### TRADEMARK ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE: NEW ASSIGNMENT

NATURE OF CONVEYANCE: SECURITY INTEREST

### **CONVEYING PARTY DATA**

Name	Formerly	Execution Date	Entity Type
Analytical Graphics, Inc.		05/19/2011	CORPORATION: PENNSYLVANIA

### **RECEIVING PARTY DATA**

Name:	Silicon Valley Bank
Street Address:	3003 Tasman Drive, H6150
City:	Santa Clara
State/Country:	CALIFORNIA
Postal Code:	95054
Entity Type:	Bank: UNITED STATES

PROPERTY NUMBERS Total: 11

Property Type	Number	Word Mark
Registration Number:	3413624	4D ANALYST
Registration Number:	1753678	ANALYTICAL GRAPHICS
Registration Number:	2190735	CAT
Registration Number:	2183150	CLOSE APPROACH TOOL
Registration Number:	3736744	INSIGHT3D
Registration Number:	3215805	NAVTK
Registration Number:	2244063	SATELLITE TOOL KIT
Registration Number:	3685833	SATELLITE TOOL KIT
Registration Number:	2323113	STK
Registration Number:	2470247	STK/ASTROGATOR
Registration Number:	1738121	STK SATELLITE TOOL KIT

### CORRESPONDENCE DATA

Fax Number: (302)636-5454

Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

TRADEMARK
REEL: 004567 FRAME: 0537

900195149

Phone: 800-927-9801 x2348 Email: jpaterso@cscinfo.com Correspondent Name: Corporation Service Co.- J. Paterson Address Line 1: 1090 Vermont Avenue NW, Suite 430 Address Line 4: Washington, DISTRICT OF COLUMBIA 20005 ATTORNEY DOCKET NUMBER: 821997 NAME OF SUBMITTER: Jean Paterson Signature: /jep/ 06/22/2011 Date: Total Attachments: 10 source=6-22-11 Analytical Graphics-TM#page1.tif source=6-22-11 Analytical Graphics-TM#page2.tif source=6-22-11 Analytical Graphics-TM#page3.tif source=6-22-11 Analytical Graphics-TM#page4.tif source=6-22-11 Analytical Graphics-TM#page5.tif source=6-22-11 Analytical Graphics-TM#page6.tif source=6-22-11 Analytical Graphics-TM#page7.tif source=6-22-11 Analytical Graphics-TM#page8.tif

source=6-22-11 Analytical Graphics-TM#page9.tif source=6-22-11 Analytical Graphics-TM#page10.tif

### INTELLECTUAL PROPERTY SECURITY AGREEMENT

This Intellectual Property Security Agreement is entered into as of May \_\_\_\_\_, 2011 by and between SILICON VALLEY BANK ("Bank") and ANALYTICAL GRAPHICS, INC. ("Grantor").

#### RECITALS

- A. Bank has agreed to make certain advances of money and to extend certain financial accommodation to Grantor (the "Loans") in the amounts and manner set forth in that certain Loan and Security Agreement by and between Bank and Grantor dated as of the date hereof (as the same may be amended, modified or supplemented from time to time, the "Loan Agreement"; capitalized terms used herein are used as defined in the Loan Agreement). Bank is willing to make the Loans to Grantor, but only upon the condition, among others, that Grantor shall grant to Bank a security interest in certain Copyrights, Trademarks, Patents, and Mask Works (as each term is described below) to secure the obligations of Grantor under the Loan Agreement.
- B. Pursuant to the terms of the Loan Agreement, Grantor has granted to Bank a security interest in all of Grantor's right, title and interest, whether presently existing or hereafter acquired, in, to and under all of the Collateral.
- NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, and intending to be legally bound, as collateral security for the prompt and complete payment when due of its obligations under the Loan Agreement, Grantor hereby represents, warrants, covenants and agrees as follows:

#### **AGREEMENT**

To secure its obligations under the Loan Agreement, Grantor grants and pledges to Bank a security interest in all of Grantor's right, title and interest in, to and under its intellectual property (all of which shall collectively be called the "Intellectual Property Collateral"), including, without limitation, the following:

