) to the Obligor.

Section 5.05 Intellectual Property.

(a) The Obligor (either itself or through licensees) will, for each Trademark, (i) continue to use, to the extent consistent with past practice and good business judgment, that Trademark on each and every trademarked class of goods applicable to its current line as reflected in its current catalogs, brochures and price lists in order to maintain that Trademark in full force and effect free from any claim of abandonment for nonuse, (ii) maintain as in the past the quality of products and services offered under that Trademark, (iii) employ that Trademark with the appropriate notice of registration and (iv) not (and not permit any licensee or sublicensee to) do any act or knowingly omit to do any act by which any Trademark material to the conduct of its business may become invalidated.

(b) The Obligor (either itself or through licensees) will not do any act or knowingly omit to do any act by which any Patent material to the conduct of its business may become abandoned or dedicated.

(c) The Obligor will notify the Collateral Agent immediately if it knows or has reason to know that any Intellectual Property material to the conduct of its business may become abandoned or dedicated or that there has been or may be any adverse determination or development (including the institution of, or any adverse determination or development in, any proceeding before any Governmental Authority) regarding the Obligor's ownership of any Intellectual Property material to its business, its right to copyright, patent or register the same (as the case may be) or its right to keep, use and maintain the same.

(d) The Obligor will take all necessary steps that are consistent with good business practices in any proceeding before any appropriate Governmental Authority to maintain and pursue each application relating to any Intellectual Property (and to obtain the relevant registrations) and to maintain each registration material to the conduct of its business, including payment of maintenance fees, filing of applications for renewal, affidavits of use, affidavits of incontestability and opposition, interference and cancellation proceedings.

(e) In the event that any Intellectual Property material to the conduct of its business is infringed, misappropriated or diluted by a third party, the Obligor will notify the Collateral Agent within ten (10) days after it learns of that event and will, if consistent with good business practice, promptly sue for infringement, misappropriation or dilution, seek temporary restraints and preliminary injunctive relief to the extent practicable, seek to recover any and all damages for that infringement, misappropriation or dilution and take other actions as are appropriate under the circumstances to protect that Collateral.

(f) The Obligor will, through counsel acceptable to the Collateral Agent, prosecute diligently any application for any Intellectual Property pending as of the date of this

Agreement or subsequently made until the termination of this Agreement, make application on uncopyrighted but copyrightable material, unpatented but patentable inventions and unregistered but registerable Trademarks and preserve and maintain all rights in applications for any Intellectual Property; provided, however, that the Obligor shall have no obligation to make any such application if making that application would be unnecessary or imprudent in the good faith business judgment of the Obligor. Any expenses incurred in connection with any such application shall be borne by the Obligor.

(g) If a Default has occurred and is continuing, the Collateral Agent shall have the right but shall in no way be obligated to bring suit in its own name to enforce the Copyrights, Patents and Trademarks and any license under that Intellectual Property, in which event the Obligor will, at the request of the Collateral Agent, do any and all lawful acts and execute and deliver any and all proper documents required by the Collateral Agent in aid of that enforcement action.

Section 5.06 Further Assurances. The Obligor will, from time to time upon the written request of the Collateral Agent, execute and deliver such further documents and do such other acts and things as the Collateral Agent may reasonably request in order fully to effect the purposes of this Agreement.

ARTICLE VI

REMEDIES

Section 6.01 Events of Default, Etc. If any Event of Default has occurred and is continuing:

(a) The Collateral Agent in its discretion may require the Obligor to, and the Obligor will, assemble the Collateral owned by it at such place or places, reasonably convenient to both the Collateral Agent and the Obligor, designated in the Collateral Agent's request;

(b) the Collateral Agent in its discretion may make any reasonable compromise or settlement it deems desirable with respect to any of the Collateral and may extend the time of payment, arrange for payment in installments, or otherwise modify the terms of, all or any part of the Collateral;

(c) the Collateral Agent in its discretion may, in its name or in the name of the Obligor or otherwise, demand, sue for, collect or receive any money or property at any time payable or receivable on account of or in exchange for all or any part of the Collateral, but shall be under no obligation to do so;

(d) the Collateral Agent in its discretion may, upon five (5) business days' prior written notice to the Obligor of the time and place, sell, lease or otherwise dispose of all or any part of the Collateral that is then or will subsequently come into the possession, custody or control of the Collateral Agent, any other Lender Party or any of their respective agents, at such place or places as the Collateral Agent deems best, for cash, for credit or for future delivery (without thereby assuming any credit risk) and at public or private sale, without demand of

performance or notice of intention to effect any such disposition or of the time or place of any such sale (except such notice as is required above or by applicable statute and cannot be waived), and any Lender Party or any other Person may be the purchaser, lessee or recipient of all or any part of the Collateral so disposed of at any public sale (or, to the extent permitted by law, at any private sale) and thereafter hold the same absolutely, free from any claim or right of whatsoever kind, including any right or equity of redemption (statutory or otherwise), of the Obligor, and the Obligor hereby waives and releases any such demand, notice and right or equity. In the event of any sale, license or other disposition of any of the Trademark Collateral, the goodwill connected with and symbolized by the Trademark Collateral subject to that disposition shall be included, and the Obligor will supply to the Collateral Agent or its designee, for inclusion in that sale, assignment or other disposition, all Intellectual Property relating to that Trademark Collateral. The Collateral Agent may, without notice or publication, adjourn any public or private sale or cause the same to be adjourned from time to time by announcement at the time and place fixed for the sale, and that sale may be made at any time or place to which the sale may be so adjourned; and

(e) the Collateral Agent shall have, and in its discretion may exercise, all of the rights, remedies, powers and privileges with respect to the Collateral of a secured party under the Uniform Commercial Code (whether or not the Uniform Commercial Code is in effect in the jurisdiction where those rights, remedies, powers and privileges are asserted) and such additional rights, remedies, powers and privileges to which a secured party is entitled under the laws in effect in any jurisdiction where any rights, remedies, powers and privileges in respect of this Agreement or the Collateral may be asserted, including the right, to the maximum extent permitted by law, to exercise all voting, consensual and other powers of ownership pertaining to the Collateral as if the Collateral Agent were the sole and absolute owner of the Collateral (and the Obligor will take all such action as may be appropriate to give effect to that right).

