

## Trimble® Infrastructure GNSS Series Receivers

These release notes describe the latest improvements made to the Trimble® Infrastructure GNSS series receivers.

- [Introduction](#)
- [New Features and Changes](#)
- [Upgrade Procedure](#)
- [Legal Notices](#)

### Introduction

These release notes describe the improvements made to the following Trimble Infrastructure series receivers:

- NetR3
- NetR5™
- NetR8
- NetR9™

With this release, these products can now use version 4.85 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.*

These release notes describe all changes made from firmware version 4.70 onward.

To load and use firmware version 4.85, you must have a valid firmware warranty, dated 2 April 2013 or later. If necessary, contact your Trimble dealer to purchase a warranty.

Before you perform a firmware upgrade, download and backup any files or configuration settings.

# New Features and Changes

## General

- Minor translation updates.
- Updated OmniSTAR® libraries.
- RTK engine processor usage further improved.
- RTX™ engine updated to version 3.0, improving convergence times.
- RTX initializations improved in challenging environments.

## Data formats

- Resolves issue of PPS signal being output at 256  $\mu$ S at 3.3 V per pulse. The PPS signal is now output at 8  $\mu$ S at 3.3 V per pulse.
- Improved PPS stability.
- GSOF:
  - GSOF format updated to support latest GNSS signals (including Beidou).
  - GSOF Message 38 updated to report the ITRF epoch of RTX positions.
  - DCOL and GSOF updated to include RTX link status.
- DCOL updated to allow disabling of all ports.
- T02 and RT27 updated to log/stream unhealthy Galileo satellites.
- Resolves issue whereby a configuration file may not correctly apply the Almanac output settings for RT17/27 data.
- RT27 updated to correctly reflect presence of external oscillator.
- RTCM:
  - Resolves issue whereby RTCM version 3 bandwidth limiting would be lost upon a reset.
  - Resolves issue whereby enabling Position Monitoring would disable CMRx and RTCM version 3 outputs.
  - Update to RTCM version 3 message type 1033 records to ensure correct/full IGS receiver name is transmitted.
- NMEA ZDA will output NULL values if the receiver has not acquired, tracked, and updated time.

## Data logging

- Resolves generating Google Earth files issue.
- Resolves On-the-Fly BINEX conversion format issue.
- RINEX:
  - Resolves On-the-Fly RINEX file issue that could result in incomplete files.
  - Legacy anti-spoofing flag from RINEX version 3 has now been removed in accordance with RINEX standards.
  - Onboard RINEX converter now handles Beidou ephemeris data.
- FTP:
  - FTP Push functionality now supports FTP Client passwords of up to 30 characters in length (previously passwords were limited to 14 characters).
  - Resolves issue where an FTP list command may return file types other than those queried.

## Tracking

- Improved handling of GLN leap seconds.
- Improved Beidou modeling within the China region.
- Improved Ionospheric modeling after a reboot.
- Improved SBAS (Satellite-Based Augmentation System) handling when switching between SVs.
- Improved handling of SBAS Ionosphere models.
- Resolves issue where Galileo SVs may not be marked as unhealthy.
- General GNSS constellation tracking updates.
- Graphic user interface (GUI) display updated to better display GNSS constellations.
- Improved EGNOS (European Geostationary Navigation Overlay Service) positioning performance.
- GAGAN (GPS Aided Geo-Augmented Navigation) tracking updates.
- Trimble EVEREST™ multipath rejection algorithms improved for new GNSS constellations.
- Updated satellite ellipse information for RTX beams.
- Improved cross-correlation algorithms.

## Power

- Voltage values limited to two decimal places. The power-on voltage value must be higher than the shutdown value.

## Application files

- Resolves issue whereby NetR9 clone files may not capture more than 8 logging sessions.
- Resolves issue whereby the NetR9 may not allow a GZIP compressed clone file to be uploaded.
- Option to set the system to default settings when installing a clone file now available.

