

RELEASE NOTES

Trimble® Positions™ Mobile Extension

These release notes provide important information about the Trimble® Positions™ Mobile extension version 10.2.0.3. Please read these release notes carefully.

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Introduction

Welcome to version 10.2.0.3 of the Trimble® Positions™ Mobile extension. The Trimble Positions software suite adds support for Trimble high-accuracy GNSS receivers using Esri ArcGIS for Windows Mobile technology.

The Trimble Positions Mobile extension is an extension for the Esri ArcGIS for Windows Mobile field data collection application version 10.2. The Trimble Positions Mobile extension is used to collect high-accuracy Trimble geometry.

For detailed information on installing, configuring, and using the Trimble Positions Mobile extension, see the *Trimble Positions Mobile Extension Administrator's Guide* and the *Trimble Positions Mobile Extension User Guide*.

New in this release

This section describes what's new in the Trimble Positions Mobile extension version 10.2.0.3:

- **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.

- **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

This section describes issues that have been addressed in the Trimble Positions Mobile extension version 10.2.0.3.

- **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.

New in previous releases

This section describes what was new in earlier versions of the Trimble Positions Mobile extension.

Version 10.2.0.2

- **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.

Version 10.2.0.1

- **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 postprocessed 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.

Version 10.1.1.3

- **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.

Version 10.1.1.1

- **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.

Version 3.1.1

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

Installation and configuration

- The Trimble Positions Mobile extension version 10.2.0.3 requires Esri ArcGIS for Windows Mobile 10.2. You must install the Esri software before installing the Trimble software.
- If you have installed an earlier version of the Trimble Positions Mobile extension on your device, uninstall it completely before installing the new version.
- This release includes a new version of the GNSS Server component: *Trimble GNSSServer v4*. This should be taken into account when performing manual installations through WMDC/ActiveSync. Because it installs to a different path (\Program Files\GNSSServer4) than the old version, it can in theory be used side-by-side with the old version if other Trimble applications require it.
- Previous versions of the Trimble Positions Mobile extension utilized Microsoft SQL Server CE for the on-device database (\My Documents\Positions\PositionsFieldDB.sdf). The installer included these components although they would have to be specifically included when doing a manual installation through WMDC/ActiveSync. However, the new version of the Trimble Positions Mobile extension uses SQLite instead of SQL CE and thus the SQL CE components are no longer necessary. All necessary SQLite runtime assemblies are included with the Trimble Positions Mobile extension assemblies and do not require separate installation. The name of the field database has also been changed to reflect the different database engine (\My Documents\Positions\PositionsFieldDB.db).

Known issues

This section describes known issues with the Trimble Positions Mobile extension version 10.2.0.3.

Session size not always reported correctly

- When GNSS-enabling on a feature class is performed from ArcGIS for Desktop Basic, the TrimbleSessions feature class is created without support for attachments and binary session data is stored in blob attributes. When viewing session information in this scenario, the *GNSS Data Size* attribute on the *Session Info* screen may not display the correct value.

Missing arrows in Map view info bar

- Scrolling arrows are sometimes not correctly displayed in the Map view GNSS info bar. To display arrows:
 - on the task list, tap *Tasks / View Map / GPS / Show GPS Info* to disable the info bar
 - tap *Tasks / View Map / GPS / Show GPS Info* again to re-enable the info bar.

Laser rangefinder connection

- When using a GeoExplorer 6000 series handheld, if you connect to a supported laser rangefinder before connecting to the GNSS receiver, the connection is disconnected when the GNSS receiver is connected, and must be re-established. Trimble recommends connecting to the GNSS receiver before connecting to the laser rangefinder.

Real-time spatial reference

- The ArcGIS for Windows Mobile application ships with a reduced set of spatial references. Make sure that any spatial reference defined in a field configuration exists in ArcGIS for Windows Mobile before deployment.

Installation and configuration

- If you are installing Trimble Positions Mobile extension to a mobile device that has two or more drives, it is imperative that you install to the main drive.
- If you are manually installing Trimble Positions Mobile extension to a mobile device using CAB files or Windows Mobile® Device Center or Microsoft® ActiveSync® technology Add/Remove programs, make sure you install both the Trimble Positions Mobile extension and Trimble GNSSServer v3, if not previously installed.

Memory usage

- Applications running on supported Microsoft® Windows Mobile and Windows® Embedded Handheld platforms are provided a limited amount of the total run-time memory available on a device.
- The amount of free device memory is adversely affected by large coded value domains.
- As the Esri ArcGIS for Windows Mobile software and the Trimble Positions Mobile extension are both high consumers of memory during run-time, Trimble advises certain steps should be taken to avoid running out of memory:

- Only include as much data (including background data and raster files) as necessary in your project definitions.
- Reduce the spatial extent of your project to what is required.
- Enable feature class attachments rather than BLOB fields to hold binary data, including photographs.
- Limit GNSS sessions to a couple of hours in duration; manually stop an open session in the *GNSS Sessions* page in the *Select Task* page.
- Use the WGS-84 coordinate system wherever possible.

Inconsistent behavior

- It has been observed that postprocessed accuracy (PPA) values are sometimes unexpectedly high on some devices. In these circumstances, Trimble recommends turning off the audible logging tones:
 - a. Exit ArcGIS for Windows Mobile.
 - b. Open the Trimble Positions Mobile extension configuration file *PositionsMobileExtension.dll.config*, located in \Program Files\ArcGIS Mobile\10.2\ on your mobile device, for editing.
 - c. Locate the line


```
<add key="MakeSounds" value="T" />
```

 and change it to


```
<add key="MakeSounds" value="F" />
```
 - d. Save the file and restart ArcGIS for Windows Mobile.

Serial cable connections to external GNSS receivers

- If you use a Juno 5 series handheld with a USB to serial adapter to connect to a Pro 6 series receiver, the connection is not reliable and may be lost completely.

The following work-arounds are advised:

- Use a Bluetooth connection to connect the Juno 5 series handheld to the Pro 6 receiver.
- If a wired serial connection must be used, use version 10.1.1.3 of the Trimble Positions Mobile extension.

Technical assistance and documentation

If you have problems using the Trimble Positions Mobile extension, the following documentation should be your first point of reference:

- The Trimble Positions Mobile Extension Administrator's Guide.
- The Trimble Positions Mobile Extension User Guide.

If you still cannot find a solution to the problem, contact your Trimble reseller.

Legal notices

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Release Notice

This is the November 2014 release (Revision A) of the *Trimble Positions Mobile extension Release Notes*. It applies to version 10.2.0.3 of the Trimble Positions Mobile extension. For a complete list of all relevant legal notices regarding this product, refer to the Trimble Positions Mobile extension End User License Agreement.