SPECTRA
GEOSPATIAL

Origin Software

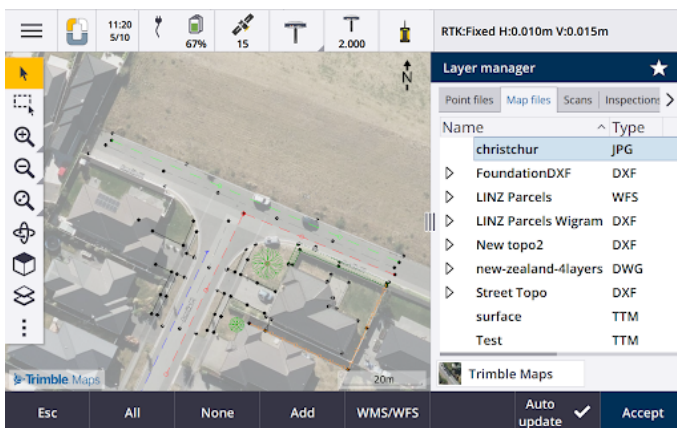## Version 2023.00   April 2023

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

Key features

Built-in Trimble Maps support

Origin 2023.00 provides built-in support for Trimble Maps. Trimble Maps provides a simple, easy-to-use way to obtain background map imagery for your Origin jobs.

Using Trimble Maps requires no configuration – simply connect the controller to the Internet and the Trimble Maps service can automatically provide background data for the extents of the job. Select from **Satellite**, **Street** or **Terrain imagery**.

> **NOTE –** The job must use a defined projection and datum. Trimble Maps cannot provide background imagery for jobs that use a **Scale factor only** or **No projection / no datum** coordinate system.

Trimble Maps is available with any Origin controller that has a current Origin Software Maintenance Agreement or to any user who has a valid Origin subscription.

For more information, see the topic **Trimble Maps** in the _Spectra Geospatial Origin Help_.

Layer manager provides improved linking to design files

Easily link one or more design files at once from Trimble Connect, from a USB drive or from existing folders using the **Add** button from the **Layer manager**.

- For cloud projects, easily select and download files from Trimble Connect, directly from the **Layer manager**.

- For USB drives inserted to the controller, files on the USB drive are shown in the file browser, ready to be selected and automatically copied to the project folder on the controller.

- For SD memory cards inserted to a Windows controller, you can select and use files on the memory card from their current file location.

NOTE – On Android devices, SD memory cards are treated the same way as USB drives, and files selected from the memory card are copied to the project folder on the controller.

TIP – When browsing folders, you can now pin your favorite folders for faster navigation.

Map files linked to the job are now shown as visible in the map when you return to the **Layer manager**. Point files linked to the job are always shown as visible and selectable when you return to the **Layer manager**. You can change the visibility or selectability of files and layers as required.
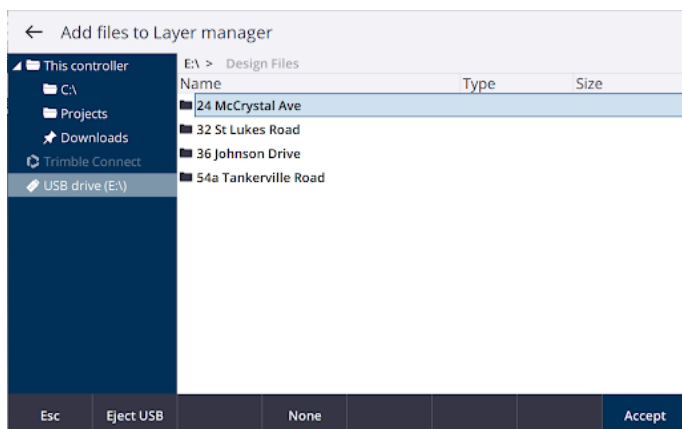
NOTE – To update a file that has already been linked to the job in **Layer manager**, you must make sure the new file replaces the previous file of the same name. To do this, make sure **Auto update** in the Layer manager is enabled, then tap **Add** and deselect and then reselect the file.

Map tools for working with large datasets

Select and pan in the map

We have consolidated the **Select** ⬉ and **Pan** 🖐 buttons in the **Map** toolbar, so that you can now select single points and pan in the map without having to tap the **Pan** button to enter **Pan** mode.