## Networking and security

- Improved NTP Server security to mitigate recent NTP exploits:
  - The NTP Server will now default to disabled.
  - NTP Server settings are now supported via the Programmatic Interface using the following command [http://IP\\_Address/prog/set?NtpServer&enable=no](http://IP_Address/prog/set?NtpServer&enable=no) (or `=yes`)
- DNS:
  - DNS Settings are now also displayed on the *Ethernet Configuration* page for visibility.
  - The Web UI *DNS Configuration* page now allows DNS Proxy to be disabled manually.
  - DNS queries via PPP connections now use the PPP IP address.
  - Handling of DNS entries when switching networks has been improved.
- HTTPS:
  - Updated HTTPS security certificate.
  - Improved handling of HTTPS SSL certificates.
  - Various network security enhancement updates.
- Improved resilience against FTP Server attacks.
- Bandwidth limiting option now implemented for NTRIP Caster and NTRIP Servers.
- Resolves issue where TCP port connections cannot be reestablished after a UDP broadcast port was configured.
- NTRIP Caster and NTRIP Server mountpoints no longer allow for the following characters:

;	@	\$
/	&	'
?	=	(space)
:	+	

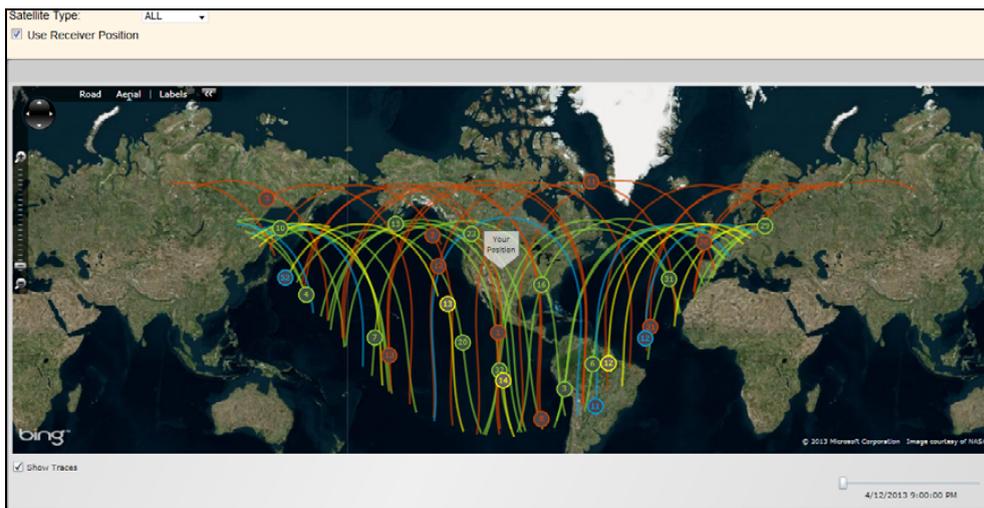
If any of these characters is entered it is replaced automatically with an underscore '\_'.

- Improved stability with regard to Ethernet functionality.

## Web interface and front panel

- Improved Web UI rendering. Previously, some graphs and Programmatic Interface commands did not display correctly on certain browsers.
- The *Receiver Options* page now displays a *Data Collector* option bit. NetR9 Ti-1, Ti-2, and Ti-3 models can enable this option bit using the option code **40W6YVVN/d**.  
Check the Release Notes for the data collector software for the latest information on the receiver models that are supported.
- Resolves an issue where USB Logging was not displayed on the front panel display.
- Resolves an issue where users could not downgrade below firmware version 4.43.
- Resolves a Web Services Iono Map issue where an error appeared if the receiver was set with a negative elevation cutoff parameter.

