FORM PTO-1618A
Expires 06/30/99
OMB 0651-0027

09-14-1998

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9-8-98

U.S. Department of Commerce
Patent and Trademark Office
TRADEMARK

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RECORDATION FORM COVER SHEET
TRADEMARKS ONLY

TO: The Commissioner of Patents and Trademarks: Please record the attached original document(s) or copy(ies).

Submission Type

- [x] New
- [ ] Resubmission (Non-Recordation) Document ID #
- [ ] Correction of PTO Error Reel # Frame #
- [ ] Corrective Document Reel # Frame #

Conveyance Type

- [ ] Assignment
- [ ] License
- [x] Security Agreement
- [ ] Nunc Pro Tunc Assignment
- [ ] Merger
- [ ] Change of Name
- [ ] Other

Effective Date Month Day Year: 05011998

Conveying Party

[ ] Mark if additional names of conveying parties attached

Name: Analytical Graphics, Inc.

Execution Date Month Day Year: 05011998

Formerly:

[ ] Individual [ ] General Partnership [ ] Limited Partnership [x] Corporation [ ] Association

[ ] Other

[x] Citizenship/State of Incorporation/Organization: Pennsylvania

Receiving Party

[ ] Mark if additional names of receiving parties attached

Name: PNC Bank, National Association

DBA/AKA/TA: 340E

Composed of:

Address (line 1): One PNC Plaza, 4th Floor Annex

Address (line 2):

Address (line 3): Pittsburgh (City) PA (State/Country) 15265 (Zip Code)

[ ] Individual [ ] General Partnership [ ] Limited Partnership [ ] If document to be recorded is an assignment and the receiving party is not domiciled in the United States, an appointment of a domestic representative should be attached. *(Designation must be a separate document from Assignment.)*

[ ] Corporation [x] Association

[ ] Other

[ ] Citizenship/State of Incorporation/Organization

09/11/1998 [illegible]
01 FC:481 40.00 OP
02 FC:482 300.00 OP

FOR OFFICE USE ONLY

Public burden reporting for this collection of information is estimated to average approximately 30 minutes per Cover Sheet to be recorded, including time for reviewing the document and gathering the data needed to complete the Cover Sheet. Send comments regarding this burden estimate to the U.S. Patent and Trademark Office, Chief Information Officer, Washington, D.C. 20231 and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Paperwork Reduction Project (0651-0027), Washington, D.C. 20503. See OMB Information Collection Budget Package 0651-0027, Patent and Trademark Assignment Practice. DO NOT SEND REQUESTS TO RECORD ASSIGNMENT DOCUMENTS TO THIS ADDRESS.

Mail documents to be recorded with required cover sheet(s) information to:
Commissioner of Patents and Trademarks, Box Assignments, Washington, D.C. 20231

Domestic Representative Name and Address

Enter for the first Receiving Party only.

Name

Address (line 1)

Address (line 2)

Address (line 3)

Address (line 4)

Correspondent Name and Address

Area Code and Telephone Number (412)355-6271

Name: Mark R. Leslie

Address (line 1): Kirkpatrick & Lockhart LLP

Address (line 2): 1500 Oliver Building

Address (line 3): Pittsburgh PA 15222

Address (line 4)

Pages

Enter the total number of pages of the attached conveyance document including any attachments. # 7

Trademark Application Number(s) or Registration Number(s)

[X] Mark if additional numbers attached

Enter either the Trademark Application Number or the Registration Number (DO NOT ENTER BOTH numbers for the same property).

Trademark Application Number(s)			Registration Number(s)		
75325465	75325464	75325463	1753678	1738121	
75374719	75397857	75409858			
75409856	75409857	75429592			

Number of Properties

Enter the total number of properties involved. # 13

Fee Amount

Fee Amount for Properties Listed (37 CFR 3.41): $ 340.00

Method of Payment: Enclosed [X] Deposit Account [X]

Deposit Account

(Enter for payment by deposit account or if additional fees can be charged to the account.)

Deposit Account Number: # 11-1110

Authorization to charge additional fees: Yes [X] No [ ]

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.

