



HEXAGON

Release Guide

Release Guide

ImageStation 2020 Update 1 for MicroStation CONNECT

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About This Release

This document describes enhancements, fixes, and system requirements for this release of 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 new features, see the New Technology section. For information on fixes that were made for this release, see the Issues Resolved section. For information on hardware and software requirements, see the System Requirements 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

The 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, and 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

MicroStation CONNECT and OpenRoads Designer CONNECT

ImageStation Stereo Display, ImageStation Feature Collection, ImageStation DTM Collection, and ImageStation Automatic Elevations have been updated to work with MicroStation CONNECT Edition and OpenRoads Designer CONNECT Edition. These products will no longer install and run on earlier versions of MicroStation V8i. ISSD, ISFC, and ISDC are all now 64-bit applications.

Impacts

ISFC and ISDC Changes

The Generate Symbology Definitions command has been moved from ISDC and placed with the Feature Table commands in ISFC.

Project Compatibility

Changes have been made in how orientation parameters that affect the compatibility of projects set up on the 16.6 (and older) versions of ImageStation with the new 16.7 platform are stored and used.

- Aerial projects (including frame, ADS, UAV, and VisionMap projects) are forward and backward compatible between 16.6 and 16.7 platforms.

- RPC satellite projects triangulated on the 16.6 platform will need to be run through the Generate Stereo Drives command on a 16.7 platform before the projects can be used with the 64-bit 16.7 stereo applications (ISSD, ISAE DSM). ISAE will work as is without any additional processing. However, better accuracy can be achieved by running the project through the bundle adjustment process on the 16.7 platform.
- RPC satellite projects triangulated on the 16.7 platform will need to be run through a bundle adjustment (PhotoT or PhotoTX) and the Generate Rational Functions command on a 16.6 platform before the projects can be used in any downstream 16.6 stereo applications.
- Any RPC block of multi-segment scenes adjusted in PhotoTX 16.7 cannot be re-triangulated in PhotoT (16.6 or 16.7) due to lack of support for collinear rays in segment-to-segment ties along a single scene (i.e., orbital push-broom strips).

New Technology

Better Error Reporting for ISAE

Errors that occur while processing large projects are often hard to locate, especially when running the jobs through HTCondor. ISAE has been modified to write a separate log file for each model to the ISAE_Errors folder of the project directory if any errors occur. The error number and command line are reported to make it easier to re-run the faulty process for troubleshooting purposes. If no errors occur, the folder will remain empty.

Generate Symbology Definitions Includes CIRCLE Features

Generate Symbology Definitions (which has been moved from ISDC to ISFC) has been updated to also create entries in the output .INI file for geomorphological features that are created as CIRCLE features.

System Requirements

Computer/Processor	<ul style="list-style-type: none"> • 64-bit: Intel 64 (EM64T) or equivalent • Multi-core processors strongly recommended
Memory (RAM)	<ul style="list-style-type: none"> • 4 GB minimum
Disk Space	<ul style="list-style-type: none"> • 4 GB for software • Data storage requirements vary by mapping project¹
Operating Systems	<ul style="list-style-type: none"> • Windows® 10 Professional (64-bit)
Database Server Engines	<ul style="list-style-type: none"> • N/A
Software	<p>ImageStation is compatible with the following software packages and may require them, depending on the modules used.</p> <ul style="list-style-type: none"> • Geospatial License Administrator is required for setting up a concurrent license server for concurrent licenses and is optional for activating node-locked licenses. Geospatial License Administrator can be installed on a single computer for a system administrator to set up and manage a concurrent license server for an organization, or it can be installed on every machine if desired. • ImageStation Automatic Elevations <ul style="list-style-type: none"> • MicroStation CONNECT (Update 13, 14, or 15) or OpenRoads Designer CONNECT (R2 or R3) is required for writing data to DGN format, and must be installed first. • ImageStation Stereo Display • ImageStation Feature Collection <ul style="list-style-type: none"> • MicroStation CONNECT (Update 13, 14, or 15) or OpenRoads Designer CONNECT (R2 or R3) is required. • NVIDIA Quadro graphics, stereo-capable monitor, stereo glasses, and 3D pointing device required for ISSD. See the specifications below. • ImageStation DTM Collection <ul style="list-style-type: none"> • MicroStation CONNECT (Update 13, 14, or 15) or OpenRoads Designer CONNECT (R2 or R3) is required. • ImageStation Stereo Display and ImageStation Feature Collection are recommended.
Graphics Boards	<ul style="list-style-type: none"> • See table “Currently Qualified Graphics Boards for Stereo Viewing.”

Graphics Displays	<ul style="list-style-type: none"> See the NVIDIA Driver Configuration Instructions document for a list of supported monitors.
Peripherals	<ul style="list-style-type: none"> 3D pointing device (Z/I Mouse, softmouse 3D, Stealth 3D Mouse [E-Type, V-Type, or Z-Type], or TopoMouse) highly recommended for ISSD. Geospatial License Administrator requires one of the following: <ul style="list-style-type: none"> Internet connection for online license activation. Ethernet card for offline license activation. One USB port for hardware key for offline license activation.

