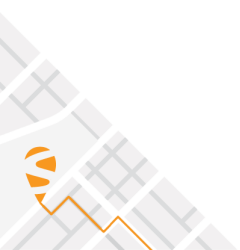
Release Notes and Installation Guide

AsteRx SB Sx Firmware Package v4.8.4



1 Installation Guidelines

In order to upgrade the firmware to version 4.8.4, only the following file is to be installed on the receiver:

SUF file	Located in	Contains
AsteRx SB Sx-4.8.4.suf	firmware/	See section 6

There is no need to install the file AsteRx SB Sx-4.8.4-failsafe.suf, unless Septentrio Support advises otherwise.

2 New Features and Improvements

2.1 New features in version 4.8.4

1. When using specific base stations that send L1P instead of L1CA, GLONASS is now enabled in the RTK solution.
2. The manual configuration of L-band signal tracking was extended to allow the selection of the service ID and scrambling vector.
3. The granularity of setRTCMv3Delay was increased from 1 to 0.1 seconds.
4. SECORX-S correction delivery through L-band is now supported.
5. Support for tracking and usage in PVT for BeiDou satellites with PRN 38 to 63 was added.

2.2 Improvements in version 4.8.4

1. In the WebUI, the "Use Current" function of the "Antenna Reference Point Static Position" configuration has been improved to handle antenna offsets better.
2. The spectrum plot display in the web interface has been improved.
3. Cases of GLONASS satellite duplication (two different satellites being assigned the same slot number) should not occur any more.
4. It is now possible to change the PPS pulse width.
5. Data gaps affecting GLONASS satellites transmitting non-standard L3 signals have been fixed.
6. A library update was done to improve compatibility for SFTP.
7. The MaxBaseline setting of setDiffCorrUsage is also applied in the selection of the RTK base.
8. Signals not enabled for PVT usage in the setSignalUsage command are now not used anymore accidentally in specific circumstances.
9. Decoding of the BeiDou almanac has been improved.

10. Postponing the initial usage of GLONASS by RTK is now only happening in even more restricted circumstances.
11. In case, firstly, MT1033 is not present in the received RTCMv3 or contains an unrecognized receiver type descriptor, and, secondly, MT1230 is received, GLONASS L1 and L2 code-phase biases are not treated as unknown anymore by RTK.
12. A rare occurrence of incorrect data in the decoded GPS ephemerides has been fixed.
13. An error causing the wrong computation of the magnetic course in NMEA VTG message has been fixed.
14. It is now possible to configure the PPS pulses to be generated every 30 seconds or every 60 seconds.

2.3 New features in version 4.5.1

1. This firmware adds support for TLS (Transport Layer Security) for NTRIP caster, client and server connections.
2. Support for the SecoRx-S correction service was added for Sx product variant.
3. The QZSS almanac is now supported.
4. QZSS satellite visibility is now available in NMEA GSV message.
5. The Web UI now displays an AIM+ visual flag for both interference and spoofing.
6. Support for decoding of RTCM2 message 34 (GLONASS partial correction set) was added.
7. A new SBF message NTRIPServerStatus was added.
8. Support for decoding of RTCM3 ephemeris message 1042, 1044 and 1046 was added.
9. The command setPPSParameters was extended to output a PPS signal without time limitation during PVT outages.
10. The granularity of setRTCMv3Delay was increased from 1 to 0.1 seconds.

2.4 Improvements in version 4.5.1

1. The receiver has been made more robust against possible crashes induced when requesting a PVTSupport(A) block with the exeSbfOnce command.
2. The version of the RINEX files logged by the receiver is now v3.04, instead of v3.03. v2.11 is still supported as well.
3. IRNSS has been renamed to NavIC.
4. When configuring a static position in the Web UI, it is now possible to use the current position.
5. The precision of the geoid undulation field in the command setGeoidUndulation was increased to 3 digits.
6. Login via expert console in the web browser is now possible.
7. When the PPSout interval is larger than one second, PPSout is now correctly aligned with BeiDou and Glonass time scales.
8. New antenna calibration data from NGS, based on IGS14 (instead of IGS08), is now being used.
9. Fixed possible incorrect values in the B1 and B2 fields of the GLOTime SBF blocks.

10. The compatibility with QZSS has been improved.
11. The receiver is now more robust when decoding RTCMv3 data. ASCII characters in RTCMv3 stream are no longer wrongly interpreted as command input
12. The NMEA THS sentence is introduced. This sentence provides critical safety related information about the heading data and complements the HDT sentence.
13. An instability in the tracking of S30 (a BeiDou SBAS satellite) has been fixed.
14. The availability of BeiDou carrier phases has been improved.
15. Occasional gaps in the carrier phase measurements for BeiDou geostationary satellites have been fixed.
16. The deletion of long filename RINEX files has improved.
17. The RTCM2 message type 22 now correctly refers to the antenna L1 phase center height when antenna offset parameters are defined.
18. The command setLBandCustomServiceID can now be used to redefined scrambling vector for services already known by the receiver.
19. The upgrade success/failure debriefing mechanism in the Web UI was improved.
20. Certificates with an RSA key length of more than 4095 bits or less than 1024 bits are no longer accepted by the receiver.
21. With the implementation of TLS on NTRIP, the NTRIPClientStatus SBF block and the NMEA SNC message have been updated.

3 Known Issues and Limitations

1. The AsteRx SB Wireless model shows ports and functions not possible with the Hardware on its user web interface and the command line (e.g. serial and Ethernet communication settings).
2. When powered via USB or Vin < 5V, the USB OTG Host functionality is disabled.
3. When disabling Bluetooth on the receiver, it may still be visible when scanning for Bluetooth devices, but Bluetooth connections will not be possible. When Bluetooth is disabled in the boot configuration and the receiver is rebooted, Bluetooth will be fully disabled.
4. When powered through USB, the input voltage is not monitored and a constant 5V is reported.
5. It is not possible to upgrade the receiver using mobile Safari on iOS devices.
6. 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.
7. 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.
8. When logging data at a very low rate, the WebUI Disk Usage widget may not correctly indicate which data types are logged.

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 AsteRx SB Sx 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: AsteRx SB Sx Version: 4.8.4 Receiver Platform: SSRC12 Release Date: 07 April 2021	version	AsteRx SB Sx-4.8.4-failsafe.suf	AsteRx SB Sx-4.8.4.suf
Failsafe	7.0.2-g22be1e6	Y	
Operating System	7.0.2-g22be1e6		Y
GNSS Firmware	6.8.13-r81401		Y
Antenna Information	2.13.0-e47835c0		Y