Mark R. Leslie	Mark R. Leslie	June 23, 1998
Name of Person Signing	Signature	Date Signed

FORM PTO-1618C
Expires 06/30/99
OMB 0651-0027

RECORDATION FORM COVER SHEET
CONTINUATION
TRADEMARKS ONLY

U.S. Department of Commerce
Patent and Trademark Office
TRADEMARK

Conveying Party

Enter Additional Conveying Party

☐ Mark if additional names of conveying parties attached

Execution Date
Month Day Year

Name

Formerly

☐ Individual ☐ General Partnership ☐ Limited Partnership ☐ Corporation ☐ Association

☐ Other

☐ Citizenship State of Incorporation/Organization

Receiving Party

Enter Additional Receiving Party

☐ Mark if additional names of receiving parties attached

Name

DBA/AKA/TA

Composed of

Address (line 1)

Address (line 2)

Address (line 3)

City State/Country Zip Code

☐ Individual ☐ General Partnership ☐ Limited Partnership

☐ If document to be recorded is an assignment and the receiving party is not domiciled in the United States, an appointment of a domestic representative should be attached *(Designation must be a separate document from the Assignment.)*

☐ Corporation ☐ Association

☐ Other

☐ Citizenship/State of Incorporation/Organization

Trademark Application Number(s) or Registration Number(s)

☐ Mark if additional numbers attached

Enter either the Trademark Application Number or the Registration Number (DO NOT ENTER BOTH numbers for the same property).

Trademark Application Number(s)			Registration Number(s)		
75409859	75471151				

RIDER TO SECURITY AGREEMENT - TRADEMARKS

THIS RIDER TO SECURITY AGREEMENT (**"Rider"**) is executed as of May 1, 1998, by and between **ANALYTICAL GRAPHICS, INC.,** a Pennsylvania corporation (the **"Grantor"**), with an address at 325 Technology Drive, Malvern, PA 19355, and **PNC BANK, NATIONAL ASSOCIATION,** as the Revolving Credit Lender under the Loan Documents (as defined below) (the **"Bank"**). This Rider is incorporated into and made part of that certain Security Agreement (**"Security Agreement"**) between the Grantor and the Bank dated May 1, 1998, and also into certain other financing documents and security agreements executed by and between the Grantor and the Bank or by and between the Borrower (as defined in the Security Agreement) and the Bank (all such documents including this Rider being collectively referred to as **"Loan Documents"**). All capitalized terms not otherwise defined in this Rider shall have the same meanings ascribed to such terms in the other Loan Documents.

The Grantor has adopted, used and is using (or has filed applications for the registration of) the trademarks, servicemarks and tradenames listed on Schedule A attached hereto and made part hereof (all such marks or names hereinafter referred to as the **"Trademarks"**)

The Bank desires to acquire a lien and security interest on the Trademarks and the registration thereof, together with all the goodwill of the Grantor associated therewith and represented thereby, as security for all of the Obligations (as defined in the Security Agreement) to the Bank, and the Bank desires to have its security interest in such Trademarks confirmed by a document identifying same and in such form that it may be recorded in the United States Patent and Trademark Office.

NOW, THEREFORE, with the foregoing background deemed incorporated by reference and made part hereof, the parties hereto, intending to be legally bound hereby, covenant and agree as follows:

1. **Grant of Security Interest.** In consideration of and pursuant to the terms of the Loan Documents, and for other good, valuable and sufficient consideration, the receipt of which is hereby acknowledged, and to secure the Obligations, the Grantor grants a lien and security interest to the Bank in all its present and future right, title and interest in and to the Trademarks, together with all the goodwill of the Grantor associated with and represented by the Trademarks, and the registration thereof and the right (but not the obligation) to sue for past, present and future infringements, and the proceeds thereof, including, without limitation, license royalties and proceeds of infringement suits.

2. **Representations and Warranties.** Subject to the disclosures set forth pursuant to the Loan Agreement of even date by and between the Grantor and the Bank, the Grantor represents, warrants and covenants that: (a) it has the right to use the Trademarks; (b) except as otherwise provided in the Loan Documents, the Grantor is the sole and exclusive owner

of the entire and unencumbered right, title and interest in and to each of the Trademarks, and each of the Trademarks is free and clear of any liens, charges, and encumbrances, including, without limitation, pledges, assignments, licenses and covenants by the Grantor not to sue third persons; (c) the Grantor has the unqualified right to enter into this Rider and perform its terms; (d) the Grantor has used, and will continue to use for the duration of this Rider, proper notice, as required by 15 U.S.C. §§ 1051-1127 in connection with its use of the Trademarks; and (e) the Grantor has used consistent standards of quality in products leased or sold under the Trademarks.

