LandStar8 Update Notes

This document is for customers of iGage Mapping Corporation.

If you purchased LandStar or receivers elsewhere do not contact iGage for support under any circumstance. Your only recourse will be to return the equipment to another vendor and repurchase from iGage. It is not possible to purchase LandStar support separately.

Note: Upgrading from 8.1 to 8.2

If you chose to upgrade from 8.1 to 8.2, your project databases will be automatically updated. Backups of converted jobs may be available in the /system_prj_backup/ folder.

To revert back to 8.1, you will need to uninstall LandStar8 and then reinstall 8.1. Then you may be able to recover jobs from the backup folder.

It is highly recommended that you use the deployment backup to save all jobs and settings, then archive the backup file elsewhere.

Always Update Localization Package after update!

After updating, you AB SOLUTELY MUST refresh (re-download) the USA Localization package:

BlueGuy (top left) > **Localization packages** > **United States**

20250813 8.2.0.1. 20250813

1. Fixes PDF export of Least Squared Analysis.
2. Fixes snap to intersection of two lines.
3. Fixes perpendicular snap to line from point.

Additions to 8.2 July 2, 2025

What's new in LandStar 8 2025?

A new major release of LandStar8 is expected to be released in August. This document contains a running list of the major enhancements in the new version.

Will there be an additional cost for the 2025 version? No, any LandStar8 version can be upgraded at no cost.

Will there be a minimum equipment requirement change? No, if your equipment runs the current version, it will run the new version.

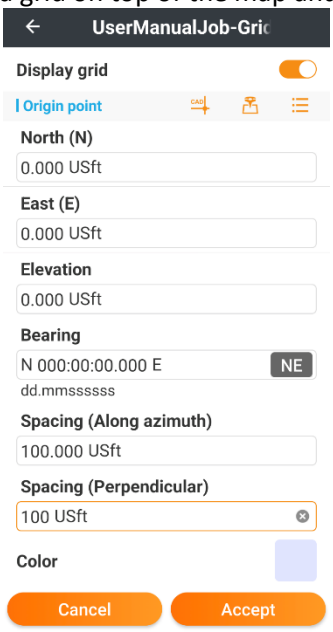
Will existing projects work with the new version? Yes, when they are opened in the new version the database will automatically update. There may not be backwards compatibility from the new version to the older version, but this has generally been the case for most updates in the past.

Will there be a new User Manual? Yes, iGage is producing a new printed User Manual for our customers. With your License Number purchased from iGage, you will be entitled to a printed User Manual at an extremely reasonable price (expected ~$23 including delivery). User Manuals will not be available for non-iGage customers.

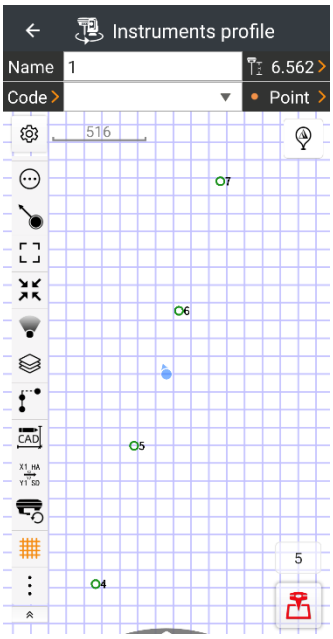
Grid Settings (on Tool tray)

Grid Settings

Display a grid on top of the map and CAD screens with an origin, rotation, spacing and color controls.



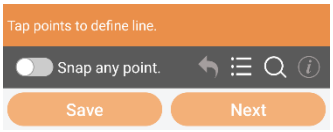
The grid is displayed on top of raster background maps, behind annotations:



Quick line (on Tool tray)

Quick line

Enter a Quick line definition which allows the ordered selection of points along a new polyline:



Changes for 3/1/2025

Project Management

1.When creating a new project, it is possible to select reference projects from any project folder.

Click on the “>” to open the list of project groups:

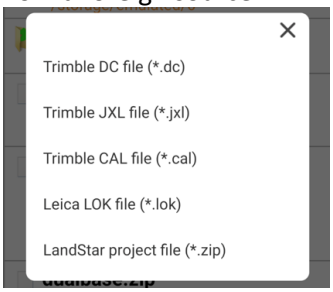
2.Quick selection of coordinate systems, codes, and project settings.

Click the down arrow button to pick an existing projection from the **Common coordinate system** list. Click the **Edit** button to edit the common list and access the **Pre defined** CRS database.

3.Create a project from a file.

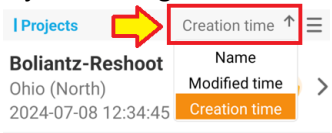
Click the **Create from file** 

button to create a new project based on another project, even a project from a foreign source:



4.Support sorting projects by name, creation time, and modified time.

When projects are organized in a list, click on the sort selection:



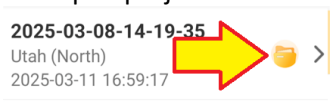
To sort by **Name**, the last **Modification time**, or the project **Creation time**.

Click the arrow to change the sort between ascending and descending order.

Click on to search for projects by name.

5.In the project list, add a button for quickly opening projects.

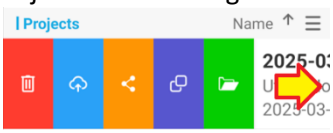
Click on the Open project button:



from the project list to quickly open the selected project.

6.In the project list, added a button to make a copy a project.

Drag a project line to the right:



to show action buttons:

Delete this project.

Share the project to the sharing cloud

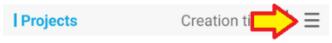
Share the project

Make a copy of the project

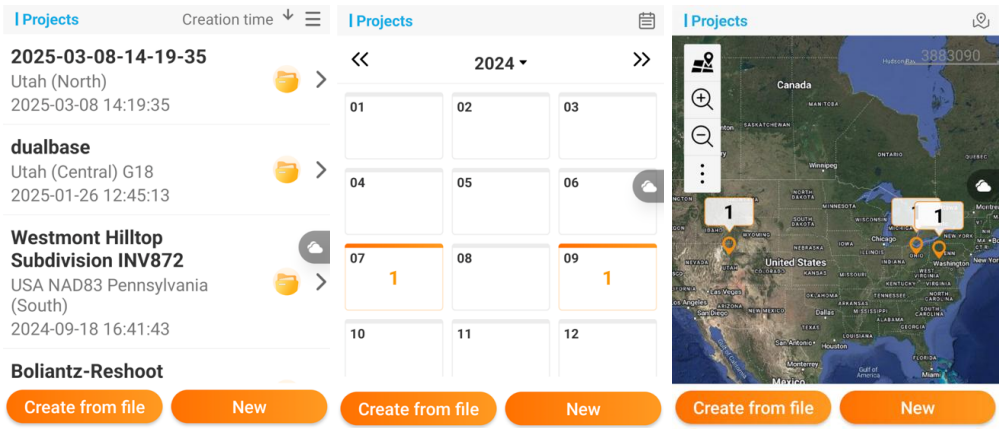
Open the project

7.Display projects in the forms of lists, calendars, and maps.

Click the list style button:



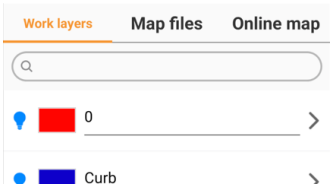
to switch between List , Calendar . And Map views.



3/12/2025

Layer Management:

1.Search for layers by name.

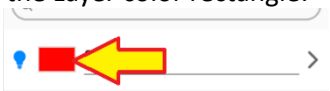


The Search bar:

restricts the listed layers to those that contain the search term.

2.Quickly modify the color of layers.

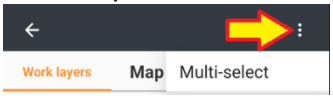
Click on the Layer color rectangle:



to quickly change the Layer color:

3.Delete layers in batches.

 button allows you to select multiple layers for deletion:



4.Create new layers, and users can set the layer styles.

In the previous versions of LS8, Layer styles were subordinate to Code styles. With 2025 the relationship between the attributes of a point are better defined.

5.Add functions to show and hide all DWG (Vector) layers.

Drag a vector map to the right to see the layer controls:

Delete the entire drawing from the project.

Adjust the georeferencing of the vector image to better align with the project.

View the raster layer in CAD view.

