



## NEW FEATURES

**GNSS Reference** – Improved workflow to set antenna height.

**South Galaxy G1 & G6 Shake mode** – Added support for new feature on GNSS receiver that eliminates the reliance on the digital compass when the instrument is tilted for measurements.

**Negative Antenna Heights** – Allow for setting negative antenna heights for GNSS instruments.

**Total Station Toolbar** – Updated Search button split to left and right search, removed double tap mode switch functionality.

**Disto S910** – Updated Disto S901 Assistant workflow and onscreen instructions.

## NEW AND UPDATED INSTRUMENT DRIVERS

Various instrument drivers have been added and improved.

### GNSS

- **Benchmark BMG80** – New Driver.
- **EMLID Reach** – New Driver.
- **Geo-FENNEL FGS1**– Added support for 5Hz update rate.
- **KQ GEO M8mini** – New Driver.
- **KQ GEO M8** – Added PPK support.
- **KOLIDA K5/K5 Plus+/K9 Mini** – Improved driver.
- **Leica GS14** – Fixed issue with setting antenna height if raw data logging was enabled.
- **Leica GS14/GS15** – Fixed issue with configuring radio settings for Reference receiver profile.
- **Leica GS16** – New Driver.
- **Leica GS18** – New Driver with support for tilt measurement functionality.
- **Leica GS14/GS15/GS16** – Added 2 Hz position update rate.
- **NavCom** – Fixed issue with picking StarFire QuickStart seed point from database, and updated StarFire over IP URL.
- **Pentax G2100** – Added raw data logging support for Pentax G2100N and G2100T receivers.
- **Pentax G6** – Improved driver added support for NTRIP server.
- **RUIDE NOVA R6** – Improved driver.
- **Ruide Nova R6** – Updated antenna calibration values.
- **RUIDE Nova R6i** – New Driver.
- **SANDING T66** – Improved driver.
- **SANDING T66V** – New driver.
- **SatLab SL55+** – New driver with raw data logging.
- **SatLab SLC** – Added raw data logging support for SatLab SLC receivers.
- **SOUTH GALAXY G1/G1 Plus/G6** – Improved driver.
- **Stonex S10A** – New Driver.
- **Stonex S800** – New Driver.
- **Stonex S800A** – New Driver.



- **Stonex S10A** – Added Atlas L-band support.
- **Tersus NeoRTK** – Added new Driver.

## Total Station

- **Leica / GeoMax Robotic (GeoCOM) Instruments** – Various improvements including:
  - Improved tilt correction handling
  - Improved automation handling with all ATR / LOCK / Manual modes
  - Improved Connect/Disconnect procedure
  - Improved EDM Tracking mode support for Prism and Reflectorless
  - Automatic EGL when using the joystick
  - Setting the plate reading following a resection was not possible.
  - ATR may not be successful on first attempt.
- **Leica TS12** – Improved connection with CS20 LRBT.
- **Pentax W2800** – new onboard driver.
- **Pentax LGP 300** – New onboard Driver.
- **Geo-FENNEL T300** – Added 5hz position update rate
- **Geo-FENNEL TheoDist FD 02** - New onboard driver.

## Disto/Laser

- **Leica Disto S910** – Various refinements related to WiFi connectivity.
- **Assistant Workflow** – Various refinements to fix workflow and exiting assistant to map view.

## COORDINATE SYSTEMS

- Added *Australian MGA94(GDA2020)* coordinate systems.
- Added Kentucky One Zone Coordinate System.
- Added *Malaysia GDM2000(PMGN94) RSO Peninsular* coordinate system.
- Add BC Albers Equal Area projection.
- Added Georgia systems
  - Georgia GGD-UTM37 (Bursu-Wolf)
  - Georgia GGD-UTM38 (Bursu-Wolf)
  - Georgia GGD-UTM37 (Molodensky-Badekas)
  - Georgia GGD-UTM38 (Molodensky-Badekas)
- Added Slovak JTSK2013 with new geoid file DVRM05\_SK.byn and horizontal shift file JTSK2013\_SK.gsb.
- Improved **RTCM Transformation** support is now part of the Link Configure procedure.
- Coordinate system files updated to new version, the new names are:
  - **Map3\_Datums**
  - **Map3\_Ellipsoids**
  - **Map3\_Systems**
- Updated **MRT** (Multiple Regression Transformation) files.