- 1. Any and all copyright rights, copyright applications, copyright registrations and like protections in each work or authorship and derivative work thereof, whether published or unpublished and whether or not the same also constitutes a trade secret, now or hereafter existing, created, acquired or held, including without limitation those set forth on Exhibit A attached hereto (collectively, the "Copyrights");
- 2. Any and all trade secrets, and any and all intellectual property rights in computer software and computer software products now or hereafter existing, created, acquired or held;
- 3. Any and all design rights that may be available to Grantor now or hereafter existing, created, acquired or held;
- 4. All patents, patent applications and like protections including, without limitation, improvements, divisions, continuations, renewals, reissues, extensions and continuations-in-part of the same, including without limitation the patents and patent applications set forth on <u>Exhibit B</u> attached hereto (collectively, the "Patents");
- 5. Any trademark and servicemark rights, whether registered or not, applications to register and registrations of the same and like protections, and the entire goodwill of the business of Grantor

connected with and symbolized by such trademarks, including without limitation those set forth on  $\underline{Exhibit}$   $\underline{C}$  attached hereto (collectively, the "**Trademarks**");

- 6. All mask works or similar rights available for the protection of semiconductor chips, now owned or hereafter acquired, including, without limitation those set forth on Exhibit D attached hereto (collectively, the "Mask Works");
- 7. Any and all claims for damages by way of past, present and future infringements of any of the rights included above, with the right, but not the obligation, to sue for and collect such damages for said use or infringement of the intellectual property rights identified above;
- 8. All licenses or other rights to use any of the Copyrights, Patents, Trademarks, or Mask Works and all license fees and royalties arising from such use to the extent permitted by such license or rights;
- 9. All amendments, extensions, renewals and extensions of any of the Copyrights, Trademarks, Patents, or Mask Works; and
- 10. All proceeds and products of the foregoing, including without limitation all payments under insurance or any indemnity or warranty payable in respect of any of the foregoing.

This security interest is granted in conjunction with the security interest granted to Bank under the Loan Agreement. The rights and remedies of Bank with respect to the security interest granted hereby are in addition to those set forth in the Loan Agreement and the other Loan Documents, and those which are now or hereafter available to Bank as a matter of law or equity. Each right, power and remedy of Bank provided for herein or in the Loan Agreement or any of the Loan Documents, or now or hereafter existing at law or in equity shall be cumulative and concurrent and shall be in addition to every right, power or remedy provided for herein and the exercise by Bank of any one or more of the rights, powers or remedies provided for in this Intellectual Property Security Agreement, the Loan Agreement or any of the other Loan Documents, or now or hereafter existing at law or in equity, shall not preclude the simultaneous or later exercise by any person, including Bank, of any or all other rights, powers or remedies.

[Signature page follows.]

IN WITNESS WHEREOF, the parties have caused this Intellectual Property Security Agreement to be duly executed by its officers thereunto duly authorized as of the first date written above.

**GRANTOR:** 

Address of Grantor:

220 Valley Creek Boulevard Exton, Pennsylvania 19341 Attn: William J. Broderick Fax: (610) 981-8001

E-mail: Broderick@agi.com

Address of Bank:

275 Grove Street, Suite 2-200 Newton, Massachusetts 02466

Attn: Mr. Jay Tracy Fax: (617) 969-4395 E-mail: jtracy@svb.com ANALYTICAL GRAPHICS, INC.

Name: William J. Broderick Title: Chief Financial Officer

BANK:

