RELEASE GUIDE
IMAGESTATION

June 03, 2016

Contents

ABOUT THIS RELEASE

This document describes the enhancements for ImageStation. Although the information in this document is current as of the product release, see the Hexagon Geospatial Support website for the most current version.

This release includes both enhancements and fixes. For information on fixes that were made to ImageStation for this release, see the Issues Resolved section. For information on enhancements, see the New Technology section.

This document is only an overview and does not provide all of the details about the product's capabilities. See the online help and other documents provided with ImageStation for more information.

IMAGESTATION

ImageStation$^®$ software suite enables digital photogrammetry production workflows, including project creation, orientation and triangulation from aerial and satellite imagery. It also provides stereo GIS feature collection and editing, digital terrain model (DTM) collection and editing, as well as orthophoto production and editing. ImageStation is specially designed for high-volume photogrammetry and production mapping customers who need to move large quantities of raw spatial information to an actionable or exploitable format.

NEW PLATFORMS

GEOMEDIA 16.00 AND CORE COMPONENTS

The ImageStation suite of products has been updated for compatibility with GeoMedia 16.00 and its underlying core components, including Common Raster Platform and Common Coordinate Systems.

SUPPORT FOR WINDOWS 10

ImageStation now offers support for all applications on the Windows 10 operating system. Please see the Installation Guide and NVIDIA Driver Configuration Instructions on the ImageStation master setup for more information.

NEW PRODUCT – IMAGESTATION DTM FOR GEOMEDIA (ISDG)

This release includes an updated version of the new ImageStation DTM for GeoMedia (ISDG). This product combines with GeoMedia and ImageStation Stereo for GeoMedia (ISSG) to perform DTM collection and editing in the stereo environment. It can also be used to feed geomorphs from your GIS into ImageStation Automatic Elevations (ISAE) for automated surface generation, the results of which can be returned to ISDG and ISSG for stereo editing and surface updating. ISDG was initially released in mid-2015. This updated 16.0 release includes new View Contours and Create True Ortho Surfaces commands.

NEW TECHNOLOGY

SUPPORT FOR NVIDIA QUADRO M SERIES GRAPHIC CARDS (ISPM, ISAT, ISSG, ISSD)

Support for NVIDIA Quadro M series graphic cards on has been added to the ImageStation applications which can perform stereo display. Use of these cards on Windows 7 with **ISSG** is not recommended at this time due to driver limitations. We are continuing to investigate this with NVIDIA, check with Hexagon Geospatial support for the latest information on this.

NEW PICK LIST FOR DIGITAL CAMERA SENSORS (ISPM)

A new pick list has been added to the **Camera Wizard** that allows the selection of ZI/Leica digital cameras to have the camera parameters (such as focal length, sensor dimensions, and pixel size) automatically populated. If one of the RCD30 camera types is selected, a camera for each look angle is also created automatically. An "Other" option is available to allow the user to define digital cameras for non-ZI/Leica sensors. CR 1-96KTNJ.

IKONOS/GEOEYE REFORMAT IMAGES PROCESSES JPEG 2000 FILES (ISPM)

The **IKONOS/GeoEye Reformat Images** command has been modified to scan the input image folder for *.jp2 files in addition to *.tif and *.ntf files. This allows the command to locate JPEG 2000 format images delivered from satellite vendors and embed the accompanying RPC.txt files into the output files.

NEW RECURSIVE OPTION FOR IKONOS/GEOEYE REFORMAT IMAGES (ISPM)

A **Recursive** checkbox option was added to the **IKONOS/GeoEye Reformat Images** dialog that causes the command to search recursively through subfolders to find images with corresponding RPC files and reformat them. This saves users from having to manually copy all files to one folder, or from running the command over and over in each subfolder.

REMOVED CONFIRMATION BOXES (ISPM)

Removed the prompt messages that appear every time the user creates a new photo or model. These were particularly annoying when setting up satellite projects.

NEW STORAGE STRUCTURE FOR BUNDLE RESULTS (ISAT)

The previous method of storing the bundle adjustment results in a Microsoft Access database (block.mdb) has been replaced with an AT subfolder structure of files that allows ISAT to be able to load the adjustment results 30 times faster (excluding time to populate the PhotoT GUI) and uses three times less disk space.

NEW 64-BIT BUNDLE ADJUSTMENT (ISAT)

A new 64-bit bundle adjustment, Photo Triangulation eXtreme (PhotoTX for short), has been implemented in ISAT. This adjustment method is called directly from ISAT during the automatic point matching process, can be accessed from the **Orientations** pull down menu to run as a separate process, and can be run completely outside the ISAT environment, either by command line or from the **Start** menu, to open very large projects and triangulate them

extremely fast, using 3x less memory than PhotoT. As an example, when run from outside the ISAT environment, PhotoTX is able to open a 6000 photo ISPM project and create a new AT block with over one million image points in less than ten seconds, and is able to compute an adjustment in under ten seconds. PhotoTX stores and reads data to/from the aforementioned new AT sub-folder structure, so subsequent opening of the same large AT block is nearly instantaneous.

ADDED SUPPORT FOR WORLDVIEW-3 SENSOR (ISST)

Add logic so that ISST will recognize "WV03" as a valid sensor type. Since WorldView-4 will be launched soon, also added support for "WV04."

ADDED SUPPORT FOR GEOEYE-1 SENSOR (ISST)

Added support for Digital Globe's new GeoEye-1 sensor metadata format.

