

Trimble® Positions™ Mobile Extension: New Features

March 3, 2016

This document describes the new features included in versions of the Trimble® Positions™ Mobile Extension software since version 3.1.0 was released. The new features are reported relative to the previous version.

Note – You cannot have two versions of the Positions Mobile Extension software installed at the same time. If you need more information, please see the [Positions Mobile Extension User Guide](#), [Positions Mobile Extension Release Notes](#), or the [User Guide for your GPS device](#).

Version 10.2.1.2 (February 2016)

Enhancements:

- Support for the Trimble R2 GNSS receiver.** The Trimble Positions Mobile extension can be used to collect data on devices paired with a Trimble R2 GNSS receiver via Bluetooth® wireless technology. Both real-time and postprocessed workflows are supported.
- Support for the Trimble FieldPoint RTX correction service.** The Trimble Positions Mobile extension can now configure FieldPoint RTX corrections when using a Trimble GeoExplorer® Geo 7X handheld or a Trimble R2 GNSS receiver.
- Support for 5 minute RTX convergence.** The Trimble Positions Mobile extension can now configure 5 minute RTX convergence for users in Western and Central Europe.
- Support for the Trimble Nomad® 1050 handheld.** The Trimble Positions Mobile extension can be used to collect data with a Trimble Nomad 1050 handheld. Both real-time and postprocessed workflows are supported.

Version 10.2.1.1 (March 2015)

Enhancements:

- Support for the Trimble R1 GNSS receiver.** The Trimble Positions Mobile extension can now be used to collect data on devices paired with a Trimble R1 GNSS receiver via Bluetooth® wireless technology. Both real-time and postprocessed workflows are supported.
- Esri ArcGIS for Windows Mobile 10.2.1 support.** The Trimble Positions Mobile extension now supports Esri ArcGIS for Windows Mobile 10.2.1. The mobile cache synchronization geoprocessing (GP) tools can be used with either Esri ArcGIS for Desktop 10.1, 10.2, or 10.3.

Version 10.2.0.3 (November 2014)

Enhancements:

- Support for RTX field configurations.** Field configurations can now be created to support the forthcoming Trimble RTX™ technology support in the Trimble Geo7X handheld firmware. There is minimal configuration for this type of field configuration.
- Additional metadata transfer field.** Vertical Estimated Accuracy has been added as a third piece of metadata that can be transferred in the field and in the office.



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- **Improved use of TrimbleSessions for transferring binary GNSS session and construction data.** Geodatabases and map documents that are GNSS-enabled using version 10.3.0.1 of the Trimble Positions Desktop add-in will use a slightly different schema for the TrimbleSessions feature class and layer (except when using ArcGIS® for Desktop Basic). This new schema supports the storage of both GNSS measurements AND feature constructions as attachments and will not store any binary data in the feature class itself. This means that a TrimbleSessions feature (in the new schema) will have at least 2 attachments when it is harvested. There is also a configuration (file) option for splitting long GNSS sessions into multiple attachments; this will be covered in a blog post.
- **Improved usability.** This version includes various enhancements designed to improve the usability of the software, including: a more descriptive GNSS status message (that indicates what type of correction engine is being used) and user notification when a project is set for real-time corrections only.

Issues Addressed:

- **Errors when trying to use certain GGF files for MSL calculation.** There were problems using certain GGF files (for example, France and UK geoids) that stored their lat/lon extents in a particular format. This has been resolved.
- **Cannot collect positions in real-time only projects.** ArcGIS for Windows® Mobile projects that were configured for real-time only corrections failed to collect positions. This has been resolved.
- **Cannot use a direct connection to a single base station.** Direct-type connections to a single base station did not work in the Trimble Positions Mobile extension; only NTRIP sources would work. This has been resolved.

