

# Release Notes

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**SPECTRA PRECISION SURVEY OFFICE**

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**Version 3.60**



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# Welcome to Spectra Precision Survey Office

**Spectra Precision® Survey Office (SPSO)** software is ideal for processing and analyzing satellite and terrestrial survey data recorded in the field. The software provides numerous innovative and unique features, and it is easy to learn and use.

## Installing or updating

For installation or update instructions, see the appropriate bullet below.

**Notes:**

- Spectra Precision Survey Office (SPSO) licensing information is contained in a Sentinel HASP hardware or software key connected to or installed on your computer. If no key has been connected or installed, SPSO allows you to import and view data only. It does not allow you to use any licensed features. To view your license after installation is complete, select View License Manager on the Start Page. For a description of the features available in each licensed configuration, see "Licensed Features" in the online Help.

- After installation, be sure to select Check for Updates on the Start Page to ensure you have the latest updates for Spectra Precision Survey Office.

▪ **New users installing SPSO to use with a single-user license:**

- a. Before you insert the new Sentinel HASP hardware key you received in your installation package, install SPSO from the SPSO installation package downloaded from the Spectra Precision website.
- b. Before running SPSO for the first time, insert the new Sentinel HASP hardware key into an available USB port on your computer.

All licensed features will be available when you run SPSO. Your 1-year warranty begins the first time you open the software.

▪ **Existing users installing this version of SPSO:**

Install SPSO from the installation package downloaded from the Spectra Precision website.

**Important Note!** This version is available to users whose current warranty expiration date is **1 September 2015 or later**. If your warranty expires prior to this date and you proceed with the installation, licensed features will not be available. Contact your distributor to purchase a warranty extension. On the Start page, select View License Manager to verify your warranty expiration date.

## New features

Following are the new features included in the various licensing options for this version of Spectra Precision Survey Office. See "Licensed Features" in the online Help to help determine which of these new features are available with your license.

## Point clouds

- **Point cloud support** - Import, manage, and analyze point cloud data using the various commands on the Point Clouds tab in the ribbon. See "Work with Scanned Point Cloud Data" in the online Help for complete information.

## Data review and editing

- **Import leveling data from non-Trimble levels** - Use the Custom Importer to import leveling data from a data file captured by any leveling instrument. Use the Level Editor to adjust your runs and include the results in the point computation and network adjustment together with other optical and GNSS data in your project.
- **Change total station setup type** - You can now change the setup type for a total station after importing the station data into SPSO. For example, if you have used single backsight as a setup type in the field software and you measured three points for which you know the coordinates, you can now change the station setup to Resection and recompute your station position.
- **View timestamp for optical observations** - View the timestamp for optical observations in the Properties pane, Optical spreadsheet, Custom ASCII exporter, and Advanced Select pane.
- **Visualize and store measurements** - When using the Measure Distance or Measure Angle commands, you can store a measurement in the project and view its properties at any time. This allows you to visualize and store measurements in Station View and 3D View.
- **Trimble R2 receiver support** - Import and process data collected with the new Trimble R2 scalable receiver supporting GIS and entry-level Survey users.
- **Spectra Precision FOCUS DL-15 support** – Use a Custom Importer to import level data files from the Spectra Precision FOCUS DL-15 digital level, and process the data in SPSO.
- **Total Station Editor** – The Total Station Editor has been enhanced to include editable Prism Constant and Prism Type fields.

## Feature coding and attribution

- **Support for horizontal/vertical offsets for linear features** - Use a new line feature control code to specify the horizontal, vertical, or horizontal and vertical offsets "on the fly" from the measured location, which results in multiple lines being created, saving time in the field. This allows you to collect geometry for multiple features in one shot because you are physically visiting just one feature, saving you significant amount of time in the field. For example: FL TC H 1 V 0.2 BC H 2 V0.2 would create three lines at the same time for a flowline, top of the curb at the given offset, and back of the curb at the given offset.
- **Associate label styles with to feature codes** - Export label styles from SPSO and import them into the Feature Definition Manager application where they can be used to assign labels to point, line, and polygon feature definitions. When the resulting feature definition FXL file is imported into SPSO and the feature codes processed, all of the features are automatically labeled using the associated style.
- **Copy and paste feature attributes in Feature Definition Manager** - Reuse an existing feature attribute by copying it from one feature definition and pasting it into the same or another feature definition.