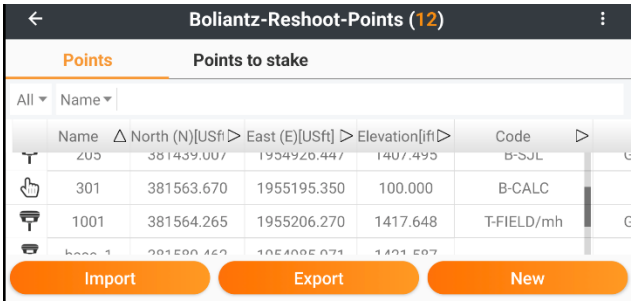
Set the CAD units and coordinate system (World or Local)

Turn all of the layers in the drawing on.

Turn all of the layers in the drawing off.

Point Management:

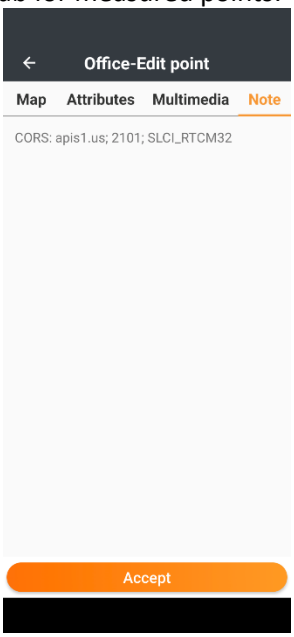
1.Points can be sorted by point name, code, and description.



The list can be sorted ascending or descending by **Name**, **Northing**, Easting, **Elevation**, **Code**, **Creation** and **Modified** time by clicking on the column heading sort buttons: △, ▷.

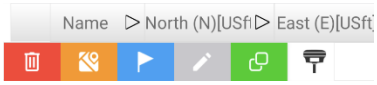
2.Added Node records to the point details.

A new tab for measured points:



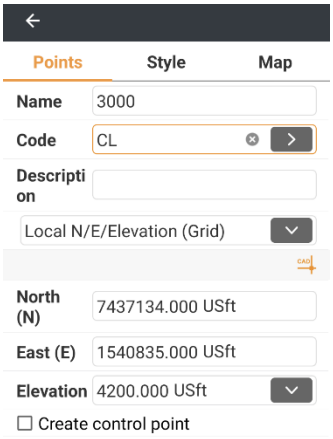
Includes automatically populated information about points.

3.Added Point copy function.

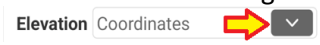


Rover points can be deleted, shown in CAD view, immediately staked, edited and copied.

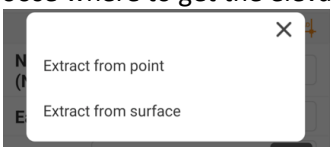
4.When creating a new point, the elevation can be entered, copied from other point, or extracted from a Surface.



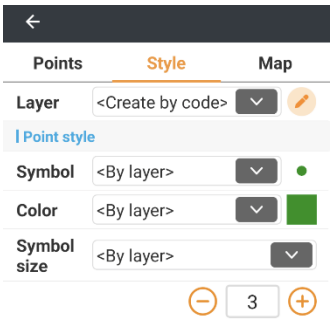
When entering a point, the elevation can be copied from another point or computed from a surface. Click the down arrow to the right of the elevation:



Then choose where to get the elevation from:



5.When creating a new point, users can select the layer and style.



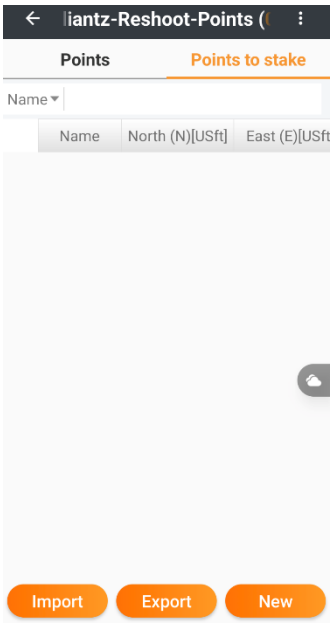
By default, the new points' Code will define the Layer which will define the display style. It is possible to override the default Layer style.

6.When creating a new point, the position of the point is displayed on the map.

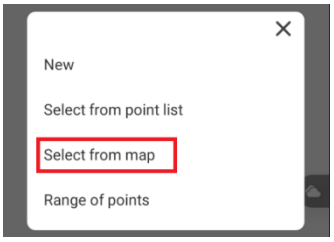
The Map display is useful to verify that the entered point plots in a reasonable location.

7.Points to be staked out can be added by box selection.

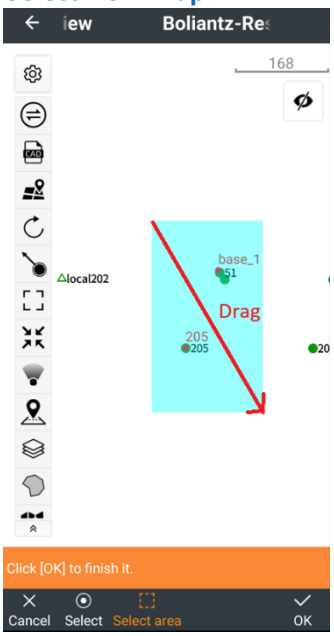
It is possible to make a rectangular selection of points from the CAD view to add points to the **Points to stake** list. From the Points to stake list:



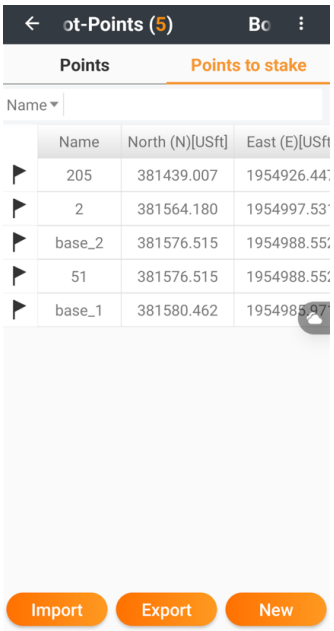
Click **New**.



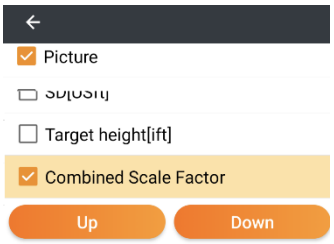
Click on **Select from map**.



Drag a rectangle over the map to choose all the points in the area, then click **OK**.

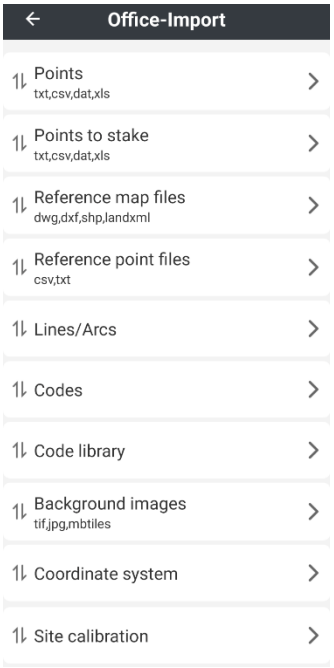


8.Add "Combined Scale Factor" to the custom column.



2025.03.24

1.Within the Import function, all types of data can be imported, including points, lines, areas, roads, coordinate systems, reference maps and site calibrations.

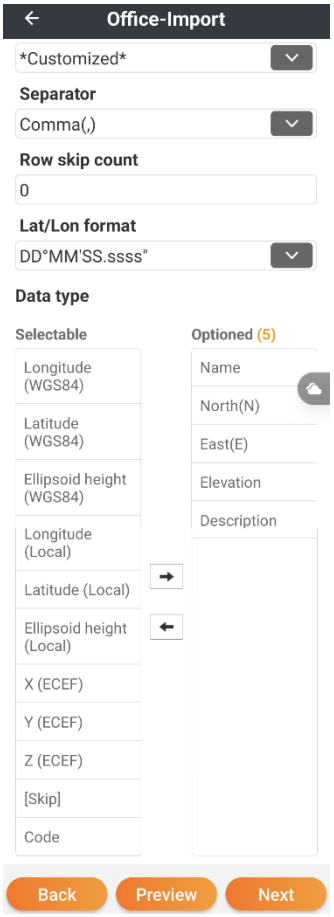


2.In the Import function, the imported data types can be sorted. Users can drag the commonly used ones to the front.

