Release Notes

GNSS OEM Receivers

VERSION 6.40 FIRMWARE

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

Introduction

These release notes describe improvements made since version 6.28.

With this release, Trimble is making firmware 6.40 available for GNSS OEM receivers that support the ProPoint® RTK/Trimble RTX® engine. Only receivers that have the ProPoint option installed can load 6.xx firmware. Receivers that do not have the ProPoint firmware option installed are not currently being updated. Listed below are the Trimble GNSS OEM receivers, which these release notes apply to.

GNSS receiver model	Firmware version
BD940[1]	6.40
BD940-INS[1]	6.40
BX940[1]	6.40
AX940 / AX940i [2]	6.40
BD992[1]	6.40
BD992-INS[1]	6.40
BX992[1]	6.40
BD9250 / BD9250s[2]	6.40

[1] Upgrade steps if the receiver was not purchased with the ProPoint option and does not have the ProPoint option installed: (a) Ensure that firmware version 5.46 or later is loaded in the receiver. (b) Install the purchased ProPoint option key password provided by the support team. (c) Install the ProPoint 6.XX firmware.

[2] All AX940 / AX940i and BD9250 / BD9250s receivers use the 6.XX firmware and do not require an upgrade to install version 6.40.

 This is the April 2025 release (Revision A) of the Release Notes. It applies to version 6.40 of the OEM receiver firmware.

To use the new firmware, 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 September 2023 or later to load firmware 6.40. Alternatively, obtain the warranty date from the WinFlash software. Select **Verify receiver options** and ensure the **Firmware Option** is 1 September 2023 or later to load firmware 6.40.

Note: Additional support information can be found at https://oemgnss.trimble.com/support/.

Upgrade procedure

There are two ways to load the new firmware:

- Use the WinFlash utility (BD9xx WinFlash V640.exe) downloaded from the Trimble website.
- Use the web interface of the receiver to load the firmware image file downloaded from the Trimble website.

Note: Additional help on upgrading can be found at https://tinyurl.com/mrxr5sz6.

New features and changes for ProPoint receivers between firmware versions 6.28 and 6.40

The following improvements have been made to the Trimble GNSS OEM ProPoint receivers since version 6.28:

General improvements

- Fixed a web interface issue in v6.28 firmware where not all antennas were listed for the vector antenna.
- The Trimble AV29 antenna model can now be selected.
- SSL/TLS for NTRIP client, server and caster now available on BD9250 and BD9250s receivers.
- Fixed an issue with reported ProPoint RMS values.
- Fixed issue where QZSS CLAS positions were reported with the incorrect ITRF epoch.
- Improvements have been made to QZSS INS CLAS positioning.
- Additional support for POSPac Assure processing
- Updated OmniSTAR HP library to 8.47.
- Improvements to handling of Galileo ephemeris data transferred to OmniSTAR library.
- Updated NMEA GGA reference station ID to indicate QZSS CLAS and Galileo HAS positioning.
- Improvements to tropospheric modeling for INS positioning modes.
- Receiver RINEX converter now supports QZSS L6.
- Added High Velocity dynamic model.
- Streaming mode is now enabled for serial ports.
- Improvements to the reported age of received corrections.
- Added binary output message including error statistics for the vector antenna.

- Improvements to startup performance for INS positioning with Automotive and Off-Road Vehicle dynamic models.
- Improvements to B1C tracking.

Trimble IonoGuard Improvements

- The IonoGuard™ feature has been enhanced when using the RTK single-baseline technique. When IonoGuard is enabled and is used under nominal conditions, improvements have been made to reduce degradations in position quality. This results in significant rover positioning improvements in situations where the base station is affected by multipath. Minor improvements have also been made to gradient estimation.
- Enhancements have been made to the scaling of ionospheric gradient data to improve rover performance during periods of high ionospheric activity.

Jamming & Spoofing - General Improvements

- Prevent rare receiver reboots during spoofing event.
- Prevent unrealistic large position jumps during spoofing events, especially common after jamming periods.
- Improvements to B1I tracking when the B2A/B2B signal is jammed.
- Improved BeiDou ephemeris handling for Trimble RTX when signals are jammed.

Jamming & Spoofing - Navigation Message Authentication[3]

- Added support for Galileo OSNMA:
    - OSNMA safeguards receivers by verifying the authenticity of Galileo navigation data, effectively mitigating data-level spoofing threats and bolstering overall system security.
- Added support for Trimble ProPoint RTX-NMA:
    - ProPoint RTX-NMA provides broadcast ephemeris authentication via the Trimble RTX correction stream in real-time with initial support for GPS and BeiDou-3 satellites.
    - Trimble RTX subscription not required.
    - ProPoint RTX-NMA complements Galileo OSNMA
    - ProPoint RTX-NMA protects the user PVT solution from:
        - faulty demodulated navigation messages with passed parity check.
        - fake navigation messages produced by nearby GNSS spoofers.

[3] Galileo OSNMA and RTX-NMA is not available on the BD9250 and Trimble BD9250s receivers.

Documentation updates

The latest documentation can be found online at https://oemgnss.trimble.com/support/.