The proceeds of, and other realization upon, the Collateral by virtue of the exercise of remedies under this Section 6.01 and of the exercise of the license granted to the Collateral Agent in Section 2.02 shall be applied in accordance with Section 6.04. The discretion of the Collateral Agent referenced in this Section 6.01 shall, as between it and the Lenders, be exercised at the direction of the appropriate number of Lenders under the Credit Agreement.

Section 6.02 Deficiency. If the proceeds of, or other realization upon, the Collateral by virtue of the exercise of remedies under Section 6.01 and of the exercise of the license granted to the Collateral Agent in Section 2.02 are insufficient to cover the costs and expenses of that exercise and the payment in full of the other Secured Obligations, the Obligor shall remain liable for any deficiency.

Section 6.03 Private Sale.

(a) No Lender Party shall incur any liability as a result of the sale, lease or other disposition of all or any part of the Collateral at any private sale pursuant to Section 6.01 conducted in a commercially reasonable manner. The Obligor hereby waives any claims against any Lender Party that may arise by reason of the fact that the price at which the Collateral may have been sold at such a private sale was less than the price that might have been obtained at a public sale or was less than the aggregate amount of the Secured Obligations, even if the

Collateral Agent accepts the first offer received and does not offer the Collateral to more than one offeree.

(b) The Obligor recognizes that, by reason of certain prohibitions contained in the Securities Act of 1933 and applicable state securities laws, the Collateral Agent may be compelled to limit purchasers of all or any part of the Collateral to those who will agree, among other things, to acquire that Collateral for their own account, for investment and not with a view to distribution or resale. The Obligor acknowledges that any such private sales may be at prices and on terms less favorable to the Collateral Agent than those obtainable through a public sale without those restrictions, and, notwithstanding those circumstances, agrees that any such private sale shall be deemed to have been made in a commercially reasonable manner and that the Collateral Agent shall have no obligation to engage in public sales and no obligation to delay the sale of any Collateral for the period of time necessary to permit the respective Issuer of that Collateral to register it for public sale.

Section 6.04 Application of Proceeds. Except as otherwise expressly provided in this Agreement, the proceeds of, or other realization upon, all or any part of the Collateral by virtue of the exercise of remedies under Section 6.01 or of the exercise of the license granted in Section 2.02 and any other cash at the time held by the Collateral Agent under Section 3.01 or Section 6.01 shall be applied by the Collateral Agent:

First, to the payment of the costs and expenses of that exercise of remedies, including reasonable out-of-pocket costs and expenses of the Collateral Agent, the fees and expenses of its agents and counsel and all other expenses incurred and advances made by the Collateral Agent in that connection;

Next, to the payment in full of the remaining Secured Obligations equally and ratably in accordance with their respective amounts then due and owing or as the Lender Parties holding the same may otherwise agree; and

Finally, subject to the rights of the other holder of any Lien in the relevant Collateral, to the payment to the Obligor or as a court of competent jurisdiction may direct of any surplus then remaining.

As used in this Section 6, "proceeds" of Collateral shall mean cash, securities and other property realized in respect of, and distributions in kind of, Collateral, including any property received under any bankruptcy, reorganization or other similar proceeding as to the Obligor or any issuer of, or account debtor or other obligor on, any of the Collateral.

ARTICLE VII

MISCELLANEOUS

Section 7.01 Collateral Agent. As provided in Section 9.01 of the Credit Agreement, each Lender Party has appointed U.S. TRUST COMPANY OF NEW YORK as its Collateral Agent for purposes of this Agreement. In that capacity, U.S. TRUST COMPANY OF NEW YORK shall be entitled to all the rights and benefits accorded the Collateral Agent by

Article IX of the Credit Agreement and any other applicable provision of the Basic Documents. Following the payment in full of all Obligations outstanding under the Credit Agreement and all other Guaranteed Obligations and the termination or expiration of the Commitments, the provisions of Article IX of the Credit Agreement shall be deemed to continue in full force and effect for the benefit of the Collateral Agent under this Agreement.

Section 7.02 Notices. All notices, requests and other communications provided for in this Agreement shall be given or made in writing and delivered by hand or courier service, mailed by certified or registered mail or sent by telecopy to the intended recipient as specified below or, as to any party, at such other address as is designated by that party in a notice to each other party. Except as otherwise provided in this Agreement, all such communications shall be deemed to have been duly given or made upon receipt.