To pan in the map, make sure **Select and pan** ⬉ is selected in the map toolbar and then simply tap and drag the map. Alternatively, place two fingers on the screen and slide in the desired direction to move the view. If you are using a controller that has arrow keys, you can use the arrow keys to pan.

For more information, see the topic **Map** in the *Spectra Geospatial Origin Help*.

Multiselect button for Rectangle or Polygon selection of multiple map items

Origin 2023.00 includes a new button on the **Map** toolbar that toggles **Rectangle selection** and the all-new **Polygon selection**. Use these selection tools to select multiple items in the map you

want to work with, including points, lines.

- Tap **Rectangle selection** ⬚ and then drag a box around the items you want to select.

- Tap **Polygon selection** ⬚ and then tap in the map to start creating a polygon shape around the items you want to select. Keep tapping in the map to add nodes to the polygon. When you are done adding nodes, tap ⬚ to close the polygon. The polygon shape disappears from the map and items inside or partially inside the polygon are colored blue to indicate they are selected.

- To change toggle between **Rectangle selection** and **Polygon selection** mode, tap the button to select it (the button is highlighted) and then tap it again to change mode.

For more information, see the topic **Selecting items in the map** in the _Spectra Geospatial Origin Help_.

Show only some items in a BIM model

The new **BIM** toolbar provides tools for isolating the items in a BIM model you are most interested in.

Select items from the BIM model in the map and then tap **Hide** ⬚ to hide the selected items. Alternatively, tap **Show only** ⬚ to hide everything except the selected items.
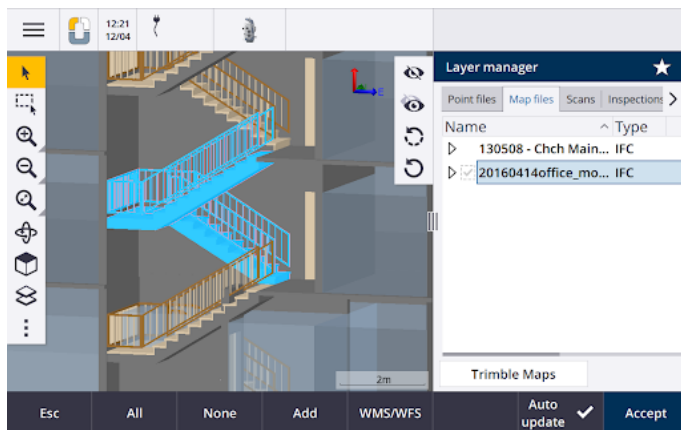
For more information, see the topic **Showing only some items in a BIM model** in the _Spectra Geospatial Origin Help_.

Map data transparency

The new **Transparency** form provides separate transparency controls for BIM models in the map and other map backgrounds including Trimble Maps, data layers from a WMS, and background images. Increased transparency can provide better contrast with features in the job or in other linked files.

To open the **Transparency** form, tap ⋮ and select **Transparency**.

For more information, see the topic **Map data transparency** in the _Spectra Geospatial Origin Help_.

Other new features and enhancements

Export feature coded symbols as a DXF file

You can now export feature coded symbols to DXF from Spectra Geospatial Origin.

From the **Export** screen, in the **Points and lines** field select **Feature library symbols** to show points, lines, arcs, polylines and polygons using the symbols defined in the Feature library file used for the job. Alternatively, you can choose to export points and lines showing **Method symbols** or simple dots and lines.

For more information, see the topic **To export data from the job** in the *Spectra Geospatial Origin Help*.

Import CSV with configurable delimiter

When importing a CSV file using the **Comma Delimited (*.CSV, *.TXT)** file format you can now select the **Field delimiter** that separates the data in your file into distinct fields. The delimiter options include comma, semicolon, colon, space, and tab.

Geotagging images on Android controllers

You can now geotag images when running Origin on an Android controller. Previously, geotagging was supported only on Windows controllers. Geotagging adds information to the properties of the file, including the GPS coordinates of where the image was captured, a timestamp showing when the image was captured, and other relevant information including point ID as the image description and user name.

For more information, see the topic **To geotag an image** in the *Spectra Geospatial Origin Help*.

Station stakeout enhancements

Origin 2023.00 includes the following enhancements for staking stations. For more information, see the topic **Stations available for stakeout** in the *Spectra Geospatial Origin Help*.

