

Trimble® R7 GNSS and R8 GNSS Receivers Trimble R6, R4, R5, 5700, and 5800 GPS Receivers

Release Notes

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Version 4.11
Revision A
October 2009



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Release notice

This is the October 2009 release (Revision A) of the *Trimble R7 GNSS and R8 GNSS Receivers and Trimble R6, 5700 II, and 5800 II GPS Receivers Release Notes*. It applies to version 4.11 of the receiver firmware.

Product Limited Warranty Information

For applicable product Limited Warranty information, please refer to the Limited Warranty Card included with this Trimble product, or consult your local Trimble authorized dealer.

Product Extended Limited Warranty Information

For applicable product Extended Limited Warranty information, please refer to the Limited Warranty Card included with this Trimble product, or consult your Trimble dealer.

Registration

To receive information regarding updates and new products, please contact your local dealer or visit the Trimble website at [lwww.trimble.com/register](http://www.trimble.com/register). Upon registration you may select the newsletter, upgrade or new product information you desire.

Notices

Class B Statement – Notice to Users. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes and modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commission rules.

Canada

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe B prescrites dans le règlement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada.

Australia and New Zealand

This product conforms with the regulatory requirements of the Australian Communications Authority (ACA) EMC framework, thus satisfying the requirements for C-Tick Marking and sale within Australia and New Zealand.

Taiwan – Battery recycling requirements

The product contains a removable Lithium-ion battery. Taiwanese regulations require that waste batteries are recycled.

廢電池請回收

Notice to our European Union customers

For product recycling instructions and more information, please go to www.trimble.com/ev.shtml.

Recycling in Europe: To recycle Trimble WEEE (Waste Electrical and Electronic Equipment, products that run on electrical 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



Declaration of Conformity

We, Trimble Navigation Limited,

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declare under sole responsibility that the products:
**Trimble R7 GNSS and R8 GNSS receivers and Trimble R6,
5700, and 5800 GPS receivers**
comply with Part 15 of FCC Rules.

Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Introduction

These release notes describe features of the Trimble® R7 GNSS and R8 GNSS receivers and Trimble R6, R4, R5, 5700, and 5800 GPS receivers that are not included in the respective User Guides.

The latest 5700 and 5800 GPS receivers are updated to use version 4.11 firmware. To determine which firmware your receiver uses, look at the label underneath the receiver:

- 5700 or 5800 receivers: firmware version 2.32
- 5700 II or 5800 II receivers: firmware version 4.11

The CD that was supplied with your receiver contains utilities that you can use to program or configure your receiver.

Before you update the receiver, download and backup any data files that are on the receiver.



CAUTION – If you use firmware version 4.11 to delete files from the receiver, the deletion is permanent—you cannot undelete the files.

If your Trimble receiver is supplied with additional Trimble firmware or software products, make sure that those products have been upgraded to the latest version. For more information about upgrading, refer to the release notes for that product.

New features

Trimble R8 GNSS and R7 GNSS, and Trimble R6/5700 II/5800 II GPS receivers version 4.11

Note – To install version 4.11 on a Trimble R7 GNSS receiver, you must have a valid Warranty agreement (Standard or Extended). Warranties are available through your Trimble dealer.

Note – Before you update to version 4.11 on a Trimble R7 GNSS receiver, you must have firmware version 3.60 or later installed. You cannot update to version 4.11 directly from version 3.50 or earlier—you must first download and install version 3.64 from www.trimble.com and then install version 4.11.

- RTK engine enhancements for operating in VRS networks with non-Trimble base stations
- The RTK engine now accommodates the latest generation GLONASS satellites
- L5 tracking enhancements
- You can now access the R8 GNSS and R7 GNSS Web user interface using PPP through a 7-pin lemo serial cable
- Trimble R4 and R6-2 antenna models are now supported
- Compliance has been improved for Bluetooth® wireless technology
- The R8 III clock rate has been adjusted at cold temperatures (below -20 °C) to enhance tracking capabilities

Trimble R7/R8/5700/5800 GPS receivers version 2.32

- Added support for receivers that transmit (0.00 m) antenna heights in CMR records
- Improved handling of satellite health messages

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- Improved handling of RTCM 2.1, 2.2, 2.3 & 2.x “New Base” detection

Trimble R8 / 5800 GPS receivers (only) version 2.31

Improvements to memory usage when overwriting large deleted files.

Trimble R7/R8/5700/5800 GPS receivers version 2.30

Several enhancements, including improvements to Bluetooth connections to a receiver using a GSM/GPRS modem.

Trimble R7/R8/5700/5800 GPS receivers version 2.28

Improvements to Bluetooth connection during GSM / GPRS operation.

Trimble R7/R8/5700/5800 GPS receivers version 2.27

Improvements to:

- Bluetooth connection
- Internal frequency issue on the Trimble R7 / 5700 receivers

Trimble R8 GNSS and R7 GNSS, and Trimble R6/5700 II/5800 II GPS receivers version 4.01

- Before you update a Trimble R7 GNSS receiver to version 4.01, the receiver must have firmware version 3.60 or later installed.
 - You cannot update to version 4.01 directly from version 3.50 or earlier—you must first download and install version 3.64 (from www.trimble.com) and then install version 4.01.
- The receiver file system (T01 storage) is updated to prepare for future improvements.