To the Obligor:

Phase Metrics, Inc.
10260 Sorrento Valley Road
San Diego, California 92121
Telephone: (858) 646-4851
Telecopy: (858) 646-4990
Attention: Dewey Hockemeyer, Vice President –
Finance, Chief Financial Officer

To the Collateral Agent:

U.S. Trust Company of New York
114 West 47th Street
New York, NY 10036-1532
Telephone: (212) 852-1684
Telecopy: (212) 852-1626/1627
Attention: Tim Shea

with a copy to:

Covington & Burling
1330 Avenue of the Americas
New York, NY 10019-5400
Telephone: (212) 841-1000
Telecopy: (212) 841-1010
Attention: Michael B. Hopkins

Section 7.03 Expenses, Etc. The Obligor will pay all out-of-pocket expenses (including reasonable counsels' fees and expenses) of each Lender Party in connection with any enforcement or collection proceeding (including any bankruptcy, reorganization, restructuring, "work out" or other similar proceeding) as to any of the obligations of the Obligor under this Agreement, the negotiation of any restructuring or "work out" (whether or not consummated) or the enforcement of this Section 7.02. All amounts due under this Agreement not paid when due shall bear interest until paid at a rate per annum equal to the Post-Default Rate.

Section 7.04 Confidential Information. The Collateral Agent agrees to use reasonable precautions to keep confidential, in accordance with its customary procedures for its own confidential information, any nonpublic information supplied to it by the Obligor pursuant to this Agreement that is identified by the Obligor as confidential at the time it is delivered to the

Collateral Agent; provided that nothing in this Agreement shall limit the disclosure of any such information (a) to the extent required by Governmental Rule, (b) to counsel for the Collateral Agent, (c) to bank examiners, auditors or accountants, (d) to any other party to any Basic Document or any Affiliate of that party (so long as that Affiliate first agrees with that party substantially to the same effect as this Section 7.04), (e) in connection with any litigation to which any one or more of the parties to any Basic Document is a party, (f) to any assignee or participant (or prospective assignee or participant) of the Collateral Agent so long as that assignee or participant (or prospective assignee or participant) first agrees with the Collateral Agent substantially to the same effect as this Section 7.04, (g) to the extent that such information becomes publicly available (other than as a result of a breach of this Section 7.04) or is received from a source other than the Company or (h) with the consent of the Company.

Section 7.05 Waiver. No failure or delay by any Lender Party in exercising any remedy, right, power or privilege under this Agreement or any other Basic Document shall operate as a waiver of that remedy, right, power or privilege, nor shall any single or partial exercise of that remedy, right, power or privilege preclude any other or further exercise of that remedy, right, power or privilege or the exercise of any other remedy, right, power or privilege. The remedies, rights, powers and privileges provided by this Agreement are cumulative and not exclusive of any remedies, rights, powers or privileges provided by the other Basic Documents or by law.

Section 7.06 Amendments, Etc. No provision of this Agreement may be waived, modified or supplemented except by an instrument in writing signed by the Obligor and the Collateral Agent. The Collateral Agent agrees to enter into any such writing upon the request of the Required Lenders or all Lenders as applicable provided that such writing shall not, without the Collateral Agent's consent, affect its rights and benefits under the Basic Documents and that the Collateral Agent has not in good faith determined that such consent is likely to have a material risk of criminal (unless indemnified by the Lenders as provided in Article IX of the Credit Agreement) civil liability to it. Any modification, supplement or waiver shall be for such period and subject to such conditions as shall be specified in the written instrument effecting the same and shall be binding upon each Lender Party and the Obligor, and any such waiver shall be effective only in the specific instance and for the purpose for which given.

Section 7.07 Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of its parties and their respective successors and assigns. The Obligor may not assign or transfer its rights or obligations under this Agreement without the prior written consent of the Lenders under the Credit Agreement.

Section 7.08 Survival. Each representation and warranty made, or deemed to be made by a notice of any extension of credit, in or pursuant to this Agreement shall survive the making or deemed making of that representation and warranty, and no Lender Party shall be deemed to have waived, by reason of making any extension of credit, any Default that may arise by reason of that representation or warranty proving to have been false or misleading, notwithstanding that such or any other Lender Party may have had notice or knowledge or reason to believe that such representation or warranty was false or misleading at the time that extension of credit was made.

Section 7.09 Agreements Superseded. This Agreement supersedes all prior agreements and understandings, written or oral, among the parties with respect to the subject matter of this Agreement.

Section 7.10 Severability. Any provision of this Agreement that is prohibited or unenforceable in any jurisdiction shall, as to that jurisdiction, be ineffective to the extent of that prohibition or unenforceability without invalidating the remaining provisions of this Agreement, and any such prohibition or unenforceability in any jurisdiction shall not invalidate or render unenforceable that provision in any other jurisdiction.

Section 7.11 Captions. The table of contents, captions and section headings appearing in this Agreement are included solely for convenience of reference and are not intended to affect the interpretation of any provision of this Agreement.

Section 7.12 Counterparts. This Agreement may be executed in any number of counterparts, all of that taken together shall constitute one and the same instrument, and any of the parties to the Agreement may execute this Agreement by signing any such counterpart. Delivery of an executed counterpart of a signature page to this Agreement by hand or by telecopy shall be effective as the delivery of a fully executed counterpart of this Agreement.