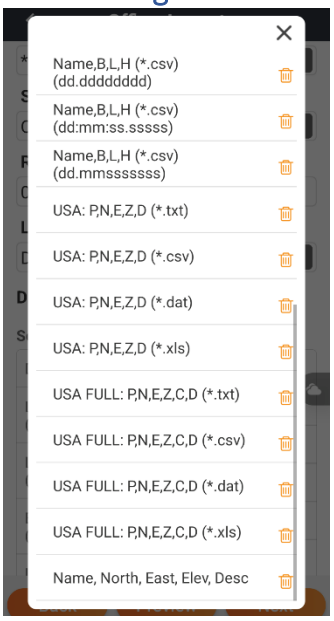
The import type list can be ordered so that the most often used import format is at the top of the list by clicking and holding on the **Move** button, then dragging the lines up or down.

Each of the import formats have different options which are described below.

3.When importing points, users need to select the coordinate file first and then choose the format.

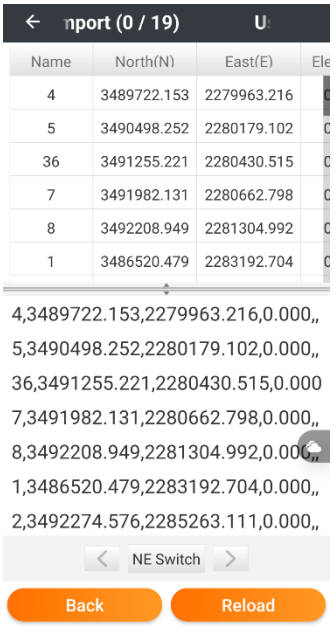


4.Users can manage custom formats: create, delete, and edit.



5.Users can preview the imported data and can edit the data in the preview window. In the preview window, users can quickly switch between the North-East (NE) coordinates.

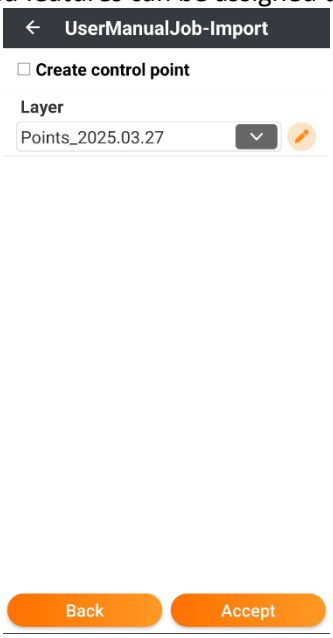
The **Preview**  button can be used to verify the column assignments:



And the **NE Switch**  button automates quickly exchanging the Northing and Easting order.

7.When importing points, users can assign a layer to the points.

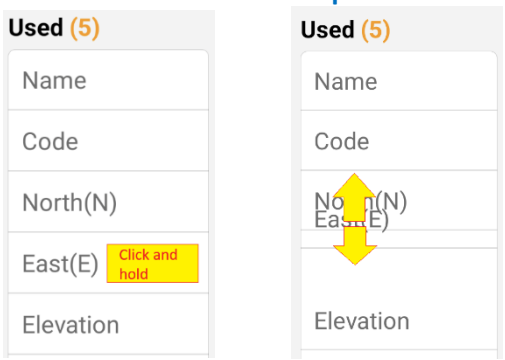
Imported features can be assigned to Layers:



This facilitates isolating points for later staking and drawing as unique layers can be used to isolate features by date or file source.

8.When editing the import format, users can drag to modify the order of the import options.

Click and hold on the items in the **Optioned** list to change the order:



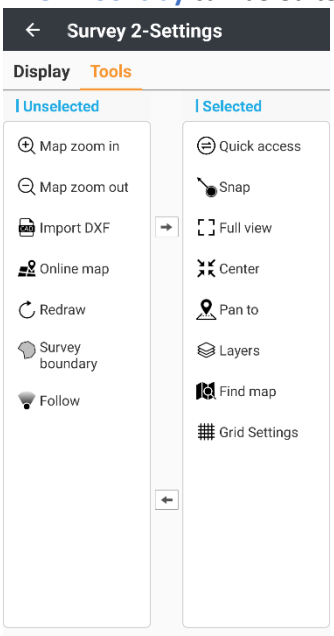
9.The design for the points to be staked out is the same as that for points.

Hidden point survey

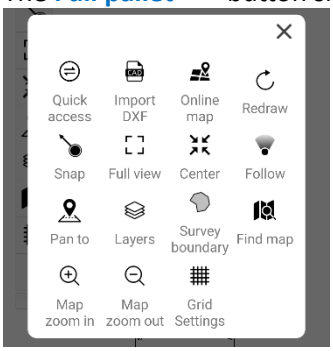
Click the **Preview** button to see the resulting target result point in a CAD view:

New CAD View functions

The **CAD view Tool tray** can be edited from **Settings** > **Tools** (tab):



The **Full pallet** button shows all of the possible Tool tray items:



Clicking on Data **Data**:

Off other layers: click any background map (DXF/DWG) object, its layer will remain visible, all other layers will be hidden.

Layer off: select any background map (DXF/DWG) object, its layer will be hidden.

Join two lines to form a continuous polyline.

Click on Draw **Draw**:

add a line from a point to the tangent of a circle.

Best fit arc: Click on three or more points to best fit an arc. The first and last points are fixed, the middle points are 'best-fitted'.

3-point **Circle**. Click on three points to draw a circle.

Square: opposing corners.

Square Center: define a square by the center and the mid-point of any side.

Rectangle: by two adjacent corners and the opposite side.

Rectangle Center: pick center, then two adjacent sides.

SPLine: Fits a spline interpolated polyline through 3 or more points with the option to close the shape and form a polygon.

Projects:

1. Create a new project and select Copy Project. Coordinate System, Code Set, and Project Configuration are selected by default, but can be modified. If you don't select any of them, you can see which one is displayed under the options. Remember the last choice. Source project under Reference project;

2. Add a Create from file button at the bottom of the project list window, and cancel the Load from file in the upper right corner.

3. File type optional: Trimble DC file (.dc), Trimble JXL file (.jxl), LandStar project file (.zip). Only engineering files are supported in China.

Requires support for Trimble CAL file (.cal), Leica LOK file (.lok). The file name is used for the project name and coordinate system name.

4. Create a project through a DC file, the project name is the DC file name by default, and the coordinate system name is the file name by default. Code set, project configuration, with default values. Create a project from a DC file, select a DC file, enter the new project interface, and click Back, why not return to the DC file selection interface?

5. Create a project through a JXL file, the project name is the JXL file name by default, and the coordinate system name is the file name by default. Code set, project configuration, with default values. You can choose whether to import the points in the JXL file, and if so, use all the points under the Reductions tab in the JXL file as the import points and add them to the new project. Import points, codes, and Grid coordinates. Layer defaults <By code>.

1. Select the JXL file, enter the new project interface, click Back, why not return to the interface of selecting the JXL file?

2. Import JLX to choose whether to import the point interface, the title is wrong, it should be New project.

3. Elevation fitting, if the Geoid selection is None, there is no need to show the interpolation method.

4. The JXL coordinate system containing single-point correction parameters, after the new project, input the latitude and longitude, and the coordinates of the converted plane, which is not matched with the trimble software.

6. Create through the project file, using the logic of the recovery project.

Project Rename dialog, Cancel / Ok, change to Cancel / Accept.

7. Projects can be displayed to users in the form of lists, calendars and maps. The calendar can select the month and year from the list. Year 4. The year is based on the year of the current system, plus 5 years each up. Calendars use the creation time.

Enter the project list through the calendar or map, open the button outside, click on it and it doesn't respond.

8. Each project has a coordinate and creation date displayed on the map. Project folder, which displays the information of the first project in the directory. If the coordinate distance between the two projects is less than the current scale, they are displayed together on the map. Record the first GNSS survey point as the project location; Open the old project and use the first survey point as the project location. The international default Google image map, the domestic default Tiandi. Calendar and map, shadow search button.

9. In list mode, projects can be sorted by Creation time, Modified time and Name. By default, Modified time is used, with new edits coming first.

When using Creation time sorting, the list still shows Modified time, which can be confusing. If you can sort by Creation time, you will see Creation time, and if you use Modifed time, you will show Modified time. In the project properties, the Modified time is displayed under the Creation time, which cannot be edited.