Station selection and settings for lines, arcs, and polylines

When staking stations on a line, arc, or polyline, you can now use the **Select station** screen to select the station to stake and to define station interval settings. You can:

- Define the station interval.
- Select the **Method** used to increment the station interval:
  - The **0 based** method is the default method and gives station values that are multiples of the station interval.
  - The **Relative** method gives station values relative to the start station.
- Enable the new **Auto increment** setting enables you to automate the selection of the next (or previous) station.

Auto increment station during stakeout

When staking stations on a line, arc, polyline or alignment the new **Auto increment** setting enables you to automate the selection of the next (or previous) station for a more streamlined stakeout workflow.

To enable **Auto increment**, select the stakeout method and then tap ![icon] next to the **Station** field in the **Stakeout** screen to open the **Select station** screen and then select **Sta+** or **Sta-** in the **Auto increment** field. To be able to manually select the required station in the navigation screen, select **No** in the **Auto increment** field.

Sharing station interval settings for alignments in IFC files

When staking stations on an alignment, **Station interval** settings configured in the **Select station** screen are written to the alignment file so that the same settings are used if the file is shared with other survey crews.

Because Origin cannot write to an IFC file, if the file is an IFC file, then in Origin version 2023.00 onward **Station interval** settings configured in the **Select station** screen are written to a Trimble Additional Properties (TAP) file. The TAP file is stored in the same folder as the IFC file of the same name. If other survey crews are using the IFC file, then you can share the .tap file with the .ifc file to ensure all survey crews use the same station interval settings.

Consistent station abbreviations for start and end station

Origin now uses **S** to denote the **Start station** and **E** to denote the **End station** for lines, polylines, arcs, alignments, roads and tunnels. In previous versions the abbreviations used to denote the start and end station were different for different feature types.

Web map service (WMS) and web feature service (WFS) enhancements

Origin version 2023.00 includes the following enhancements for web map and web feature services (WMS/WFS):

- WMS and WFS now provide the same enhanced sign in options. You can now select the **Sign in method** and add credentials and other information required to use the service. Previously, sign in details for a WFS had to be configured and saved to a file using SiteVision Manager.

  > **TIP –** If you are using a WMS URL that includes sign in credentials as parameters, you can keep the sign in credentials as part of the URL and select **None** in the **Sign in method** field. However sign in credentials that are part of the URL are never encrypted. To ensure that your credentials can be encrypted if supported by the server setup, Trimble recommends that you remove the sign in parameters from the URL and select **Http Authentication** in the **Sign in method** field and then enter the **Username** and **Password**.

- You can now select the EPSG code from the **Coordinate system** field when using a WFS. In addition, for both WMS and WFS the software now uses the job coordinate system to determine the most appropriate EPSG code to use from the list of codes provided by the service.

- Like WMS, WFS now keeps parameters entered by the user in the URL and passes them on to the service. This enables you to enter parameters such as version number, if required.

- The processing of WMS and WFS data has been improved to support the reading of global/local or grid coordinates based on the EPSG code.

- To provide better support for servers that provide both WMS & WFS on the same URL, you must now select **Web Feature Service (WFS)** or **Web Map Service (WMS)** from the **Service type** field. Previously, Origin attempted to detect the service type automatically.

For more information, see the topic **To manage web map & web feature services (WMS or WFS)** in the _Spectra Geospatial Origin Help_.

No join in CAD toolbar

The **No join** button on the **CAD** toolbar has a new icon ✗ to better reflect that the **No join** function enables you to measure a standalone point that has the same code but is not joined to the previous point or the next point.

For more information, see the topic **To create features using control codes in Measure codes** in the _Spectra Geospatial Origin Help_.

Check backsight auto return

When checking the backsight during a conventional survey, if the instrument had automatically turned to the backsight or if you tapped **Turn** to turn the instrument to the backsight, then when you tap **Esc** to leave the **Check BS** screen the instrument will now automatically turn back to the previous HA/VA.

Underground utility locator support for Vivac Metrotech vLoc3-Pro

In Origin 2022.10 we introduced support for the Radio Detection RD8100 cable and pipe locator. In Origin 2023.00 we have added support for another popular model of utility locator, the Vivac Metrotech vLoc3-Pro receiver.

Connect Origin to the vLoc3-Pro and measure the location of underground assets such as cables and pipes.

> **NOTE –** Because Origin connects to the vLoc3-Pro receiver using Bluetooth, the vLoc3-Pro must be fitted with the vLoc3 Series Bluetooth Module.

The vLoc3.uld file is provided in the **C:\ProgramData\Spectra Geospatial Data\System Files** folder when you install the Origin software. Use the Utility Location Definition (ULD) file with your FXL file to set up your job for measuring points using the utility locator.

Once you have created a job that uses the FXL file and defined the **Utility locator** settings in the survey style, you can connect to the utility locator and measure points using the codes configured with attributes to record the depth information from the utility locator.

For more information, see the topic **Utility locators** in the _Spectra Geospatial Origin Help_.

Project location and ground coordinates

We have improved the software screen for setting up a ground coordinate system so that you can now key in the ***ground coordinates*** of the project location and the software will automatically calculate and display the offsets to the underlying projection grid coordinates for the project location. Alternatively, if you key in the ***offsets*** (as required in previous versions of Origin), the resulting ground coordinates of the project location are computed and shown.

For more information, see the topic **To set up a ground coordinate system** in the *Spectra Geospatial Origin Help*.

TLS encryption for internet data links

Internet data links for GNSS RTK surveys now support the use of Transport Layer Security (TLS) internet data encryption for secure server connections. The **Use TLS encryption** switch in the **Connections** tab of the GNSS contact enables this setting. Origin supports TLS version 1.2 or later.

12da point names

Origin can now read the name record for points in a 12da file. The name is displayed in the **Code** field.

File naming improvements

We have made the following improvements when naming files:

- International characters are now supported in file names when running Origin on Windows or Android. Previously characters using accents or cyrillic symbols were supported only on Android.

- The full file path (including file name and folder names) is no longer restricted to 250 characters. However, because other software such as Windows Explorer does have character limits for file paths, Trimble recommends exceeding 250 characters with caution.

Performance improvements

- You should now see fewer map update delays when changing the visibility or selectability of BIM files or layers in the **Layer manager** when **Auto update** is enabled.

- We have removed the **Use Trimble keyboard** setting from the **Settings / Language** screen. The on-screen Trimble keyboard now always automatically appears when you need to enter data in a field in the software, regardless of the operating system of the controller, or whether the controller is operating in Tablet mode.

- When tapping the screen close to a slider control, the software no longer responds to screen taps at the far left or far right of the slider, and now responds only to screen taps on the slider control or on the slider control labels.

Coordinate System Database updates

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

- Added SIRGAS-ROU98 datum and zones for **Uruguay.**

- Added old realizations of California Spatial Reference System (CSRS) for **California.**

- Added coordinate system zones for **Guam**.

- Added coordinate systems for **Austria**: EPSG 31257, 31258, 31259.

- Added SIRGAS-Ecuador coordinate system support for **Ecuador**.

- Added Kinematic Datum IGS20 and RTX20 (which are considered the same as ITRF 2020).

Positions measured using the Trimble Centerpoint RTX™ correction service are now always computed in the receiver as ITRF 2020 at the epoch of measurement. The time-dependent transformation database installed with Origin now transforms the RTX positions between ITRF 2020 at the epoch of measurement and the global reference frame.

Trimble EM940 EMPOWER RTK Radio module

Origin version 2023.00 introduces support for the Trimble EM940 EMPOWER RTK Radio module, which enables you to receive GNSS corrections on the 450 MHz and 900 MHz frequency band when using a Spectra Geospatial GNSS receiver that does not have an internal radio, or which has a radio that is not in the required frequency band.

The EMPOWER RTK Radio module attaches to any supported controller that has an EMPOWER module bay, such as the Spectra Geospatial Ranger 7 or Ranger 5 controller.

For more information, see the topic **To configure a rover radio data link** in the *Spectra Geospatial Origin Help*.

Spectra Geospatial Installation Manager updates

Because job (.job) files created using a previous version of Origin are automatically upgraded when you open them in the latest version of Origin, Spectra Geospatial Installation Manager no longer upgrades job files as part of the version upgrade process.

The process to upgrade files using Spectra Geospatial Installation Manager would create a copy of the original files before converting them. Now that Spectra Geospatial Installation Manager is no longer upgrading the job files, installing a new version of Origin is now faster and requires less disk space. However, there is no backup of the original job files – to keep a copy of the original files that can be used with the earlier version of Origin you must create your own backup copy before opening the job files in the latest version of Origin.

For more information, see Installing Origin in the **Origin Help**.

Resolved issues

- **Sync scheduler dialog hidden**: We have fixed an issue where the **Upload local project to cloud** dialog was sometimes hidden behind other forms when signing in or moving between forms, which meant that the software stopped automatically uploading data.

- **Background image world files**: We have fixed an issue where world files for background images (for example, .jpgw, .pgw or .pngw) were sometimes removed from the controller when the project was synchronized to the cloud.

- **Image naming**: We have fixed several issues with image naming, including:

  - When the **Link to** field is set to **None**, image files are now renamed even if the **Media files** screen is open.

  - When the **Link to** field is set to **Next Point**, an automatically incrementing number is now only added to the end of the image filename if an image with the same name already exists.

  - Placeholder elements for linking to the next point (such as NextPoint, NextCode) now display in the currently selected language.

- **Additional settings from template**: We have fixed an issue when creating a new job where the additional settings from a selected template were not copied over to the new job.

- **Import CSV**: When importing a CSV file with the **Advanced geodetic** check box enabled in the **Cogo settings** screen, the names of the coordinate fields in the **Import** screen now update when you select a different option from the **Coordinate type** field.

- **Error in Survey Office on job import**: We have fixed an error that could result in a "parameter is invalid parameter name : seconds" message when importing a job containing GNSS data into Survey Office.

- **Hours to UTC value**: We have changed the sign of the **HoursToUTC** value written to JXL files on Android controllers, to make it consistent with the value written to JXL files on Windows controllers. HoursToUTC = UTC - local time.

- **DXF export**: We have fixed the following issues when exporting to DXF:

  - The attribute name was included with each point or feature as well as the attribute value. Now, only the attribute value is exported.

  - A separate layer for each text attribute is now created per feature code. Previously attribute text was always written to layer 0 for each code.

- **Feature symbols**: We have fixed the following issues with drawing feature symbols defined in the feature library file (FXL):

  - Feature symbols defined by the value of an attribute field displayed the symbols for all attribute values rather than the symbol for the selected attribute value.

  - When exporting to DXF, attribute text was always written to layer 0 instead of to the layer for each attribute.

  - Feature symbols that included a half-circle were not drawn correctly in Origin.

- **Layer manager visibility settings**: We have fixed an issue where if **Auto update** was enabled and you toggled through the three possible visibility settings for a file or layer in the **Features** tab before selecting the original visibility setting, then that setting was ignored when you tapped **Accept**.

- **IFC surface display**: We have resolved an occasional issue where tube-like objects were not always displayed correctly.

- **BIM object selection**: We have resolved an issue with some BIM models where **Surface selection mode** was set to **Whole object**, but only a single face was selected and not the whole object as expected.

- **WFS layer color**: WFS layers are now displayed using a consistent color while Origin is open. Previously, changing the layer display in the **Layer manager** or reopening the job would change the display color used for the WFS layer.

- **WMS images**: We have fixed an issue where connections to WMS services would fail to load any background images if the service returned a character set field as part of an image content header.

- **Georeference Map**: We have fixed an issue where the **Georeference Map** function did not appear in the **Cogo** menu if you were using Origin with a Total station-only license.

- **Target height**: We have fixed an issue where the **Target height** field was sometimes missing on the **Measure topo** form when the instrument was in tracking mode.

- **Measure codes**: We have fixed an issue in **Measure codes** where sometimes the entire contents of the **Code** field were selected when the **Multicode** button was active, and other times the cursor was placed at the end of the **Code** field when switching between **Measure** forms using a function key.

- **Staking polyline with IFC attributes**: Attributes saved to a polyline created from an IFC file are now stored with the points recorded when staking the polyline.

- **Staking to a DTM**: When staking relative to a DTM with a **Perp. Dist to DTM** delta you will no longer see an obviously erroneous delta value when reviewing the job. This was only an issue when your measured position was a long distance from the DTM.

