

Origin Software

Version 2022.00

May 2022

This release of the Spectra[®] Geospatial Origin software includes the following changes.


Improved support for Android 11

Origin version 2022.00 improves support for Android 11, particularly improved handling of Android location permissions, required for Bluetooth, Wi-Fi, and internal GPS.

All users that upgrade their Ranger 5 controller to Maintenance Release 3 of the operating system (MR3) are strongly encouraged to upgrade to Origin 2022.00.

New features

Automate data upload using the Sync scheduler

Use the **Sync scheduler** screen to automate synchronization to the cloud for the current project. To open the **Sync scheduler** screen, tap  in the **Projects** screen.

The settings in the **Sync scheduler** screen are saved to the controller and applied to any cloud project when it is the current project. This means you can configure these settings once and you don't need to configure them again for new projects.

For example, if you have three projects and you set the **Sync scheduler** to upload data to the cloud every hour, then only the current project will upload data to the cloud every hour. If you open a different project, then data in that project is now uploaded to the cloud every hour.

Choose whether to upload data at regular time intervals or after specific events, for example when closing a job or when signing in. You can choose whether to allow automated upload when connected to any network or only when connected to specific networks.

For more information, see the topic **Automating data upload using the Sync scheduler** in the [Spectra Geospatial Origin Help](#).

Support for web feature services (WFS)

You can now request geographical features as georeferenced vector data over the Internet using a web feature service (WFS), and then save the data as a WFS file so that you can use it in the field without an Internet connection.

Supported web feature services in Origin are the Esri Feature Service and Open Geospatial Consortium (OGC) web feature services. Depending on the service, data is provided in GeoJSON or GML format.

Once you have created the WFS file, you can select lines or polylines from the WFS file in the map and stake them. You can also create points at the ends of lines and at all points along a polyline, by selecting the **Create nodes (DXF, Shape & LandXML)** check box in the **Map settings** screen. The created points can then be selected for stakeout or Cogo calculations.

For more information, see the topic **To manage web map & web feature services (WMS or WFS)** in the [Spectra Geospatial Origin Help](#).

DWG and NWD BIM model support

In addition to IFC and TrimBIM files, Origin now supports two additional BIM model file formats:

- Drawing (.dwg) files created using Autodesk AutoCAD software
- NWD (.nwd) files created using Navisworks software

NOTE – Origin supports the reading of standard AutoCAD entities from DWG files. Objects created by AutoCAD extensions may not be supported. In particular, Origin is unable to read Civil 3D objects from DWG files. Visit Autodesk's Knowledge Network to learn [how to convert Civil 3D drawings to standard AutoCAD format](#).

We have renamed the **IFC** group box in the **Map options** screen to the **BIM model (DWG, IFC, NWD, TRB)** group box. Use these options to change the transparency of objects in the map, and whether individual faces or whole objects are selected in the map.

You can use any supported BIM model file format in Origin for surveying fieldwork including measuring points, stakeout, and cogo calculations including scan to surface inspections, and center point or centerline calculations.

For more information, see the topic **BIM models** in the [Spectra Geospatial Origin Help](#).

Download BIM models as TrimBIM files

The **Sync settings** screen now provides the **Download as TrimBIM** check box to download BIM or 3D models (including Industry Foundation Classes (IFC), Navisworks Drawing (NWD), AutoCAD Drawing (DWG) and SketchUp (SKP) files) from Trimble Connect as TrimBIM files. TrimBIM files are smaller, faster to download to the controller, and faster to load the first time you use them in Origin. Alternatively, to use IFC, DWG and NWD files in their original format, **clear** the **Download as TrimBIM** check box.

NOTE – Conversion of NWD files to TrimBIM format using Trimble Connect is in BETA. It is only supported when you upload NWD files to Trimble Connect using Connect Desktop, not Connect Web.

For more information on assimilating BIM models as TrimBIM files in Trimble Connect, refer to the Trimble Connect documentation.

Staking an alignment from an IFC file

We now support the IfcAlignment element introduced in the Industry Standard IFC 4.1 schema. You can now stake out an alignment from an IFC file in the same way that you stake a single alignment from an DXF, RXL, or LandXML file.