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- Added dual-logging capability to the Trimble R7 GNSS and 5700 II receivers.
 - You can now use the GPS Configurator application version 3.71 or later for dual-logging in these receivers.
 - Added support for 20 Hz logging in Trimble R7 GNSS and 5700 II receivers.
 - You can now use the GPS Configurator application version 3.71 or later for 20 Hz logging in these receivers.
 - Improved performance of pole-wobble detection.
 - Better triggering of “Excessive Pole Movement” messages.
 - Added support for Leica base receivers
 - This was removed in version 3.64 and has now been restored.
 - Internet base: Connect the receiver directly to the server
 - IP Stack support in the receiver

Using the Trimble Survey Controller™ software, you can now configure an Internet base so that the receiver uploads directly to a distribution server; you do not have to leave the controller connected to the base receiver while the base survey is running. To do this, clear the *Route through controller check box* in the base dial profile. This feature enables you to start the Internet base with a cable **or** with Bluetooth wireless communication, instead of with a Bluetooth connection only. You can upload base data directly to a specified server IP address and port number, or upload to an NTRIP server using a specified mountpoint (and password, if required). This feature requires receiver firmware version 3.70 or later.

Note – *Connecting the receiver directly to the server is available only when using a Trimble R8 GNSS receiver at the base.*

Trimble R8 GNSS and R7 GNSS, and Trimble R6/5700 II/5800 II GPS receivers version 3.64

- Improved radio performance in environments outside the USA
- Added support for GNSS Choke ring antenna.

Note – To view the antenna option, the antenna library in the controller field software must be updated.

- Added support for 5700 II and 5800 II receivers

Trimble R8 GNSS, R7 GNSS, and Trimble R6 GPS receivers version 3.62

- Improved Bluetooth PPP connections
- Improved handling of GPS SV 32
- Added support for updated GSM module

Trimble R8 GNSS, R7 GNSS, and Trimble R6 GPS receivers version 3.60

- Eliminated issue of excessive High RMS flags, when working near obstructions
- Improved Bluetooth/GPRS performance in Europe
- Improved Trimble R7 GNSS SBAS satellite tracking
- Improved performance with non-Trimble bases
- Support for the updated GLONASS datum
- More robust operation with VRS™ systems that include GLONASS

Trimble R8 GNSS, R7 GNSS, and Trimble R6 GPS receivers version 3.50

- Enabled WAAS PRN 138 support
- Enhanced RTCM V3 support
- Increased the internal file limit from 300 files to 1000 files
- Improved Bluetooth module detection
- Enhanced the RAIM and SBAS alarms into position and logging
- RTK performance enhancements include:
 - Corrected GSM data transmission issue (from version 3.30)
 - Improved continuous RTK positioning during intermittent radio outages
 - Improved reliability when working in canopy
 - Improved initialization recovery when leaving canopy
 - Improved productivity when working in canopy

Trimble R8 GNSS, R7 GNSS and Trimble R6 GPS receivers version 3.40

- Added support for Trimble R7 GNSS

Trimble R8 GNSS, R7 GNSS, and Trimble R6 GPS receivers version 3.30

- Added support for European GPRS PIN numbers
- Corrected issue with GST NMEA semi-major axis reporting
- Improved Bluetooth phone connection reliability
- Added capability to track L2 C/A codes on GLONASS M satellites
- Added support for unused SBAS channels bringing channel total to 76 (72 SV GNSS channels and 4 WAAS/SBAS)
- Added RTCM 3.0 GLONASS ephemeris output

Trimble R8 GNSS and Trimble R6 GPS receivers version 3.25

Further improvements to initialization reliability when working under tree canopy have been added.

The ability to start a base receiver with the Survey Pro™ field software (with and without TSX), when the receiver has no radio, has been added.

Trimble R8 GNSS and Trimble R6 GPS receivers version 3.24

Improvements to initialization reliability when working under tree canopy.

Trimble R8 GNSS and Trimble R6 GPS receivers version 3.23

Support for the Trimble R6 GPS receiver has been added to this version.

Trimble R8 GNSS receiver version 3.20

Features include:

- RTK reported precisions are based on a new observation noise model which helps to remove biases. This improves the error estimation. Also, better convergence of the precisions for VRS systems results in improved ability to store points.
- Ability to track L2 C/A on GLONASS M satellites which will provide more reliable GLONASS coverage.
- Improved L2 GLONASS tracking of low elevation satellites, with poor signal to noise ratio, results in better collected data.
- RTK when using CMR and RTCM 3.0 corrections are received at the same time.
- Bluetooth connections during GSM / GPRS operation have been improved for more reliable performance.
- USB performance has also been improved for better connectivity.