10. The project list needs to have a scroll bar. A list that goes in from a calendar or map

11. Swipe the project right menu and add a copy project button. The new project name is based on the old project name that defaults to Copy_. There is still a project with the same name, indicating that the project with the same name already exists.

12. The nine-square grid window displays the name of the currently opened project.

13. When creating a new project, the project configuration can be quickly selected by dropping down the configuration file. The configuration file is obtained through a fixed directory. When an edit is saved, the file is saved to a fixed directory. Configuration files can be deleted, but the default configuration does not allow you to delete them. Save: Save, Save as。 Default name to be saved: Profile name selected_date.

14. When creating a new project, when selecting a reference project, you can select a project under another folder. You can refer to the design of the Load from exiting project function. Select under the window is changed to Aceept

15. In list mode, sort by project name, regardless of case sensitivity. job1a, Job1b, job2a

16. The default project name does not use Job, but starts with Project.

17. There are three options for the project name: Project name, Project name_2024-07-13, Project name_2024-07-13-14-25-30. The same rules apply to exported file names.

18. New project, Geoid list, coordinate series table, no scroll bar. A class of questions.

19. Select the project folder, and the button below, Ok, change to Accept.

20. The OK button under the new project is changed to Accept.

21. Commonly used coordinate series table, no scroll bar. Select the Common Coordinate System window, and change Select to Accept at the bottom of the window.

22. After creating a new project, the calendar and map mode will automatically switch to the list mode.

Layer manager:

1. The working layer provides the function of quickly finding the layer name of the same layer, fuzzy search. Not case-sensitive. The response is slow, after entering the character, you have to wait for 1~2 seconds to react; Where to enter a fuzzy search, there is no × that is quickly emptied.

2. Working layer list, you can quickly modify the layer color. Click the Layer Color button in the list to modify. Modify the layer color. Layer color, you can't select transparent. The layer color has been changed, but the color of the points on the map has not changed. The project is upgraded from the old project, and the points are the points without code.

3. Working layers can be deleted in batches. Unified the interaction style of batch deletion, and put the delete button to the big button at the bottom of the window. 0 layer (base station layer, etc.), during batch operation, it is not allowed to be deleted or selected. checkbox, grayed out. Item buttons, clicked, do not need to respond. In multi-select mode, there is no need for multi-select menus; In multi-select mode, no Item is selected, and the Delete button below is grayed out. All multiple-choice, all the same; Map files, the Open button below is changed to Import, and the logic is the same as the logic of importing the basemap; The name of the imported basemap file type, Files is changed to files, and it is unified in the software.

4. Import of map files, refer to the import of underlay files in the import section. Advanced button in the top right corner, not required. DXF layers, open and shrink buttons, the diagram is clearer.

5.DWG. DXF basemap files, you can modify the layer color in the list. The color has been changed, but the color on the DXF chart has not changed.

6. In the dialog box to set the color, the Confirm button is changed to Accept. All Confirm buttons in the software are changed to Accept.

7. Delete Layer dialog box, Cancel, Ok changed to No, Yes

8. Layer list, transparency adjustment dialog, No, Yes, changed to Cancel, Accept.

9. Why can the JPG layer be enlarged infinitely, but the TIF layer disappears when it is placed at a certain scale? The TIF layer also needs to be infinitely magnified.

10. Online layer, the big button below, Add changed to New. All Add buttons in the software are changed to New. Add an online map and change Save to Accept.

11. Switch to the online basemap, hint: Switch successfully. More operation for right slide.

12. To create a new layer, users can enter the layer name and layer style.

13. Layer styles include: layer color, default black; Point Symbol, Default Measurement Point Symbol, Point Size, Default 3;Line Type Default, Solid Line, Line Width Default Normal; Faces can be filled with

color, not filled by default, if there is a fill color, you can set transparency, default 0. The default style of the layer, which is retained from the last setting.

14. All displayed figures in the software need to have a layer association. Working Layer or Map File or Online Layer.

15.Map file provides fuzzy search of layer name. Fuzzy search, input box, missing ×, quick clear buttons.

For multi-layer files such as 16.DWG, DXF, and WFSDB, the layer list is expanded by default.

17.DWG. DXF can be fully displayed and **fully archived**.

18. Line type selection dialog, Cancel, Ok, changed to Cancel, Accept.

19.Properties window, the button below is Accept. Geophysical prospecting points.

Code manager:

1. Code list, you can quickly search the code by name and description. Fuzzy search. There is no × in the fuzzy search input box, which can be cleared quickly.

2. For batch deletion of code, use a unified batch operation style, and the delete button is placed at the bottom of the window. Delete button, which is disabled when no delete is selected.

3. The icon of the code list needs to reflect the drawing type: point, line, surface and whether there are GIS attributes. Create a new property, and change the Ok at the bottom of the window to Accept.

4. Default grouping, can be deleted. You can delete the code in the group and keep the default group.

5. For code import, refer to the code import function.

6. Create a new code, users can enter: name, drawing type, description, style, GIS attributes, label display. Name is required.

7. Create a new code, Ok at the bottom of the window, and change the button to Accept.

8. The style of the code comes from the associated layer. When you create a code, you can select the layer associated with the code, and you can select <Create by code>. The default is Create by code

9. When creating a new code, the dot style includes: dot comotion, dot size, and dot color. Here you can modify the symbol and size, and change the corresponding layer settings simultaneously.

10. When creating a new code, the line style includes: line type, line width, and line color. Here, modify the line type, line weight, and line color, and modify the corresponding layer settings simultaneously.

11. GIS attributes can be deleted in batches and sorted. The subheading Value should be changed to Items; The title of the new Value dialog box is changed to New item. Cancel and Ok are replaced by Cancel and Accept; In batch deletion mode, without selecting Delete Item, the Delete button is disabled.

12.Add code group, the button below Cancel, Ok is changed to Cancel, Accept.

Code library manager:

1. Project Tab page, you need to add the Codes library button. Now users want to reuse a codebase, and it is difficult to find the operation path. Put Code and Code library together. The icon of the Code library has been changed. ICON with Code icon + database.

2. Code base list header: Name, Groups, Codes, Creation time, Modified time.

3. You can also create a codebase without an open project.

4. Import the code base, refer to the import of the code base.

5. Code base, which can be deleted in batches. There is no option to delete the item, and the Delete button needs to be disabled; Click the Delete button to automatically exit the deletion mode. Delete button, which is always disabled.

6. Codes library changed to Code library.

7. Create a new code base, when creating a new code, you don't need to import from file in the upper right menu.

Point manager:

1. The user word definition items include: Name (Point Name), North (N)[USft], East (E)[USft], Elevation [USft], Code, Type, 2D distance, 3D distance, Elevation difference, Descrition, Creation time, Modified time, Antenna height，Staked count，Azimuth，GNSS solution，Satellites，PDOP，Picture，Hrms，Vrms，Tilt enable，HD，SD，HA，VA，Layer，Cut / Fill，Prism type，Target height。

2. Point Name, North,East,Elevation,Creation time, Modeifed time,Staked count,Hrms,Vrms,HD,SD,HA,VA,Cut/Fill,Click to sort.

3. Automatically add a Note (description) when using RTK to collect points. Some RTK collection information is recorded and cannot be edited. Export option, add Note column selection.

4.Multi-select is changed to Select mutiple; Custom Display to Columns configuration; Rest stakeout state to Clear stakeout state.

5. Add the Copy option to the right-hand menu. All point types are supported. Bring the coordinates, code, and notes of the target point. Point Name, according to the Point Name rules, automatically generate one. Regardless of the point, the control point is not selected by default. Create a new point, and remove the label of coordinate type; Point Name is not automatically generated in accordance with Point Name rules; When creating a new point, when selecting a point on the diagram, the menu in the upper right corner of CAD view is not required; Duplicate points can now save points with the same name, and the window for creating new points does not disappear after saving. If you create a new point with the same name, the pop-up prompt will be separated by a space between the name and already exists. Rename.