3. **Verification of Quality Control.** The Grantor hereby grants to the Bank and its employees and agents the right to visit the Grantor's locations which lease, sell, or store products under any of the Trademarks and to inspect the products and quality control records relating thereto at reasonable times during regular business hours to ensure the Grantor's compliance with Section 2(e).

4. **Covenants.** The Grantor further covenants that: (a) Until all of the Obligations have been satisfied in full, the Grantor will not enter into any agreement, including without limitation, license agreements, which are inconsistent with the Grantor's obligations under this Rider or which restrict or impair the Bank's rights hereunder; and (b) If the Grantor acquires rights to any new Trademarks, the provisions of this Rider shall automatically apply thereto and the Grantor shall give the Bank prompt written notice thereof along with an amended Schedule A; provided, however, that notwithstanding anything to the contrary contained in this Agreement, the Grantor shall have the right to enter into agreements in the ordinary course of business with respect to the Trademarks

5. **Exclusive Use of Trademarks.** So long as this Rider is in effect and so long as the Grantor has not received notice from the Bank that an Event of Default has occurred under the Loan Documents and that the Bank has elected to exercise its rights hereunder, the Grantor shall continue to have the exclusive right to use the Trademarks and the Bank shall have no right to use the Trademarks or issue any exclusive or non-exclusive license with respect thereto, or assign, pledge or otherwise transfer title in the Trademarks to anyone else. In addition, as long as this Rider is in effect, Bank agrees that it shall not assign or otherwise transfer the Trademarks in a manner that causes abandonment of the Trademarks.

6. **Negative Pledge.** The Grantor agrees not to sell, assign or further encumber its rights and interest in the Trademarks without prior written consent of the Bank.

7. **Remedies Upon Default.** (a) Anything herein contained to the contrary notwithstanding, if and while the Grantor shall be in default hereunder or an Event of Default exists under the Loan Documents, the Grantor hereby covenants and agrees that the Bank, as the holder of a security interest under the Uniform Commercial Code, as now or hereafter in effect in Pennsylvania, may take such action permitted under the Loan Documents or permitted by law, in its exclusive discretion, to foreclose upon the Trademarks covered hereby.

(b) For such purposes, and in the event of an Event of Default under the Loan Documents and while such Event of Default exists, the Grantor hereby authorizes and empowers the Bank to make, constitute and appoint any officer or agent of the Bank as the Bank may select, in its exclusive discretion, as the Grantor's true and lawful attorney-in-fact, with the power to endorse the Grantor's name on all applications, documents, papers and instruments necessary for the Bank to use the Trademarks or to grant or issue any exclusive or non-exclusive license under the Trademarks to anyone else, or necessary for the Bank to assign, pledge, convey or otherwise transfer title in or dispose of the Trademarks to anyone else. The Grantor hereby ratifies all that such attorney shall lawfully do or cause to be done by virtue hereof, except for the gross negligence or willful misconduct of such attorney. This power of attorney shall be irrevocable for the life of this Rider and the Loan Documents, and until all the Obligations are satisfied in full.

(c) The Grantor expressly acknowledges that this Rider shall be recorded with the Patent and Trademark Office in Washington, D.C. Contemporaneously herewith, the Grantor shall also execute and deliver to the Bank such documents as the Bank shall reasonably request to permanently assign all rights in the Trademarks to the Bank, which documents shall be held by the Bank, in escrow in accordance with the terms of that certain Escrow Agreement, dated of even date herewith, between the Grantor and the Bank, until the occurrence of an Event of Default hereunder or under the Loan Documents. After such occurrence, the Bank may, at its sole option, record such escrowed documents with the Patent and Trademark Office.

8. Subject to Security Agreement. This Rider shall be subject to the terms, provisions, and conditions set forth in the Security Agreement and may not be modified without the written consent of the party against whom enforcement is being sought.

9. Inconsistent with Security Agreement. All rights and remedies herein granted to the Bank shall be in addition to any rights and remedies granted to the Bank under the Loan Documents. In the event of an inconsistency between this Rider and the Security Agreement, the language of the Security Agreement shall control. The terms and conditions of the Security Agreement are hereby incorporated herein by reference.

10. Termination of Agreement. Upon payment and performance of all Obligations under the Loan Documents, the Bank shall immediately execute and deliver to the Grantor all documents, and take any and all actions, necessary to terminate the Bank's security interest in the Trademarks.