- **Process feature codes "on the fly"** - Save time and work more efficiently by being able to edit feature codes at any time, even if feature code processing has been performed in your project (no need to first remove processing results). Changes are automatically processed the next time the project is computed, without re-running the entire feature code process.

## Survey computations and COGO

**Updated Baseline Processor** - You can process individual constellations; issues with Beidou-only processing are now resolved.

- **5- and 7-parameter Helmert and least-squares transformation** - The Transform Survey Points command has been enhanced with the option of computing seven parameters. The two extra parameters are used for the X-axis and Y-axis rotations. Additionally it also includes the option to use a least-squares calculation method in addition to the Helmert method. A white paper, "Transform Survey Points," explains the details of this operation. (Note: Product white papers and other support documents are available on the SPSO Support site at [http://www.trimble.com/survey/trimble-business-center\\_support.aspx](http://www.trimble.com/survey/trimble-business-center_support.aspx).)
- **Survey Transformation Report** - After performing a transformation using the Transform Survey Points command, you can save your transformation results into a report for later viewing and project documentation.
- **Network adjustment** - The following features have been added:
  - **Add azimuth and distance constraints** - The network adjustment allows you to constrain the azimuth and/or distance between two points to a value of your choosing so that you can hold the orientation of your project constant.
  - **Specify standard deviation for constraints** – You can now specify the standard deviation for the coordinate, azimuth, and distance constraints
  - **Multiply by scalar based on redundancy** – You can now multiply by scalar only the observations that show up with a high level of redundancy.

**Coordinate System Manager** - The following features have been added:

- **Geoid 12B support** – Select Geoid 12B, which was recently published by NGS, to use in your SPSO project. According to the NGS, GEOID12B is identical to GEOID12A everywhere, except in Puerto Rico and Virgin Islands region.
- **Support for EPSG** - If applicable, one or more European Petroleum Survey Group (EPSG) ID numbers can be entered and displayed with coordinate systems, datums, ellipsoids, and geoid models. You can click an EPSG code to view its corresponding record in the EPSG Geodetic Parameter Registry.
- **Grouping by country** – Coordinate systems are now grouped by country for easier management.

## Data interoperability

- **Export feature attributes individually to .csv file** - After processing feature codes, export feature attributes of selected entities to a .csv or Excel file so that you can review them using Notepad or Microsoft Excel.
- **Support for importing dimensions** - The following dimension types can now be imported into SPSO:
  - DXF/DWG: Diametric, Ordinate, Radial, Radial Large

- DGN: Center, Diameter, Diameter Extended, Diameter Parallel, Diameter Perpendicular, Label Line, Note, Ordinate, Radius, Radius Extended
- **Specify time decimal precision for the Trajectory exporter** - You can now specify the time decimal precision for the Trajectory (CSV) file exporter, providing more precision when exporting trajectories.
- **Exchange label styles** - Using import/export capabilities in the Label Style Manager, you can now exchange label styles allowing you to standardize the plotting deliverables across your organization.

## CAD and drafting

- **Visual running snap indicators** - When using running snaps to create CAD objects, snap point visual indicators are displayed in the Plan View, making it easier to select snap points in existing geometry. In addition, the Running Snap Mode Options dialog now includes the following additional running snap options: Near Point, Midpoint, Perpendicular Point, Center Point, and Tangent Point. This allows for much easier use of the software and provides confidence that you are snapping on the desired location when creating CAD elements.
- **CAD entity grips** - You can select to display entity grips on linestrings, polyline segments, rectangle segments, polygon segments, circles, arcs, labels, and text that enable you to move and modify the objects quickly and easily using just your mouse.
- **Change a point symbol** - Use the Point Style command to quickly choose the appearance of your points by selecting a symbol from the predefined collection.
- **Enhancements to labeling** - The CAD labeling feature includes the following enhancements:
  - Add a layer definition when defining a line, point, or polygon label style.
  - Specify a point symbol and size.
  - Import label style definitions into a project.
- **Exchange label styles** - Using import/export capabilities in the Label Style Manager, you can now exchange label styles allowing you to standardize the plotting deliverables across your organization.