SILICON VALLEY BANK

Name. Say 1 Thang Title: Vice Pusido

# Copyrights

Description	Registration/ Application No.	Registration / Application Date
Satellite tool kit STK version 8.1.3.	TX0006976744	3/6/08
Satellite tool kit STK version 7.1.1.	TX0006963311	7/3/06
Satellite tool kit user's manual: version 2.1 for engineering workstations & 41 other titles.	V3521D002	2/16/05
Satellite tool kit user's manual: version 2.1 for engineering workstations & 5 other titles.	V3519D132	1/24/05
Orbit determination tool kit: version 3.01.	TX0006063007	10/5/04
Satellite tool kit version 6.0.	TX0006026732	6/4/04
Navigation tool kit: version 1.0.	TX0006061747	8/30/04
STK/OD: version 2.0.	TX0006103065	5/18/04
Satellite toolkit: version 4.4.	TX0006033536	6/15/03
Satellite tool kit: version 5.0.	TX0006093989	5/9/03
STK/OD: a technical summary.	TXu001035371	2002
Radar user's manual: version 1.0 for Windows 95/NT 4.0: module that allows the user to analyze and visualize radar system performance for mission planning and system design analysis / author, Ralph C. Patrick.	TX0004845797	4/24/98
STK installation instructions : for Windows & engineering workstations.	TX0004845775	4/24/98
Radar user's manual: version 1.0 for engineering workstations / author, Ralph C. Patrick.	TX0004845783	4/24/98

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Satellite tool kit version 4.0.3.	TX0004819011	2/17/98
STK/VO user's manual : version 3.0 for Windows 95/NT.	TX0004845765	2/17/98
Satellite Tool Kit user's manual & 5 other titles.	V3418D775	7/6/1998
Chains user's manual : version 2.0 for PCs.	TX0004845770	2/17/98
Chains user's manual : version 2.0 for engineering workstations.	TX0004845771	2/17/98
STK/VO user's manual: version 3.0 for engineering workstations.	TX0004845764	2/17/98
STK/PL application interface: version 4.0 for Windows 95/NT 4.0 & engineering workstations: a complete set of STK class, extension and user interface functions to enhance STK functionality of integrate into custom applications / authors, Ralph C. Patrick.	TX0004846313	12/15/97
Comm user's manual: version 1.1 for engineering workstations: module that allows the user to analyze and visualize communications links among spacecraft, and between spacecraft and earth stations / authors, Sheila R. Marshall, Ralph C. Patrick.	TX0004845798	7/15/97
STK/PL astrodynamics & utilities: version 4.0 for Windows 95/NT 4.0 & engineering workstations: a complete set of astrodynamic, utility, database and graphics functions for extension and development of space-related applications / authors, Ralph C. Patrick.	TX0004846312	12/15/97
STK/GIS: user's manual: provides data exchange between GIS industry software and STK, allowing you to design, analyze, and create STK and GIS objects quickly and easily: version 1.0 for Windows 95/NT.	TX0004258554	12/15/97

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Coverage user's manual: version 1.0 for Windows 95/NT / authors, Sheila R. Marshall, Ralph C. Patrick.	TX0004845777	7/15/97
PODS user's manual & tutorial: version 2.1 for engineering workstations.	TX0004845766	12/15/97
Comm user's manual: version 1.1 for Windows 95/NT / authors, Sheila R. Marshall, Ralph C. Patrick.	TX0004845768	7/15/97
UNIX user's manual : STK.	TX0004845774	7/15/97
STK/GIS user's manual : version 1.0 for engineering workstations.	TX0004845780	12/15/97
UNIX tutorial : STK.	TX0004845782	7/15/97
PODS user's manual & tutorial : version 2.1 for PCs / author, Sheila R. Marshall.	TX0004845767	12/15/97
MFT user's manual & tutorial : MFT.	TX0004845772	12/15/97
Windows 95/NT user's manual : STK.	TX0004845773	7/15/97
Coverage user's manual: version 1.0 for engineering workstations / authors, Sheila R.  Marshall, Ralph C. Patrick.	TX0004845776	7/15/97
Satellite tool kit version 4.0.1.	TX0004819009	8/19/97
Satellite tool kit version 4.0.	TX0004819010	7/15/97
STK/DIS user's manual : version 1.0 for engineering workstations.	TX0004845778	12/15/97