Georeference map Cogo adjustment

The new **Georeference map** Cogo Adjust function allows you to match locations in a map file to points in the job. This is useful when, for example, an architect provides coordinates for a building foundation that needs to be positioned and transferred into a real coordinate system on site. You can use the **Georeference map** function to transform the model into the grid coordinate system used by your Origin job.

The **Georeference map** function uses a combination of translation, rotation and scale to shift the map file so that the selected map file locations match the selected points. If you choose only one point, then the

transformation uses a translation only.

Selected map file locations must be entities you can select in the map, such as vertices in a BIM model or points or nodes in a DXF file.

TIP – If the first map files you link to the job are BIM models or DXF files in a location coordinate system that are located far from existing job data, then the software now warns that the map file is far away from the job data and suggests georeferencing the file. Tap **Yes** to allow the software to perform an approximate georeference by relocating the center of the map file close to the existing job data, and then use the **Georeference map** function to fine-tune the georeferencing.

For more information, see the topic **Georeference map** in the [Spectra Geospatial Origin Help](#).


Enhancements

L5 GPS signal tracking in an RTX survey

You can now enable tracking of L5 GPS signals during an RTX (SV) or RTX (Internet) survey.

Prompt for sign out to release subscriptions on exiting the software

Origin customers using subscriptions typically use the same controller and leave their subscription locked to the controller. You must sign out on the current controller before you can use your subscriptions on a different controller. We have now made this process easier to manage.

If you don't always use the same controller, you can now configure the software to release your subscription licenses automatically when exiting the software, or to prompt you to sign out and release your subscription on exit. To do this, tap  and select **About**, and then select the appropriate option from the **When exiting the software** field.

CSV format improvements when importing or linking CSV files

We have improved the handling of CSV files during import or when linking, including:

- Header lines are now ignored
- CR and LF characters at the end of each line are now ignored
- Files with ANSI, UTF8, and UTF16 characters are supported

Ordering points when exporting to CSV

When exporting points to a CSV file, if you have selected the points from the map or from a list you can now reorder the selected points by tapping the **Name** column in the **Points to export** list.

Adding measured points to a CSV file during a GNSS survey

You can now add points measured using the **Measure points** method during a GNSS survey to a CSV file. Previously, only points measured during a conventional survey could be added to a CSV file. This option allows you to add specific measured points to a CSV file, for example an observed control point.

To enable this option, in the **Job properties** screen tap **Additional settings** and then in the **Add to CSV file** group box, move the **Enable** switch to **Yes** and enter the **CSV file name** or browse to the file and select it.

When this option is enabled, an **Add to CSV file** check box appears in the **Measure points** form during a GNSS survey or the **Measure topo** and **Measure rounds** forms during a conventional survey. Select the check box to add the current point to the CSV file.

Code descriptions now included on Measure codes buttons

The code description is now included with the code on each button in the **Measure codes** form. This makes it much easier to know which code to use. To show only the code, tap **Options** and clear the **Descriptions** check box.

Last used attributes now remembered when coding with string numbers

When **Use attributes of base code** is enabled and you are using string numbers, Origin now remembers the last used attributes for each string, not just the base code. For example, if the last used attribute for FENCE1 was Condition GOOD, and FENCE2 was Condition POOR, then you can jump between using FENCE1 and FENCE2 as you are measuring points along the fence and the appropriate last used attributes will be remembered. Previously, the software would have offered only the attributes for the last used fence, which meant attributes needed to be edited when jumping between two strings.

Attributes on linework

When storing a code with attributes on a line, arc, or polyline, you can now enter and store attributes.

Creating job from JXL file auto-populates job name

When creating a job from a JXL file, the **Job name** field now auto-populates with the name of the JXL file.

Polyline stakeout

You can now apply a side slope to the left of a polyline with a zero hinge offset. To do this enter 0.00m/ft and then tap **>** and select **Left**.

Include screen captures in Survey reports

To create a screen capture of the current map view, tap . If required, annotate the screen capture using the **Draw** tools and tap **Store**. To save the screen capture to the job, tap **Store**.