Section 7.13 Governing Law; Submission to Jurisdiction. **THIS AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAW OF THE STATE OF NEW YORK APPLICABLE TO CONTRACTS MADE AND PERFORMED IN THE STATE OF NEW YORK. THE PARTIES ACKNOWLEDGE THAT CERTAIN MATTERS RELATING TO THE PERFECTION OF THE LIENS OF THIS AGREEMENT WILL BE GOVERNED BY THE LAWS OF OTHER JURISDICTIONS AS PROVIDED IN THE UCC OF THE STATE OF NEW YORK. THE OBLIGOR HEREBY SUBMITS TO THE NONEXCLUSIVE JURISDICTION OF THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF NEW YORK AND OF ANY NEW YORK STATE COURT SITTING IN NEW YORK, NEW YORK FOR THE PURPOSES OF ALL LEGAL PROCEEDINGS ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED BY THIS AGREEMENT. THE OBLIGOR IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY OBJECTION THAT IT MAY NOW OR IN THE FUTURE HAVE TO THE LAYING OF THE VENUE OF ANY SUCH PROCEEDING BROUGHT IN SUCH A COURT AND ANY CLAIM THAT ANY SUCH PROCEEDING BROUGHT IN SUCH A COURT HAS BEEN BROUGHT IN AN INCONVENIENT FORUM.**

Section 7.14 Waiver of Jury Trial. **THE OBLIGOR AND THE COLLATERAL AGENT (ON BEHALF OF ITSELF AND THE OTHER LENDER PARTIES) HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY LAW, ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED BY THIS AGREEMENT.**

IN WITNESS WHEREOF, the parties have caused this Agreement to be duly

executed and delivered as of the day and year first above written.

PHASE METRICS, INC.

By: 
Title: VP Finance, CFO

U.S. TRUST COMPANY OF NEW YORK

By: _____
Title: _____

LA1:#6173703

Security Agreement

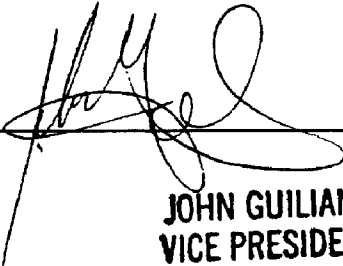
TRADEMARK
REEL: 002096 FRAME: 0310

IN WITNESS WHEREOF, the parties have caused this Agreement to be duly executed and delivered as of the day and year first above written.

PHASE METRICS, INC.

By: _____
Title:

U.S. TRUST COMPANY OF NEW YORK

By: _____
Title: _____

**JOHN GUILIANO
VICE PRESIDENT**

Pledged Stock

<u>Issuer</u>	<u>Certificate No(s.)</u>	<u>Registered Owner</u>	<u>Number of Shares</u>
Applied Robotic Technologies, Inc.	105	Phase Metrics, Inc.	80,750 shares of common stock, no par value
Air Bearings, Incorporated	8	Phase Metrics, Inc.	2,000 shares of capital stock, no par value
Helios, Incorporated	23	Phase Metrics, Inc.	1,600,000 shares of capital stock, no par value
Santa Barbara Metric, Inc.	4	Phase Metrics, Inc.	1,000 shares of common stock, no par value
Phase Metrics Japan Co., Ltd.	X-001	Phase Metrics, Inc.	300 shares of capital stock, no par value
Phase Metrics Korea Co., Ltd.	101-105 1001-1006	Phase Metrics, Inc.	6,500 shares of common stock, par value 10,000 won
Phase Metrics Pacific PTE, Ltd.	3, 4	Phase Metrics, Inc.	100,000 shares of capital stock, par value \$1.00

Phase Metrics
International,
Incorporated

2

Phase Metrics, Inc.

660 shares of
common stock, no par
value

Note: The parties acknowledge that, in accordance with the terms of the Security Documents, the Obligor has pledged and granted a security interest in only 65% of the total number of shares of each class of capital stock of each Foreign Subsidiary identified as an issuer above, notwithstanding the number of shares of stock represented by the stock certificates delivered to the Collateral Agent or any UCC financing statements delivered in connection with the Transactions.

**List of Copyrights, Copyright Registrations and
Applications for Copyright Registrations**

<u>Title</u>	<u>Registration No.</u>	<u>Registration Date</u>
Digital Glide	TX4736757	September 11, 1998
MG 150 Software	TX4623226	March 30, 1998
MG 250 ZBR Software	TX4648458	May 5, 1998
MG 350 Schematics	VAU434285	January 19, 1999
Overwrite	TX4736755	September 11, 1998
Spindle Controller Firmware	TX4736753	June 26, 1998
TAA	TX4736756	September 11, 1998
Timing Code Firmware	TX4736754	June 29, 1998

List of Patents and Patent Applications

(Attached Hereto)

PHASE METRICS, INC.
Patent Status Report

May 12, 2000

<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Imaging Polarimeter Detector For Measurement Of Small Spacings	155635-0023 (P001)	Christopher A. Lacey; Kenneth Womack	08/522,553	5,638,178	Issued First Maintenance Fee Due December 10, 2000
	<u>Client File No.</u>	<u>Country</u>	<u>Filing Date</u>	<u>Issue Date</u>	
	FHT3	US	09/01/1995	06/10/1997	

<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Method And Apparatus For The Measurement Of Defects In Magnetic Recording Disks Using A Logarithmic Amplifier	155635-0025 (P002)	Michael Inbar	08/739,877	5,838,510	Issued First Maintenance Fee Due May 17, 2002
	<u>Client File No.</u>	<u>Country</u>	<u>Filing Date</u>	<u>Issue Date</u>	
	MDT11	US	10/31/1996	11/17/1998	