- **Reselecting staked out items in the map**: We have fixed an issue where if you staked out a line, arc or polyline where the new staked points used the names of previously deleted staked points, then after storing the item you could not immediately reselect the item in the map after deselecting it.

- **Rectangle control code**: After measuring a three-point rectangle, subsequent points are no longer joined to the created rectangle.

- **Improved display of arcs**: Arcs defined in a horizontal alignment are now drawn as true arcs. Previously they were draw as a series of short straights. This was a display issue only and did not effect stakeout.

- **0 gon values**: We have fixed an issue where angle values of 0 gon were sometimes shown as 400 gon. Now they are consistently shown as 0 gon.

- **NTRIP v2.0 servers**: We have fixed issues where Origin would not show a source table from an NTRIP v2.0 server if the server did not specifically declare it was a source table in the NTRIP header **Content-Type** field, or where correction data from a mountpoint was not used if the **Content-Type** field was not provided by the server in the response to the mountpoint stream request.

- **Resection**: We have fixed an issue where codes keyed in before a backsight measurement was taken during a resection were not being used when measuring the backsight point.

- **ISO Rounds report**: We fixed an issue in the ISO Rounds report where the **Mean out of all sets** column could contain erroneous values when the observations averaged are either side of 360 and 0 degrees.

- **Integrated survey**: If you have configured Function keys to **Auto-switch** between GNSS and conventional surveying, the software now switches reliably between GNSS and conventional surveys when you press the appropriate Fn key.

- **Integrated survey resection points**: A fix recorded in the Origin version 2022.10 release notes was unfortunately incomplete. We believe we have now fixed an issue when performing a resection in an integrated survey, where if you attempted to measure an observation to a point that did not yet exist in the job, when the software switched to the GNSS measure screen it also changed the point name to the next point name in the GNSS point sequence, rather than retaining the name you had entered for the conventional point.

- **Software configuration when running in Japanese**: When installing Origin for the first time in Japanese only the Metric template is created. When running Origin in Japanese the software now only shows units and coordinate systems applicable for Japan.

- **Application errors**: We have fixed several issues that caused occasional application errors when using or closing the software. In particular:

  - Origin would sometimes become unresponsive when using the **Sync scheduler** to automatically upload to synchronize large projects to the cloud.

  - When keying in a line, arc, or polyline where the station interval was too small for the length of the line.

  - When staking a polyline using the **Side slope from polyline** stake method where one or more fields had null values.

  - During stakeout the software would sometimes show an application error "HOOPS Error: Requested shell has non-usable values" and shut down.

  - When assigning a feature code to a line where the symbol for the feature code consisted of repeating short arcs.

  - When offsetting a closed polyline with duplicate vertices in a DWG file.

  - Occasionally the software would lock up on shut down when running on a FOCUS data collector connected to a FOCUS 50 total station.

  - Occasionally the software would show an application error when attempting to configure Wi-Fi settings for a Spectra Geospatial SP80 receiver.

  - When calculating an RTK/RTX offset and selecting one of the points from the list instead of keying in the point ID.

  - When using stakeout polyline in a job with a Broadcast RTCM coordinate system.

  - When selecting the TWD97 coordinate system when running Origin on a FOCUS controller.

Roads

New features

Auto increment station during stakeout

When staking stations using the **Station on string** or **Skew offset** methods, the new **Auto increment** setting enables you to automate the selection of the next (or previous) station for a more streamlined stakeout workflow.

To enable **Auto increment**, select the stakeout method and then tap ⫽ next to the **Station** field in the **Stakeout** screen to open the **Select station** screen and then select **Sta+** or **Sta-** in the **Auto increment** field. To be able to manually select the required station in the navigation screen, select **No** in the **Auto increment** field.

Station interval settings configured in the **Select station** screen are written to the road file so that the same settings are used if the file is shared with other survey crews.

For more information, see the topic **Stations available for stakeout** in the _Spectra Geospatial Origin Help_.

Two polylines stakeout method

You can now stake out two polylines where features defining a road are represented by polylines but there is no road alignment available. When staking out using the **Two polylines** method the software reports your position relative to the polylines you selected.

Enhancements

Side slope staking

We have made improvements to workflows when staking a side slope, including:

- When adding or editing a side slope at stakeout, the **Slope to next string** and **Slope to previous string** options are now always available, where appropriate, when defining the cut and fill slopes.

- The **H.Dist to hinge point** delta at the navigation screen now displays a valid value. Previously it always displayed **Null**.

- Now after staking a side slope with the **V.Dist to hinge point** delta displayed, if you select another string at the same station that is not a side slope the **V.Dist to hinge point** delta displays **Null** rather than the previous **V.Dist to hinge point** delta value.

Vertical construction offsets

Now, when the stake method is **To the road** or, for 12da files, **Two strings**, and a vertical construction offset has been applied (either vertical or perpendicular), a dashed black line is drawn at the offset value from the road surface.

Relative to DTM offset

Now, when staking a road relative to a DTM and a vertical offset has been applied (either vertical or perpendicular), a dashed green line is drawn at the offset value from the DTM.

Station selection

We have streamlined the workflow when selecting a station from the list during stakeout by removing the **Edit** softkey. Tap ⫽ next to the **Station** field in the **Stakeout** screen to open the **Select station** screen to select the station or to modify the station settings.

Station Method

The station **Method**, **0-based** or **Relative**, is now written to the road file. This ensures that the same method is used if the file is shared with other survey crews.

Consistent station abbreviations for start and end station

Origin now uses **S** to denote the **Start station** and **E** to denote the **End station** for roads so that the same abbreviations are used for lines, polylines, arcs, alignments and roads throughout the software. In previous versions the abbreviations used to denote the start and end station for a road were **RS** and **RE**.

Autodesk Civil 3D LandXML files with multiple roads

To create an Autodesk Civil 3D LandXML file that contains multiple roads, it is important that a ***site*** is created for each alignment along with the feature lines associated with that alignment. This enables Origin to correctly form each road using the appropriate feature lines. For more information on creating ***sites***, refer to the Autodesk Civil 3D help.

For files that include multiple roads and have not been created from sites Origin now prevents the file being imported and refers the user to the appropriate help topic. Previously the file was imported but may not have always correctly formed each road.

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

Review road

When you tap and hold in the map, the software now displays the graphical **Review** screen, which is consistent with when you tap the **Review** softkey.

12da stake methods

We have removed the **Nearest string** stake method for 12da roads because it is not applicable to a 12da road which is defined by a master alignment only.

Feedback from users was that including the **Nearest string** method was confusing because it suggested that polylines in the 12da file could be staked using this method. This is not the case – polylines can only be staked using the **One string** or **Two strings** methods.

Resolved issues

- **Stakeout deltas**: You can now display the **H.Dist to hinge point** and the **V.Dist to hinge point** deltas when staking a side slope using the **To the string** method.

- **Add side slope during stakeout**: To prevent an invalid side slope being created, now when adding a side slope during stakeout the software will not accept a value of null in both the **Cut slope** and **Fill slope** fields.

- **Station interval settings**: We have improved the handling of long roads that have a small station interval. Now the software will prevent you continuing to stakeout until you have specified an interval suitable for the length of the road.

- **Station list**: You can now select the first station in the list by tapping it. Previously you could only select it by tapping **Accept** or pressing the **Enter** key.

- **Additional point selection**: We have resolved an issue where the **Select** softkey was no longer available and was replaced by the **Cross slope** softkey once you had selected an additional point. Now both the **Select** softkey and the **Cross slope** softkey are available.

- **Construction offsets**: When staking a road defined by only a horizontal alignment, the dashed green linework representing the construction offsets is now drawn correctly. Previously it was drawn incorrectly, but this was a display issue only — the target and navigation deltas were correct.

- **Skew offset**: After staking a station on a string where the selected string is not the alignment, if you change the stake method to **Skew offset** and tap the **Sta+/Sta–** softkey, the target now moves to the correct station on the alignment string. Previously the target moved to the station on the previously staked string.

- **Staking to a DTM**: When staking relative to a DTM with a **Perp. Dist to DTM** delta you will no longer see an obviously erroneous delta value when reviewing the job. This was only an issue when your measured position was a long distance from the DTM.

- **LandXML conversion to RXL:** We have reinstated the workflow where you are required to save a LandXML road as an RXL road if you wish to edit the road. The workflow is accessed from the **Define** menu.

- **LandXML string roads:** We have fixed several issues with LandXML string roads, including:

    - You could not select a string when editing a LandXML string road.