If you select the **Survey report** file format when you export the job, any screen captures saved to the job are automatically included in the report.

Design elevation keypad shortcut

During stakeout, when you have an editable design elevation, you can now press the **Space** key on the controller keypad to edit the design elevation or to reload the original elevation without having to tap the screen.

DTM stakeout deltas

When staking a DTM, the perpendicular cut/fill delta to the surface can now be reported as well as the vertical delta. When staking an entity relative to a DTM, you can configure the software to show the **Perp. dist to DTM** stake out delta in the stakeout navigation screen. To change the deltas during stakeout, tap **Options** in the **Stakeout** screen and then tap **Edit** in the **Deltas** group box.

IFC file enhancements


- When an IFC object contains a GUID the GUID can now be reviewed, as well as stored along with the other attributes.
- When staking an IFC object, and you set the **As-staked code** to **Design file attributes**, a code is created for the as-staked point from the IFC attribute group names, and the attributes for each group are stored with the point. In Origin 2022.00 you can store the IFC attributes as well as add additional codes with attributes, if needed.
- Points created from an IFC file (for example when you select a point in an IFC file and from the tap and hold menu select **Create point**) or points that are copied to the job automatically (for example when you compute an inverse between two points) now record the IFC attributes with the points stored to the job.

BIM model display enhancements

- When selecting a surface in a BIM model the Origin software highlights the outside surface blue and now highlights the inside surface red. Sometimes BIM models are not oriented correctly and the surfaces are back to front. In many instances this does not matter, for example **Compute center point**, **Compute center line** and **Measure to surface** are not sensitive to which surface face is selected. However, **Surface inspection** and the **Point, edge, plane** method when performing an object oriented setup are both sensitive to the displayed surface orientation. To select the other face of the selected surface, tap and hold in the map and select **Reverse faces**.
- When viewing BIM models in the Map, you can now choose to display the model as **both** a wireframe **and** as a solid object. This enables you to view entities as solid objects and to see the edges of objects at the same time.

To change the **Display** setting, open the **Map settings** screen, scroll to the **BIM model options** group, and select **Both** in the **Display** field.

Orbit data freely when using XYZ (CAD) coordinates

When the job **Coordinate order** is set to **XYZ (CAD)**, tap  to orbit data freely in the map, with no constraint. When the job is **not** using XYZ (CAD) coordinates, the orbit function is constrained so that the Z axis remains upward.

Exporting to GNSS Vector Exchange (GVX) format

You can now export job data to the GNSS Vector Exchange (GVX) format.

GVX, developed by the US National Geodetic Survey (NGS), provides a standard file format for exchanging GNSS vectors derived from varying GNSS survey methods and manufacturer hardware. The file format includes all of

the necessary data of a GNSS vector for inclusion in a survey network for least squares adjustment, as well as crucial metadata. For more information, go to <https://geodesy.noaa.gov/data/formats/GVX/>.

Using the Project height from a point or the GNSS receiver

When defining or editing the coordinate system, you can now automatically complete the **Project height** field using the **Here** or **Point** softkey when the **Coordinates** are **Ground (keyed in scale factor)** or **Ground (calculate scale factor)**. Previously these options were only available when the **Coordinates** were **Grid**.

Tap **Here** to use the current autonomous height derived by the GNSS receiver, or tap **Point** to use the height of a point in the job or in a linked file.

The **Point** softkey is not available when you are creating a new job. The **Here** softkey is available only when the software is connected to a GNSS receiver.

Negative Project height values

When defining or editing the coordinate system, you can now enter negative values in the **Project height** field, if required.

Take measurements using FOCUS 35 Power key

During a survey you can now take a measurement using a short press of the **Power** key on the FOCUS 35 total station.

Previous versions of the Origin software already allow measurements using the **Power** key on the FOCUS 50 total station.

Origin software now available in Indonesian

You can now view the Origin software in Indonesian. To be able to select **Indonesian** in the **Select language** screen of the Origin software, you must install the Indonesian language and help files using Spectra Geospatial Installation Manager.