Version 10.2.0.2 (August 2014)

Enhancements:

- **Support for precise feature heights.** This version adds support for antenna height and type for ArcGIS for Windows Mobile workflows (real-time and postprocessed) for the purpose of collecting high-accuracy feature heights. Mobile Project Center users can specify how Height Above Ellipsoid values are converted to Mean Sea Level elevations (or not) using a fixed geoid separation or calculated from a GGF file downloaded from the Trimble website (and deployed manually to the field device). Accordingly, the metadata value formerly known as *Height Above Ellipsoid* is now named *Feature Height*.
- **Support for ArcGIS Online hosted feature services (real-time only).** Previous versions of Trimble Positions Mobile Project Center extension did not allow the user to include hosted feature services from ArcGIS Online in high-accuracy enabled mobile projects. This restriction has now been removed for projects that use a real-time only workflow.
- **Additional hardware support.** The Trimble Positions Mobile extension can now run on additional field devices: Trimble Juno® 5 Enhanced GPS, Trimble Juno T41™, and Trimble Juno T41 Enhanced GPS.

Issues Addressed:

- **Metadata units.** When using projected coordinate systems with a non-metric unit of length, metadata values in the field would be populated appropriately, but desktop processing would overwrite them with metric values. This has been fixed. The unit labeling in the metadata configuration user interface has also been removed to avoid confusion.
- **Real-time configuration problems not reported to user.** Previous versions did not notify the user when there was a problem with the real-time configuration selected. This is resolved through basic status notification in this release.
- **Sessions stored with an empty geometry.** In certain (very limited) scenarios, it was possible to collect a session that would be stored with an empty geometry in TrimbleSessions. This would happen if the session extents were smaller than the default XY resolution of the feature class. This has been resolved.

- **Subtypes not handled properly in nested point collection.** If a project included one or more subtypes (across one or more layers) with duplicate names, a misleading error message would be displayed and the nested point feature collection would not work properly. This has been resolved in the new version.
- **Educator license packs.** Educator license packs were not previously usable with the Trimble Positions Mobile extension. This has been fixed.
- **Chinese Geo 7X handheld.** The Trimble Positions Mobile extension would not connect to the GNSS receiver on a Geo 7X handheld sold in China. This has been fixed.

Version 10.2.0.1 (November 2013)

Enhancements:

- **Esri® ArcGIS 10.2 support.** The Trimble Positions Mobile extension now supports Esri ArcGIS for Windows Mobile 10.2.0. The mobile cache synchronization geoprocessing (GP) tools can be used with either Esri ArcGIS for Desktop 10.1 or 10.2.
- **Trimble GeoExplorer® Geo 7 series and the Geo 7 rangefinder module support.**
 - The Geo 7 series' orientation sensors are used to rotate the Skyplot, and to show the current heading in the Navigation section, even when stationary.
 - The Geo 7 rangefinder module, together with the orientation sensors, can be used to collect position offsets and record attribute information for distance and angle measurements.
- **Real-time only workflow.** This release introduces the concept of 'workflow type' and you can select between *Real-Time Corrections + Postprocessing* (previously the only option) and *Real-Time Corrections Only*. In this new workflow type, sessions are not created, metadata is populated in the field, and some out-of-box functionality in the mobile application (copy feature, new feature at same location) is restored.
- **Metadata populated in the field.** Regardless of workflow type selected, metadata values for height above ellipsoid and worst horizontal estimated accuracy are transferred to the appropriate fields from within the mobile application. The values represent those available in real-time and are updated again after postprocessing (in the *Update Features* step).
- **Copy feature option.** This version re-introduces the *Another [Feature], Copy All Values* option that is available after saving a feature in the out-of-box Esri ArcGIS for Windows Mobile application. For post-processed workflows, the geometry (location) and associated metadata values will not be copied.
- **Nested point feature collection.** In this version, you can pause streamed line collection to collect nested point features. This feature is available as a menu option in the *Form View* geometry page. You can select from any of the point layers in the current project.
- **Field-to-office session notes.** Mobile users can now enter descriptive text about the session and this text will be visible to the Positions Desktop add-in user. This functionality is available from the *GNSS Sessions* task and can be used for both the current session and previously saved sessions.
- **Session information display.** Clicking on a previously saved session in the *New Sessions in Cache* list (part of the *GNSS Sessions* task) opens a new *Session Info* page that displays start time, end time, GNSS data size (blob or attachment), notes, and device name.
- **Improved connection handling for Internet-based real-time correction sources.** The new version introduces a fixed number of retries to establish the connection to an NTRIP correction source. This applies when the connection is lost.
- **List of satellites used.** Clicking on the *Satellites:* text on the *GNSS Status* page will expand the area to show a list of satellites used in the solution. Satellites are listed by constellation.
- **Improved usability.** Screen messaging is changed slightly in certain areas to improve the usability of the software. This includes notification when a point/vertex or line offset is applied.
- **Improved diagnostics.** Additional information is now included in the log file to assist in troubleshooting.