6. User input point, the input type of the point, can be: Local N/E/Elevation (Grid); Local Lat/Lon (DD:MM:SS.ssss)； Local Lat/Lon (DD.MMSSssss)； Local Lat/Lon (DDD.dddddddd)； Local ECEF X/Y/Z；WGS84 Lat/Lon (DD:MM:SS.ssss)； WGS84 Lat/Lon (DD.MMSSssss)； WGS84 Lat/Lon(DDD.dddddddd)； WGS84 ECEF X/Y/Z。

7. When the user enters a point, he can choose a point from the map and only bring the coordinates over, if there is an elevation, the elevation will also be brought over. Move the button to the left.

8. Select a point on the map, and the Extract point from map window will pop up. The left toolbar includes: Settings, Basemap, Zoom In, Zoom Out, Full Image, Snap, Layer, and Find Image. The settings include: Capture Settings, Display Settings. Snap window, the user needs to easily open any point snap.

9. When the user enters a point, the elevation can be entered, and Extract from surface can be entered. Requires reference Surface features. Select, Ok is changed to Accept. Auto Ok, change to Auto Ok / Accept. / Spaces before and after.

10. Enter the point, the user can choose whether to save it as a control point.

11. When a user creates a point, they can choose which layer to put the point on. By default, the symbol of the input point is used. There is no Code, default is By object; There is a code, and the default is by layer.

12. When you create a new point, there is a map window that can show the location of the new point. Map Window Toolbar: Settings, Basemap, Zoom In, Zoom Out, Full Image, Layer, Find Map. The settings include: display settings. A newly created point that appears in the middle of the map.

13. New points to be added are the same as new normal points, except that there is no option to save them as control points. Labels in coordinate format, which do not need to be displayed.

14. The user enters a point, and if the Point Name is repeated, the Point check window should also pop up, and the user should be automatically recommended an available Point Name. There is only one option. You can't overwrite existing points, and you can't add average points.

15. In batch operation mode, support Set point elevation; Adjust point elevations; Set code to points; Set antenna \ target height; Clear stakeout state。 Cancel and Delete are placed at the bottom of the window, and there are no selections, and Delete is grayed out.

16. The filter conditions of the point need to add: map range selection, whether the name matches the whole word, the range of the name (Range rule), the elevation range, whether the code matches the whole word, whether the empty code is filtered, and whether the remarks match the whole word. All or not all words match the last default value. filter window, Ok to Accept; Filter-type to Filter - Point type; - Add spaces before and after.

17. Click on the menu in the upper right corner of the libraryFinally, add Inverse, click to jump to COGO's Inverse. If Inverse is selected in the multi-select state, the vertices are automatically brought over in the order in which they were selected from the list library.

18. When the point library to be lofted and the point is selected in the map, it can be selected by frame.

19. Recycle Bin Title Bar: Name, North (N)[USft], East (E)[USft], Elevation [USft], Code, Type, Description, Creation time, Modified time. When deleting a point, to update the edit time, the latest deleted point is above the list by default. Name, North, East, Elevation, Creation time, Modified time, click to sort. Without selecting an item, the Delete button is not available.

20.GNSS point details: Coordinate file changed to Coordinate system; Point type, with Point type. Point types include: GNSS survey, GNSS base, Visual survey, TS survey, TS station. Add Creation time and Modified time display; Quality page, Solution to GNSS solution, Observation to Measurements; H precision to Hrms, V precision to Vrms; DOPs are shown all together; Worst correction age to Worst DIFF age, Best correction age to Best DIFF age. For coordinate system viewing, the OK button is changed to Accept; Hrms, Vrms, PDOP, antenna name, bold display.

21. TPS set up the site, TPS measurement point, refer to the new prototype. Set up a site, do not support replication; Set up a site, no code is required; HV, VA, SD are shown in bold; Station information to Occupy point information.

22. All lofts, if the design height comes from the Surface, the name of the Surface, the offset value of the Surface needs to be recorded.

23. To filter the point list, you can choose Name, Code, Description and Layer.

24. Code and Layer columns can be clicked to sort. Names are sorted as numbers, then strings.

25. The search box above the list of point libraries supports -,* search rules. - is a regular expression rule for ranges, *. - 3000-3002 is not in effect

    * matches zero or more characters

    No other Reg Exp rules

26. To be staked out library, add from the diagram, support box selection.

27. Combined Scale Factor, add a column, do not display by default. Put it to the end. There is a single point of correction, which shows this value, and there is no single point of correction, and this value is not displayed.

28. When editing points, display the Map page.

Area manager:

1. Surface list, optional display fields include: Name, Code, 2D area, 2D preimeter, 3D preimeter, 3D area, Creation time, Modified time, Layer. Name, 2D area, and 2D preimeter are displayed by default.

Perimeter, area title bar, give out the unit. Why is there a radio button for the polygon list?

2. The polygon list can display the imported polygons, collected polygons, newly created polygons, and drawn polygons. Create a new polygon, support: delete, map, edit; Import polygons, support: delete, map; Collect surfaces, support: delete, map, edit, continue collection; Drawn polygon support: Delete, Map. The new polygon is named with a Area_ sequence number by default. Unfinished polygons, displayed in the polygon library.

3. The polygon list supports batch operations. Deletion and export are supported.

For bulk operations, only the Area Tab page has the option to do so in batches, and other tab pages do not need it.

4. When editing or creating new polygons, you can display the floor plan on the map. Floor plan support: Settings, Basemap, Zoom In, Zoom Out, Full Image, Snap, Layer, Find Map. It is convenient for the user to check the spatial position of the line.

5. You can fuzzy search for faces by face name and code. Keyword input box, missing ×, quick situation button. Point list, same issue.

6. Create new surfaces, which can be selected by drawing, library, collection, input, and surface nodes; Nodes can be deleted, moved up, and moved down.

7. Create a new face, you can set the style of the face.

8. The old software is upgraded, and the closed multi-line segments are all used as Area.

Line manager:

1. Line list, optional display fields include: 2D length, 3D length, Creation time, Modified time, Layer, Start station. You can use the chart to identify the Type: Line, Polyline, Arc, and Circle. The first column, fixed is the name, fixed width. Name, 2D, 3D, Creation time, Modified time, Layer can be clicked to sort. You need to add a code, put it after Name, and it will not be displayed by default.

2. Line list, able to display the created lines and collected lines. The default line name of the collected line is: Code_ sequence number, no code, Line_ sequence number. Drawn lines, the default line name is: Line_ ordinal number. Serial number 0001.

3. Line list supports batch operation. Deletion and export are supported.

4. Select the line to display the floor plan and section view on the map. Floor plan support: settings, basemap, zoom in, zoom out, full map, layer, find map. It is convenient for the user to check the spatial position of the line. Floor plan, centered on the current line, displayed in the style of the line. Settings: Display settings.

5. New line support: Line (2 points), Line (point + azimuth + distance), Polyline, Arc (3 points), Arc (point + azimuth + R), Arc (2 point + R), Circle (3 point), Circle (point + R), Extract from map.

6. When creating a new line, the user can input the parameters and style of the line, and the plan and section view can be displayed through the map. The style of the line can be either By layer or By object.

7.2 points: You can reverse and view the basic information of the line: 2D length, 3D length, △Elevation, Azimuth, Slope. Slope includes: Slope 1: Run(X), Slope Run(X): 1, Slope (%), Slope (Degrees). When the coordinates are in portrait mode, you can input, select, collect, and select the library.

8.point + azimuth + distance: can be reversed, view the basic information of the line: 2D length, 3D length, △Elevation, Azimuth, Slope. Slope includes: Slope 1: Run(X), Slope Run(X): 1, Slope (%), Slope (Degrees). When the starting point coordinates are in vertical screen, you can input, select, collect, and select libraries. Angles are configured according to the project, and quadrant angles are supported.

9.Polyline: support reversal, view the basic information of the line: 2D length, 3D length. Image selection, collection, library selection, input. The list shows Point Name, North, East, Elevation, Arc direction, Arc angle. The Point Name can be empty. When entering, it forms an arc with the previous point.

10.Arc 3 Points: First point, Second point, Third point, vertical screen support image selection, library selection, collection. You can view the basic information of the line: Radius and Arc length.

11.2 point + R: First point, Second point, Raduis, Arc clockwise。 You can view the basic information of the line: Radius and Arc length. The vertical screen of point coordinates supports map selection, library selection, and collection.

12.point + azimuth + R。 You can view the basic information of the line: Radius and Arc length.

13.3 point circle, Point + R, view the basic information of the line: Radius, Perimeter, Area. The vertical screen of point coordinates supports map selection, library selection, and collection.