Coordinate System Database updates

The Trimble Coordinate System Database installed with Origin includes the following enhancements:

- Added datum and zones for SIRGAS-Chile 2021 used in **Chile**
- Added displacement model, datum and zones for RDN2008 used in **Italy**
- Added datum and zones for BGS2005 used in **Bulgaria**
- Added datum and zones for MAGNA-SIRGAS(2018) used in **Colombia**

Independent installation of Trimble Coordinate System Database

The Trimble Coordinate System Database (CSD) contains definitions of datums, projections and geoids used in the transformation of Global coordinates to Grid. Past versions of Origin have always included the latest version of the CSD at the time of release. Starting from Origin version 2022.00, the Coordinate System Database appears as a separate item in Spectra Geospatial Installation Manager. This will enable future updates of the database without requiring a new version of Origin to be installed.

We're making word choices that support inclusion in our code, products and conversations

When it comes to creating an inclusive environment, we all know that words matter. Occasionally in our work we encounter words and technical jargon that can be considered offensive and non-inclusive due to their origins or associations.

In Roads, we now use the term **alignment** instead of **master string** in a GENIO file. This is also consistent with the use of the term alignment in other road types.

Resolved issues

- **Controller remains on during upload/download:** Origin now prevents the controller going to sleep when uploading files to or downloading files from the cloud. This is useful when synchronizing large amounts of data.
- **Points added to CSV uploaded with job:** When the **Add to CSV file** option is enabled, the CSV file containing the points added during the survey is now uploaded to the cloud with the job.
- **Upload triggered by job status change:** We have fixed an occasional issue where the last records in a job file were not uploaded to the cloud when the job status field was used to trigger the upload.
- **.0 appended to project name:** We have fixed an occasional issue where a project on the controller loses the connection to the cloud project, resulting in two projects with the same name appearing on the controller, with **.0** appended to one project name.
- **Filtering jobs:** The project details pane to the right of the **Projects** list now shows the same jobs as the **Jobs** screen when you are filtering jobs.
- **Upgraded job issues:** We have fixed an issue where a Origin job upgraded from reference frame HTDP v3.2.9 to HTDP v3.4.0 could not be opened in Origin or imported to Survey Office.
- **Import ASCII file:** We have fixed an issue where imported points with null elevations had the elevation set to 0.
- **Import IXL:** We have fixed an issue when importing IXL files where the match command included leading or trailing spaces.
- **Export scan .tsf files to CSV:** We have fixed an issue when attempting to export scan .tsf files to CSV files where the software sometimes erroneously reported there were no scan files associated with the job.
- **Inverse between nodes:** You can now compute an inverse between nodes on a DXF file.
- **Extruded circles in DXF files:** Extruded circles can now be selected in the map.

- **Blocks in DXF files:** We have fixed an issue where occasionally symbols and lines in blocks appeared to be missing, but were in fact displaced in the map.
- **LandXML arc nodes:** We have fixed an issue when **Create nodes** is enabled for LandXML files, where the elevation of the end node of an arc was incorrect if the start and end elevations of the arc were not the same.
- **Pipe network LandXML files:** We have fixed an issue, introduced in Origin 2021.20, where pipe networks in LandXML files were not shown correctly in the map.
- **Deleted control codes:** We have fixed an issue where if you deleted control codes from a feature library, the deleted control codes were still in the feature code library the next time you viewed the list of codes.
- **Alphanumeric feature codes:** Points with a feature code consisting of a single letter that matches a control code followed by a numeric value (for example, E10) are now processed as feature codes rather than control codes, and the points are displayed in the map.
- **Attributes on codes ending in a numeric value:** We have fixed an issue in **Measure codes** where you could not always enter attributes for a code ending in a numeric value.
- **Continuous topo:** We have fixed an issue where sound events would stop playing while storing Continuous topo points.
- **Point storage in RTK & Logging, and Postprocessed Kinematic surveys:** We have fixed an issue where the **Observation stored** message was sometimes displayed and the sound event played before the point was stored to the postprocessed file when logging to the receiver memory. This issue could result in position errors during postprocessing if the receiver was moved before the point was stored in the receiver file. The fix means points may require slightly longer occupations in RTK & Logging and PPK surveys.
- **GNSS NTRIP connection:** We have fixed an issue where if **Connect directly to mountpoint** was selected in the GNSS contact then the **Opening connection** progress bar sometimes stalled at 20%.
- **Dual-prism offset target:** We have fixed an issue when using the **Dual-prism offset** measurement method, where opening another measure form such as **Continuous topo** resulted in the dual-prism offset target being used with the other measurement method and could not be changed.
- **Servo/Robotic settings:** Settings configured in the **Servo/Robotic** group box in the **Instrument** screen of the survey style or in the **Options** screens for station setup, measure, or stakeout, are now preserved throughout the software.