<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Method And Apparatus For The Coherent Demodulation Of An Amplified Modulated Carrier Using A Dual Track And Hold Amplifier And The Application Of Said Method And Apparatus To Measurement Of Magnetic Media Performance	155635-0029 (P005)	Michael Inbar	08/555,362	5,699,204	Issued First Maintenance Fee Due June 16, 2001
	<u>Client File No.</u>	<u>Country</u>	<u>Filing Date</u>	<u>Issue Date</u>	
	MDT2	US	11/08/1995	12/16/1997	

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<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Variable Pneumatic Loader For Testing A Disk Drive Head Gimbal Assembly	155635-0032 (P007)	Charles Balster; Donald Wanek; Steven Loth	08/919,762	5,818,658	Issued First Maintenance Fee Due April 6, 2002
	<u>Client File No.</u>	<u>Country</u>	<u>Filing Date</u>	<u>Issue Date</u>	
	FHT5	US	08/28/1997	10/06/1998	
<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Stops And A Clutch For A Loader That Tests The Flying Height Of a Disk Drive Head Gimbal Assembly	155635-0035 (P009)	John Marr	08/575,916	5,786,677	Issued First Maintenance Fee Due January 28, 2002
	<u>Client File No.</u>	<u>Country</u>	<u>Filing Date</u>	<u>Issue Date</u>	
	FHT7	US	12/20/1995	07/28/1998	
<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Goniometer Loader For Testing The Height Of A Disk Drive Head Gimbal Assembly	155635-0036 (P010)	John D. Marr; Pat Lee	08/561,691	5,675,082	Issued First Maintenance Fee Due April 7, 2001
	<u>Client File No.</u>	<u>Country</u>	<u>Filing Date</u>	<u>Issue Date</u>	
	FHT4	US	11/22/1995	10/07/1997	
<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Burnish Head For Magnetic Media	155635-0040 (P013)	Blasius Brezoczky	08/574,934	5,658,191	Issued First Maintenance Fee Due February 19, 2001
	<u>Client File No.</u>	<u>Country</u>	<u>Filing Date</u>	<u>Issue Date</u>	
	MDT3	US	12/19/1995	08/18/1997	

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<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Automatic Testing System For Magnetoresistive Heads	155635-0044 (P015)	John R. Shelor	08/405,797	5,517,111	Issued Second Maintenance Fee Due November 14, 2003
	<u>Client File No.</u> MRT2	<u>Country</u> US	<u>Filing Date</u> 03/16/1995	<u>Issue Date</u> 05/14/1996	
Automatic Testing System For Magnetoresistive Heads	155635-0045 (P015C)	John Richard Shelor	08/609,853	5,668,470	Issued First Maintenance Fee Due March 16, 2001
	<u>Client File No.</u> MRTC2	<u>Country</u> US	<u>Filing Date</u> 03/01/1996	<u>Issue Date</u> 09/16/1997	
Disk Drive Test Sequence Editor	155635-0047 (P016)	John W. Cannata; Rodney K. Whitehouse	08/623,962	5,764,545	Issued First Maintenance Fee Due December 9, 2001
	<u>Client File No.</u> SFT1	<u>Country</u> US	<u>Filing Date</u> 03/29/1996	<u>Issue Date</u> 06/09/1998	
Low Z-Height Loader For A Head Gimbal Assembly	155635-0049 (P017)	Aleksandr Kagan	08/741,574	5,986,451	Issued First Maintenance Fee Due May 16, 2003
	<u>Client File No.</u> MDT5	<u>Country</u> US	<u>Filing Date</u> 10/30/1996	<u>Issue Date</u> 11/16/1999	

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<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Method And Apparatus For Combined Glide And Defect Analysis	155635-0050 (P018)	Vladimir Pogrebinsky; Igor Iosilevsky; George A. Burt, Jr.; David Ferry	08/634,693	5,792,947	Issued First Maintenance Fee Due February 11, 2002
	<u>Client File No.</u>	<u>Country</u>	<u>Filing Date</u>	<u>Issue Date</u>	
	MDT9	US	04/18/1996	08/11/1998	

<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Apparatus And Method For Surface Inspection By Specular Interferometric And Diffuse Light Detection	155635-0054 (P020)	Peter C. Jann; Wayne W. Li; Igor Iosilevsky; Kenneth H. Womack; Vlastimil Cejna; George A. Burt, Jr.	08/908,061	5,875,029	Issued First Maintenance Fee Due August 23, 2002
	<u>Client File No.</u>	<u>Country</u>	<u>Filing Date</u>	<u>Issue Date</u>	
	OP17	US	08/11/1997	02/23/1999	

<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Optical Surface Detection For Magnetic Disks	155635-0058 (P023)	John R. Shetler; Peter R. Szor; Igor Iosilevsky; George A. Burt, Jr.; David Ferry	08/405,797 3/6/1998	5,517,111 5,661,559	Issued First Maintenance Fee Due February 26, 2001
	<u>Client File No.</u>	<u>Country</u>	<u>Filing Date</u>	<u>Issue Date</u>	
	OP14	US	03/16/1998 6/3/1996	05/14/1996	

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<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Method And Apparatus For Non-Contact Servo Writing	155635-0060 (P025)	Bill R. Baker	08/631,973	5,771,130	Issued First Maintenance Fee Due December 23, 2001
	<u>Client File No.</u>	<u>Country</u>	<u>Filing Date</u>	<u>Issue Date</u>	
	SVW3	US	04/15/1996	06/23/1998	