14. All lines in the line list are displayed on the map by default. Upgrade the old project version and put it in the LINES2 layer, which is not displayed by default.

15. When creating a line, the default layer is the <By code> layer, you can choose other layers. The last selected layer is used by default.

16. You can fuzz the search line by the line name and the layer name.

17. The line storage line spacing, when the line is pay-off, the default line spacing of the line itself is used, the default is 20 meters.

18. Close polyline, when adding a point, it will automatically open and not close.

Import points：

1. Supported import data types: points, points to be lofted, reference basemap, lines, codes, code sets, background images, coordinate systems, point corrections. The order of imported items can be adjusted, and users can put the frequently used ones first.

2. When you don't have a project open, you can import the symbol library and code set. Prompt No opened project. Create or open a project? If you don't currently have an open project, will you create or open it?)。 After creating or opening a project, you will be taken to the Import window.

3. Point type, supported import format: Coordinates file (.txt \ .csv \ .dat \ .xls \.xlsx), Carlson database file (.crd\.crdb), Load from an existing project, Japanese SIM file (.sim), NCN file (.ncn). NCN File to NCN file

Point import--- import text file:

1. When importing a text file, select the file first, parse the file in the selected format, parse it successfully, and import it successfully.

2. If the parsing fails, the user is prompted to check the data through the Preview function (Import failed. Do you want to preview the file?)。 If it is Excel, display the original file content separated by commas.

In latitude and longitude format, the title of the preview window is changed to Ellipsoid height.

The judgment of right and wrong latitude and longitude, plus the range of latitude and longitude. Now only the number is judged. If you add subtitles before the latitude and longitude, you can't recognize it.

Options, Selected are shown in bold. The following options give a white background. Selectable to Unused, Optioned to Used. Shown in bold.

Edits to the imported format are not adjusted to the new design. Edit, go back, select the format changed.

Import format preview, there is latitude and longitude, and then display the latitude and longitude format.

The Import Format Edit button, with a bright color, is displayed in gray.

When you click NE switch, pop up a confirmation dialog NE switch? No / Yes. The previous one, the NE switch, and the space between the next buttons are wider. Three buttons, centered on top and bottom. Latitude and longitude format, why can Switch NE be clickable too?

Import and export the newly created format first.

When editing the import format, the latitude and longitude are not selected, and the format selection of latitude and longitude is not displayed.

When editing the import format, select the import items and do not allow them to be dragged and sorted.

Format reservation Preview is bolded.

3. Preview function to parse the data according to the selected format. Problematic industries, marked in red, can be modified by the user. Preview has a button to quickly switch NE coordinates. Compatible with Chinese and English commas, regardless of the situation of commas in the name, code, and description. There is a toggle with the previous error and the next error is Next error.

Preview window, upper and lower window, you need to slide to adjust the size of the window for easy editing.

Preview window, the number of the header is always 0.

4. Default to the last selected import format.

5. Custom format, default fields: name, code, N, E, H, comma, skip line 0.

6. Custom-formatted fields include: Name, Code, North (N), East (E), Elevation (E), Description, Latitude (WGS84), Longtitude (WGS84), Ellisoild height (WGS84), Latitude (Local), Longtitude (Local), Ellisoild height (Local), X (ECEF), Y (ECEF), Z (ECEF), [Skip]。

7. When selecting a custom field, duplicates are marked with red, but can be selected again. Tip: Duplicate data types.

8. User-defined format, non-editable by default, click Edit, each item can be edited. If you change the format name, create a new format, and update the original format if you do not modify it.

Custom format modification with the current design, existing format modification, with the new design? Editing in a separate window?

9. Import points, you can choose to create control points. To be staked out, this option is not required.

10. When importing, you can select a layer for the import point. The default is <By code> and POINTS can be selected. If you don't have a code, put it in the POINTS layer.

11. Support Android OTG function.

12. Split symbol support: comma, semicolon, space, multi-space, Tab.

Multi Space becomes Multiple space

Add a tab option with the same effect as Multiple space. Easy to understand.

Point Import-- Carlson Coordinate Files:

1. Import Point Names, codes, coordinates and notes.

2. When importing, you can select a layer for the import point. The default is <By code> and POINTS can be selected. If you don't have a code, put it in the POINTS layer.

3. After importing, store it as an import point to the point library. You can choose whether to import as a control point.

Point Import-- Other Projects:

1. Import Point Names, codes, coordinates and notes.

2. When importing, you can select a layer for the import point. The default is <By code> and POINTS can be selected. If you don't have a code, put it in the POINTS layer.

3. After importing, store it as an import point to the point library.

In the last step, the OK button under the selection window is changed to the Next button. When there is no option, disable and do not allow clicking.

Confirm that the dialog box is reprojected with the current coordinate system, and change Cancel / Ok to No / Yes. Why is there only an input point that also prompts this?

Import reference points:

1. Support CSV file import. Fixed formatting: Point Name, code, north, east, high, remarks.

2. When importing, you can check the file format through the Test function. If there is a problem with the content of the file, you can modify it.

3. The file is imported successfully, and the Linked points layer is added.

The color of the point is used for the layer, and the color of the layer can be modified by modifying the color of the layer.

4. The points in the reference point file need to be listed in the point library, and the type is Linked point. Linked points can have the same name. You cannot edit the details of a point.

Click Details and add Layer at the end to display the layer name.

5.Linked points are displayed with special symbols. It's all By layer.

6. Import to the specified layer Linked points, delete the layer, and all Linked points will be deleted.

9. Cannot be exported.

10. The reference point file can be CSV or TXT suffix.

11. When importing reference points, if there is a survey point with the same name, add Linked_ in front of the reference point name, and if there is an input point with the same name, cover it with the reference point.

12. In the exported format, add a reference point format to facilitate import.

Import codes:

1. Code and code set import, supported formats: Comma separated file (*.csv), Codes template file (.xml \.cxl), Carlson FCL file (*.fcl), Trimble FXL file (*.fxl), Topcon MAGNET XML file (*.mxl).

2. You can import the codeset without opening the project.

Code import -- Comma separated file (*.csv):

1. Optional fields include: Group name, Drawing type (0 = Point, 1 = Line, 2 = Area), Drescription, Symbol ID, Symbol size, Layer name, Layer color, Line type, Line width, Object color (#CCCCCC), Color by layer (0 = No , 1 = Yes), Fill color, Transparency (0 ~ 100)。 Name defaults to the first item and cannot be modified.

Code import-- Codes template file (.cxl):

1. Ability to import layers and layer styles.

2. Ability to import point, line, and surface codes.

3. Ability to import GIS attributes.

4. Use a new suffix, cxl

Code import-- Carlson FCL (*.fcl):

1. Align with existing features.

Code import-- Trimble FXL (*.fxl):

1. Ability to import layers and layer styles.

2. Ability to import point, line, and surface codes.

3. Ability to import GIS attributes.

4. Edit the GIS attributes, the Ok button at the bottom of the window is changed to the Accept button.

5. Edit the menu item, Cancel, Ok button to Cancel, Accept.

Code Import-- Topcon MAGNET XML (*.mxl):

1. Ability to import layers and layer styles.

2. Ability to import point, line, and surface codes.

3. Ability to import GIS attributes. Attribute value types include: integer, decimal, text, BOOL, date. For input methods, there is a menu.

Import reference map:

Basemap import supports the following file types: AutoCAD DXF \ DWG Fiels (*dwg, *.dxf), ArcGIS Shapefile (*.shp), LandXML file (*.xml), KML files (*.kml \ .kmz).

LandXML (*.xml) to LandXML file (.xml); KML Fiels to KML file (*.kml \ .kmz)

XML English changed to Russian cadastral map

Basemap Import-- AutoCAD DXF \ DWG Fiels (*dwg, *.dxf)

1. Support substitution or append.

2. Support selection: Import point entities, Import blocks as points, Import line \ polyline \ arc nodes as points. None of the three. Feel the heat and choose them all, so you don't have to remember the last time.

3.Point entities Point Name rules: layer name_sequence number, blocks Point Name rules: Blocks name_sequence number, node name sequence number: layer name_line sequence number_node sequence number.

4. LAYER DEFAULT POINTS.

Basemap import-- ArcGIS Shapefile (*.shp)

1. When importing files, multiple selections are supported.

2. You can choose whether to import attributes. If you import attribute values, point to point library, line to line library, and polygon to surface library, use the file name as the code, and create a layer with the same name. If you don't import attributes, just add them as basemaps, in the basemap list.