- **FOCUS 35 radio connection using Ranger 5:** We have fixed an issue where the Ranger 5 controller could not connect to the FOCUS 35 total station using a radio connection. Bluetooth connections were not affected.
- **Android controller issues:** We have fixed these issues that are specific to Android controllers:
 - **Linking photos to points or jobs:** We have fixed an issue where photos captured using the controller camera were not automatically linked to the point or job if you had opened the camera app using a quick double-press of the **Power** key.
 - **Date and time formats on Android:** All dates and times are now formatted and displayed in accordance with the device's selected language. Previously some dates and times were displayed using a format that did not match the preferred format for the operating system language settings.
 - **Export to USB drive on Android:** We have fixed an issue where once you had exported files to a USB drive it was not possible to reselect the inserted USB drive as an export location for subsequent exports.
 - **DC files:** When creating a job from a DC file on an Android device, an RXL file is now automatically created if the DC file contains a road. Previously the RXL file was not created.
 - **SCU5 performance:** We have fixed an issue that caused the SCU5 controller to slow down if Wi-Fi was disabled.
 - **Mobile Mapper 60 function key:** We have fixed an issue where you could assign a favorite function to F4 (the function key on the side of the Mobile Mapper 60 controller), but subsequently pressing F4 did not activate the assigned function.
- **Station selection improvements:** You can now use the **Sta+** and **Sta-** softkeys to select another station when using the **Skew offset** and **Side slope from alignment** stake methods or when using the **Station on alignment** stake method with a nominal offset value.
- **Numeric keypad selection of codes:** You can now only use the numeric keypad keys to select codes when using a **Measure codes** button layout that has 3 columns.
- **Application errors:** We have fixed several issues that caused occasional application errors when using or closing the software. In particular:
 - When opening the **Layer manager** on an Android controller.
 - When changing the visibility of multiple JPG files in the **Layer manager** on an Android controller.

- When changing the visibility of a DXF file that contains a polyline that ends with a zero-length arc.
- When attempting to use a TIFF file encoded with a 4-bit-per-pixel format as a background map.
- When viewing several large BIM models in the map.
- When starting Origin where you had previously started to enter the name of a Favorites group and then tapped elsewhere instead of tapping **Accept**.
- When attempting to link a .12da file to a job where the file included a circle. This was an issue only for .12da files exported from Survey Office.
- When waking up a controller that had gone to sleep with Origin running.

Roads

New features

New stakeout methods for 12da roads

You can now stake out a 12da road using two new methods: **One string** and **Two strings**. Use the **One string** method to stake a string (or polyline) relative to a 12da alignment. Use the **Two strings** method to stake to a surface defined by two strings (or polylines) relative to a 12da alignment.

For more information, see the **Staking out a 12da road** section of the [Spectra Geospatial Origin Help](#).

Autodesk Civil 3D LandXML string road file support

Origin Roads now supports the display of Autodesk Civil 3D LandXML string road files in the map.

Use the LandXML export function in Autodesk Civil 3D to export corridor baseline alignments, along with associated feature lines. You will need to extract feature lines from the corridor key point codes before you export the LandXML file from Autodesk Civil 3D.

For more information, see the topic **To export LandXML string roads from Autodesk Civil 3D** in the [Spectra Geospatial Origin Help](#).

