

Release Notes

GNSS OEM Receivers

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

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Introduction

These release notes describe improvements made since version 5.60/6.20.

With this release, Trimble is making available two versions of the firmware, 5.61 and 6.21. The 6.21 firmware includes the ProPoint® RTK/Trimble RTX® engine. Only receivers that have the ProPoint option installed can load 6.xx firmware. Listed below are the Trimble GNSS OEM receivers that these release notes apply to and the firmware that can be loaded.

Receiver	Firmware version	
	5.61	6.21 ProPoint (upgrade may be required ¹)
BD9250 / BD9250s	×	✓
BD940	✓	✓
BD940-INS	✓	✓
BX940	✓	✓
AX940 / AX940i ²	×	✓
BD970	✓	×
BD982	✓	×
BX982	✓	×
BD992	✓	✓
BD992-INS	✓	✓
BX992	✓	✓

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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 6.21.

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 December 2022 or later. Alternatively, obtain the warranty date from the WinFlash software. Select **Verify receiver options** and ensure the **Firmware Option** is 1 December 2022.

For further support information, go to <https://oemgnss.trimble.com/support/>.

Upgrade procedure

There are two ways to load the new firmware:

- Use the WinFlash utility (BD9xx WinFlash V561V621.exe) downloaded from the Trimble website. For help on using WinFlash, go to <https://tinyurl.com/66925kjr>.
- Use the web interface of the receiver to load the firmware image file downloaded from the Trimble website.

New features and changes between versions 5.60 and 5.61

The following improvements have been made to the GNSS OEM receivers since version 5.60:

Base station interoperability check

To help diagnose interoperability issues with an RTK base station, the Rover/Base signal tracking matrix has been added to the web interface **Vector** page:

ALL			GPS			GLONASS			Galileo			BeiDou			QZSS			NavIC		
			L1 / E1 / B1			L2			L5 / E5 / B2											
SV	Type	Elev.	Rover	Base	Status	Rover	Base	Status	Rover	Base	Status									
3	GPS	11°	CA	CA	✓	CM+CL	E / CM+CL	✓	I+Q	I+Q	✓									
4	GPS	74°	CA / BOC	CA	✓	CM+CL	E / CM+CL	✓	I+Q	I+Q	✓									
7	GPS	32°	CA	CA	✓	CM+CL	E / CM+CL	✓	-	-	-									
8	GPS	24°	CA	CA	✓	CM+CL	E / CM+CL	✓	I+Q	I+Q	✓									
9	GPS	65°	CA	CA	✓	CM+CL	E / CM+CL	✓	I+Q	I+Q	✓									
16	GPS	58°	CA	CA	✓	E	E	✓	-	-	-									
26	GPS	25°	CA	CA	✓	CM+CL	E / CM+CL	✓	I+Q	I+Q	✓									
27	GPS	38°	CA	CA	✓	CM+CL	E / CM+CL	✓	I+Q	I+Q	✓									
31	GPS	15°	CA	CA	✓	CM+CL	E / CM+CL	✓	-	-	-									

Korean Augmented Satellite System (KASS)

The Korean SBAS service, which uses PRN#134, is supported. If MSAS and KASS are both available in the service area, the KASS service has priority.

General improvements

- L-Band beams for Omnistar® and Fugro MSS services were updated in January 2023 and the MSS configuration interface has been changed accordingly.
- The NMEA \$PTNL,REX output, which contains position and vector information derived from an external MBCMRx input stream, now includes a **Vector Quality Indicator** field.
- Fugro HP/XP firmware has been upgraded to version 8.38.
- The web interface now supports the Czech language.
- Improvements to tracking the L2E satellite.
- IRNSS (Indian Regional Navigation Satellite System) has been renamed to NavIC (Navigation with Indian Constellation).
- The default dynamic model for all receivers is now **Off-road Vehicle (Moving Start)**.
- By default, HTTPS is enabled when the **HTTPS option** is enabled.
- UDP broadcast stability improvements (DHCP request could cause output to stop).
- Security updates: User's password must be verified before modifying the security settings of other users.

New features and changes for ProPoint receivers between firmware versions 6.20 and 6.21

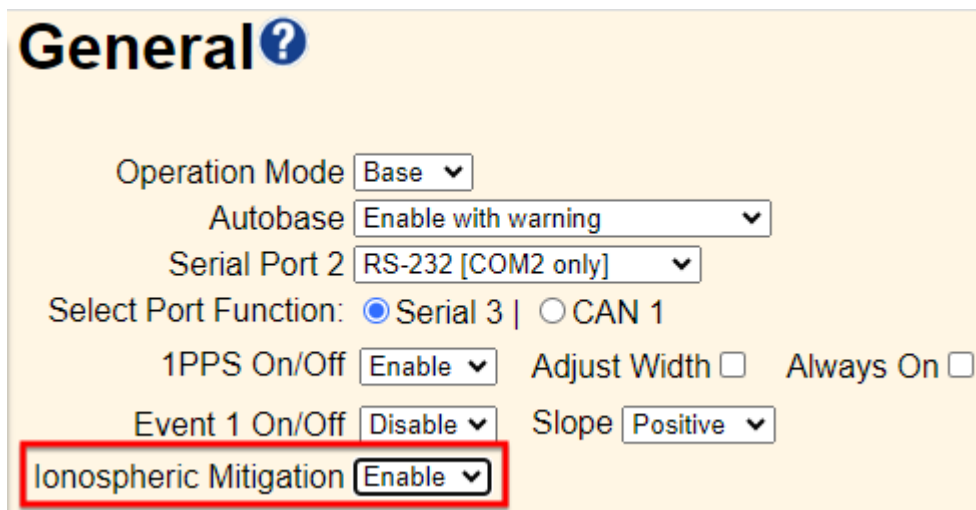
All features listed in the section [New features and changes between versions 5.60 and 5.61](#) on [page 2](#) also apply to version 6.21 of the ProPoint firmware unless noted otherwise. In addition, the following improvements have been made to the Trimble GNSS OEM ProPoint receivers since version 6.20:

ProPoint GNSS/INS position and orientation improvements

Firmware version 6.21 represents a significant upgrade to the RTK/RTX GNSS and GNSS/INS engine. Users will experience improvements in accuracy, availability, and integrity.

Ionospheric mitigation

Additional RTK improvements for ionospheric mitigation. ProPoint firmware version 6.21 is required on both the base station and rover receiver with Ionospheric Mitigation enabled on both via the web interface.



General ?

Operation Mode

Autobase

Serial Port 2

Select Port Function: Serial 3 | CAN 1

1PPS On/Off Adjust Width Always On

Event 1 On/Off Slope

Ionospheric Mitigation

General improvements

- Added new dynamic model for slow moving land vehicles.
- Improved transitions between INS positioning modes delivering smooth results.
- xFill-RTX is now available in INS operation.

Documentation updates

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