<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Method And Apparatus For Testing The Resistive Properties Of Magneto Resistive Materials Using A Time Variable Magnetic Field	155635-0062 (P026)	Michael Inbar	08/312,307	5,696,445	Issued First Maintenance Fee Due June 9, 2001
	<u>Client File No.</u>	<u>Country</u>	<u>Filing Date</u>	<u>Issue Date</u>	
	MRT1	US	09/26/1994	12/09/1997	

<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Integrated Spring Head/Gimbal Assembly Holder	155635-0065 (P028)	Patrick R. Lee; Arthur J. Cormier	08/511,075	5,771,139	Handled by Dennis Epperson First Maintenance Fee Due December 23, 2001
	<u>Client File No.</u>	<u>Country</u>	<u>Filing Date</u>	<u>Issue Date</u>	
	FHT2	US	08/03/1995	06/23/1998	

<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Method And Apparatus To Calibrate Intensity And Determine Fringe Order For Interferometric Measurement Of Small Spacings	155635-0067 (P029)	Christopher Lacey	07/781,820	5,280,340	Handled by Dennis Epperson Second Maintenance Fee Due July 18, 2001
	<u>Client File No.</u>	<u>Country</u>	<u>Filing Date</u>	<u>Issue Date</u>	
	FHT1	US	10/23/1991	01/18/1994	

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<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Surface Inspection Of A Disk By Diffraction Pattern Sampling	155635-0070 (P030)	Blasius Brezoczky	08/632,246	5,781,649	Issued First Maintenance Fee Due January 14, 2002
	<u>Client File No.</u>	<u>Country</u>	<u>Filing Date</u>	<u>Issue Date</u>	
	OP18	US	04/15/1996	07/14/1998	

<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Distortion Of An Isolated Pulse	155635-0071 (P031)	Stephen F. Meier	08/761,502	5,872,664	Issued First Maintenance Fee Due August 16, 2002
	<u>Client File No.</u>	<u>Country</u>	<u>Filing Date</u>	<u>Issue Date</u>	
	MDT14	US	12/06/1996	02/16/1999	

<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Method And Apparatus For Detecting Defects On A Disk Using Interferometric Analysis On Reflected Light	155635-0072 (P033)	Peter C. Jann; George A. Burt, Jr.; Joel Libove	08/726,914	5,883,714	Issued First Maintenance Fee Due September 16, 2002
	<u>Client File No.</u>	<u>Country</u>	<u>Filing Date</u>	<u>Issue Date</u>	
	OP13	US	10/07/1996	03/16/1999	

<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Optically Verified Glide	155635-0074 (P034)	Christopher A. Lacey	08/797,536	5,805,284	Issued First Maintenance Fee Due March 8, 2002
	<u>Client File No.</u>	<u>Country</u>	<u>Filing Date</u>	<u>Issue Date</u>	
	OP15	US	02/07/1997	09/08/1998	

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<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Magnetic Media Tester Which Includes A Filter That Filters The Product Of A Read Signal And An Output Of A Phase Lock Loop Circuit	155635-0075 (P035)	Michael Inbar	08/766,901	5,838,153	Issued First Maintenance Fee Due May 17, 2002
	<u>Client File No.</u> MDT13	<u>Country</u> US	<u>Filing Date</u> 12/13/1996	<u>Issue Date</u> 11/17/1998	
	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Method And Apparatus For Captive Clock Head Assembly	155635-0076 (P037)	Dan Colban	08/632,011	5,760,989	Issued First Maintenance Fee Due December 2, 2001
	<u>Client File No.</u> SVW4	<u>Country</u> US	<u>Filing Date</u> 04/15/1996	<u>Issue Date</u> 06/02/1998	
	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Apparatus For Testing Multiple Magnetic Recording Heads	155635-0081 (P039)	Rick Shelor	08/950,463	5,821,746	Issued First Maintenance Fee Due April 13, 2002
	<u>Client File No.</u> MRT3	<u>Country</u> US	<u>Filing Date</u> 04/09/1996	<u>Issue Date</u> 10/15/1997	
	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Flying Height Altitude Simulator	155635-0086 (P042)	David Rose	08/698,793	5,689,329	Issued First Maintenance Fee Due May 18, 2001
	<u>Client File No.</u> FHT11	<u>Country</u> US	<u>Filing Date</u> 08/16/1996	<u>Issue Date</u> 11/18/1997	

PHASE METRICS, INC.
Patent Status Report

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<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Rotary Chuck For Centering And Retaining Data Discs	155635-0088 (P044)	Roger Peters	07/421,754	5,025,340	Issued Final Maintenance Fee Due December 18, 2002
	<u>Client File No.</u> ABT2	<u>Country</u> US	<u>Filing Date</u> 10/16/1989	<u>Issue Date</u> 06/18/1991	
<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Linear Slide And Method Of Manufacture Thereof	155635-0089 (P045)	Roger Peters	07/627,771	5,118,204	Issued Final Maintenance Fee Due December 2, 2003
	<u>Client File No.</u> ABT3	<u>Country</u> US	<u>Filing Date</u> 12/14/1990	<u>Issue Date</u> 06/02/1992	
<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Method Of Manufacturing A Linear Slide	155635-0090 (P046)	Roger Peters	07/803,537	5,200,014	Issued Second Maintenance Fee Due October 6, 2000
	<u>Client File No.</u> ABT4	<u>Country</u> US	<u>Filing Date</u> 12/09/1991	<u>Issue Date</u> 04/06/1993	
<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Vacuum Chuck For Rotating Data Discs	155635-0091 (P047)	Roger Peters	08/406,163	5,644,564	Issued First Maintenance Fee Due January 1, 2001
	<u>Client File No.</u> ABT5	<u>Country</u> US	<u>Filing Date</u> 03/17/1995	<u>Issue Date</u> 07/01/1997	