## Surface and volume analysis

- **Measure distance from points to surface** - Use the new Points to Surface command to measure the distance from one or more points to a surface in your project.

## General software improvements

- **Additional fields in Project Settings for custom comments** - The Project Settings dialog now includes three text fields that you can use to record comments or notes about the project. The comments are included in the project information section of all reports. This provides you additional space to write down some special project remarks.

- **Define views** – Use the Defined Views command to save one or more viewpoints for the Plan View and/or 3D View. Then you can return to any of these defined views whenever you need to. Defined views are also saved with your project so you can share specific perspectives of your model with your colleagues when you share your project. In addition, you can launch Presentation Mode from within the Defined Views command. Presentation Mode displays each of your defined views in the order in which you have them arranged.
- **Save space and speed up file writing with a new compressed project file (.vce) format** – All new SPSO projects use a "package file" instead of a "compound document" as the internal format. These files still have the same file extension (.vce) as the older files. SPSO can open the old .vce files, but they will be upgraded to the new format when saved.
- **3D "sun" lighting** - Use the 3D View Settings command to control the light source and shadows in 3D views of your model. When you enable sun lighting, you can specify the time of day and year and the level of brightness. The effect of these settings is based on the geographic location of your model.

## Miscellaneous notes

- **VCE compatibility** - You cannot open a VCE project file created with this new version of SPSO in an older version of SPSO.
- **Tutorials PDF** - If you click the Tutorials link on the Start page and receive a message indicating the required Adobe Flash Player is not installed on your computer, the link to the installation page contained in the message may not work correctly. Go to <http://helpx.adobe.com/acrobat/kb/reader-acrobat-flash-player-download.html> to download and install the Flash Player.
- **Windows 10 users** - When you create an HTML-based report, the links in the report to objects in SPSO do not work.
- **Windows 8 users** – Some components in SPSO require Microsoft .NET Framework 3.5 to operate. If the .NET Framework 3.5 is not installed, you are prompted to install it when you install SPSO. If your computer is connected to a domain that does not allow you to directly connect to Windows Updates on the Internet to enable and install .NET 3.5, you may need to change your group policy settings. See your system administrator for assistance.  
For more information, see <http://technet.microsoft.com/en-us/library/dn482065.aspx>
- **Windows XP users** – Some components in SPSO require Microsoft .NET Framework 4.5, which is not supported by the Windows XP operating system. To run this version of SPSO, you must install a different operating system. See "System requirements" for complete operating system requirements.
- **TabletSync transfers** - If you use TabletSync to transfer large files (for example, panoramas) into SPSO, it can take a long time for the upload to complete. As an alternative, you can shorten the transfer time by copying the files from the tablet onto a USB memory stick and copying the files from the stick into SPSO.
- **3D PDF** – The Create 3D PDF command causes texturized surfaces (that is, a surface to which a texture image has been added) to display as black in the PDF Reader when the surface shading is set to something other than "by elevation." To avoid this problem, select "Shading: by elevation" in the surface Properties pane for any texturized surface before creating a 3D PDF.

- **Known issue with KMZ panoramas** - KMZ (.kmz) panorama files created in SPSO do not display in Google Earth version 7.0 and later. For them to display correctly, it is recommended that you use an earlier version of Google Earth. Or, use the option to generate Google Earth KML Powered by InSphere.
- **Proxy server settings** - If you receive an error when trying to access an external server to process data (for example, export KML graphic files to Trimble InSphere for use in panoramas displayed in Google Earth), you may need to specify a proxy server for your LAN using Internet Properties > Connections > LAN settings > Proxy Server.

## System requirements

Operating system:	Microsoft Windows® 10 (64-bit version) Microsoft Windows 8 (64-bit version) Microsoft Windows 7 (64-bit version with Service Pack 1)
Processor:	Dual-core 1.80 GHz or better recommended
Random access memory (RAM):	2 GB or more recommended
Hard disk space available:	5 GB or more recommended
Graphics:	DirectX 9 (or higher) compatible graphics card with 512 MB memory or more
Monitor:	1280 x 1024 or higher resolution with 256 or more colors (at 96 DPI)
I/O Ports:	USB 2.0 port