Enhancements

RXL and LandXML stakeout enhancements

The work that was begun in version 2021.20 to consolidate the menu and map-based stakeout workflows is now complete. The workflow for staking a LandXML or RXL road is now the same, regardless of whether you start stakeout from the menu or the map. You can now select **To the road**, **To the string**, or **Station on the string** by interacting with the road on the map, or use the method fields on the form to select these methods or one of the additional stake methods available. The **String**, **Offset**, **Stations** and construction offsets can now be selected directly on the stakeout form, without having to tap additional buttons or use the tap and hold menu.

Construction offset enhancements

You can now key in construction offset values directly on the form. For more advanced features, an **Options** softkey enables you to access them all from the one screen. You can no longer access the construction offsets from the tap and hold menu.

In addition, you can now apply a station construction offset when staking an RXL road. Previously you could apply a station construction only to LandXML, 12da, or GENIO roads.

When the stake method is **To a string** with a calculated construction offset applied, a perpendicular cut/fill (**Perp. Dist**) delta is now reported in addition to the vertical cut/fill delta (**V.Dist**). This delta is available for RXL and LandXML roads.

Cross slope and subgrade

You can now access the cross slope or subgrade functions using the **Cross slope** and **Subgrade** softkeys in the plan view and cross section view. On-screen prompts provide guidance on how to define the cross slope or subgrade.

Skew offset enhancements

When defining a skew offset you can now select the station by tapping on the map. Previously when you did this the method changed to **Station on string**. To select another station, you can now use the **Sta+** and **Sta-** softkeys when using the **Skew offset** stake method.

Double-tap to clear map selection

To clear the current selection when staking a road, you must now double-tap an empty space in the map. This is consistent with how clearing the map selection works in General Survey. Previously, the map selection could be cleared in Roads and the method set to **To the road** with a single tap on empty space.

Improved warning messages for LandXML string roads

The software now warns when an invalid string is encountered when loading a LandXML file. Invalid strings are ignored, and the software continues to load the file. Previously the file would not load.

When selecting a LandXML file to display in the map that has multiple roads with strings that go back on themselves, the warning message now includes the road name, which is useful when the file contains multiple roads.

Tap **Skip further warnings** to prevent the software showing any further warnings for the road.

Spirals in LandXML string roads

When layering on a LandXML string road in the map, Origin now warns if the spiral geometry is invalid. The horizontal alignment is then adjusted to fit.


For more information, see the topic **LandXML string roads** in the [Spectra Geospatial Origin Help](#).

Last used stake method

The last used stake method is now remembered when you begin road stakeout.

Switch between plan view and cross section view using a function key

You can now switch between the plan and cross section views when reviewing and staking a road or staking an alignment by pressing the function key you have assigned to this function on the controller keypad. This keypad shortcut replaces the **Tab** key shortcut in previous versions of the software. Pressing the **Tab** key now moves between fields in a form.

To assign the function key, tap  in the **Favorites** screen and select the **Function keys** option. Tap **+** on the function key you want to use and from the **Map controls** group, select **Toggle Plan / Cross section**.

For more information, see the topic **Favorite screens and functions** in the [Spectra Geospatial Origin Help](#).

Resolved issues

- **Keyed in roads defined as alignments:** We have fixed a workflow issue that resulted in a keyed in road being stored as an alignment.
- **Layer manager does not allow road layer display changes:** We have fixed an issue where if you attempted to hide or deselect a LandXML road in the **Layer manager**, the software erroneously warned that the road was being staked out and you were prevented from changing the display status of the layer.
- **RXL station interval:** If you edit the station interval for an RXL road the new value is now remembered when you restart the software.
- **12da files:** Improved support for 12da alignments where, depending on the geometry definition, some alignments could not be set to selectable in the **Layer manager**.
- **Road surface display:** We have fixed an issue where a road did not always display the surface despite having templates assigned.
- **Review using 3D drive:** To review a road using **3D drive**, the road must now have a vertical alignment.
- **Slow stakeout on Android:** We have fixed an issue where the software was slow to respond when staking an RXL or LandXML road on an Android device. This was an issue when the stake method was **To the string** and you had a calculated construction offset applied. It was particularly noticeable for large road files when using gesture support to zoom or pan.
- **Subgrade offset:** If you select a different subgrade position when staking a subgrade position, the offset value at the top of the navigation screen now updates to the new value.
- **Vertical construction offset:** We have fixed an issue where the offset was not being applied, resulting in an incorrect **V.Distance** value when the stake method was **Station on string**. This was an issue only at the navigation screen when the road consisted of a horizontal and vertical alignment with no templates assigned. The **V.Distance** value was correct at the **Confirm staked deltas** and **Review job** screens.

