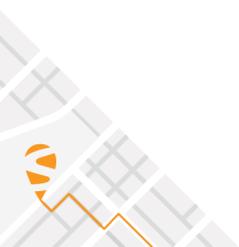




Release Notes and Installation Guide

mosaic-X5 Firmware Package v4.8.2



1 Installation Guidelines

In order to upgrade the firmware to version 4.8.2, only the following file is to be installed on the receiver:

SUF file	Located in	Contains
mosaic-X5-4.8.2.suf	firmware/	See section 6

There is no need to install the file mosaic-X5-4.8.2-failsafe.suf, unless Septentrio Support advises otherwise.

2 New Features and Improvements

2.1 New features in version 4.8.2

1. When using specific base stations that send L1P instead of L1CA, GLONASS is now enabled in the RTK solution.
2. Support for tracking and usage in PVT for BeiDou satellites with PRN 38 to 63 was added.
3. Cosmos receiver service is now supported for field tests.
4. Support for BeiDou B3I signal tracking and usage in PVT was added.
5. The granularity of setRTCMv3Delay was increased from 1 to 0.1 seconds.
6. The number of available IPR/TCP2way ports has been increased from 3 to 5.

2.2 Improvements in version 4.8.2

1. The maximum number of satellites for which differential corrections are stored and usable by RTK and DGNS is increased to 60.
2. The receiver has been made more robust against possible crashes induced when requesting a PVTsupport(A) block with the exeSbfOnce command.
3. The spectrum plot display in the web interface has been improved.
4. RTK with only BeiDou satellites is now possible.
5. RTCM3 ephemeris messages include current week number.
6. The MaxBaseline setting of setDiffCorrUsage is also applied in the selection of the RTK base.
7. Signals not enabled for PVT usage in the setSignalUsage command are now not used anymore accidentally in specific circumstances.
8. Decoding of the BeiDou almanac has been improved.
9. This firmware doesn't support a watchdog functionality, to prevent erratic behavior on boards on which pin A3 of the module is floating. In case of the unlikely event of

a firmware or system failure, the module would therefore either need to be power cycled or reset by the host via the nRST_IN pin.

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. With the implementation of TLS on NTRIP, the NTRIPClientStatus SBF block and the NMEA SNC message have been updated.
13. Reporting of smoothing interval in RTCM3 MSM messages for Galileo, BeiDou, QZSS and SBAS has been fixed.
14. A rare occurrence of incorrect data in the decoded GPS ephemerides has been fixed.
15. An error causing the wrong computation of the magnetic course in NMEA VTG message has been fixed.

2.3 New features in version 4.8.0

1. QZSS satellite visibility is now available in NMEA GSV message.
2. Support for decoding of RTCM2 message 34 (GLONASS partial correction set) was added.
3. A new SBF message NTRIPServerStatus was added.
4. Support for decoding of RTCM3 ephemeris message 1042, 1044 and 1046 was added.
5. This firmware adds support for TLS (Transport Layer Security) for NTRIP caster, client and server connections.
6. This firmware version does not support Septentrio SECORX positioning based on Terrastar service.
7. The command setPPSPParameters was extended to output a PPS signal without time limitation during PVT outages.

2.4 Improvements in version 4.8.0

1. An instability in the tracking of S30 (a BeiDou SBAS satellite) has been fixed.
2. The availability of BeiDou carrier phases has been improved.
3. The RTCM2 message type 22 now correctly refers to the antenna L1 phase center height when antenna offset parameters are defined.
4. The command setLBandCustomServiceID can now be used to redefined scrambling vector for services already known by the receiver.
5. The upgrade success/failure debriefing mechanism in the Web UI was improved.
6. Certificates with an RSA key length of more than 4095 bits or less than 1024 bits are no longer accepted by the receiver.

3 Known Issues and Limitations

1. It is not possible to upgrade the receiver using mobile Safari on iOS devices.
2. If more than one user simultaneously changes settings via the web interface, the resulting configuration of the receiver may not be consistent.
3. The web server on the receiver has been tested with Chrome (version 61), Firefox (version 55) and Internet Explorer (version 11). If you experience any problems with your browser, please use a different client application.
4. IPS connections may stay visible in the web interface after the client has been disconnected.
5. The NTRIP server connection is sometimes not reliable when connected to a caster running "Professional Ntrip Broadcaster" (up to v2.0.22).
6. 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.
7. 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: 4.8.2 Receiver Platform: GRB0051 Release Date: 14 December 2020	version	mosaic-X5-4.8.2-failsafe.suf	mosaic-X5-4.8.2.suf
Failsafe	7.0.2-gd063d34	Y	
Operating System	7.0.2-gd063d34		Y
GNSS Firmware	6.8.10-r81050		Y
Antenna Information	2.13.0-e47835c0		Y