# RELEASE NOTES

# Trimble® Precision GNSS OEM Receivers, 5.11

This document contains late-breaking product information, updates, and troubleshooting tips not covered in the Trimble® OEM GNSS receivers' documentation.

- Introduction
- Upgrade Procedure
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# Introduction

These Release Notes describe improvements made since version 4.94 to the following Trimble GNSS OEM receivers:

- BD930
- BD935-INS
- BD970
- BD982
- BX960
- BX982

With this release, all the above receivers can use version 5.11 firmware. To use firmware version 5.11, you must have a valid firmware warranty. You can check the Firmware Warranty Date using the web interface. Make sure the date shown is 1 May 2015 or later. Alternatively, obtain the warranty date from the WinFlash software. Select *Verify receiver options* and ensure the *Firmware Option* is 1 May 2015 or later.

For further support information, go to www.trimble.com/OEM_ReceiverHelp.

Trimble.

# Upgrade Procedure

There are two ways to load the new firmware:

- Use the WinFlash utility (BD9xx WinFlash v503v511.zip) downloaded from the Trimble website.
- Use the web interface of the receiver to load the firmware image file downloaded from the Trimble website.

# New Features and Changes

The following improvements have been made to the OEM GNSS receivers.

## General

- Updated antenna libraries.
- Minor translation updates.
- Support for BD/BX935-INS GNSS Inertial receivers.

## Data formats

- RTCM MSM messages now support GPS, GLONASS, QZSS, BeiDou, and Galileo.
- NMEA has been updated for version 4.10 standard.

## Tracking

- Updated OmniSTAR® libraries to HP 7.09 and VBS 2.21c.
- Updated list of RTX satellites and frequencies.

  As of 11 December 2015, the RTXEU beam has been shut down. It was replaced by the RTXAE beam on 10 December 2015. RTXAE includes the coverage area previously covered by RTXEU, but also includes a far larger span that covers more of Europe and a good portion of Africa. The shutdown of the RTXEU beam has affected many Trimble RTX solution users. The immediate solution has been to replace RTXEU with RTXAE, by only changing the beam name and the beam frequency.

  This firmware release ensures the affected receivers in Europe will automatically select the current CenterPoint® RTX satellite when using the CenterPoint RTX correction service. The satellite name has changed from RTXEU (frequency 1529.7250 MHz) to RTXAE (1539.8125 MHz).

- Signal tracking bandwidth selection.

  The *Position* page in the web interface now allows for a selection for wide or narrow band tracking. The default for BD9XX receivers is wide band:

  - *Wide*: Used for high-dynamic applications to allow the signal tracking to compensate for a higher rate of change in the Doppler frequency caused by antenna movement.

- _Narrow_: Used in low-dynamic applications where only relatively small changes in Doppler frequency are expected from antenna movement. Narrow bandwidth signal tracking allows less noise to pass through the filter to improve low dynamic positioning with better accuracy.
- Trimble BD/BX982 receiver will now use BeiDou B1 measurements in the heading vector if BeiDou tracking is enabled in the receiver.

# Positioning

- Support for BeiDou-only or BeiDou/GLONASS-only positioning. This firmware allows operation without the GPS constellation. The receivers can now operate with BeiDou only or BeiDou and Glonass constellations when performing in RTK mode. Either the CMRx or the RTCM v3.2 MSM corrections are to be used.
  - If using **CMRx corrections**, the base station must be tracking GPS and BeiDou (and perhaps satellites from other constellations).
  - If your base station and rover receiver are using BeiDou only or BeiDou with GLONASS, then **RTCM 3.2 MSM corrections** must be used at this stage.
- Support for selection of receiver dynamic model. This allows the user to select a model that best describes the expected dynamics of the receiver.

# Documentation updates

The latest documentation can be found online at www.trimble.com/OEM_ReceiverHelp.

# Legal Notices

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## Release Notice

This is the February 2016 release (Revision A) of the *Release Notes*. It applies to version 5.11 of the OEM GNSS receivers software.