NEW DEFAULTS FOR POINT MATCHING (ISAE)

The default values for **Parallax Bound** have been changed to 8, 15, and 22 for **Terrain Types** Flat, Hilly, and Mountainous, respectively, to more accurately reflect values appropriate for today's higher resolution sensors. The **Epipolar Line Distance** has been modified to always default to 3, and the **Smoothing Filter** has been modified to always default to Low.

BLOCKWISE MATCHING ADDED (ISAE-EXT)

A **Blockwise Matching** option has been added to ISAE-Extended. This reduces the amount of redundant coverage and can speed jobs by three times or more.

ORTHO MODE PLACEMENT ENHANCED (ISSG)

When digitizing features with ortho mode enabled, the entire feature was being redrawn every time a new point was placed. This was annoying and time consuming, especially when digitizing large structures. CR 1-9OHLWN.

ACTUAL SYMBOL DISPLAY IN STEREO VIEW (ISSG)

An option has been added to the **Advanced Options** dialog to **Display the Actual Symbols** in the stereo views instead of the "dummied down" place holders that were used in the past. CR 1-9PQ1MX.

NEW REDIGITIZE GEOMETRY COMMAND (ISSG)

A new **ISSG Redigitize Geometry** command has been added to work more effectively in the stereo environment. It fixes issues related to the display of dynamics while editing, and better handles large features. It allows the user to change the direction of the editing by pressing the letter "j" on the keyboard. The user can also toggle which segment of a closed polygon feature will be edited by pressing the letter "e" on the keyboard. CRs 1-9A3MP7 and 1-9N5OS7.

MODIFIED CURSOR BEHAVIOR (ISSG)

Changed the behavior such that when finished placing a feature in a plain map window the cursor is not automatically toggled back into roam mode. CR 1-BG5I4Q.

DELETE POINTS WHILE DIGITIZING LINEAR FEATURES (ISSG)

Added the ability to have point features that fall within the specified distance as defined on the **Softcopy Stereo Enabler Options** page to be deleted as the linear feature is being digitized.

CUSTOM EDIT COMMANDS (ISSG)

Several custom edit commands have been added to ISSG that allow users to delete, flatten and change the elevation of point data within a user-specified polygon area. A **Dynamic Point Editor** has also been added that allows the user to make the same sorts of edits by dragging a large template cursor over the problem areas while roaming about in the stereo view.

DELIVER 3D INPUT DEVICE TESTER (ISSG)

The executable used for testing 3D input devices, formerly known as HHCTBTST.exe and only delivered with ISSD, is now delivered with ISSG to the C:\Program Files (x86)\Common Files\ZI Imaging\SSE\Bin folder and is now called 3DInputDeviceTester.exe. This executable can be used to test the buttons on supported 3D input devices. CR 1-9894VP.

MODIFIED MENU STRUCTURE IN STEREO SOFTCOPY ENABLER (ISSG)

The menus for the SSE toolbar have been rearranged to make command location more intuitive. All commands related to cursor behavior are under the **Cursor** menu; all commands associated with unhosted windows are under the **Windows** menu; all view control commands are under **View**, etc.

VIEW CONTOURS (ISDG)

A new command was added to ISDG to generate contour features from selected surfaces and displays them in GeoMedia. The contours are created for viewing purposes but can also be saved to a warehouse as permanent features for editing purposes.

CREATE SURFACES FOR TRUE ORTHO (ISDG)

A new command was added to ISDG to create true ortho surfaces for use in OrthoPro. The command scans GeoMedia warehouse connections for user specified area features, such as roof tops and bridges, and creates individual surface files in descending order from highest to lowest in the specified output location.

ADDED SUPPORT FOR SQL SERVER SPATIAL (ISDG)

ISDG has been updated to allow users to store ISDG DTM project data into a SQL Server Spatial database.

MODIFIED VIEW COMMANDS TO HONOR SPATIAL FILTERS (ISDG)

The View Triangles and View Contours commands were modified so that any features that get added to the legend and map window display will honor any spatial filters that are set in the geoworkspace. This improves performance when displaying stereo models with ISSG.

USE SYSTEM MOUSE FOR DATA CAPTURE (ISSD)

ISSD has been modified to allow the user to capture 3D data using just a system mouse. The wheel on the mouse is used to change the elevation of the stereo cursor. Double-clicking the middle button loads and unloads Roam.

64-BIT NATIVE IMAGESTATION IMAGE FORMATTER (ISIF)

ISIF has been converted to a 64-bit native application which will allow it to reformat files faster.

64-BIT ORTHORECTIFICATION (ISOP)

The rectification portion of ImageStation OrthoPro is now a 64-bit executable which will allow it to rectify images using larger surfaces that exceed the 32-bit architecture limit. The rectification module also can optionally chain in the DodgePlus program which is also 64-bit. This allows users to rectify, dodge, de-haze, and perform ADRA (automatic dynamic range adjustment) all in one operation.

64-BIT SPATIAL MODELER RTE

The ERDAS Spatial Modeler Raster Support Format setup, found in the Supporting Software section of the Hexagon Geospatial Setup Manager, has been modified to deliver both the 32-bit and 64-bit version of the Spatial Modeler runtime environment. This allows 64-bit ImageStation products, such as ISAE-Ext, ISIF, and ISOP to process projects that have IMG format files for input.