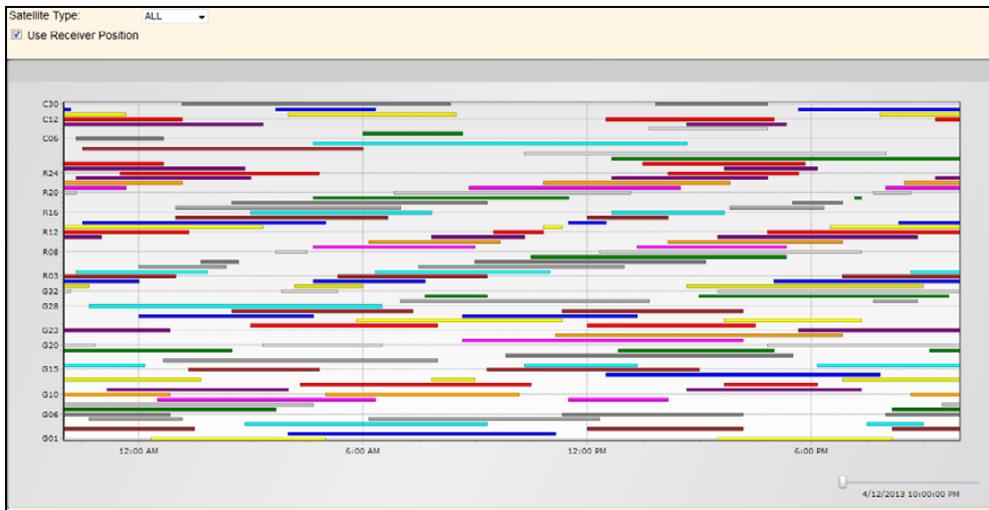
- Now correctly displays the Programmatic Interface command for the firmware warranty date.
- GUI:
  - General GUI updates to improve browser rendering.
  - MiniGUI no longer requires the use of cookies.
  - Antenna height entry now consistent between the GUI and front panel display with a maximum value of 4.000 m.
  - Resolves an issue whereby a *Met/Tilt* command that contained an '&' symbol could create GUI rendering problems.
- Improved stability of the *Email Alert* feature.
- References to *Compass* have been updated to *BeiDou*.
- *Automatic Firmware* check updated to handle server redirects.
- *Position Monitoring* now displays the Delta offsets from the monitoring position.
- Ephemeris output can be set to OFF from the *I/O Configuration* page for both QZSS and Beidou systems.
- Web UI rendering improvements for newer browsers.
- Resolves an issue where PPP initialization strings would not allow an "&" to be used.
- Resolves and issues where the **Email Test** button did not function on the first attempt.
- The OmniSTAR serial number now appears on the front panel.
- The *Position* web page now includes a line to indicate the status of the correction controls (ON/OFF).
- A user can now specify the data time out period when to stop propagating corrections forward.
- New Web Interface menu, *Web Services*, that allows for the following selections:
  - Satellites - Map View