NOTE: Installer Packages no longer include all regional transformation files for coordinate systems. Separate downloads can be obtained through the [Grid Shift Files](#) download page. The MRT transformation files are still included, however GDC and GSB files must be downloaded separately.



NOTE: New geoid models are posted on the [Geoid Models](#) download page when available. If you require a geoid model not currently available, please contact MicroSurvey.

## LANGUAGES

The following program interface language translations have been updated:

- Czech
- French
- German
- Portuguese
- Spanish

## DEFECTS FIXED

**ASCII file extension** – Fixed issue with ASCII Export on mobile platforms adding three extensions (\*.txt.csv.cst) to the file name if no extension was entered with the file name. Defaults to \*.txt now.

**Shapefile Export** – Fixed DBF compatibility issue with ESRI products and improved figure Shapefile Export. The exported files are now stored in a *Shapefile Export* sub-folder of the project directory.

**GNSS Auto Record** – Incorrect results were exported if project was not set to *Meters* distance unit.

**GNSS Tilt Offset** – Post processing notes in the RAW file did not include Start/End times.

**Project Scaling** – Fixed scaling issue on LandXML imports. Scaling has been removed from all element calculations (line curve, spiral and chains) on import.

**Feature Attributes** – Fixed the optional flag for attributes so that they are optional to fill in and not required.

**Leica GS14** – Fixed UHF radio connection issue related to RTM message handling.

## KNOWN ISSUES

**Disto S910 first photo taken with project can provide an error Photo note taken, additional photos are taken and stored fine.**



## NEW FEATURE DETAILS

### Robotic Total Station Toolbar

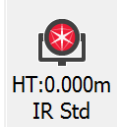
A movie showing the updated toolbar can be viewed online at [RoboticToolbar9.3.mp4](#)



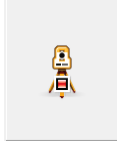
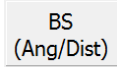
When you use EvidenceRecorder in robotic total station mode, you will see this toolbar on the side of the map area. A [User Input](#) option determines which side of the map area the toolbar is on.



This toolbar allows you to control your [instrument settings](#), target heights, and [Mapping Methods](#), as well as initiating a measurement.



The current state of the instrument target aiming settings are displayed, and you are able to toggle the instrument target aiming settings between Manual and LOCK states. With LOCK enabled, **Search** and **Search Next** functionality is available for some instruments.



#### LOCK mode, not following a prism

These buttons indicate that the instrument is in LOCK mode, however not currently following a prism.

- **Single Tap** - Begin PowerSearch to search for prism. The left button starts a clockwise search, the right button starts a counterclockwise search.



#### Searching

This button indicates that a target search is in progress.



#### LOCK mode, following a prism

These buttons indicate that the instrument is in LOCK mode, and following a prism.

- **Single Tap** - Break Prism Lock
- **Double Tap** - Start search for next Prism. Same action on both buttons.



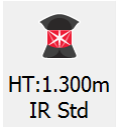
#### Cursor Tracking

Toggle Cursor Tracking. When enabled, the instrument makes continuous measurements and the current position of the target will be displayed on the screen in real time. When stationary, the cursor is a hollow triangle pointing towards the instrument. When moving, the cursor is a solid triangle pointing in the direction of travel.



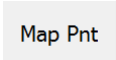
#### Instrument Settings

Opens the [Total Station Settings](#) screen, where you can control specific settings and features for your total station.



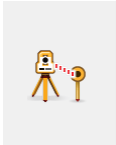
### Target Manager

Opens the [Target Manager](#) where you can set the target, target height and EDM mode.



### Mapping Method

Opens the [Mapping Methods](#) screen where you can select what type of measurement you want to take. The current Mapping Method is always displayed on this button - for example if you're using the distance offset mode it will display "Dist Off".