- **Flickering screen:** We have fixed an issue where the **Options** form would flicker if you opened it from the navigation screen when the stake method was **To a string** and a **Calculated horizontal construction offset** was applied.
- **Alignment stakeout:** When staking an alignment from the menu, you are now prompted to start a survey if you have not already started a survey.
- **Side slope staking:** Using the softkeys or the arrow keys to select a different station at the cross section navigation screen now shows the target in the correct position. Note that this was only a display issue – the navigation deltas were correct.
- **Staking a road with a gap in the template:** When staking **To the road**, you will no longer see the target in the cross section view when your position is over a template element defined as a gap. This is consistent with the software behavior when in the plan view.
- **Stakeout arrow pointing incorrectly:** We have fixed an issue when staking a station on a string where the string was a catch point and was some distance away, where the stakeout arrow sometimes pointed in the wrong direction.
- **Cross section view unavailable:** We have fixed an issue where occasionally you could not access the cross section view when the stake method was **To the string** and you were staking to an offset rather than a string.
- **LandXML string roads:** We have fixed an issue where strings that went back on themselves were occasionally not being flagged as such.
- **Application errors:** We have fixed several issues that caused occasional application errors when using or closing the software. In particular:
 - When selecting a station to stake after having previously staked a station with a keyed in elevation. This was an issue only when the road had no vertical alignment.
 - When selecting an additional string to stake. This was an issue only when the road had no templates assigned.
 - When selecting the **To an additional string** stake method from the menu when a calculated construction offset had previously been applied.
 - When attempting to view the cross section view when staking **To the string** with a computed construction offset.

- When displaying a 12da file in the map where the file contains only the header lines.
- When changing the **Display the road selection screen on escape** setting in the **Options** screen when selecting a road to stake from the menu.
- When attempting to cancel out of the **Exclude** strings option when the map is updating.
- When reviewing a road using 3D drive where some of the vertical alignment is vertical.

Supported equipment

Origin software version 2022.00 communicates best with the software and hardware products listed below.

NOTE – For best performance, hardware should always have the latest available firmware installed.

Supported controllers

Windows devices

The Origin software runs on the following Windows® 64-bit devices:

- Spectra Geospatial Ranger 7 data collector
- Spectra Geospatial ST10 or ST100 tablet

Android devices

The Origin software runs on the following Android™ devices:

- Spectra Geospatial Ranger 5 data collector
- Spectra Geospatial MobileMapper 60 handheld

A small number of features are not supported when running Origin on an Android device. For more information, see the section **Tips for Android devices** in the [Origin Help](#).

Supported conventional instruments

Conventional instruments that can be connected to the controller running Origin are:

- Spectra Geospatial FOCUS® 50 total stations
- Spectra Geospatial FOCUS 35/30 total stations
- Supported Nikon and third-party total stations

The functionality available in the Origin software depends on the model and firmware version of the connected instrument. Spectra Geospatial recommends updating the instrument to the latest available firmware to use this version of Origin.

Supported GNSS receivers

GNSS receivers that can be connected to the controller running Origin are:

- Spectra Geospatial integrated GNSS receivers: SP85, SP80, SP60
- Spectra Geospatial modular GNSS receivers: SP90m

NOTE – *The communication protocols the Spectra Geospatial Origin software uses to communicate with Spectra Geospatial GNSS receivers do not support all of the features available when using the same receivers with Survey Pro software. For more information, refer to the support bulletin [SP60, SP80 and SP85 Receiver Support with Spectra Geospatial Origin](#).*

Installation information

License requirements

You can install Origin 2022.00 using a perpetual license that is licensed to the controller or as a subscription license that is assigned to an individual user. Licenses are required for the General Survey app as well as for each Origin app you want to use.