Currently Qualified Graphics Boards for Stereo Viewing²

Graphics Board	NVIDIA 3D Active 1 display	NVIDIA 3D Active 2 displays (stereo/mono)	NVIDIA 3D Active 2 displays (stereo/stereo)
Quadro GP100⁵	yes	yes	yes ³
Quadro RTX4000	yes ³	yes ³	yes ⁴
Quadro P6000⁵	yes	yes	yes ³
Quadro P5000⁵	yes	yes	yes ³
Quadro P4000	yes ³	yes ³	yes ⁴
Quadro P2000	yes ³	yes ³	yes ⁴
Quadro M6000	yes	yes	yes
Quadro M5000	yes	yes	yes ³
Quadro M4000	yes ³	yes ³	yes ⁴
Quadro K6000	yes	yes	yes
Quadro K5200	yes	yes	yes
Quadro K5000	yes	yes	yes

Quadro K4200	yes	yes	yes ³
Quadro K4000	yes	yes	yes ³

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 Refer to the *Installation Guide* in the ImageStation product delivery for driver version and installation and stereo configuration instructions.

³ DP to DVI-D dual-link adaptor required for monitors that use DVI ports.

Important: Be sure to get dual-link adaptors that are USB powered, such as the **BizLink XT625 (KS10014)** or the **Accell B087B-002B** (or **B087B-007B**) models. All monitor cables must be **dual-link** DVI to support stereo display.

⁴ Two DP to DVI-D dual-link adaptors required.

⁵ These cards require 8-pin PCIe power cables. Make sure your computer's power supply provides this type of power cable or use a 6-pin to 8-pin PCIe power adaptor cable.

Active stereo displays require stereo glasses and an emitter. Since NVIDIA has discontinued its 3D Vision Kit, an alternative kit must be used. Alternative kits are available from Stealth International, 3DTV Corporation, and Amazon. See the discussion topic on the Hexagon Geospatial Community at <https://community.hexagongeospatial.com/t5/ImageStation-Discussions/NVIDIA-3D-Vision-Kit-Discontinued/td-p/37597> for more information.

Issues Resolved

ImageStation Stereo Display (ISSD)

CR #	Summary	Description/How to Reproduce
IG-12501	Depth Index crashes for satellite projects	Depth Index does not work for satellite projects being mapped to a projected coordinate system. I believe this got broken when crdt.exe was modified to use CSS years ago.
IG-21037	Dynamic Zoom can cause Stereo Zoom or other dialogs to disappear	If the user changes the stereo display zoom factor with Dynamic Zoom with a dialog located at the center of the monitor, the dialog will disappear when the user clicks the DATA button to accept the new zoom factor if the dialog's accept or cancel button happens to be right at the center of the monitor.

ImageStation Feature Collection (ISFC)

CR #	Summary	Description/How to Reproduce
IG-15547	Spot Height text is shifted	Using the Place Spot Height command caused the text to be shifted away from the desired target by a large amount when placing them in the stereo view.

ImageStation DTM Collection (ISDC)

CR #	Summary	Description/How to Reproduce
IG-13175	Mass Point Eraser causes crash	Using the Mass Point Eraser command in ISDC causes ISSD to get into a bad state. You can use it for a while but after you've been in and out of roam a couple few times or change the zoom factor a few times it will get into a bad state and either hang or crash.
IG-14207	LAS2DTM converter has problems	<p>The LAS2DTM batch converter that is delivered with ISDC assumes that the Z input value is always in meters. If you run the las2dtm.bat file, you will see the output XY values are correct, but the Z value is 3.2808 times larger than it should be. Additionally, the output CSF file always has its horizontal resolution for both Horizontal and Vertical set to .01, even though the input was 1.0. Having said that, this command should not require an output CSF file anyway, but it is a mandatory command line argument.</p> <p>Workaround is to provide an input CSF file with the Vertical units set to meters.</p>

IG-8031	Custom Edit Delete commands constantly update surfaces	When using any Custom Edit commands that delete points, or when using the Mass Point Eraser, ISDC issues an Update Surfaces call every time, which is very annoying when working with large data sets. It should only do this if Dynamic Triangles or Dynamic Contours are enabled.
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ImageStation Automatic Elevations Extended (ISAE Ext, deprecated)
ImageStation Automatic Elevations DSM (ISAD)

CR #	Summary	Description/How to Reproduce
IG-6926	Tiles missing when using Gaussian overviews	The "Airport SGM" data set that we use for testing has revealed a regression problem with XProSGM version 6.4, build 40779. The output LAS is missing tiles of data in a couple areas. The problem goes away if the Gaussian overviews are replaced with averaged overviews, or if the user JPEG compresses the image files. The new DSM module, ISAD, does not exhibit this problem.
IG-7237	Batch jobs halt the entire queue if one job fails	Individual model failure for any reason should not stop the overall batch process. The routine should step to the next model and continue. The new DSM module, ISAD, does not exhibit this problem.

Deprecated

MicroStation V8i, Power InRoads V8i, Power GEOPAK V8i

The products included in this release will no longer install and run on earlier versions of 32-bit MicroStation V8i, Power InRoads V8i, and Power GEOPAK V8i, which are at end-of-life, with support from Bentley for the SELECTSeries 1-4 versions being discontinued at the end of 2020 and support for the SELECTSeries 10 version being discontinued at the end of 2021. Instead, the products included in this release support the new 64-bit MicroStation CONNECT Edition and OpenRoads Designer CONNECT Edition.

ImageStation Automatic Elevations-Extended

ImageStation Automatic Elevations-Extended (ISAE-Ext) has been replaced with ImagesStation Automatic Elevations DSM (ISAD). Users must uninstall ISAE Ext in order to install ISAD. ISAD fixes many problems associated with the previous product, is two to three times faster, uses a fraction of the memory, provides more control for the creation of thinned point clouds, and supports satellite and scanned film projects as opposed to just digital aerial frame projects.

ImageStation Coordinate System Operations

ImageStation Coordinate System Operations (ISCSO) has been deprecated. All coordinate system operations required by other ImageStation applications can be performed using CSF files.



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