Trimble R8 GNSS receiver version 3.10

New features include:

- Tracking of GLONASS signal (for use in real time surveys)
- 72 channels
- Full support for FKP format



CAUTION – Cable (P/N 53107) has been released to support the connection between the Trimble R8 GNSS, Trimble R7 GNSS, and Trimble R6 GPS receivers and the Multi Battery Adaptor. The cable carries power only and **must not** be used in any other manner. Damage to equipment can occur if this cable is not used in conjunction with the Trimble R8 GNSS, Trimble R7 GNSS, and Trimble R6 GPS receivers and the Multi Battery Adaptor.

Registering the receiver

Trimble recommends that you register your Trimble receiver to protect your investment and to ensure that the system is always up to date. If you register the receiver, you will be notified by e-mail when there are updates to the receiver firmware, or when new functionality becomes available.

To register the receiver:

1. Run the receiver CD.
2. From the main menu, select *Register your receiver*.
3. Do one of the following:
 - To register online, select *Register using the Internet*. The online registration form opens in your default web browser. Fill in the required fields, and then click **Submit** to submit the completed form.
 - To register by mail, select *Register using mail*. The registration form opens in the Microsoft WordPad editor. Fill in the required fields, print the form, and then mail it to the address shown at the bottom of the form.

Updating the system files

Before you can use your receiver with Trimble office software, such as Trimble Geomatics™ Office, Trimble Total Control™, Terramodel®, or Trimble Business Center, you must install or update the following files:

- The receiver Device Driver for Data Transfer
You must have this file to transfer files from the CompactFlash card or the receiver internal memory to the computer, using the USB and serial ports or a Bluetooth wireless connection.
- Configuration files
These files provide the latest list of antennas and receivers that are recognized by Trimble software. They also ensure that antenna and receiver information flows correctly from the receiver to the Trimble Survey Controller software and to the office software.

To install or update these files:

1. Run the receiver CD.
2. From the main menu, select *Install Components for TBC/TGO / TTC / Terramodel*.
3. Follow the instructions in the installation wizard.

Note – *You must also install the latest version of the software or firmware for any other Trimble product that you will use with your Trimble receiver (for example, the Trimble Survey Controller software.)*

Updating the utilities

The receiver CD contains the following utilities. Make sure that you install the latest versions of these utilities.

Note – You can also download the latest versions of the utilities from www.trimble.com.

GPS Configurator software

Use the GPS Configurator software to configure the receiver when it is connected to the office computer. You can also use this software to view the current receiver settings, check GPS information, change receiver settings in real time, and to save and transfer configuration files. Use the GPS Configurator software with a Trimble R6, 5800, or 5700 GPS receiver, Trimble R8 GNSS or R7 GNSS receiver, or MS750™ receiver.



CAUTION – When you connect the office computer to the receiver using the GPS Configurator software, all outputs on the port you connect to are disabled.

Installing the GPS Configurator software

The GPS Configurator software is supplied on the receiver CD. You can install the software on any number of computers.

1. Run the receiver CD.
2. From the main menu, select *Install individual software packages*.
3. From the menu that appears, select *GPS Configurator*.
4. Follow the instructions in the installation wizard.



CAUTION – You can select the internal radio as an output port for CMR or RTCM corrections only when the operating mode for the internal radio is set for Base.

WinFlash utility

The WinFlash utility communicates with Trimble products, and enables them to perform functions that include:

- installing and updating receiver and radio firmware
- upgrading receiver options
- retrieving receiver configuration
- configuring the internal radio and adding receive frequencies
- configuring the Bluetooth ID string to help identify the receiver when it is connected using Bluetooth wireless technology

Installing the WinFlash utility

The WinFlash utility provided with this release supports only the Trimble R6, 5800, or 5700 GPS receiver, and the Trimble R8 GNSS or R7 GNSS receiver.

Note – *You can install the WinFlash utility on as many computers as required. The version of the WinFlash utility on the receiver CD is fully compatible with other copies of the software that you may have for other Trimble products. Installing the WinFlash utility from this CD will not disrupt operation with other Trimble devices.*

To install the WinFlash utility on another office computer, or to install/reinstall it without installing other software:

1. Run the receiver CD.
2. From the main menu, select *Install individual software packages*. A menu appears.
3. Select *WinFlash vX.XX for Trimble R/5000 Series Receivers*.
4. Follow the instructions in the installation wizard.

The Trimble Data Transfer utility

Use the Trimble Data Transfer utility to transfer data between a variety of data collection devices and an office computer.

Installing the Data Transfer utility

Note – *You can install the Data Transfer utility on any number of computers.*

To install the Data Transfer utility on another office computer, or to reinstall it without installing other software:

1. Run the receiver CD.
2. From the main menu, select *Install individual software packages*.
3. From the menu that appears, select *Data Transfer for Trimble GPS Receivers*.
4. Follow the instructions supplied by the installation wizard.

Using the Data Transfer utility to connect to the receiver

Connect the Data Transfer utility to a GPS Receiver (Trimble R/5000 Series) default device, or create a new GPS Receiver (Trimble R/5000 Series) device definition. You cannot use a device definition for another type of receiver. For more information about creating a new device, refer to the Data Transfer Help.

Using a CompactFlash card

Always format a CompactFlash card in the receiver. This prevents data on the card from being corrupted if you remove the card while the receiver is logging data to it.