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<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Method Of Making A Mirror Having Extremely Small Aperture Holes At Other Than Normal Angles To The Surfaces Of The Mirror	155635-0092 (P048)	Thomas V. Fugate; Tod L. Erickson	07/764,532	5,176,728	Issued Second Maintenance Fee Due July 5, 2000
	<u>Client File No.</u>	<u>Country</u>	<u>Filing Date</u>	<u>Issue Date</u>	
	FHTC1	US	09/24/1991	01/05/1993	

<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Multiplexed Laser Interferometer For Non-Dispersed Spectrum Detection In A Dynamic Flying Height Tester	155635-0093 (P049)	Tod L. Erickson; John P. Lauer	08/634,670	5,673,110	Issued First Maintenance Fee Due March 30, 2001
	<u>Client File No.</u>	<u>Country</u>	<u>Filing Date</u>	<u>Issue Date</u>	
	FHTC2	US	04/17/1996	09/30/1997	

<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Servowriter/Certifier	155635-0095 (P050)	Alex Moraru; Bill R. Baker; Yechel A. Yassif	07/770,642	5,333,140	Issued Second Maintenance Fee Due January 26, 2002
	<u>Client File No.</u>	<u>Country</u>	<u>Filing Date</u>	<u>Issue Date</u>	
	SVW1	US	10/03/1991	07/26/1994	

<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Head Disk Assembly Simulator	155635-0096 (P051)	Alex Moraru; Bill R. Baker	07/886,964	5,404,492	Issued Second Maintenance Fee Due October 4, 2002
	<u>Client File No.</u>	<u>Country</u>	<u>Filing Date</u>	<u>Issue Date</u>	
	SVW2	US	05/21/1992	04/04/1995	

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<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Combined Interferometer/ Ellipsometer For Measuring Small Spacings	155635-0098 (P053)	Christopher A. Lacey; Kenneth H. Womack; Carlos Duran; Ed Ross; Semyon Nodelman	08/719,003	5,793,480	Issued First Maintenance Fee Due February 11, 2002

<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Non-Contact Optical Glide Tester	155635-0099 (P055)	Kenneth Womack; L. Allan Butler; Michael Wahl	08/797,740	5,818,592	Issued First Maintenance Fee Due April 6, 2002
	<u>Client File No.</u> OP19	<u>Country</u> US	<u>Filing Date</u> 02/07/1997	<u>Issue Date</u> 10/06/1998	

<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Thin Film Flying Height Calibration Disk For Calibrating Flying Height Testers	155635-0100 (P056)	Kenneth H. Womack; Carlos A. Duran; Christopher A. Lacey	08/718,899	5,808,736	Issued First Maintenance Fee Due March 15, 2002
	<u>Client File No.</u> FHT14	<u>Country</u> US	<u>Filing Date</u> 09/24/1996	<u>Issue Date</u> 09/15/1998	

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<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Determining The Complex Refractive Index Phase Offset In Interferometric Flying Height Testing	155635-0102 (P058)	Kenneth H. Womack; L. Allan Butler	08/719,252	5,781,299	Issued First Maintenance Fee Due January 14, 2002
	<u>Client File No.</u> FHT13	<u>Country</u> US	<u>Filing Date</u> 09/24/1996	<u>Issue Date</u> 07/14/1998	
<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Method And Apparatus For Providing A Clock Assembly	155635-0103 (P059)	Alex Moraru	08/768,558	5,894,374	Issued First Maintenance Fee Due October 13, 2002
	<u>Client File No.</u> SVW6	<u>Country</u> US	<u>Filing Date</u> 12/17/1996	<u>Issue Date</u> 04/13/1999	
<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Crash Tolerant Air Bearing Spindle	155635-0104 (P061)	Jeffrey K. Rhoton; Roger D. Peters	08/766,171	5,692,840	Issued First Maintenance Fee Due June 2, 2001
	<u>Client File No.</u> ABT7	<u>Country</u> US	<u>Filing Date</u> 12/12/1996	<u>Issue Date</u> 12/02/1997	
<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Crash Tolerant Air Bearing Spindle	155635-0105 (P061D)	Jeffrey K. Rhoton; Roger D. Peters	08/877,758	5,845,401	Issued First Maintenance Fee Due June 8, 2002
	<u>Client File No.</u> ABT7-DIV	<u>Country</u> US	<u>Filing Date</u> 06/17/1997	<u>Issue Date</u> 12/08/1998	

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<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Pressurized Air-Ionization Ground For An Air Bearing Spindle	155635-0106 (P062)	Blasius Brezoczky	08/766,899	5,801,464	Issued First Maintenance Fee Due March 1, 2002
	<u>Client File No.</u> ABT9	<u>Country</u> US	<u>Filing Date</u> 12/13/1996	<u>Issue Date</u> 09/01/1998	

<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
End Effector For A Robotic Arm Of A Disk Certifier	155635-0107 (P063)	Alex Dadiomov	08/740,648	5,893,699	Issued First Maintenance Fee Due October 13, 2002
	<u>Client File No.</u> ROBO1	<u>Country</u> US	<u>Filing Date</u> 10/31/1996	<u>Issue Date</u> 04/13/1999	