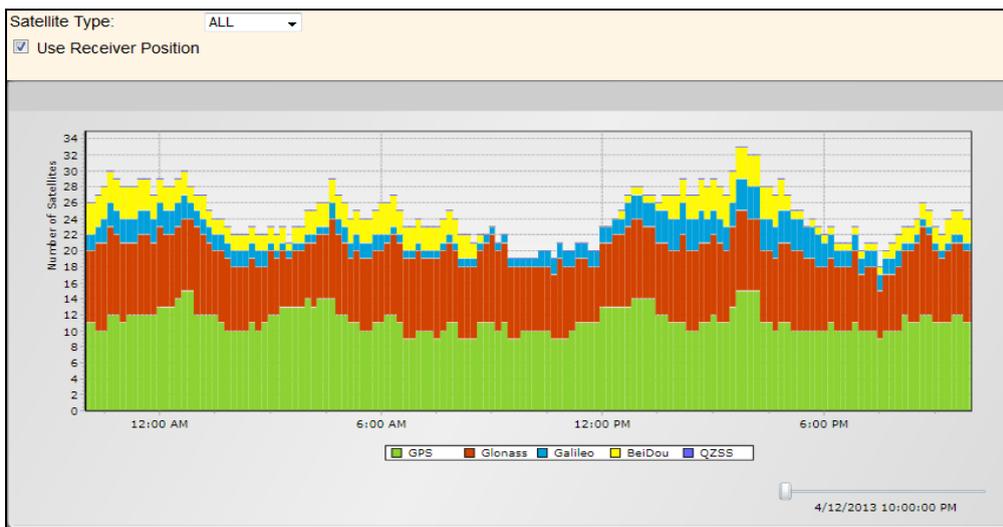
- Sky Plot



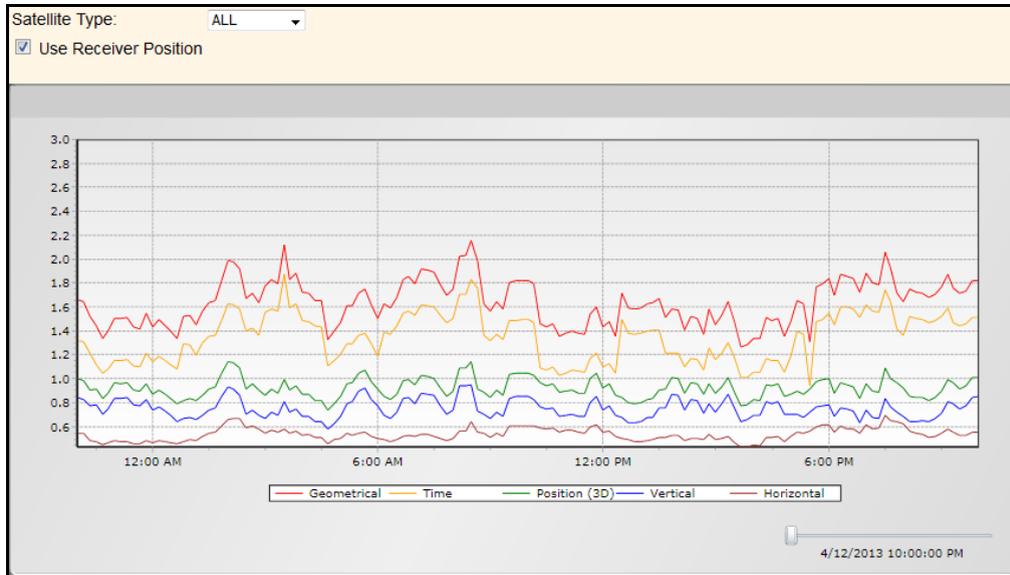
- Satellite Availability



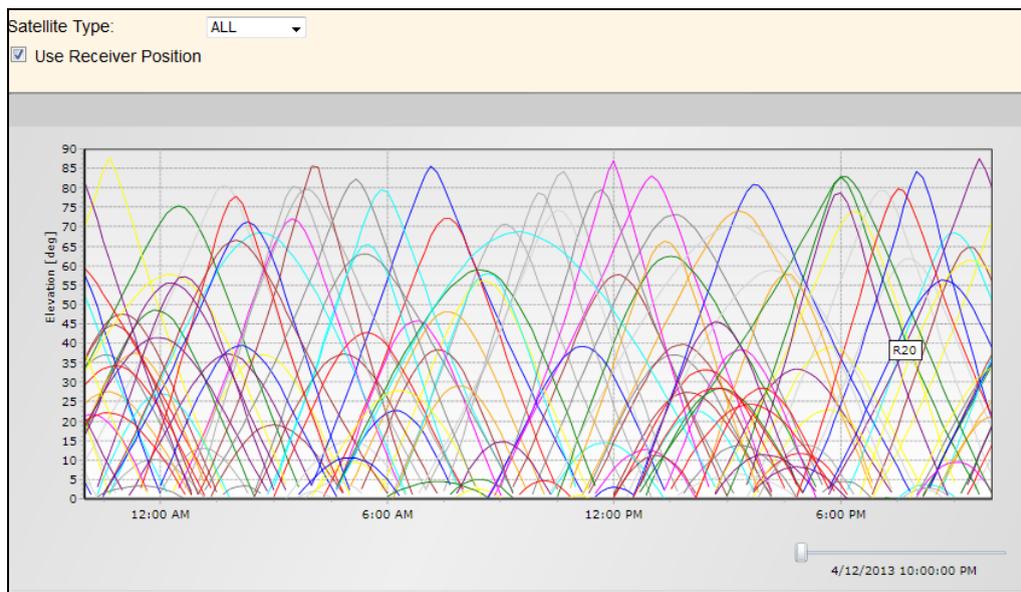
- Number of Satellites



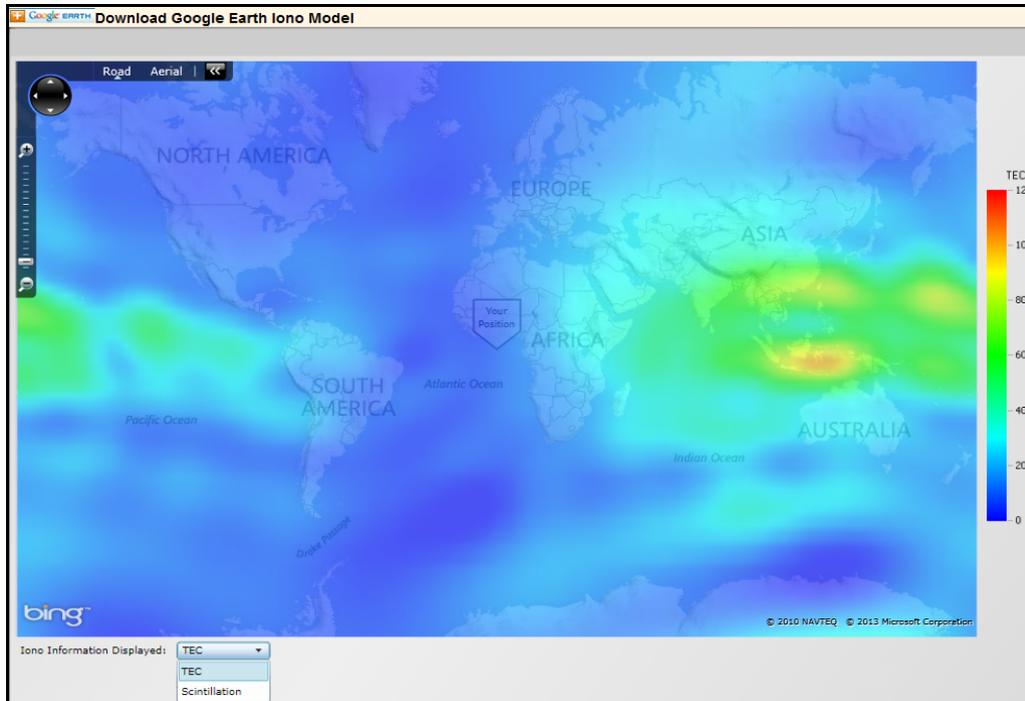
- DOP



- Elevation



– Ionospheric Map



In order to use the Web Services, the receiver must have an Internet connection and the device/browser connecting to the receiver must have the Microsoft® Silverlight® development tool (or variant thereof) installed.

## Upgrade Procedure

Make sure that the receiver firmware warranty date is 2 April 2013 or later.

Use one of the following methods:

- WinFlash utility: Use the latest version that is available with the version 4.85 Web package.
- Receiver Web User Interface: Make sure that the receiver is already running firmware version 4.xx or later. Download and install the version 4.85 \*.TIMG file.

# Legal Notices

Trimble Navigation Limited  
Engineering and Construction Group  
5475 Kellenburger Road  
Dayton, Ohio 45424-1099  
USA

800-538-7800 (toll free in USA)  
+1-937-245-5600 Phone  
+1-937-233-9004 Fax  
[www.trimble.com](http://www.trimble.com)

## Copyright and trademarks

© 2007–2014, Trimble Navigation Limited. Trimble, the Globe & Triangle logo, OmniSTAR, and SiteVision are trademarks of Trimble Navigation Limited, registered in the United States and in other countries. EVEREST, NetR5, NetR9, and RTX are trademarks of Trimble Navigation Limited. Developed under a License of the European Union and the European Space Agency. Microsoft and Silverlight are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. All other trademarks are the property of their respective owners.

## Release notice

This is the February 2014 release (Revision A) of the *Infrastructure GNSS Receivers Release Notes*. It applies to version 4.85 of the receiver firmware.

## Product warranty information

For applicable product warranty information, please refer to the Warranty Card included with this Trimble product, or consult your Trimble reseller.

## Notice to our European Union customers

For product recycling instructions and more information, please go to [www.trimble.com/ev.shtml](http://www.trimble.com/ev.shtml).

Recycling in Europe: To recycle Trimble WEEE (Waste Electrical and Electronic Equipment, products that run on Electric power), call +31 497 53 24 30 and ask for the “WEEE Associate”.

Or, mail a request for recycling instructions to:

Trimble Europe BV  
c/o Menlo Worldwide Logistics  
Meerheide 45  
5521 DZ Eersel, NL.