3. For a layer with the same name, add _1

Basemap import-- KML files (*.kml \ *.kmz)

1. The color of points, lines, and surfaces needs to be preserved.

Export points:

Export points, supported formats include: Coordinates file (.txt \ .csv \ .dat \ .xls \.xlsx)

Export Point -- Coordinates file (.txt \ .csv \ .dat \ .xls \.xlsx):

1. File suffix supports :.csv, .txt, .dat, .xls, .xlsx.

2. Delimiters include: Comma(,), Semicolon(;), Space( )。

3. Longitude and latitude format optional: DD° MM′ SS.ssss", DD:MM:SS.ssss, DD.MMSSssss, Radian, DD.dddddddd.

4. Longitude and latitude accuracy optional: 1 ~ 10 decimal places. The default is 8 bits. degree 10 bits, default 8 bits, seconds 10 bits, default 5 bits; The radian is 10 decimal places, and the default is 8 digits.

5. Coordinate accuracy optional: 1 ~ 5 decimal places. The default is 3 bits.

6. Elevation accuracy optional: 1 ~ 5 decimal places. The default is 3 bits.

7. Optional configuration: Export header line, Export GIS attributes, Coordinates with NE suffix, Export GNSS infomations. Off.

8. Optional export fields: Code & Description, Latitude (WGS84), Longtitude (WGS84), Ellisoild height (WGS84), Latitude (Local), Longtitude (Local), Ellisoild height (Local), X (ECEF), Y (ECEF), Z (ECEF), Occupy point name, Occupy point north(N), Occupy point east (E), Occupy point elevation, Horizontal angle, Vertical angle, Horizontal Distance, Vertical Distance, Instrument Height, Target Height, Prism constant, Prism type。

9. Add the word definition format, add a red * before the format name, and when the name is empty, the Accept button is not allowed to be clicked.

10. Exported filter conditions: map box selection, point type (Survey, Enter, Control, Base), date, roll name, Point Name range, elevation range, code, description, GNSS base station. Whether or not to filter by layer, code filtering needs to support code base selection. Layer filtering, Filter data by layer (ALL), with a space before parentheses.

11. Name, code, description, optionally match the whole word.

12. The exported WGS84 coordinates need to be corrected, including base station translation and CORS translation.

13. Export from the point library, and bring the filter conditions over; Export in multi-select mode, no need to select the format, only the selected points are exported.

14. Cancel the details display in the upper right corner, and the first line of the pop-up custom format list can not be deleted**ADD Format**, and the latest is created at the top of the list.

15. For the list of fields exported in custom format, the order on the left side remains unchanged in the original order, and the right side can be sorted.

16. Total Station Angle Export uses the angle format of the project configuration.

17. Allow to modify the encoding by default (automatically judged according to the country), UTF-8, GBK. The dialog box is cancel, accept.

18. In the last step of exporting, select the directory and there should be a Back button.

Export Point-- Detailed result:

1. The filter conditions are the same as those for the export point.

Export Point -- Survey report(.html), Survey report(.csv):

1. No screening is required

Point stakeout result:

1. No screening is required

Export points -- Attribute data, Attribute data (Excel), Piple survey report, Hydro survey report, Polih, RAW, LandStar RAW file, MosGorGeo - Raw, Measurement report, Solvenia report (.html), Star*Net report(.dat),Star*Net report(.gps), Trimble JXL(.jxl), MicorStation format (.txt),Dnish measurement report (.txt), CSV with attrbutes(Trimble)

1. No screening is required

2.CSV with attributtes(Trimble) requires the Include attrbutes name, Include header line for file option.

3. When exporting Jxl, it should be with GIS attributes.

Surface stakeout:

1. Every time you enter the face lofting, you will go to the guide.

2. Mode, optional: Elevation, Single slope, X+Y slope, Slope by 3 points, Surface. Surface doesn't have a choice, Next doesn't let you click. Surfac in front of red*

3. Elevation mode, you can input, library selection, map selection to obtain elevation. Synchronizes with the reference elevation feature.

4. Elevation mode, the user can choose whether to set the boundary, if yes, the user can set the center point, azimuth, front and back left and right distance. If the setting boundary is enabled, the user can choose whether or not to build a Surface. Azimuth obtain: From direction point, From 2 points, Axis

direction, From compass of PAD, From IMU. From direction point to the From 2 points interface, the From point is the origin by default. Axis direction. From compass of PAD, from IMU, with reference to the current design. If there is a From direction point, bring the From point over, if not, jump directly to the From 2 points interface. Axis direction, why is it redirected to the From 2 points interface?

5. Whether to generate the boundary switch, the default is off, remember the last setting. Whether to create a Surface, Surface with the same name, add _1, default off, no need to remember the last time; Forward, backward, left and right values, remember the last time, the default is 100 meters. Surface names are automatically generated and can be modified by the user. If it has the same name, add _1. The values of the front and back and left and right will change every time you enter the boot screen.

6. Single slope mode, you can enter: Origin point, Azimuth, Slope. Origin point can be measured, library selected, and graphically selected; Azimuth obtain: From direction point, From 2 points, Axis direction, From compass of PAD, From IMU. From direction point to the From 2 points interface, the From point is the origin by default. Axis direction. From compass of PAD, from IMU, refer to the current design; Slope optional: 1:N; N:1; %; Degree mode. Slope control options: Slope (1:N, V:H), Slope (N:1, H:V), Slope (%), Slope (Degrees), Zenith. The slope control, toggled to Degrees, will prompt you to enter an invalid value, but it should support 0, which is not needed.

7. Single slope mode, the user can choose whether to set the boundary or not. The switch on whether to generate boundaries is off by default, remember the last setting. Whether to create a Surface is turned off by default, and you don't need to remember the last time; Forward, backward, left and right values, remember the last time, the default is 100 meters. The values of the front and back and left and right will change every time you enter the boot screen.

8. Dual-axis slope mode (X + Y slope), you can enter: Origin point, Azimuth, Main slope (X), Corss slope (Y). You can choose whether to set boundaries and whether to create a Surface.

9. Three-point slope, 1 and 2 determine the direction. You can choose whether to create a boundary or whether to create a Surface.

10. Face loft window, you can set the elevation offset.

11. Limit settings for surface lofts, Tolerance(Above) and Tolerance(Below). Meet the limit, the middle is green, and the sound is often loud; 3 times the limit, dig 1 second ringing once, fill 2 seconds ringing once; More than 3 times the limit difference, no sound;

12. In the process of surface lofting, you can select the point lofting, and you can select the line lofting; Map selection points, navigation information display before and after, left and right; North-South, East-West; Map selection, navigation information display, mileage, offset. to clear the loft target. Navigation information is styled, reference points, lines are stakeout.

13. Cross-sectional view optional: cross-section, planar, cross-section+plan. The icons of the section + plane are left blank on the left and right. For cross-sectional view, you need to draw the current position. Refer to the road section view. Slide the section up without zooming out on the scale.

14. Choose the design high, not the Surface. The icon needs to be changed, and it needs to be adjusted to the guide page of the selected mode.

15. Display panel, fill in the middle, do not unit, text centered. When you drag up, the whole page goes up. When dragging down, if the window continues to zoom in, the design is high, the elevation font remains the same, and the filled value and arrow size also remain the same, but it is displayed in the center.

16. Slope control (1:N, V:H) (N:1, H:V) with a space in between. Slope control, no default formatting. Default 1:N format. Remember the last time.

17.XY slope, the title is incorrect. Main slope (X) - Slope (%)

18. The original large panel, gone.

19. Set up as per the new design. There is no Sound prompt switch in the settings.

20. Need to snap button, user snap point.

21. On the cross-sectional chart, the current position needs to be displayed.

Quick code:

1. A quick code shortcut key is added to the sidebar of the measurement interface, and you can click it to enter the quick code configuration interface

2. The quick code configuration interface can turn on/off the quick code, add/select the code group, edit the code group name, configure the number of pages (less than 20) of the quick code of the code group, and the format (3x3, 4x3, 5x3) in one page

3. The quick code configuration interface shows the current quick code display effect, and prompts the user to long press a grid to configure the quick code, and the user can long press a grid to pop up the quick code configuration, and the current grid can be configured with the quick code.