<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
End Effector For A Robotic Arm Of A Disk Certifier	155635-0108 (P063C)	Alex Dadiomov	09/190,405	5,927,934	Issued First Maintenance Fee Due January 27, 2003
	<u>Client File No.</u> ROBO1	<u>Country</u> US	<u>Filing Date</u> 11/11/1998	<u>Issue Date</u> 07/27/1999	

<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Method And Apparatus To Calibrate Intensity And Determine Fringe Order For Interferometric Measurement Of Small Spacings	155635-0110 (P065)	Christopher Lacey; Edward W. Ross	08/171,913	5,457,534	Handled by Dennis Epperson Second Maintenance Fee Due April 10, 2003
	<u>Client File No.</u> FHT-CP1	<u>Country</u> US	<u>Filing Date</u> 12/21/1993	<u>Issue Date</u> 10/10/1995	

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<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Single Test Station That Can Test A Flying Height And Electrical Characteristics Of A Recording Head	155635-0114 (P066)	David F. Pekin; Ashok Machcha	08/762,136	5,706,080	Issued First Maintenance Fee Due July 6, 2001
	<u>Client File No.</u> FHT	<u>Country</u> US	<u>Filing Date</u> 12/09/1996	<u>Issue Date</u> 01/07/1998	
Apparatus And Method For Efficient Electrostatic Discharge On Glass Disks In Flying Height Testers	155635-0115 (P067)	Michael Wahl; Kenneth H. Wornack	08/766,900	5,696,585	Issued First Maintenance Fee Due June 9, 2001
	<u>Client File No.</u>	<u>Country</u> US	<u>Filing Date</u> 12/13/1996	<u>Issue Date</u> 12/09/1997	
Method And Apparatus For Rotary Load/Unload Slider Positioning	155635-0116 (P068C)	Christopher Lacey	08/446,906	5,671,048	Handled by Dennis Epperson First Maintenance Fee Due March 23, 2001
	<u>Client File No.</u> PHASE01C2	<u>Country</u> US	<u>Filing Date</u> 05/17/1995	<u>Issue Date</u> 09/23/1997	
Combined Interferometer/ Polarimeter	155635-0117 (P069)	Christopher A. Lacey; Kenneth H. Wornack	08/807,669	5,777,740	Issued First Maintenance Fee Due January 7, 2002
	<u>Client File No.</u> OP110	<u>Country</u> US	<u>Filing Date</u> 02/27/1997	<u>Issue Date</u> 07/07/1998	

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<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Tooling For Holding A Head Gimbal Assembly	155635-0118 (P070)	Christopher A. Lacey	08/766,898	5,696,653	Issued First Maintenance Fee Due June 9, 2001
	<u>Client File No.</u> HDT3	<u>Country</u> US	<u>Filing Date</u> 12/13/1996	<u>Issue Date</u> 12/09/1997	
<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Conductive Contact For An Air Bearing Spindle	155635-0119 (P071)	Blasius Brezoczky; Ian C. Fry	08/775,254	5,783,882	Issued First Maintenance Fee Due January 21, 2002
	<u>Client File No.</u> ABT11	<u>Country</u> US	<u>Filing Date</u> 12/30/1996	<u>Issue Date</u> 07/21/1998	
<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Slider For Calibration And Correlation Of Flying Height Testers	155635-0120 (P072)	Michael Wahl; Samuel B. Shueh	08/812,424	5,767,964	Issued First Maintenance Fee Due December 16, 2001
	<u>Client File No.</u> HDT2	<u>Country</u> US	<u>Filing Date</u> 03/07/1997	<u>Issue Date</u> 06/16/1998	
<u>Title</u>	<u>Docket No.</u>	<u>Inventors</u>	<u>App. No.</u>	<u>Patent No.</u>	<u>Status/Remarks</u>
Low Noise Preamplifier For A Magneto-Resistive Head Tester	155635-0122 (P074)	Robert M. Cram	08/792,940	5,841,318	Issued First Maintenance Fee Due May 24, 2002
	<u>Client File No.</u> MRT4	<u>Country</u> US	<u>Filing Date</u> 01/21/1997	<u>Issue Date</u> 11/24/1998	

**List of Trade Names, Trademarks, Services Marks,
Trademark and Service Mark Registrations and
Applications for Trademark and Service Mark Registrations**

U.S. Trademarks

<u>Mark</u>	<u>Serial No. (Registration No.)</u>	<u>Registration (R) and Filing (F) Date</u>
PHASE METRICS (words only)	74-726059 (2,058,724)	September 7, 1995 (F) May 6, 1997 (R)
PHASE METRICS (words and design)	74-726060 (2,056,767)	September 7, 1995 (F) April 29, 1997 (R)

Foreign Trademarks

<u>Mark</u>	<u>Application (A) Registration (R)</u>	<u>Country</u>	<u>Registration (R) or Filing Date (F)</u>
Phase Metrics	4208878 (R)	Japan	November 6, 1998 (R)

LIST OF CONTRACTS, LICENSES AND OTHER AGREEMENTS

NONE

LIST OF LOCATIONS

(Attached Hereto)

Equipment On Evaluation at Prospective Customer Locations

Castlewood
367 Sinclair Frontage Rd, Milpitas 95035

IBM San Jose
5600 Cottle Road, San Jose 95193

HMT
1220 Page Avenue, Fremont 94538

IBM Rochester
Bldg # 205, 3605 Highway 52 North, Rochester MN 55901

Komag
1710 Automation Parkway, San Jose 95131

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Purch Grp, Purch 3 Group CDI (28) Gumi 2nd Factory

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