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# Copyrights

Full Title	Copyright Reg. No.	Publication Date
STK/DIS user's manual: version 1.0 for PCs.	TX0004845779	12/15/97
Windows 95/NT tutorial : STK.	TX0004845781	7/15/97
Satellite tool kit: version 4.0.2.	TX0004851553	12/15/97
MFT user's manual & tutorial : version 2.0 for engineering workstations.	TX0004845769	12/15/97
[Satellite Tool Kit : programmer's library (STK/PL) : version 2.1]	TX0004139753	4/20/95
Satellite Tool Kit/Programmer's Library (STK/PL): programmer's reference.	TX0004141385	9/18/95
Satellite tool kit (STK) tutorial: version 2.1.	TX0004140227	4/20/95
[Satellite Tool Kit : version 2.1]	TX0004139752	4/20/95
Satellite Tool Kit user's manual: version 2.1 for engineering workstations.	TX0004122250	4/20/95
Satellite took kit/programmer's library (STK/PL) programmer's guide : version 2.1.	TX0004139732	4/20/95

## Exhibit B

### Patents

Description	Registration/ Application No.	Registration/ Application Date
Method and Apparatus for Determining Exposure of Spacecraft- Mounted Solar Panels to Sun and Determination of Spacecraft Drag	5,864,489	26-Jan-1999
Method and Apparatus for Determination of Spacecraft Drag	6,011,913	04-Jan-2000
Method and Apparatus for Modeling Receiver Bandwidth for Telecommunications Analysis	6,021,268	01-Feb-2000
Method and Apparatus for Calculating Access Between Satellite Constellations and Ground Targets	6,144,334	07-Nov-2000
Method and Apparatus for Determining Close Approaches for Earth- Fixed Launch Trajectories	6,102,334	15-Aug-2000
Method and Apparatus for Alerting a User Regarding the Position of a Satellite	6,160,509	12-Dec-2000
Method and Apparatus for Sequentially Profiling and Solving Problems in Space Mission Analysis	6,937,968	30-Aug-2005
Method and Apparatus for Creating Elements and Systems for Description of Position and Motion of Bodies in Three-Dimensional Space to Support Orbital Maneuver Analysis	6,859,769	22-Feb-2005
Method and Apparatus for Determining Optimal Paths Among Objects of a Communications Network	6,195,553	27-Feb-2001
Method and Apparatus for Determining Obscuration of Sensors that are Mounted on a Spacecraft	6,850,875	01-Feb-2005
Method and Apparatus for Modeling Transmitter Bandwidth for Telecommunications Analysis	6,473,597	29-Oct-2002
Method and Apparatus For Orbit Determination	6,708,116	16-Mar-2004
A System and Method for Visualization of Attitude and Attitude/Position Dependent Data	7,224,311	29-May-2007
GPS Carrier Phase Measurement Representation and Method of Use	7,050,002	23-May-2006
Method for Refining State Estimates of a Global Positioning System (GPS) Receiver Based Upon Sequential GPS Carrier Phase Measurements	7,423,583	09-Sep-2008
Visualization of Field of View Constraints	7,609,907	27-Oct-2009
Method For Determining Maximum Conjunction Probability Of Rectangular-Shaped Objects	7,383,153	03-Jun-2008
Method for Visualizing Data Clouds Using Color and Opacity Blending	7,928,980	19-Apr-2011

## Exhibit C

### Trademarks

Description	Registration/ Application No.	Registration/ Application Date
United States:		
4D ANALYST	3,413,624	April 15, 2008
AGI SMART	In process	In process
ANALYTICAL GRAPHICS & Design	1,753,678	February 23, 1993
CAT	2,190,735	September 22, 1998
CLOSE APPROACH TOOL	2,183,150	August 18, 1998
Insight3D	3,736,744	January 12, 2010
NavTK	3,215,805	March 6, 2007
SATELLITE TOOL KIT	2,244,063	May 4, 1999
SATELLITE TOOL KIT	3,685,833	September 22, 2009
STK	2,323,113	February 29, 2000
STK/ASTROGATOR	2,470,247	July 17, 2001
STK SATELLITE TOOL KIT	1,738,121	December 8, 1992
Japan:		
ANALYTICAL GRAPHICS	5270579	October 2, 2009

TRADEMARK REEL: 004567 FRAME: 0547

**RECORDED: 06/22/2011**