4. After the quick code is enabled, the measurement interface will display the quick code and select the code group, and long press the grid to configure the quick code

5. You don't need the Long press to add code prompt.

6.Please select a Code. Instead, please select a code.

7. In the quick code setting window, click Code, and the highlight effect will often be missed. Click on one, there is a delay of 1s to click on the other. 1s is too long.

8. Select the Combobox for quick code grouping, plus the border, the same as the name and code input box above.

9. Group-edit to Edit group, Group-new to New group.

10. Each group is followed by a delete button. The same goes for the Default group. After deleting the Default group, a new one with the same name is automatically created, but the content is deleted. Now the Default group cannot be deleted.

11. The same goes for the Category of code management. Each Category item has a delete button. Default Category can be deleted, and after deletion, a new one with the same name will be automatically created, but the content will be deleted. The outside of the delete button is now changed to the Modify button. Edit category。 When creating a new one, Add code group is changed to New category.

Rigid body:

1.Transformation,Align matching points mode, add Rigid body (No scale) switch, turn off by default. Only the international version is required, not the domestic version.

2. After using the Rigid body option, the Scale is calculated as 1.

3.Rigid body, remember the last choice. Write down the status in the software.

Grid settings:

1. Add a Grid Settings button to the left toolbar of all map windows (Chinese: Grid). The button is located below CadView, regardless of the list upgrade. Measurement, lofting, cadview interface required

2.The Grid button is a status button that displays the grid and the button is highlighted.

3.Gird parameters include: origin, azimuth, spacing along line, spacing vertically and line color. The origin defaults to 0,0,0; The azimuth is the axis direction by default; Interval, default 20m.

4. The input methods of azimuth include: From direction point, From 2 points, Axis direction, From compass of PAD, From IMU. From direction point to the From 2 points interface, the From point is the origin by default. Axis direction. From compass of PAD, from IMU, with reference to the current design. Bearing also needs support, all of the above options are required

5. Line color, the default is black and white, you can set the color.

6. After the grid is closed, the parameters are retained, but they are not displayed.

7. Grid interval screen pixel spacing is less than 20DP, and the grid is not displayed.

8. Show above all raster drawings and below vector graphics.

9. The parameters follow the project.

10. Line width is 1DP.

11. The From 2 points interface should be changed to From point and To point. The confirmation key at the bottom of the page is changed to Accept

Changes in 20250702

1. Exporting updates.

Changes in 20250523 20250523

1. Fixes initial drop to OS after update.

Changes in 20250521

1. Fixed bug in logging system that causes a crash on some Android devices.

When crashes occur, if possible send the /CHCNAV/Config/BuglyLog/ folder to us for evaluation.

Changes in 20250123

1. Added snap line to tangent of circle.

Changes in 20241218

1. Fixed a bug that intermittently caused a crash when you picked a point from the CAD View for Tools > Transformation.

Changes in 20241205

1. Change Observation Time Button background transparency.
2. Add camera direction Information in EXIF.
3. Add Quick line feature in Line Stakeout:
4. Copy Code and Description when import LandStar Project points from another job.
5. Add a Stakeout Information page in Point Stakeout, showing HD.

Changes in 20241118

1. Solved the problem where independent baselines could not be adjusted. Now, they are processed as separate baselines, not connected to each other.
2. When importing JXL files, local site parameters are now supported. More existing Trimble jobs should now directly import successfully with less human intervention.
3. Single point localization, if no result is calculated, the Accept button is not available.
4. Point name search: support searching for points to be staked.
5. Lengthen function: negative lengths now supported.
6. Remove FCC Call Sign settings from rover station profiles as it is not needed for receive operation.
7. Remove Sensitivity settings from base station radio configuration.
8. Software registration, scan QR code to support obtaining email addresses. When you scan a QR code containing the registration number, it is now possible to include a semi-colon delimited email address: “3X45T654A2;youremail@gmail.com” populates both the “Activation code (Pre-code)” and the “E-mail”
9. Added Montana coordinate systems “Rocky Mountain Coordinate Systems”. These are the Version 2.0 ‘Rocky Mountain Tribal Transportation Association’ projections as published February 23, 2022. They are NOT the NGS 2022 SPCS projections which have duplicate names and completely different definitions.
10. Negative azimuth can now be input as a negative number in the Oblique Mercator projection. Previously you needed to add 360.0 to the negative number and generate a positive angle.
11. Added the Inverse button to the toolbar allowing quick access to the Inverse function from most survey menus.
12. Export Format: add ‘Code & Description’ option to combine the Code with the Description in a single non-delimited output value.
13. Averaged point horizontal graph: now supports display of average sets with only one or two groups of points. Previously 3 or more were required for horizontal plotting.
14. Support quick modification of the number of acquisition epochs / averaging time from the Topographic / Quick button on the survey screen.
15. Support for NAD27. Currently Texas NAD27 zones are supported. Others on request or by QR code.

Changes in 20241018

1. Fixes crash in COGO when doing Point to Line distance measurement.
2. Fixes Horizontal range graph display of Verified point with 2 groups.

Changes in 20241011

Updated prism editor.

Changes in 20240923

1. Uppercase Characters forced for Point name, Code and Description. (Set separately.) You must update the localization pack to enable this feature. Three new sliders will appear under BlueGuy > Software settings > Global settings:
   Force code to uppercase
   Force description to uppercase
   Force Point name to uppercase

2. Least Squares Analysis and Adjustment: (AKA Relative Accuracy of Vectors)
3. Geomax TS: fixes the staking issue introduced with
4. The standard coordinate systems now include Region USA > Area USA State Montana for all of the Rocky Mountain Coordinate System definitions.
5. Repeat measurement tolerance is now included when adding new occupations to: Verified Survey, Averaged Points
6. It is now possible to bulk edit the instrument height of Verified Survey groups.
7. It is now possible to stack a Base Adjustment and Single Point Localization.
8. It is now possible to use an entered or COGO point as the GNSS seed of a Site Calibration or Single Point Localization.

Changes in 20240828

Resolves special case where a base adjustment is performed, followed by a Single Point Localization.

Changes in 20240827

1. Fixed Single Point Localization issue introduced when projected entered/control points allowed as GNSS Primary Position.
2. Known issue: SPL does not work if a Base Position Shift is in play prior to activation.

Changes in 20240819

1. There is a known bug involving Single Point Localization in this version. DO NOT USE THIS VERSION!
2. Fixed a crash problem in the graphics driver. It appeared as a crash back to the operating system with a random click on the map screen.
3. Added a User defined Averaging time to the measure screen (for Read GPS).

Changes in 20240807

1. Nikon total station distance measurement was X10 distance.
2. Renamed Quick and Topo: Quick in Map survey is changed to Quick topographic
3. Point stakeout, the information panel azimuth was displayed when project configuration was set to Bearing.
4. In stakeout settings: “Remove staked points from list after staking” changed to “Remove staked points from point list after staking
5. Offset survey, Offset stakeout, Distance: changed to ‘From start point’.
6. In base station settings HCN, Close in Rinex options is changed to Disable. Open is changed to Enable.
7. Geomax Zoom95: software crashes on connection addressed.
8. When starting the base station from a Known point, if a manual base station point is selected and this point has a base station translation, the coordinates brought over were the ‘before the base station translation’. Changed to the translated (shifted) base station coordinates.
9. Inverse: select points from the Points library: it was not possible to select a Base station position.
10. Quick point survey changed to Quick topographic point survey
11. When starting a Base from a known point, the ‘Save to the point library switch selection state is now remembered/persistent.

12. ‘Hide base-maps quickly’ toggle label changed to ‘Show base-maps quickly’. It was backwards before.
13. COGO: ‘intersection 2 points + 2 sides’ name changed to ‘Distance – Distance’.
14. I93 when connecting the instrument, with a known point start, the antenna was defaulting to I90. The antenna type is now synchronized.
15. New Base station working mode, ‘Known point’ switch now remembers the previous selection.
16. Single point calibration now selects the longitude and latitude point Local coordinates which may include a Base shift.
17. When searching points by point name, it was not possible to ‘Just enter a complete point number’ and select it. There is now an ‘Accept’ button on the keyboard, so you don’t need to scroll through the possible matches to grab a point. This was very frustrating if you wanted to select point 1, and there were several hundred points in the range 1001 through 1999. You used to have to literally scroll through a thousand points to get to the 1 at the list bottom. Now you can just enter 1, then click accept.