

# 5000 Series GPS Receiver

## Release Notes

- Product Information
- New Features
- Changed Features
- Firmware Installation
- Registering your Receiver
- Software & Utilities on the CD-ROM
- Software Compatibility

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<ftp://ftp.Trimble.com/pub/survey/opensource>

### **Release Notice**

This is the June 2003 release (Revision A) of the *Trimble 5000 Series GPS Receiver Release Notes*. It applies to version 1.30 of the 5700 GPS Receiver and version 1.10 of the 5800 GPS Receiver.

# Product Information

These Release Notes describe features of the Trimble 5700 and 5800 receiver information not included in the *5700/5800 GPS Receiver User Guide*.

If your 5000 Series GPS receiver is supplied with other Trimble firmware or software, you must run the installation or upgrade program on the CD-ROM for **each** product or upgrade that you have purchased.

Various utilities are also included on the CD-ROM which allow the user to perform certain programming or configuration functions on your GPS receiver.

For more information about the CD-ROM distributed with this product, refer to the *5700/5800 GPS Receiver User Guide*.

For information about the CD-ROM distributed with another Trimble product, refer to the specific Release Notes for that product.

# New Features

## 5700 v1.30

The following functionality has been added in the v1.30 5700 firmware release:

- Support added that allows Trimble Survey Controller to store VRS RTK solutions as vectors rather than rover positions.
- The time to start a VRS RTCM Rover has been improved
- The quality of the RTCM Type 1 RRC generated by the receiver has been improved

## 5800 v1.10

The following functionality has been added in the v1.10 5800 firmware release:

- The 5800 Receiver is now able to function as a Base Station, generating RTCM & CMR / CMR+ correction messages.
- The 5800 Receiver is now capable of storing data to 2Mb of internal memory.
- Support added that allows Trimble Survey Controller to store VRS RTK solutions as vectors rather than rover positions.
- The time to start a VRS RTCM Rover has been improved
- The quality of the RTCM Type 1 RRC generated by the receiver has been improved

# Changed Features

## 5700 v1.30

The following corrective issues have been addressed in the v1.30 5700 firmware release:

- If a Base Station is moved, and a new updated position broadcast to the 5000 Series GPS Receiver and the Survey Controller, the new base position is used.
- The requirement that a minimum of 6SV's be tracked before the receiver would perform a Known Baseline Initialization has been removed. A KBI will now be performed with 5 SVs regardless of conditions. Despite this, Trimble still recommend that a KBI only be performed when there are 6 or more SV's
- The UTC/ION Report is now transmitted at start of the RT17 stream whenever an updated version is decoded.
- The Base Name is now transmitted regardless of the number of characters. Previously there was a 5 character minimum.

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- The UTC/ION Report is now transmitted at start of the RT17 stream whenever an updated version is decoded.
- The Base Name is now transmitted regardless of the number of characters. Previously there was a 5 character minimum.
- Several small issues with the Bluetooth implementation that could have prevented the 5800 receiver connecting and successfully transmitting data between BT modules from various manufacturers has been resolved.

# Firmware Installation

## 5700/5800 GPS Receiver CD-ROM

Before you can use your 5000 Series GPS receiver with the Trimble Geomatics Office™ or Trimble Total Control™ software, you need to install or update the following files:

- The 5000 Series GPS Receiver Device Drive for Data Transfer, required to transfer files stored on the Compact Flash card or internal memory in the receiver to the PC using the USB and serial ports or a Bluetooth connection.

It is very important to install this file. If you do not, you will not be able to transfer files from your receiver to your computer using the USB or serial ports or a Bluetooth connection.

- Configuration files, provide the latest list of antennas and receivers recognized by Trimble software. These files are required to ensure that antenna and receiver information flows correctly from the receiver to the Trimble Survey Controller and to office software such as Trimble Geomatics Office and Trimble Total Control.

- WinFLASH utility, used primarily to configure the GPS receiver internal radio, and also to upgrade receiver firmware and retrieve receiver configuration information.

To install or update these files:

1. Run the 5700/5800 CD-ROM.
2. From the main menu, select *Install Components for TGO / TTC / TerraModel*.
3. Follow the instructions on the screen.

**Note** – Make sure that you also install the latest version of the software or firmware for any other Trimble products, such as the Trimble Survey Controller software, that you will use with your 5000 series receiver.

# Registering Your Trimble 5000 Series GPS Receiver

Registering your receiver is very important. It protects your investment and ensures that you are always up to date. When you register your receiver you will be notified by e-mail when there are updates to the receiver firmware, or when new functionality becomes available.

To register your GPS receiver:

1. Run the 5700/5800 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 facsimile or mail, select *Register using fax or mail*. The registration form opens in Microsoft WordPad. Fill in the required fields, and then print the form and fax or mail it to the address shown at the bottom of the form.

# Software and Utilities on the CD-ROM

The following sections describe the software upgrades and utilities that are provided on the 5700/5800 GPS Receiver CD-ROM.

## GPS Configurator Software

The GPS Configurator™ software lets you configure your GPS receiver when connected to your office computer. Use the GPS Configurator software to view the current receiver settings, check GPS information, and change receiver settings in real time.