BETTER INTEROPERABILITY WITH IMAGINE PHOTOGRAMMETRY (IMAGINE)

The **Export Tools** in IMAGINE now have an ImageStation Project option that writes out more complete aerial photogrammetric project files for use in ImageStation. This makes projects coming from BLK files more easy to use with ImageStation applications.

EXPORT TO RPC WRITES .TXT FILES (IMAGINE)

The **Export to RPC** command in IMAGINE has been modified to allow users to write _RPC.txt files from satellite photogrammetric projects that were set up and triangulated with IMAGINE Photogrammetry. These text files, along with the satellite images, can then be used by the ISAT/ISPM IKONOS/GeoEye tools to create projects for use with ImageStation. This provides a means for exploiting satellite projects with ImageStation applications for sensors that ISST does not support.

EXPORT SURFACES REPORTS COORDINATES FOR OFFENDING ELEMENTS (ISDC)

The **Export Surfaces** batch command in ISDC has been modified to report to the log file the first XY coordinate of any element in the design file that fails to generate a surface. Users can use this information to locate problem features (typically vertical walls) and fix them. CR 1-D4IFQP.

ADD COORDINATE SYSTEM INFORMATION TO LAS FILES (ISAE-EXT)

An option has been added to the **Job Processing** tab of ISAE-Extended that allows users to add the coordinate system information to the output LAS files, which makes the files compatible with more third-party programs. The

same executable that writes the coordinate system information to the files (*AddCStoLAS.exe*) can also be run from command line to process many files at one time, outside the ISAE-Extended environment. Please see the ISAE-Extended Help for more information.

EXPORT LAS TO HPC FORMAT (ISDQ)

An option has been added to the ISDQ **Export** list of functions that allows users to convert LAS or compressed LAZ files to Hexagon Point Cloud (HPC) format. This is a highly efficient format for storing point cloud data and it displays very quickly in other programs such as GeoMedia 3D and ERDAS IMAGINE.

DTMMERGE IS MUCH FASTER (ISDQ)

The **DTMMerge** command used to only merge two files at a time and performed redundant and unnecessary data checks as the files were merged. The command has been modified to open a single output file one time and merge multiple input files into it. The check for duplicate points has also been eliminated since the triangulation process does the same thing anyway and in a much more efficient manner. This makes the overall process exponentially faster than before.

SYSTEM REQUIREMENTS

IMAGESTATION

Computer/ Processor	64-bit: Intel 64 (EM64T), AMD 64, or equivalent (Multi-core processors are strongly recommended)
Memory (RAM)	4 GB minimum, 8 GB minimum for ImageStation Automatic Elevations-Extended
Disk Space	4 GB for software Data storage requirements vary by mapping project[1]
Operating Systems	- Windows[®] 7 SP1 or higher, Professional and Ultimate (64-bit) - Windows[®] 8.1, Professional and Enterprise (64-bit) - Windows[®] 10, Professional and Enterprise (64-bit)
Database Server Engines	- Any GeoMedia-supported warehouse connection - see GeoMedia documentation for details on read-only and read-write database server connections and versions that are supported. - SQL Server or SQL Server Express 2012 or 2014 (64-bit) is required for ImageStation DTM for GeoMedia
Software	**ImageStation is compatible with the following software packages and may require them,**

depending on the modules used.

ImageStation Photogrammetric Manager

ImageStation Automatic Elevations

ImageStation Automatic Elevations–Extended

ImageStation DTMQue

ImageStation Image Formatter

- No prerequisites

ImageStation Automatic Triangulation

- ImageStation Photogrammetric Manager is required

ImageStation Satellite Triangulation

- ImageStation Photogrammetric Manager is required
- ImageStation Automatic Triangulation is required

ImageStation Stereo Display

ImageStation Feature Collection

- MicroStation V8i is required.

ImageStation DTM Collection

- MicroStation V8i is required.
- ImageStation Stereo Display and ImageStation Feature Collection are recommended.

ImageStation OrthoPro

ImageStation PixelQue

ImageStation Stereo Viewer for GeoMedia

- GeoMedia Essentials, Advantage, or Professional tier is required.

ImageStation DTM for GeoMedia

- GeoMedia Essentials, Advantage, or Professional tier is required.
- GeoMedia Advantage or Professional, and ImageStation Stereo for GeoMedia are

	recommended. - SQL Server or SQL Server Express 2012 or 2014 (64-bit) is required. ImageStation Stereo for GeoMedia - GeoMedia Advantage or Professional tier is required
Graphics Boards	See table "Currently Qualified Graphics Boards for Stereo Viewing"
Graphics Displays	The following monitors are currently qualified for stereo viewing (although others may adequately perform). - Planar, model SA2311W 3D Vision™ Ready Monitor - Acer model GD235 - Samsung model 2233rz - Viewsonic model VX2268wm - Viewsonic model V3D245 (single display only) - ASUS model VG278H - ASUS model VG278HE (single display only) - BenQ models XL2420T/Z
Peripherals	3D pointing device (Z/I Mouse, softmouse 3D, Stealth 3D Mouse (E-Type and V-Type), TopoMouse) recommended

CURRENTLY QUALIFIED GRAPHICS BOARDS FOR STEREO VIEWING[4,5]

Graphics Board	NVIDIA 3D Active 1 display	NVIDIA 3D Active 2 displays (stereo/mono)	NVIDIA 3D Active 2 displays (stereo/stereo)
Quadro M6000	yes	yes	yes
Quadro M5000	yes	yes	yes[2]
Quadro M4000	yes[2]	yes[2]	yes[3]

Quadro K6000	yes	yes	yes
Quadro K5200	yes	yes	yes
Quadro K5000	yes	yes	yes
Quadro K4200	yes	yes	yes[2]
Quadro K4000	yes	yes	yes[2]
Quadro 6000	yes	yes	yes[2]
Quadro 5000	yes	yes	yes[2]
Quadro 4000	yes	yes	yes[2]
Quadro FX 5800	yes	yes	yes
Quadro FX 4800	yes	yes	yes[2]
Quadro FX 4700	yes	yes	yes
Quadro FX 4600	yes	yes	yes

SYSTEM REQUIREMENTS NOTES

[1] Disk I/O is usually the slowest task in geospatial data processing. Faster hard disks improve productivity. Reading data from one disk, writing temporary data to a second disk, and writing final data to a third disk improves performance. Disk arrays improve productivity, but some RAID options slow performance. Network disk drives are subject to network limitations.

[2] DP to DVI-D dual link adaptor required.

[3] Two DP to DVI-D dual link adaptors required.

[4] Refer to the **NVIDIA Driver Configuration Instructions** on the ImageStation product DVD for driver information for each graphics card and operating system.

[5] See the **Known Issues** section for more information about graphics drivers.

ISSUES RESOLVED

IMAGESTATION ORIENTATIONS (ISPM, ISAT, ISST)

CR #	Summary - Orientations	Description / How to Reproduce
NVIDIA Bug ID: 1542959	Tracking windows disappear from stereo views in ISAT on Windows 8.1	Problems with the video driver would cause ISAT to fail to display the tracking windows properly while running Orientations. ImageStation code was modified to work around the driver bugs.
NVIDIA Bug ID: 1543327	Control points do not display on image in footprint viewer in ISAT on Windows 8.1.	Problems with the video driver would cause ISAT and ISPM to fail to display the control points on the images in the Footprint Viewer. ImageStation code was modified to work around the driver bugs.
1-JGSQO4	"Shift Map Photo" gadget does not shift with the rest of the controls	In Multiphoto Orientations, expand the "Select Display Photos" dialog, then stretch the dialog vertically. Witness that the "Shift Map Photo" gadget does not shift with the rest of the controls; it remains at its original position and covers photo IDs.
IS-9789	Atmospheric Refraction correction can corrupt photo file	In Multiphoto Orientations, if a user measured all the control points in the project first, then started adding pass/tie point measurements while Atmospheric Refraction correction was enabled, it could cause the photo file to become corrupted.
1-JJC655	Need better error handling for misconfigured ZIJobService	If the user forgets to change the ZIJobService to a real login account. i.e. if it is set to Local System Account, the Job Status will go to "Queued" but then will hang without any indication why. The user must get out of ISAT, set the ZIJobService to a proper authorized account, manually delete the sub-block files, delete the blocks.ini file, and then resubmit the job. The odd thing is that if the user has a real login account assigned but the password has expired ISAT will put a message in the log file indicating something is wrong with the account, but not if Local System Account is used. We need to trap this Local System Account condition as well.
1-B5YI53	Import ADS fails for square images	The Import ADS command fails for projects where the input images are square, as opposed to the long strips we are used to seeing.
1-B5YI74	ADS display in Multiphoto is wrong	Created a new ADS project, then opened the photos in Multiphoto. The control points fail to project onto the photos, and the coordinate readout for the stereo view is all garbage, as though something is not re-projecting properly. The control points display fine in the Footprint Viewer, and the models display fine in ISSD.

IMAGESTATION STEREO DISPLAY (ISSD)

CR #	Summary - ISSD	Description / How to Reproduce
1-9JO8GP	Deleted items do not disappear from stereo view	Complex features do not disappear from stereo views when they are deleted.

		1. Load roam. 2. Activate a dual mode feature such as Primary Highway. 3. Digitize the feature with line points and curve points then end the feature. 4. Drop roam. 5. Load roam. 6. Key in DEL and then delete the feature. Witness that it does not disappear from the stereo view(s). Same problem occurs with Partial Delete command. Problem does NOT occur with simple line strings. Deleted features/segments DO disappear when roam is dropped.
NVIDIA Bug ID: 1542946	Vectors flash on screen in Windows 8.1	Vectors randomly flash to the display while placing or deleting features when using Windows 8.1.
1-67PT55	Menu problem when running with InRoads	Running ISSD with InRoads causes a conflict with the Application menu in MicroStation. The ISSD menu has been disabled when running with InRoads; users should use "issd openmenu" to access the menus. See details for modifying the InRoads Start Menu in "Starting ISSD with InRoads" Help topic.
1-AIEMUR	Crash when selecting feature with A3 data set	On Win 8.1, ISSD Crashes upon selecting the complex feature on the stereo view with the A3 Vision map Dataset. 1. Load ISSD and ISFC with the A3 Vision Map. 2. Fit the Stereo View. 3. Digitize a complex feature (Primary Highway with the Secondary Digitization Mode) 4. End the digitization. 5. Select the Complex Feature on the stereo view. Observation: ISSD crashes with the error. This is only observed with the Window 8.1. This makes it unable to perform the editing operations.
1-9YRRYN	Use Display Depth in Roam is not working	Activating the option to Use Display Depth in Roam is not working correctly, sometimes causing features to not be displayed that should be.
N/A	TopoMouse is not working	1. Install and Configure the TopoMouse driver software on a system with an Nvidia Quadro "K" series card. 2. Start ISSD with the TopoMouse plugged in. Observation: ISSD hangs during start up. After unplugging the TopoMouse ISSD works fine. Same is also observed with Orientations and ISSG.

		Fix requires new TopoMouse driver from Silicon Labs.
1-9N5OT3	Split and Merge commands don't update vectors in the stereo view	When using the GeoMedia Split or Merge commands, the vectors were not getting updated in the stereo views.
1-BPQ0B3	WSHIFT throws error	While running ISSD, if the user keys in "wshift" to load that command, a DOS command window appears indicating "read_cfig: Error opening file C:\Program Files (x86)\Hexagon\ImageStation Stereo Display 2015\Config\\cmcfig." The WSHIFT command still functions properly though, and the user can copy the cmcfig file from the ISFC product config folder to the ISSD location to make the error go away. As WSHIFT is part of the ISSD code line it should be delivered with ISSD.

IMAGESTATION STEREO FOR GEOMEDIA (ISSG)

CR #	Summary - ISSG	Description / How to Reproduce
1-9SKDO7	Undo function is unreliable	The GeoMedia UNDO function sometimes fails to work after placing features with ISSG. The problem occurred if the user did not terminate the ISSG Insert Feature command by pressing ESC or activating the Select command.
1-7HNFJD	Parallel Draw persists after issuing Select command	The Parallel Draw dialog that is displayed when digitizing features with ISSG Insert Feature would remain open even after issuing the Select command.
1-ARFYHN	Generate Stereo Model Boundaries fails	This command will fail if there is more than one warehouse connection in the workspace. To reproduce: 1. Open a workspace and make at least two warehouse connections. 2. Run Generate Stereo Model Boundaries. 3. Select some models to display and click OK. Witness the command fails due to "some unknown error." To get past the problem the user must delete any additional connections; i.e. it is not sufficient to simply close the extra connections.
1-9A3MP7	Dynamics fail to display during Redigitize command	Dynamics fail to display while using the GeoMedia Redigitize edit command. A new Redigitize command has been added to ISSG to resolve this issue.
1-9N5OS7	Redigitize fails for large features	The Redigitize command performs poorly when editing large features. New ISSG Redigitize Geometry command was added to resolve this issue.
N/A	Tentative doesn't work	The Tentative Snap operations would cause a variety of problems while trying to

	properly while using Redigitize	use Redigitize Geometry.
1-A001TB	System cursor has interaction with stereo cursor	Work in roam mode. Grab the system mouse, hover around and see GeoMedia icons highlighted, although the system cursor isn't visible. This causes the system cursor to respond to the button press of the stereo mouse.
1-9N5OT3	Stereo view doesn't update with Merge/Split commands	The stereo view often does not update when using the Merge or Split Geometry commands.
1-BVGWJ7	Dynamic Zoom crashes when using Dynamic 2D mode	Getting a crash while trying to use Dynamic Zoom when the view is set to Dynamic 2D. To reproduce: 1. Load a stereo model with ISSG. 2. Activate View >> Dynamic 2D. 3. Load roam, pan about, and use DZ a couple times to change the zoom factor. After about 2 or 3 tries a crash will occur in ZIPCORE.
1-9HKU6T	SSE icons not visible if GM (Pro) is launched by double-click on existing GWS	Double-click on an existing GWS to launch GeoMedia. When application has opened, quickly switch to ISSG ribbon and launch SSE. Observe, that SSE doesn't show icons and a few seconds later GM crashes. If the user pauses a couple seconds prior to clicking the Stereo On or SSE menu item the problem does not occur. Problem also does not occur if you open the workspace through GM's selection dialog (as opposed to double-clicking on the .GWS file).
N/A	Thematic Features don't display in stereo view	Features that are nested in the legend under a thematic entry fail to load into the ISSG stereo view properly. The user must turn them off in the legend and back on to get them to appear.
1-BMQKL1	Changing system text size truncates dialog box	If you go to Control Panel\All Control Panel Items\Display and change the text size to either Medium or Larger than the dialog box for Generate Stereo Model Boundaries will be truncated in ISSG. The user cannot get to the controls to apply changes. Setting the Display back to Smaller fixes this issue.

IMAGESTATION IMAGE FORMATTER (ISIF)

CR #	Summary - ISIF	Description / How to Reproduce
1-8YBD4B	Need better error handling	On the Image Path tab there are two folder browsers. These browsers persist the location of the last folder that is used, which is good. The bad news is that if the last used folder is on a server/system that is no longer available, or is offline for some reason, and the user clicks on the browser button it throws a real ugly error and won't let the user browse for a different folder. The workaround is to use Windows Explorer to browse to a new location and use drag and drop to populate the dialog, and key in a location for the Output Folder location. We ought to trap

this situation and simply open the dir picker to some default system location.

