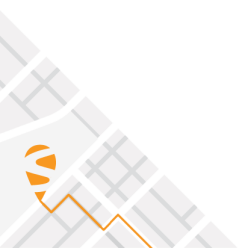




Release Notes and Installation Guide

mosaic-X5 Firmware Package v4.15.0



1 Installation Guidelines

To upgrade the firmware to version 4.15.0, upgrade the receiver with the suf file `mosaic-X5-4.15.0.suf` as explained in the section **Upgrade the Receiver** of the mosaic-X5 Reference Guide.

Upgrading the receiver's failsafe with `mosaic-X5-4.15.0-failsafe.suf` is not necessary, unless Septentrio Support advises otherwise.

2 New Features and Improvements

2.1 General Description

To comply with the upcoming EU Radio Equipment Directive (RED) 2014/53/EU, specifically Article 3(3) (d), (e) and (f) cybersecurity requirements, this release contains a set of changes that are introduced to ensure continued regulatory alignment for all our IP-capable receivers. Key changes are highlighted ([security]) in the below sections for visibility.

While maintaining compatibility has been a priority, some modification may impact integration processes, configuration routines, or automated workflows. We recommend reviewing these changes carefully and updating configurations accordingly.

Please note that adjusting default settings is possible but may compromise the effectiveness of the built-in security protections. Users are encouraged to carefully consider the implications of disabling or overriding new defaults, as secure operation remains a shared responsibility.

2.2 New features in version 4.15.0

1. [Security] FTP, SFTP, Rsync and SCP are disabled by default. They can be enabled with a new command `setIPServices`. SSH port is now configurable with `setIPPortSettings`.
2. [Security] In case of lost/forgotten credentials, a mechanism to restore factory default was added.
3. [Security] On all web, file transfer and IP interfaces users will by default be required to log in to use and configure the receiver. To support initial log-in, two extra arguments (`FactoryUserName` and `FactoryPassword`) were introduced in the login command.
4. [Security] The Web-interface will automatically redirect to HTTPS, unless it's disabled.
5. [Security] TLS encryption over IP1x connection is now available on port 28783, and can be configured with the `setIPPortSettings` and `setIPServices` commands.
6. The number of supported QZSS satellites is extended from 7 to 10. Satellites J08, J09 and J10 are now supported.
7. An `ExtEvent SBF` block is now also generated for Event pins configured in TimeSync mode, to allow monitoring of the synchronization offset.
8. Satellites can now be excluded from measurement output based on the OSNMA authentication status.
9. The `setBBSamplingTiming` user command is introduced to control the time at which the baseband samples are taken.

2.3 Improvements in version 4.15.0

1. The recovery of bit errors in GPS L1C, QZSS L1C and BeiDou B1C nav pages has been improved.
2. Rare occurrences of loss of signals have been fixed.
3. The sign of the Doppler of the MSS (LBand) geostationary satellites has been aligned with the sign convention of GNSS satellites (positive Doppler when the distance to the satellite decreases).
4. The command exeEchoMessage now also works as expected for IPS and IPR connections.
5. The sensitivity of the spoofing detector has been further improved.
6. Cases of cycle slips when using non-default tracking loop parameters have been solved.
7. Improved compatibility with certain VRS correction providers.
8. Enhanced handling of RTK corrections of varying age.
9. Added a new command to configure the "User-Agent" in NTRIP server and client HTTP(S) headers
10. Enhanced ionospheric robustness during periods of scintillation.

2.4 New features in version 4.14.10.1

None

2.5 Improvements in version 4.14.10.1

Improved Ethernet PHYs support compatibility.

3 Known Issues and Limitations

1. If more than one user simultaneously changes settings via the web interface, the resulting configuration of the receiver may not be consistent.
2. 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.
3. IPS connections may stay visible in the web interface after the client has been disconnected.
4. The NTRIP server connection is sometimes not reliable when connected to a caster running "Professional Ntrip Broadcaster" (up to v2.0.22).
5. 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.
6. Moving base output is limited to 20 Hz.
7. 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.

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. On products without web interface, the License can be viewed with the "IstInternalFile, License" command.

6 System Components and Versions

Product: mosaic-X5 Version: 4.15.0 Receiver Platform: GRB0051 Release Date: 22 July 2025		version	mosaic-X5-4.15.0-failsafe.suf	mosaic-X5-4.15.0.suf
Failsafe	19.0.2-gb16d79e	Y		
Operating System	19.0.2-gb16d79e			Y
GNSS Firmware	2025.03.3-gdc8c344804			Y
Antenna Information	25.1.0			Y