The GPS Configurator software is designed for use with Trimble 5700, 5800 and MS750™ receivers. The software may not support configuration of some older model receivers, such as the 4600LS and 4000 Series. Use this program to configure receivers other than the Trimble 5700, 5800 and MS750 with caution.

**Warning** – When you connect 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 5700/5800 GPS Receiver CD-ROM. You can install it to any number of computers.

To install the GPS Configurator software:

1. Run the CD-ROM.
2. From the main menu, select *Install individual software packages*.
3. From the menu that appears, select *GPS Configurator v2.20*

The installation program guides you through the installation process for the GPS Configurator software.

## WinFLASH Software

The WinFLASH™ software supplied on the 5700/5800 CD-ROM communicates with Trimble products to perform various functions including:

- install/update receiver firmware and radio firmware
- upgrade receiver options
- retrieve receiver configuration
- configure the internal radio and add frequencies
- configure the Bluetooth ID string to assist in identifying your receiver when connected using Bluetooth.

**Note** – This version of the WinFLASH software does not include functionality for configuring a GPS Total Station® 4700 or 4800 internal radio.



## Installing the WinFLASH software

If you have already used *Install essential software...* on the 5700/5800 GPS Receiver CD-ROM, it is not necessary to install WinFLASH again. If you want to install WinFLASH on another office computer, or if you want to reinstall WinFLASH without installing other software, select the *Install individual software packages...* option from the Main menu.

*WinFLASH v1.14 for 5000 Series Receivers* will be displayed as one of the available options.

**Note** – *WinFLASH can be installed on as many computers as required. The version of WinFLASH distributed with the 5700 or 5800 is fully compatible with other copies of WinFLASH that you may have for other Trimble products. Installing WinFLASH from the 5700/5800 GPS Receiver CD-ROM will not disrupt operation with other Trimble devices*

To install only the WinFLASH software:

1. Run the CD-ROM.
2. From the main menu, select *Install individual software packages...*
3. From the menu that appears, select *WinFLASH v1.14 for 5000 Series Receivers*.

The installation program guides you through the installation process for the WinFLASH software.

## Trimble Data Transfer Utility

The Trimble Data Transfer utility lets you transfer data between a variety of data collection devices and an office computer.

### Installing the Data Transfer utility

If you completed the procedure outlined on page 3 of this document the Data Transfer utility will have already been installed on your computer.

You can also install the Data Transfer utility to any number of other computers.

To install only the Data Transfer utility:

1. Run the CD-ROM.
2. From the main menu, select *Install individual software packages*.
3. From the menu that appears, select *Data Transfer v1.08*

The installation program guides you through the installation process for the Data Transfer utility.

### Connecting to a Trimble 5700 or 5800 GPS Receiver

The device definition that you use for a 4000 Series GPS receiver (for example, *GPS Receiver on COM 1*) does not let you connect to a 5000 Series GPS receiver. If you have a 5700 or 5800 receiver, make sure that you connect to a *GPS Receiver (5000 Series)* default device, or create a new *GPS Receiver (5000 Series)* device definition. For more information about creating a new device, refer to the Data Transfer Help.

## Configuration Toolbox Software

The Configuration Toolbox™ software lets you configure selected Trimble GPS receivers. You can use it to create and edit application (.cfg) files, which contain information for configuring a Trimble GPS receiver. When you transfer an application file to a receiver and apply its settings, the receiver's settings change to match those defined in the application file.

### Installing the Configuration Toolbox software

The Configuration Toolbox software is supplied on the 5700/5800 GPS Receiver CD-ROM. You can install it to any number of computers.

To install the Configuration Toolbox software:

1. Run the CD-ROM.
2. From the main menu, select *Install individual software packages*.
3. From the menu that appears, select *CToolbox v4.00*.

The installation program guides you through the installation process for the Configuration Toolbox software.

## Trimble Reference Station Software

You can use the 5700 receiver to log reference station data to the Trimble Reference Station (TRS™) software. To use a 5700 receiver with the TRS software, you need version 1.04 of the TRS software installed on your computer. An upgrade program for this version of the software is supplied on the 5700 GPS Receiver CD-ROM.

**Note** – *The upgrade program on the 5700/5800 CD does not perform a complete installation of the TRS software; it only performs an upgrade from an earlier version to version 1.04. To successfully upgrade to version 1.04 of the software using this program, you need version 1.02 or earlier installed on your computer already.*

To run the upgrade program:

1. In the TRS software, stop logging manually, and then disconnect from any GPS receiver.
2. Exit the TRS client software.
3. Run the CD-ROM.
4. From the main menu, select *Install individual software packages*.
5. From the menu that appears, select *TRS v1.04*.

The upgrade program guides you through the upgrade process for the TRS software.

6. If required, start the TRS software, reconnect to the receiver(s) you want to log data to, and resume logging.

## Software Compatibility with the 5000 Series GPS Receiver

The Trimble 5700 and 5800 GPS receivers are compatible with the following software:

- Trimble Geomatics Office version 1.6 or later
- Trimble Survey Controller version 7.71 or later
- Trimble Reference Station (TRS) version 1.03 or later
- