



Release Notes and Installation Guide

PolaRx5TR Firmware Package v5.4.0



1 Installation Guidelines

In order to upgrade the firmware to version 5.4.0, only the following file is to be installed on the receiver:

SUF file	Located in	Contains
PolaRx5TR-5.4.0.suf	firmware/	See section 6

There is no need to install the file PolaRx5TR-5.4.0-failsafe.suf, unless Septentrio Support advises otherwise.

2 New Features and Improvements

2.1 New features in version 5.4.0

1. A new option is created to group related RINEX files into one file for disk storage and file transfer.
2. This firmware adds support for TLS (Transport Layer Security) for NTRIP caster, client and server connections.
3. When using specific base stations that send L1P instead of L1CA, GLONASS is now enabled in the RTK solution.
4. QZSS satellite visibility is now available in NMEA GSV message.
5. Support for decoding of RTCM2 message 34 (GLONASS partial correction set) was added.
6. A new SBF message NTRIPServerStatus was added.
7. Support for decoding of RTCM3 ephemeris message 1042, 1044 and 1046 was added.
8. Tracking of the BeiDou B2b signal has been added.
9. The Preserve On Event Logging feature now supports a command based trigger.
10. The granularity of setRTCMv3Delay was increased from 1 to 0.1 seconds.
11. Cosmos receiver service is now supported for field tests.

2.2 Improvements in version 5.4.0

1. The receiver has been made most robust against possible crashes induced when requesting PVTSupport(A) block with the exeSbfOnce command.
2. In the WebUI, the "Use Current" function of the "Antenna Reference Point Static Position" configuration has been improved to handle antenna offsets better.
3. The spectrum plot display in the web interface has been improved.

4. When sending input on a port configured with ASCIIIn input, all ASCIIIn messages are now displayed in the WUI.
5. Cases of GLONASS satellite duplication (two different satellites being assigned the same slot number) should not occur any more.
6. It is now possible to change the PPS pulse width.
7. The Beidou PRN range is extended to PRN C63
8. The argument Disk (DSK) of the setDefaultAccessLevel command is now renamed to FileTransfer.
9. An instability in the tracking of S30 (a BeiDou SBAS satellite) has been fixed.
10. Data gaps affecting GLONASS satellites transmitting non-standard L3 signals have been fixed.
11. The availability of BeiDou carrier phases has been improved.
12. The deletion of long filename RINEX files has improved.
13. The RTCM2 message type 22 now correctly refers to the antenna L1 phase center height when antenna offset parameters are defined.
14. The upgrade success/failure debriefing mechanism in the Web UI was improved.
15. RTCM3 ephemeris messages include current week number.
16. The MaxBaseline setting of setDiffCorrUsage is also applied in the selection of the RTK base.
17. Decoding of the BeiDou almanac has been improved.
18. With the implementation of TLS on NTRIP, the NTRIPClientStatus SBF block and the NMEA SNC message have been updated.
19. Reporting of smoothing interval in RTCM3 MSM messages for Galileo, BeiDou, QZSS and SBAS has been fixed.
20. A rare occurrence of incorrect data in the decoded GPS ephemerides has been fixed.
21. An error causing the wrong computation of the magnetic course in NMEA VTG message has been fixed.

2.3 New features in version 5.3.2

1. A new feature named "CloudIt" is introduced, which offers an alternative to FTP for remote file submission.

2.4 Improvements in version 5.3.2

1. The field distribution of MT37 is different between versions v0.3.8 and v0.5 of the DFMC MOPS. The difference mainly affects the decoding of the DFREI scale table when DFREI==14 and the decoding of the WRO counter.
2. Rare occurrences of biases in the Galileo E6 and BeiDou B3 pseudoranges when using an external frequency reference have been fixed.
3. Occasional gaps in the carrier phase measurements for BeiDou geostationary satellites have been fixed.

3 Known Issues and Limitations

1. If the message "USB device not recognised" is shown on the PC after an upgrade of the receiver firmware, it is recommended to restart the receiver. Afterwards, the USB connection will be functional again.
2. It is not possible to upgrade the receiver using mobile Safari on iOS devices.
3. If more than one user simultaneously changes settings via the web interface, the resulting configuration of the receiver may not be consistent.
4. The time needed to detect an external USB disk connected to the receiver varies with the size of the USB disk and the CPU load of the receiver. For larger USB disks, this can take up to 1 minute.
5. IPS connections may stay visible in the web interface after the client has been disconnected.
6. When connecting to the web interface using clientless SSL VPN, the Expert Control Panel may fail to load commands.
7. The external disk must be large enough to hold more than one day of data. If the disk is too small, FTP push may fail and the logged data may be lost.
8. The NTRIP server connection is sometimes not reliable when connected to a caster running "Professional Ntrip Broadcaster" (up to v2.0.22).
9. The generation rate of GBS and GRS NMEA sentence is limited to 1 Hz.
10. During bootup of the receiver, the status of the external disk is labeled as "no disk detected" in the webserver. Please do not disconnect the disk to avoid filesystem corruption.
11. When logging data at a very low rate, the WebUI Disk Usage widget may not correctly indicate which data types are logged.
12. When accessing the webUI over https, occasional CPU overloads can be detected.
13. The Preserve On Event Logging feature only supports preserving of files with a standard IGS filename.
14. Unmounting or remounting the in use disk during logging operations might interrupt post processing actions defined for an active log session.
15. When logging is manually stopped during IGS file runover, the last log file is not added to the compress and FTP push queue.

4 Support

For further information or support, please consult the Septentrio support website (<http://www.septentrio.com/support>).

5 Legal Notice

Septentrio does not authorize the use of its products as critical components in devices or systems intended for safety-of-life applications or in devices or systems, of which the failure may endanger life or cause injuries, unless written approval is given.

All the firmware and documentation delivered with the PolaRx5TR Firmware Package is licensed, as explained in the About page which is accessible via the web interface of the receiver.

6 System Components and Versions

Product: PolRx5TR Version: 5.4.0 Receiver Platform: SSRC7 Release Date: 07 December 2020	version	PolaRx5TR-5.4.0-failsafe.suf	PolaRx5TR-5.4.0-.suf
Failsafe	7.0.2-gd063d34	Y	
Operating System	7.0.2-gd063d34		Y
GNSS Firmware	6.8.9.1-r81045		Y
Antenna Information	2.13.0-e47835c0		Y