11. Prosecution of Trademark Applications. (a) Subject to the terms of the Security Agreement, the Grantor shall, except with respect to any Trademark that the Grantor shall reasonably determine is of negligible economic value to it, have the duty to prosecute diligently any trademark application with respect to the Trademarks pending as of the date of this Rider or thereafter, until the Obligations shall have been satisfied in full, to preserve and maintain all rights in the Trademarks, and upon reasonable request of the Bank, the Grantor shall make federal application on registrable but unregistered trademarks belonging to the Grantor. Any

reasonable expenses incurred in connection with such applications shall be borne by the Grantor. Unless the Grantor discontinues the sale of the goods offered in connection with a Trademark, the Grantor shall not abandon any Trademark without the written consent of the Bank, except for any Trademark that the Borrower shall reasonably determine is of negligible economic value to it.

(b) The Grantor shall have the right to bring suit in its own name to enforce the Trademarks, in which event the Bank may, if the Grantor deems it necessary or after an Event of Default under the Loan Documents, be joined as a nominal party to such suit if the Bank shall have been satisfied that it is not thereby incurring any risk of liability because of such joinder. The Grantor shall promptly, upon demand, reimburse and indemnify the Bank for all damages, reasonable costs and reasonable expenses, including attorneys' fees, incurred by the Bank in the fulfillment of the provisions of this paragraph.

13. Additional Remedies. Upon the occurrence of an Event of Default under the Loan Documents, the Bank may, without any obligation to do so, complete any obligation of the Grantor hereunder, in the Grantor's name or in the Bank's name, but at the Grantor's expense, and the Grantor hereby agrees to reimburse the Bank in full for all reasonable expenses, including reasonable attorney's fees, incurred by the Bank in protecting, defending and maintaining the Trademarks.

14. Governing Law. THIS RIDER WILL BE INTERPRETED AND THE RIGHTS AND LIABILITIES OF THE PARTIES HERETO DETERMINED IN ACCORDANCE WITH THE LAWS OF THE COMMONWEALTH OF PENNSYLVANIA, EXCLUDING ITS CONFLICT OF LAW RULES, EXCEPT THAT THE FEDERAL LAWS OF THE UNITED STATES OF AMERICA SHALL GOVERN TO THE EXTENT APPLICABLE.

15. Counterparts. This Rider may be signed in any number of counterpart copies and by the parties hereto on separate counterparts, but all such copies shall constitute one and the same instrument.

WITNESS the due execution hereof as a document under seal, as of the date first written above, with the intent to be legally bound hereby.

ANALYTICAL GRAPHICS, INC.

By: _____ (SEAL)

Print Name: William J Bralerick

Title: CFO

PNC BANK, NATIONAL ASSOCIATION

By: _____ (SEAL)

Print Name: Gregory M Cote

Title: VP

TRADEMARK
REEL: 1786 FRAME: 0660

Schedule A - Trademarks

File No.	Trademark Filing
Registration No. 1,753,678	Trademark: Analytical Graphics & Design
Registration No. 1,738,121	Trademark: STK
Serial No. 75/325,465; 75/325,464; 75/325,463 Filing date: 7/16/97	Trademarks: Close Approach Tool
Serial No. 75/374,719 Filing date: 10/17/97	Trademark: STK Connect
Serial No. 75/397,857 Filing Date 12/1/97	Trademark: MILSPACE
Serial No. 75/409,858 Filing date: 12/23/97	Trademark: PODS
Serial No. 75/409,856 Filing date: 12/23/97	Trademark: HPOP
Serial No. 75/409,857 Filing Date: 12/23/97	Trademark: Chains
Serial No. 75,429,592 Filing date: 2/5/98	Trademark: MFT
Serial No. 75,409,859 Filing date: 12/23/97	Trademark: Navigator
Serial No. To be determined Filing date: 4/21/98	Trademark: LOP

TRADEMARK
REEL: 1786 FRAME: 0661

COMMONWEALTH OF PENNSYLVANIA)
) ss:
COUNTY OF CHESTER)

The foregoing instrument was acknowledged before me this 1st day of May 1998, by William J. Broderick, Chief Financial Officer of Analytical Graphics, Inc., a Pennsylvania corporation, on behalf of the corporation.

My commission expires: May 17, 1999

Louise S Moffett
Notary Public

(Notarial Seal)