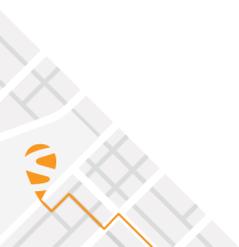




Release Notes and Installation Guide

AsteRx-U-Fg Firmware Package v4.12.2



1 Installation Guidelines

In order to upgrade the firmware to version 4.12.2, only the following file is to be installed on the receiver:

SUF file	Located in	Contains
AsteRx-U-Fg-4.12.2.suf	firmware/	See section 6

There is no need to install the file AsteRx-U-Fg-4.12.2-failsafe.suf, unless Septentrio Support advises otherwise.

2 New Features and Improvements

2.1 New features in version 4.12.2

None

2.2 Improvements in version 4.12.2

1. The receiver has been made robust against possible crashes induced when scanning Wi-Fi networks with non printable SSID names.
2. Higher update rates are now available for the Positioning Engine. The maximum achievable update rate for combined RTK/PPP/heading is up to 20 Hz.
3. The Fugro correction stream now selects the highest L-band beam unless this is a spot beam.
4. It is now possible to configure the PPS pulses to be generated every 4 seconds.
5. Decoding of Galileo I/NAV ephemerides in difficult environment has been improved.
6. The issues referred to in "PCN:2021-09-20: AsteRx-U UHF modem" have been resolved.
7. The UHF frequencies in the setUHFRxChannel and setUHFChannelTable commands can now have an extra digit. E.g. 470.00625 MHz is now possible.
8. Handling of antenna phase center offset has been improved.
9. B3I support has been added to the Marinestar service.
10. The receiver now has full support of the QZSS J04.

2.3 New features in version 4.10.3

1. Support for a new variant of the Satel TR4+ UHF radio has been added.

2. Support for four parallel corrections from L-Band satellites and NTRIP (1 on external LBR, 2 on internal L-Band and 1 on NTRIP), with automatic selection and switching between the correction sources.
3. The satellite timing system used for the positioning is now selected automatically by default. GLONASS cannot be used.
4. When using specific base stations that send L1P instead of L1CA, GLONASS is now enabled in the RTK solution.
5. QZSS support has been added to the positioning engine.

2.4 Improvements in version 4.10.3

1. Fixing an issue causing a crash on the firmware only occurring when beam configuration is updated.
2. The dynamic response of the position solution has been improved.
3. The handling of VRS correction data has been refined to improve position accuracy.
4. Decoding of BeiDou ephemerides in difficult environment has been improved.
5. The receiver has been made more robust against software upgrade through COM3 port.
6. The NMEA talker ID for BeiDou has been changed from BD to GB in accordance with the NMEA version 4.11 standard.
7. Login with Ed25519 SSH keys is now supported.
8. Decoding of the BeiDou almanac has been improved.
9. An issue related to an invalid UTC time field at startup of the receiver in the NMEA interface has been resolved.
10. Decoding of Galileo ephemerides at cold startup has been improved.
11. TLS 1.3 is now supported.
12. Galileo compatibility in the moving base application has been improved.
13. Improved re-convergence after GNSS signal interruption.
14. Improved position accuracy in PPP.

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. When the user attempts to pair a second Bluetooth device while the receiver is streaming data to an already connected device, the data stream may be interrupted during the pairing attempt. The receiver will remain connected to the already connected device.
3. It is not possible to upgrade the receiver using mobile Safari on iOS devices.
4. If more than one user simultaneously changes settings via the web interface, the resulting configuration of the receiver may not be consistent.
5. The web server on the receiver has been tested with Chrome, Firefox and Microsoft Edge. If you experience any problems with your browser, please use a different client application.
6. Data cannot be streamed through the Bluetooth port at a rate higher than 5Hz.
7. IPS connections may stay visible in the web interface after the client has been disconnected.

8. The NTRIP server connection is sometimes not reliable when connected to a caster running "Professional Ntrip Broadcaster" (up to v2.0.22).
9. UDP functionality does not work over Cellular interface.
10. Firewall on computers can delay accepting connection by up to 4 minutes. Before using IPR functionality ensure that the desired IP port is enabled on your computer.
11. Some cellular networks require the configuration of an APN even for 2G connections.
12. Due to incompatibility with the T-Mobile IPv6 network, outgoing IP connections are not possible. If outgoing IP connections are required, the user can use the AT&T network.
13. When accessing the webUI over HTTPS, occasional CPU overloads can be detected.
14. The firmware is only compatible with GRB-0026 hardware revision 9 and higher. The revision of the hardware can be checked using the command "lif,identification" in the field <mainboard>.
15. Downgrading the receiver firmware is not recommended, it will require a resubscription to the Marinestar service.
16. When switching from Wi-Fi Access Point to Client mode the receiver requires some seconds to reset the modem. Immediately pressing the "Configure Networks" button on the WebUI will result in an error being raised.
17. On units with the newer Satel TR4+ UHF radio, sending RTCMv3 corrections using the PCCFST protocol at 12.5kHz can be unstable.

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-U-Fg 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-U-Fg Version: 4.12.2 Receiver Platform: SSRC7 Release Date: 06 May 2022	version	AsteRx-U-Fg-4.12.2-failsafe.suf	AsteRx-U-Fg-4.12.2.suf
Failsafe	12.0.4-ge3f94ac	Y	
Operating System	12.0.4-ge3f94ac		Y
GNSS Firmware	6.12.7-gcc3b6b4aa0		Y
DSP Firmware	4.2.4		Y
Antenna Information	2.13.0-62076b17		Y