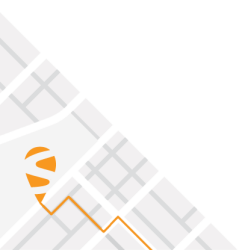
Release Notes and Installation Guide

mosaic-X5 Firmware Package v4.14.0



1 Installation Guidelines

In order to upgrade the firmware to version 4.14.0, only the following file is to be installed on the receiver:

SUF file	Located in	Contains
mosaic-X5-4.14.0.suf	firmware/	See section 6

There is no need to install the file mosaic-X5-4.14.0-failsafe.suf, unless Septentrio Support advises otherwise.

2 New Features and Improvements

2.1 New features in version 4.14.0

1. Added support for RTCMv3 MT1013 to reduce Time To First Fix.
2. Galileo E6 support has been added.
3. GNSS signal delays can now be compensated through the new setCalibCommonDelay and setCalibSIgnalDelay commands.
4. Support for the tracking of the future QZSS L1 C/B signal has been added.
5. BeiDou B2b support has been added.
6. Support of PTP protocol has been added.
7. The RTK base type (physical, VRS or PPP-RTK) can now be retrieved from the WACorrInfo field of the SBF messages PVTGeodetic and PVTCartesian.
8. An IOD holdoff can now be defined for RTCMv2 corrections.

2.2 Improvements in version 4.14.0

1. OSNMA has been partially adapted to SIS ICD v1.0.
2. Compatibility with Let's Encrypt TLS certificates has been improved.
3. Cases of erroneous Galileo E5-AltBOC carrier phases when the receiver was configured in high-dynamics mode have been resolved.
4. Spoofing detector has been improved.
5. When configuring the receiver to broadcast or multicast data (e.g. SBF, NMEA) over UDP, on the "Ethernet over USB" network interface, the data was transmitted twice. This bug is resolved.
6. Added T-RAIM to increase robustness for timing applications based on prescribed coordinates
7. Rare loss of L5/E5 band signals has been addressed.
8. The used time system is now shown on the Web Interface's GNSS/Position page.

9. Improved KSZ8081 support in Ethernet PHY detection.
10. An issue affecting the logging of GPS and GLONASS RINEX v2.11 navigation files has been solved.
11. The probability of occurrence of cycle slips under heavy vibrations or shocks is decreased.
12. A better traceability for the antenna information has been implemented.
13. Proper support of eMMC memories with replay protect memory block (RPMB) connected to the SDIO logging interface.
14. E6B tracking is automatically selected upon detection of encrypted E6C.
15. The GPSCNav SBF block has been added, containing CNAV data from GPS L2C and L5.
16. In a signal simulation scenario using only L1 and L2P GPS and GLONASS legacy signals, time must start after Dec 31, 2019 (instead of Dec 31, 2015 in previous releases).

2.3 New features in version 4.12.1

1. Galileo OSNMA support has been added.
2. GPLED2 configured as "RTK status" by default

2.4 Improvements in version 4.12.1

1. It is now possible to configure the PPS pulses to be generated every 4 seconds.
2. Decoding of Galileo I/NAV ephemerides in difficult environment has been improved.
3. The spoofing detector has been improved and identifies more types of spoofers.
4. The handling of VRS correction data has been refined to improve position accuracy.
5. Handling of antenna phase center offset has been improved.
6. Decoding of BeiDou ephemerides in difficult environment has been improved.
7. A new command setIpKeepAlive has been added to allow the customer to enable and configure TCP/IP keepalive functionality on the IP and IPS ports.
8. The receiver now has full support of the QZSS J04.

3 Known Issues and Limitations

1. The receiver is not able to remount the disk automatically when unplugging the USB cable, unless the disk is first ejected (Windows) or unmounted (Linux) from the host PC before disconnecting the USB cable.
2. When accessing the webUI over HTTPS, occasional CPU overloads can be detected.
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 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.
5. IPS connections may stay visible in the web interface after the client has been disconnected.
6. The NTRIP server connection is sometimes not reliable when connected to a caster running "Professional Ntrip Broadcaster" (up to v2.0.22).

7. 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.
8. Moving base output is limited to 20 Hz.

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 mosaic-X5 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: mosaic-X5 Version: 4.14.0 Receiver Platform: GRB0051 Release Date: 26 June 2023	version	mosaic-X5-4.14.0-failsafe.suf	mosaic-X5-4.14.0.suf
Failsafe	14.0.4-g3af9964	Y	
Operating System	14.0.4-g3af9964		Y
GNSS Firmware	6.14.7-gfc4f1d86b5		Y
Antenna Information	23.2.0		Y