IMAGESTATION DTMQUE (ISDQ)

CR #	Summary - ISDQ	Description / How to Reproduce
1-B3D4RX	Output to GeoTIFF loses datum info	While converting LAS files to DTM, then to GeoTIFF, the output files can sometimes lose both the geodetic and vertical datum information associated with the input CSF file. It also loses the State Plane projection in this case but does retain the proper Transverse Mercator information for the area.
1-91PPDN	ASC2DTM fails if input file has point IDs	The ASC2DTM command has an option on the GUI for "ID E N Hgt" but it doesn't work. If you try to feed it a file with this option that has point IDs at the beginning of each line it will error off indicating "invalid format." If you remove the point IDs and use the "E N Hgt" option it works fine.
1-94LOBH	Scrolling conflict messages degrade performance	During the TriangulateDTM process, there are often times a lot of warning messages that scroll due to conflicting elevations (data points at the same location with differing Z values). A warning message is reported for each occurrence and scrolled to the ISDQ output screen. If the data has a lot of these conflicts, such as unfiltered LAS or SGM files, this constant scrolling slows down the processing speed. For one case I was able to speed the process from about seven minutes down to four minutes by running the workflow script outside the ISDQ GUI. There is an option to suppress the messages but this actually makes matters worse because a pipe gets filled and then the process hangs.

IMAGESTATION AUTOMATIC ELEVATIONS (ISAE)

CR #	Summary - ISAE	Description / How to Reproduce
N/A	Can't submit multiple portions of one project on one system	ISAE deletes all existing files from the ISDC\ISAE\Temp folder each time a list of models is submitted for processing. This prevents users from breaking projects into smaller segments and submitting the jobs in parallel. ISAE has been modified to stop deleting these Temp files so that jobs can be run in parallel on one system.
1-8K75I3	DTS error – Tile cache is full	This error can occur if attempting to process two projects at the same time. Each project will process perfectly fine when run by itself. When run concurrently, Image Pipe will hang and post the error in the Summary to the event log, causing the AEC.exe processes to also hang. If you kill the IP_API process the next models in each project will start processing perfectly fine. When one of them finishes and causes another job to get spawned IP will hang again. Have increased the registry setting at HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\ZI Imaging\ImagePipe\Demand Tile Server\Cache Size from 12 to 256 to help alleviate this issue.

IMAGESTATION AUTOMATIC ELEVATIONS EXTENDED (ISAE-X)

CR #	Summary – ISAE-X	Description / How to Reproduce
1-911H6H	Results for >8-bit data are worse than in previous release	Have a 14-bit data set that used to give impressive results. Now the results are terrible. This affects any data set greater than 8 bits per pixel. If I drop back to

XProSGM version 5.2 the results are really good again.

IMAGESTATION DTM COLLECTION (ISDC)

CR #	Summary – ISDC	Description / How to Reproduce
1-EYJBTJ	Export Surfaces does not trap zero-length lines	The Export Surfaces command needs to trap zero-length lines and NOT attempt to create exterior boundary surface features from them. When run ISDC creates 1kb surfaces from such elements which later will cause problems in ortho production.

IMAGESTATION FEATURE COLLECTION (ISFC)

CR #	Summary – ISFC	Description / How to Reproduce
1-L3QHP9	Autocenter option keeps getting disabled	"FC set autocenter on" command works for one feature and then when you start another line it gets turned off. Steps to reproduce: 1. Open ISFC in any DGN file with View 1 and View 2 open. 2. Activate a linear feature, such as a road, to digitize from the ISFC Active Feature dialog box. 3. Key in "fc set autocenter on" in the MSTN keyin pane. 4. Digitize the feature in View 1 and note that View 2 keeps window centering wherever the points are clicked at. 5. Click Reset to end the feature and start digitizing another one. 6. Witness that View 2 no longer autocenters with each point placement. User must re-activate the keyin. Note that problem occurs with any linear feature, not for shapes or cells/symbols.

IMAGESTATION ORTHOPRO (ISOP)

CR #	Summary – ISOP	Description / How to Reproduce
1-C20RBV	True Ortho process gets stuck in infinite loop	True Ortho process (vzgen.exe) can get hung in an infinite loop in certain cases where there are small gaps between roof surfaces.
1-BR5NV9	Adjacent processing causes errors	Having the Adjacent Processing option enabled during rectification can cause errors to occur. Not all seamlines are added to the project as the orthos are created as they should be. In this case, the user must get out of GM and back in to the project to see all the seamlines.
1-BAYFUV	Select by Polygon closes ISOP	If the user picks the Select by Polygon option in GeoMedia it causes ISOP to close. The same thing happens if Topo Select is picked.

1-55YKXQ	Project Area coordinate key ins are ignored	In Project Planning, on the Project Area tab if the user keys in the coordinates of the Project Area the second set of coordinates are ignored. The values keyed in will remain if the user exits Project Planning but the display of the Project Area never changes on the Map Window. Similarly, if the user changes the Rotation value nothing happens until the user regenerates the project area by drawing it or selecting MBR of orthos or select set.
1-7JK71A	Loading Orthos one at a time doesn't update the Project Area polygon	In Project Planning, loading Orthos one at a time doesn't update the Project Area polygon correctly. Steps to reproduce; 1. Create a new ISOP project and Add one ortho. 2. Select MBR of Orthos in Project Area tab. 3. Add a second ortho. 4. Select MBR of Orthos again. Notice the Boundary of the project area fails to update to the minimum bounding rectangle of the loaded orthos.

DEPRECATED

WINDOWS 8.0

ImageStation support for the Windows 8.0 operating system is considered to be viable in this release, which means it is expected to work but is no longer tested, and problems that are unique to it are not guaranteed to be fixed.

BLOCK.MDB (ISAT)

The use of a Microsoft Access database (block.mdb) for storing bundle adjustment results from ISAT has been deprecated and replaced with an AT sub-file structure of files for better performance and memory management. Legacy projects with block.mdb files will still be honored, but new projects that are adjusted will no longer produce this file.