Issues Addressed:

- GNSS receivers: always apply SBAS corrections in field configurations where they have been defined.** The Trimble Positions Mobile extension now allows GNSS receivers to correctly apply and use SBAS real-time corrections as either a primary or secondary source of real-time corrections.
- Recovered sessions use full-cache extent (may cause spatial index grid problems).** Instead of using the full extent of the cache, the software calculates the extent based on the GNSS positions in the session. This applies only to sessions in the *Sessions not Finished* list of the *GNSS Sessions* task.
- Satellite count does not increment prior to fix.** Previously, the satellite count on the *GNSS Status* page would only increment when the receiver was in fix.
- Switching between serial and Internet real-time correction sources is problematic.** Users may have experienced a failure when switching between serial and Internet real-time correction sources. This is now fixed.
- Metadata (height, accuracy) were transferred in meters instead of map units.** Metadata values for height above ellipsoid and worst horizontal estimated accuracy are now stored in map units instead of meters.

[Version 10.1.1.3](#) (April 17, 2013)

Enhancements:

- Localization.** The Trimble Positions Mobile extension is now available in the Japanese language, in addition to French, German, Spanish (South American), and Portuguese (Brazilian) languages.

Issues Addressed:

- GNSS receivers: always apply SBAS corrections in field configurations where they have been defined.** The Trimble Positions Mobile extension now allows GNSS receivers to correctly apply and use SBAS real-time corrections

[Version 10.1.1.1](#) (April 4, 2013)

Enhancements:

- Development Team Blog.** The Trimble Positions Software Suite Development Team Blog is now available at <http://positionsblog.trimble.com>. Be sure to visit and sign-up to this blog. It was started by the Trimble Positions product development team as a way to better communicate directly with dealers and customers. Please check back frequently for new content.
- Simple and complex offset support.** The Trimble Positions Mobile extension now supports feature geometry data collection using simple and complex offsets. This includes support for simple left-/right-offsets alongside a path or perimeter and complex distance-bearing offsets for point features or polyline and polygon vertices.
- Laser rangefinder support.** The Trimble Positions Mobile extension now supports the Trimble LaserAce 1000 laser rangefinder and the LTi 360B laser rangefinder, with built-in electronic compass and Bluetooth® wireless technology.
- Simple line extension.** The Trimble Positions Mobile extension now allows a polyline feature from the GIS to be extended either from the start or end point.
- About dialog.** The Trimble Positions Mobile extension now provides the user with information about the version of Trimble Positions Mobile extension installed on the device.
- Localization.** The Trimble Positions Mobile extension is now available in French, German, Spanish, (South American), and Portuguese (Brazilian) languages.
- Educator license program.** The Trimble Positions Mobile extension is now available within the educator license program.

Issues Addressed:

- **Juno® 5 series handhelds go to sleep whilst collecting polyline and polygon features.** The Trimble Positions Mobile extension now stops the Juno 5 series handhelds from going to sleep whilst collecting long polyline and polygon features
- **Logging does not start when accuracy override is enabled.** The Trimble Positions Mobile extension now allows logging to start immediately after enabling accuracy override for the feature if the walking or standing man icons have been previously activated.
- **GeoExplorer® 6000 series GeoXT™ receiver accuracy.** The Trimble Positions Mobile extension now correctly displays the predicted postprocessed accuracy (PPA) for a GeoExplorer 6000 series GeoXT receiver.

Version 3.1.1 (December 2012)

Enhancements:

- **Supported GNSS receivers.** Trimble Positions Mobile extension version 3.1.1 now supports Juno® 5 series and Geo 5T handhelds.