



Infrastructure

GNSS SERIES RECEIVERS

This document contains summary information on new features, late-breaking product information, updates, and troubleshooting tips not covered in the Trimble® NetR9™ Infrastructure series receiver documentation.

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Introduction

These release notes describe the improvements made to the NetR9 Infrastructure series receivers. With this release, the above products can use version 5.22 firmware.

Note – Not all receivers support all features contained within this firmware release. The supported features will depend on the receiver model and options installed.

To use firmware version 5.22, you must have a valid firmware warranty. To load this firmware, the receiver must have a firmware dated May 1, 2015 or later. If necessary, contact your Trimble dealer to purchase a warranty. Before you perform a firmware upgrade, ensure you download and backup any files or configuration settings.

New features and changes

Tracking

- Improved QZSS LEX tracking.
- Improved Galileo E5A/B tracking and SNR reporting.
- Improved handling of clock steering data for position fixes.

Data logging

- RINEX v3.02/3.03 now include 'GLONASS Slot / FRQ #' header records.
- RINEX files now record the receiver type in header records as 'TRIMBLE NETR9'.
- Addresses issue in firmware version 5.20 that may cause RINEX observables to be omitted from files.

Version 5.22

Revision A

March 2017

- Corrects Hatanaka compressed files to use the correct file extension of '*.CRX'.
- RINEX version 3 long filenaming convention updates:
 - Resolves incorrect day of year.
 - Resolves incorrect file start times.
 - Now uses '01D' for the file duration of one day. Previously, this was recorded as '24H'.
- Resolves failed FTP Push operations. Previously, if a FTP Push operation to one FTP server failed, pushes to alternate FTP servers may hang.
- Improved read/write operations to internal memory, which improves memory stability and protects against memory corruption.

Web interface and front panel

- Improved XML formatting of various web interface pages.
- Resolves issue where a factory reset would not change the HTTPS port to default values.
- Resolves issue where static IP addresses may not be applied when installing from a clone file.
- Improved 'Clear Satellite Data' routine to prevent rare occurrence of data being stored and not cleared after the command was sent.
- Resolves issue where RTX solutions may not be produced after starting an application file.
- Additional data logging Programmatic Interface support for the following commands:
 - **/prog/show?sessions**
Returns configuration of currently defined sessions.
 - **/prog/show?session&name=Test**
Returns configuration of requested session.
 - **/prog/set?session&name=Test&enable=yes**
Enable can be 'yes' or 'no'. If yes, then the session can log data, when its schedule allows. If no, then the Session is created, but logging not enabled. The default value for a new session is 'yes'.
 - **/prog/set?session&name=Test&schedule=continuous**
Schedule determines when the session can be run. There are four possible types:
 - Continuous – Logs continuously, breaking the data into separate files of the specified duration.
 - Daily@hh:mm – Starts every day at the specified hours (hh, from 00 to 23) and minutes (mm, from 00 to 59).
 - Once@YYYY.MM.DD.hh:mm – Runs one time only, starting at the given Year (YYYY), Month (MM), Day (DD), hours (hh) and minutes (mm). The month range is 1 to 12. The day range is 1 to 31.
 - Manual – Runs for the specified duration, starting when the user enables the session. When finished, the session automatically disables itself.
 For those schedules that require dates or times, the formats must be as shown. An invalid date or time will cause the command to be rejected. The default schedule for a new session is 'Continuous'.
 - **/prog/set?session&name=Test&duration=60**
Duration is the data logging time for this Session, in minutes. For continuous logging sessions, it describes the length of the individual files. The default value for a new session is 60 minutes. Valid duration range from is from 1 to 1440 minutes.
 - **/prog/set?session&name=Test&measInterval=15**
This describes the GNSS measurement logging interval, in seconds. Valid settings are: 0.02, 0.05, 0.1, 0.2, 0.5, 1, 2, 5, 10, 15, 30, 60, 300 and 600. The value can also be set to '0' or 'off' to disable measurement logging. The default for a new session is 1 second.

– **/prog/set?session&name=Test&posInterval=60**

This describes the position logging interval, in seconds. Valid settings are: 0.02, 0.05, 0.1, 0.2, 0.5, 1, 2, 5, 10, 15, 30, 60, 300, and 600. The value can also be set to '0' or 'off' to disable position logging. The default for a new session is 60 seconds.

– **/prog/set?session&name=Test&volttempinterval=300**

This describes the logging interval of temperature and voltage records, in seconds. Valid settings are: 1, 2, 5, 10, 15, 30, 60, 300, and 600. The default for a new session is 300 seconds.

– **/prog/set?session&name=Test&filesystem=internal**

Filesystem can be 'internal' or 'external'. If internal, the created session will be logged to internal memory. If external, the created session will be logged to an external USB drive, if present.

– **/prog/set?session&name=Test&pathstyle=sessiondate**

Defines the folder structure for the logging session. Variables are:

- Flat
- Date
- DateSession
- SessionDate
- YYYYMM
- YYYYMMDD
- YYYYMMSession
- YYYYMMDDSession

– **/prog/set?session&name=Test&namestyle=systjjjh**

Defines the file naming convention for the created session. Variables are:

- SystJJJh
- SystJJJhmm
- YMMDDhh
- YMMDDhhmm
- System___YYYYMMDDHHmm
- SystYYYYMMDDHHmm

Filenaming conventions using the '#' symbol are not supported at this time, though are available via the web interface.