HHCTBTST.EXE (ISSD)

The executable used for testing 3D input devices, formerly known as HHCTBTST.exe, has been renamed to 3DInputDeviceTester.exe. Formerly only delivered with ISSD to that product's \bin folder, it is now also delivered with ISSG to the C:\Program Files (x86)\Common Files\ZI Imaging\SSE\Bin folder.

DTMSCANNER USE WITH DTMMERGE (ISDQ)

The use of DTMScanner to feed input files into DTMMerge has been deprecated. DTMMerge now uses an **input** folder and **input-mask** to indicate which files to merge to a single output file. This allows the output file to be opened one time and have multiple files written to it extremely efficiently.

DTMMERGE CHECKS FOR DUPLICATE POINTS (ISDQ)

The DTMMerge command used to check input surfaces for duplicate points and eliminate them which made the merge operation painfully slow since all points were being compared to all points. This check has been eliminated. Any duplicate points will be eliminated during the triangulation process in a much more efficient manner.

KNOWN ISSUES

IMAGE CORRUPTION AT BOTTOM OF STEREO VIEW

Loading a stereo view into Roam mode in any application will cause a narrow band of image corruption along the bottom and along the right edge of the stereo display when using Windows 8.1 or Windows 10. This problem does not occur on Windows 7. We are continuing to investigate this with NVIDIA, check with Hexagon Geospatial support for the latest information on this.

JERKY ROAM PERFORMANCE IN ISSG ON WINDOWS 7

The use of NVIDIA "M" and "K" series cards with ISSG on Windows 7 causes the roam view to momentarily halt when the stereo cursor passes over existing features that are locatable, which in turn causes a snap glyph to appear. This can result in extremely jerky roam if there are a lot of features displayed and **SmartSnap** options are enabled on the **Vector** tab. This problem does not occur with older cards, nor does it occur on Windows 8.1 or Windows 10. Users can disable the **SmartSnap** options to alleviate the problem. We are continuing to investigate this with NVIDIA, check with Hexagon Geospatial support for the latest information on this.

ABOUT US

Hexagon Geospatial helps you make sense of the dynamically changing world. We enable you to envision, experience and communicate geographic information. Our technology provides you the form to design, develop and deliver solutions that solve complex, real-world challenges. Ultimately, this is realized through our creative software products and platforms.

CUSTOMERS. Globally, a wide variety of organizations rely on our products daily including local, state and national mapping agencies, transportation departments, defense organizations, engineering and utility companies, and businesses serving agriculture and natural resource needs. Our portfolio enables these organizations to holistically understand change and make clear, reliable decisions.

TECHNOLOGY. Our priority is to deliver products, platforms and solutions that make our customers successful. Hexagon Geospatial is focused on developing technology that displays and interprets information in a personalized, meaningful way. We enable you to transform location-based content into dynamic and useable business information that creatively conveys the answers you need.

PARTNERS. As an organization, we are partner-focused, working alongside our channel to ensure we succeed together. We provide the right platforms, products, and support to our business partners so that they may successfully deliver sophisticated solutions for their customers. We recognize that we greatly extend our reach and influence by cultivating channel partner relationships both inside and outside of Hexagon.

TEAM. As an employer, we recognize that the success of our business is the result of our highly motivated and collaborative staff. At Hexagon Geospatial, we celebrate a diverse set of people and talents, and we respect people for who they are and the wealth of knowledge they bring to the table. We retain talent by fostering individual development and ensuring frequent opportunities to learn and grow.

HEXAGON. Hexagon's solutions integrate sensors, software, domain knowledge and customer workflows into intelligent information ecosystems that deliver actionable information. They are used in a broad range of vital industries.

Hexagon (Nasdaq Stockholm: HEXA B) has more than 16,000 employees in 46 countries and net sales of approximately 3.4bn USD. Learn more at hexagon.com and follow us @HexagonAB.

Copyright

© 2016 Hexagon AB and/or its subsidies and affiliates. All rights reserved. Hexagon has registered trademarks in many countries throughout the world. Visit the Trademarks Page for information about the countries in which the trademarks are registered. See Product Page and Acknowledgments for more information.

Product Documentation Terms of Use

PLEASE READ THESE TERMS CAREFULLY BEFORE USING HEXAGON GEOSPATIAL'S DOCUMENTATION ("DOCUMENT"). USE OF THIS DOCUMENT INDICATES ACCEPTANCE OF THIS AGREEMENT WITHOUT MODIFICATION. IF YOU DO NOT AGREE TO THE TERMS HEREOF ("TERMS"), DO NOT USE THIS DOCUMENT.

Use Of This Document

All materials in this Document are copyrighted and any unauthorized use may violate worldwide copyright, trademark, and other laws. Subject to the terms of this Agreement, Hexagon Geospatial (a Division of Intergraph Corporation) and Intergraph's subsidiaries ("Intergraph") hereby authorize you to reproduce this Document solely for your personal, non-commercial use. In consideration of this authorization, you agree to retain all copyright and other proprietary notices contained therein. You may not modify the Materials in any way or reproduce or publicly display, perform, or distribute or otherwise use them for any public or commercial purpose, except as specifically authorized in a separate agreement with Hexagon Geospatial.

The foregoing authorization specifically excludes content or material bearing a copyright notice or attribution of rights of a third party. Except as expressly provided above, nothing contained herein shall be construed as conferring by implication, estoppel or otherwise any license or right under any copyright, patent or trademark of Hexagon Geospatial or Intergraph or any third party.