    - You could not set a LandXML string road to not visible in the **Layer manager** if the file included one or more surfaces.

- **LandXML filter alignments by name:** We have fixed the workflow that enables you to filter alignments by name match when staking out a LandXML road from the menu.

- **GENIO road station symbols:** We have fixed an issue where, after staking an RXL road with the **Available stations** set to **Horizontal curve**, there were no station symbols displayed in the map for a GENIO road.

- **Application errors**: We have fixed several issues that caused occasional application errors when using or closing the software. In particular:

  - During stakeout the software would sometimes show an application error "HOOPS Error: Requested shell has non-usable values" and shut down.

  - When editing a LandXML string road where the road was set to not visible in the **Layer manager** and you then tapped the **Strings** option and tapped **Accept**.

  - When editing a LandXML string road and then de-selecting the road using the tap and hold menu.

  - When using a 12da file where the horizontal alignment is defined only by a transition.

Supported equipment

Origin software version 2023.00 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
- Supported third-party tablets

For more information on supported third-party tablets, go to Spectra Geospatial Origin Downloads and click **Support Bulletins – Origin** to download the **Origin 2021 on 64-bit Windows 10** bulletin.

Android devices

The Origin software runs on the following Android™ devices:

- Spectra Geospatial Ranger 5 data collector
- Spectra Geospatial MobileMapper 60 handheld
- Spectra Geospatial SP30 handheld GNSS receiver (only with Origin subscription)
- Spectra GeospatialFOCUS data collector

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
- Spectra Geospatial SP30 handheld GNSS receiver

> **NOTE –** The communication protocols the Spectra GeospatialOrigin 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

To install Origin 2023.00, licenses are required for the General Survey app as well as for each Origin app you want to use.

- **Perpetual licenses**

  Perpetual licenses are licensed to the controller. The controller must have a Origin Software Maintenance Agreement valid up to **1 April 2023**.

- **Subscriptions**

  Subscription licenses are assigned to an individual user. When used with a subscription license, you can install Origin 2023.00 onto any supported controller.

For more information, see Required software licenses in the **Origin Help**.

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

If you do not have the required licenses you may be able to try out the software for a limited time.

The options are:

- Create a **48-hour license** for Origin if you are not able to sign in and use your subscription or if you have purchased a perpetual license but it has not yet been assigned to your controller.
- Create a **30-day Demonstration license** for Origin if the controller does not have a current perpetual license. This type of temporary license is available on supported Windows and Android controllers.
- Create a **30-day Trial license** for specific Origin apps if the controller has a current perpetual license, but no license for the specific app you want to try. This type of temporary license is available only on supported Windows controllers.

For more information, see <u>Installing a temporary license</u> in the **Origin Help**.

Installing or upgrading Origin

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

For more information, see <u>Installing Origin</u> in the **Origin Help**.

> **NOTE –** Job (.job) files created using a previous version of Origin are automatically upgraded when you open them in the latest version of Origin. Once jobs are upgraded they can no longer be opened in a previous version. For more information, see <u>Using existing jobs with the latest version of Origin</u> in the **Origin Help**.

Learning resources

To learn more about Origin software features and how to get the most out of the software, visit the resources below.

Origin Help Portal

The **Spectra Geospatial Origin Help Portal** is available at <u>survey.help.spectrageospatial.com/Origin/</u> and includes the full contents of the on-board *Origin Help* in 14 languages. It also provides links to other useful resources, including the *Spectra Geospatial Installation Manager Help*, *Trimble Sync Manager Help*, and the Origin YouTube channel.

You can view the **Spectra Geospatial Origin Help Portal** from any computer that has an Internet connection, without needing to have the Origin software installed. You can also view it from your mobile phone, or from the controller running Origin if you chose not to install the on-board help.

Origin Help

The *Origin Help* is installed with the software when you select the **Language & Help Files** check box in Spectra Geospatial Installation Manager. To view the installed help, tap ≡ in the Origin software and then select **Help**. The *Origin Help* opens, taking you right to the help topic for the current screen in the Origin software.

Spectra Geospatial Origin Field Software YouTube channel

The Spectra Geospatial Origin Field Software YouTube channel provides a number of videos highlighting useful software features.

We post new videos regularly, so make sure to click **Subscribe** on the Origin YouTube channel page to get notified when new videos are available.

Legal information

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.