Perpetual license

To install Origin 2022.00 onto a supported controller that has a **perpetual license**, the controller must have a Origin Software Maintenance Agreement valid up to **1 May 2022**.

Subscriptions

If you are using a Origin **subscription** rather than a perpetual license, you can install Origin 2022.00 onto any supported controller.

To use the software subscription:

1. The License Administrator in your organization must assign a subscription to you using the [License Manager webapp](#).
2. The first time you start the Origin software, you must sign in using your Trimble ID to download your Origin subscription license to the controller. Otherwise you are prompted to sign in only if you have previously signed out.

Subscriptions are locked to that controller until you sign out. Once signed out, you can run Origin on a different controller and sign in to lock the subscription to that controller and use the software.

Don't have a current license? You can still try out the software

You can use Spectra Geospatial Installation Manager to create a limited demonstration license and then install Origin 2022.00 onto any Windows 10 computer or a supported Spectra Geospatial controller running Android.



Demonstration licenses are limited to adding 30 points per job, however large jobs created elsewhere can be opened and reviewed. Demonstration licenses allow connections to GNSS receivers and total stations for the first 30 days. After 30 days you can emulate a total station survey using a manual instrument (Windows and Android), and emulate a GNSS survey (Windows only).

NOTE – You can only create a demonstration license for Origin on devices that do not already have a Origin license.


For more information, refer to the topic **To try out software** in the *Spectra Geospatial Installation Manager Help* for your controller operating system.


Installation and upgrades using Spectra Geospatial Installation Manager

To install the software to your controller, use the appropriate Spectra Geospatial Installation Manager for your controller operating system:

- Spectra Geospatial Installation Manager for Windows 
- Spectra Geospatial Installation Manager for Android 

To install the software to a Windows controller

To download and install Spectra Geospatial Installation Manager for Windows , connect the controller to the internet, and then go to <https://spectrageospatial.com/origin-installation>.

To run Spectra Geospatial Installation Manager on the controller, tap the **Search** icon in the Windows task bar and enter **Install**. Tap Spectra Geospatial Installation Manager , in the search results to open the Spectra Geospatial Installation Manager. When you run the software, it updates itself automatically with the latest changes and software releases.

Spectra Geospatial Installation Manager for Windows can be installed and uninstalled as required, without affecting the Origin software.

For more information refer to the [Spectra Geospatial Installation Manager for Windows Help](#).

To install the software to an Android controller

Spectra Geospatial Installation Manager for Android is **often preinstalled** on Spectra Geospatial Android devices.

To download and install Spectra Geospatial Installation Manager for Android , connect the controller to the internet, and then go to <https://spectrageospatial.com/origin-installation>.

To run Spectra Geospatial Installation Manager on the controller, go to the Android **Apps** screen and tap the Spectra Geospatial Installation Manager for Android  icon. When you run the software, it updates itself automatically with the latest changes and software releases.

NOTE – Spectra Geospatial Installation Manager for Android **must remain installed** on the controller for the Origin software to run.

For more information refer to the [Spectra Geospatial Installation Manager for Android Help](#).


Updating office software

You may need to update your office software, so that you can import your Origin version 2022.00 jobs.

All required updates to Survey Office are handled using the **Check for updates** utility provided with Survey Office.

Solution Improvement Program

The Spectra Geospatial Solution Improvement Program collects information about how you use Spectra Geospatial programs and about some of the problems you may encounter. Spectra Geospatial uses this information to improve the products and features you use most often, to help you to solve problems, and to better meet your needs.

Participation in the program is strictly voluntary. At any time, you can choose to participate, or not to participate in the Solution Improvement Program. To do this, in Origin tap  and select **About**. Tap **Legal** and select **Solution Improvement Program**. Select or clear the **I would like to participate in the Solution Improvement Program** check box.

Legal information

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For a complete list of legal notices relating to this product, go to survey.help.spectrageospatial.com/Origin/ and click the **Legal information** link at the bottom of the page.