If you breach any of these Terms, your authorization to use this Document automatically terminates. Upon termination, you will immediately destroy any downloaded or printed Materials in your possession or control.

Disclaimers

ALL MATERIALS SUPPLIED HEREUNDER ARE PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT. Hexagon Geospatial does not warrant that the content of this Document will be error-free, that defects will be corrected, or that any Hexagon Geospatial Website or the services that make Materials available are free of viruses or other harmful components.

Hexagon Geospatial does not warrant the accuracy and completeness of this Document. Hexagon Geospatial may make changes to this Document at any time without notice.

Limitation Of Liability

IN NO EVENT SHALL HEXAGON GEOSPATIAL BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES, OR DAMAGES FOR LOSS OF PROFITS, REVENUE, DATA OR USE, INCURRED BY YOU OR ANY THIRD PARTY, WHETHER IN AN ACTION IN CONTRACT OR TORT, ARISING FROM YOUR ACCESS TO, OR USE OF, THIS DOCUMENT.

Indemnification

You agree to defend, indemnify, and hold harmless Hexagon Geospatial, its officers, directors, employees, and agents from and against any and all claims, liabilities, damages, losses or expense, including reasonable attorneys' fees and costs, arising out of or in any way connected with your access to or use of this Document.

Use Of Software

Use of software described in this Document is subject to the terms of the end user license agreement that accompanies the software, if any. You may not download or install any software that is accompanied by or includes an end user license agreement unless you have read and accepted the terms of such license agreement. Any such software is the copyrighted work of Hexagon Geospatial, Intergraph or its licensors.

Links To Third Party Websites

This Document may provide links to third party websites for your convenience and information. Third party websites will be governed by their own terms and conditions. Hexagon Geospatial does not endorse companies or products to which it links.

Third party websites are owned and operated by independent parties over which Hexagon Geospatial has no control. Hexagon Geospatial shall not have any liability resulting from your use of the third party website. Any link you make to or from the third party website will be at your own risk and any information you share with the third party website will be subject to the terms of the third party website, including those relating to confidentiality, data privacy, and security.

Trademarks

The trademarks, logos and service marks ("Marks") displayed in this Document are the property of Hexagon Geospatial, Intergraph or other third parties. Users are not permitted to use Marks without the prior written consent of Hexagon Geospatial, Intergraph or the third party that owns the Mark. "Intergraph" is a registered trademark of Intergraph Corporation in the United States and in other countries. Other brands and product names are trademarks of their respective owners.

Find additional trademark information.

Procedure For Making Claims Of Copyright Infringement

Notifications of claimed copyright infringement should be sent to Hexagon Geospatial by mail at the following address: Intergraph Corporation, Attn: Intergraph Legal Department, P.O. Box 240000, Huntsville, Alabama 35824.

US Government Restricted Right

Materials are provided with "RESTRICTED RIGHTS." Use, duplication, or disclosure of Materials by the U.S. Government is subject to restrictions as set forth in FAR 52.227-14 and DFARS 252.227-7013 et seq. or successor provisions thereto. Use of Materials by the Government constitutes acknowledgment of Hexagon Geospatial or Intergraph's proprietary rights therein.

International Use

You may not use or export Materials in violation of U.S. export laws and regulations. Hexagon Geospatial makes no representation that Materials are appropriate or available for use in every country, and access to them from territories where their content is illegal is prohibited.

Hexagon Geospatial provides access to Hexagon Geospatial international data and, therefore, may contain references or cross references to Hexagon Geospatial products, programs and services that are not announced in your country. These references do not imply that Hexagon Geospatial intends to announce such products, programs or services in your country.

The Materials are subject to U.S. export control and economic sanctions laws and regulations and you agree to comply strictly with all such laws and regulations. In addition, you represent and warrant that you are not a national of, or otherwise located within, a country subject to U.S. economic sanctions (including without limitation Iran, Syria, Sudan, Cuba, and North Korea) and that you are not otherwise prohibited from receiving or accessing the Materials under U.S. export control and economic sanctions laws and regulations. Hexagon Geospatial makes no representation that the Materials are appropriate or available for use in every country, and access to them from territories where their content is illegal is prohibited. All rights to use the Materials are granted on condition that such rights are forfeited if you fail to comply with the terms of this agreement.

Revisions

Hexagon Geospatial reserves the right to revise these Terms at any time. You are responsible for regularly reviewing these Terms. Your continued use of this Document after the effective date of such changes constitutes your acceptance of and agreement to such changes.

Applicable Law

This Document is created and controlled by Hexagon Geospatial in the State of Alabama. As such, the laws of the State of Alabama will govern these Terms, without giving effect to any principles of conflicts of law. You hereby irrevocably and unconditionally consent to submit to the exclusive jurisdiction of the United States District Court for the Northern District of Alabama, Northeastern Division, or the Circuit Court for Madison County, Alabama for any litigation arising out of or relating to use of this Document (and agree not to commence any litigation relating thereto except in such courts), waive any objection to the laying of venue of any such litigation in such Courts and agree not to plead or claim in any such Courts that such litigation brought therein has been brought in an inconvenient forum. Some jurisdictions do not allow the exclusions or limitations set forth in these Terms. Such exclusions or limitations shall apply in all jurisdictions to the maximum extent allowed by applicable law.

Questions

Contact us with any questions regarding these **Terms**.