### Measure Button

Measure and store distances and angles. The current state of Manual / ATR / LOCK mode determines the sequence of events:

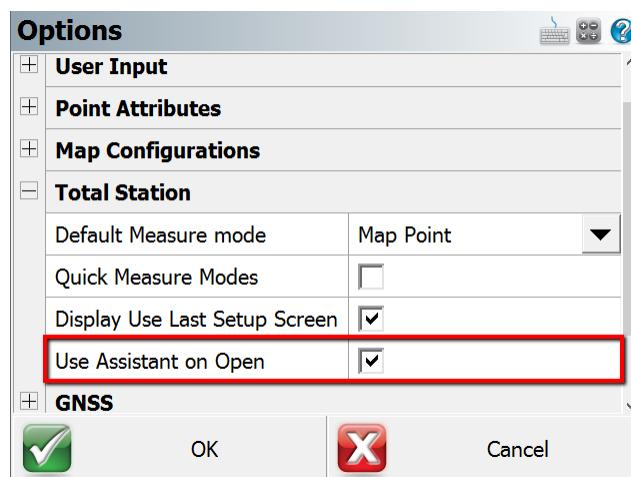
- **Manual mode** - The instrument starts a measurement immediately.
- **LOCK mode, not following a prism** - The instrument first searches for a prism and takes a measurement only if a prism is found.
- **LOCK mode, following a prism** - The instrument starts a measurement immediately.
- **ATR mode** - The instrument first searches for a prism and takes a measurement only if a prism is found.

If you are using a conventional non-robotic total station, please see the [Instrument Toolbar](#) topic.

If you are using GPS, please see the [GNSS Toolbar](#) topic.

## Total Station Assistant Disto S910

The new Assistant will suggest workflow shortcuts when you open a new or existing scene. The Assistant can be turned ON/OFF from the Settings – Options area:



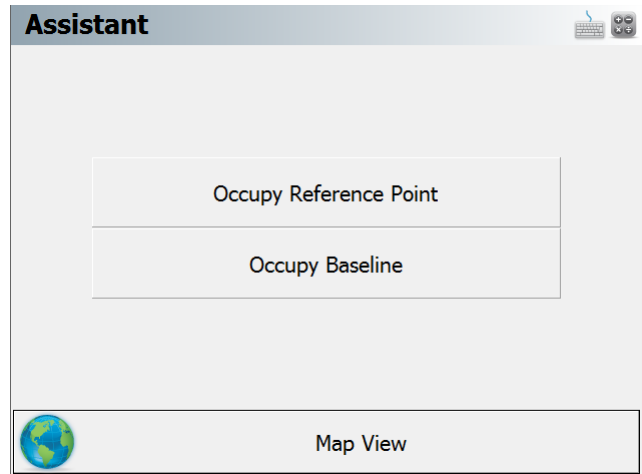
When opening a scene, one of three scenarios can be encountered:

1. The scene has no points stored, usually a new scene
2. The scene has some points stored, but no previous Disto S910 setup routine was completed
3. A previous Disto S910 setup routine was completed in the scene

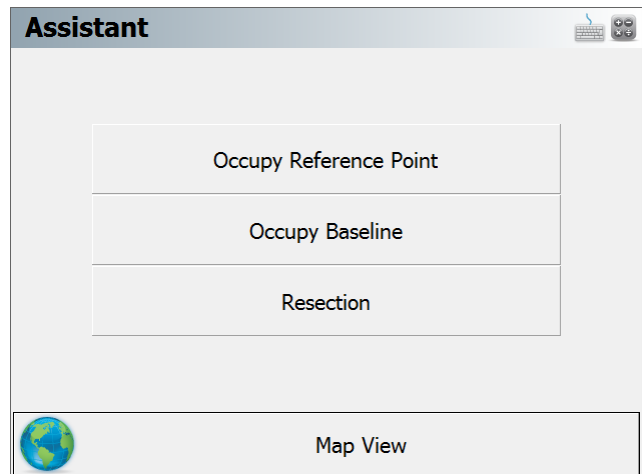


The Assistant will suggest different workflow shortcuts depending on which state the scene is in.

No Points exist



Points exist, no previous Total Station Setup



Previous Total Station Setup completed