– **/prog/set?session&name=Test&ftppush=1**

Allows FTP Push to be enabled and selects which FTP server to use. Variables are:

- 0 = FTP Push Disabled
- 1 = FTPServer #1
- 2 = FTPServer #2
- 3 = FTPServer #3

– **/prog/set?session&name=Test&ftppush=1&FTPConvertType=4**

Specifies which file format should be used for FTP Push routines. Variables are:

- 0 = None (FTP T01/T02 files)
- 42 = T01/T02/T04 file & Zipped V3.03 RINEX (Observables & Combined Ephemeris)
- 19 = T01/T02 file & Zipped V3.02 RINEX (Observable & Ephemeris)
- 17 = T01/T02 file & Zipped V3.00 RINEX (Observable & Ephemeris)
- 18 = T01/T02 file & Zipped V2.12 RINEX with QZSS Extensions (Observable & Ephemeris)
- 16 = T01/T02 file & Zipped V2.11 RINEX (Observable & Ephemeris)
- 14 = Google Earth – Lines

- 15 = Google Earth – Lines and Points
- 40 = Zipped V3.03 RINEX (Observables & Combined Ephemeris)
- 41 = Zipped V3.03 Hatanaka RINEX (Observables & Combined Ephemeris)
- 26 = Zipped V3.02 RINEX (Observable & Ephemeris)
- 29 = Zipped V3.02 Hatanaka RINEX (Observable & Ephemeris)
- 4 = Zipped V3.00 RINEX (Observable & Ephemeris)
- 10 = Zipped V3.00 Hatanaka RINEX (Observable & Ephemeris)
- 20 = Zipped V2.12 RINEX with QZSS Extensions (Observable & Ephemeris)
- 23 = Zipped V2.12 Hatanaka RINEX with QZSS Extensions (Observable & Ephemeris)
- 1 = Zipped V2.11 RINEX (Observable & Ephemeris)
- 7 = Zipped V2.11 Hatanaka RINEX (Observable & Ephemeris)
- 13 = BINEX
- **/prog/set?session&name=Test&suffix=A**
Values are 'a'-'z', and 'A'-'Z'. The suffix is a single, lower-case or upper-case letter, which is used as an identifying character in file names generated by this session. The default for a new session is 'D'.
- **/prog/set?session&name=Test&smoothranges=no**
Enables or disables the 'Smooth Pseudorange' option. The default value is 'No'. Variables: Yes | No
- **/prog/set?session&name=Test&smoothphases=no**
Enables or disables the 'Smooth Phase' option. The default value is 'No'. Variables: Yes | No
- **/prog/set?session&name=Test&includedoppler=yes**
Enables or disables the logging of Doppler values. The default value is 'No'. Variables: Yes | No
- **/prog/set?session&name=Test&logcorrections=no**
Enables or disables the logging of received corrections. The default value is 'No'. Variables: Yes | No
- **/prog/set?session&name=Test&lograwnavdata=no**
Enables or disables the logging of raw navigation data. The default value is 'No'. Variables: Yes | No
- **/prog/set?session&name=Test&logsbasdata=no**
Enables or disables the logging of SBAS data. The default value is 'No'. Variables: Yes | No
- **/prog/set?session&name=Test&emailpush=yes&emailconverttype=26&emailtoaddress=trimble@trimble.com**
Specifies parameters for Email Push routines. Variables: Yes | No. Conversion parameters are the same as previously listed for FTP Push. The 'Email to Address' variable is the destination email address.
- **/prog/set?session&name=Test&yearInFtpZipFileName=no**
Defines if the FTP Zip filenames have the year added to the filename. Variables: Yes | No.
- **/prog/set?session&name=Test&autodelete=yes**
Enables or disables 'Auto Delete' option. Variables: Yes | No.
- **/prog/set?session&name=Test&poolmode=stop&poolsize=2**
Specifies logging pool operation. The first variable is the pool mode. Variables include Stop, Delete, or Off. The second variable is the pool size in MB.
- **/prog/delete?session&name=Test**
Deletes the requested session.

- Additional power control Programmatic Interface support for the following commands:
 - **/prog/show?powercontrols**
Returns the current power settings including the power on volts, power off volts, power down override setting, UPS setting and timeout value, and Power over Ethernet setting.
 - **/prog/set?powercontrols&upvolts=11.8**
Sets the power on voltage. Range: 10.8 V to 15.0 V. Default: 11.8 V.
 - **/prog/set?powercontrols&downvolts=10.8**
Sets the power off voltage. Range: 9.5 V to 15.0 V. Default: 10.5 V.
 - **/prog/set?powercontrols&powerdownoverride=yes**
Enables or disables the 'Shutdown Override' feature. Variables: Yes | No.
 - **/prog/set?powercontrols&ups=35**
Enables the internal battery UPS. 'Enabled' will turn this feature on, otherwise the UPS timeout value must be specified in units of seconds. Range: 35 to 600 seconds.
 - **/prog/set?powercontrolsðernetpower=yes**
Controls Power over Ethernet setting. Variables: Yes | No.
- Additional charging control Programmatic Interface support for the following commands:
 - **/prog/show?chargingcontrols**
Returns current charging controls.
 - **/prog/set?chargingcontrols&mode=always&minvolts=12.0**
 - Defines variables for charging controls.
 - 'Mode' variables: Never|WhenOn|WhenOff|Always
 - 'minVolts' variables: 10.8 V to 15.0 V. Default: 12.0 V
 - 'ethernetCharging' variables: yes|no

Upgrade procedure

Ensure that the receiver firmware warranty date is May 1, 2015 or more recent. To upgrade, use one of the following methods:

- If using the WinFlash utility: Use the latest version that is available with the version 5.22 web package.
- Receiver web interface: Download and install the version 5.22 *.TIMG file.

Legal notices

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Release Notice

This is the March 2017 release (Revision A) of the NetR9 Infrastructure Series Release Notes. It applies to version 5.22 of the Infrastructure GNSS Series receivers.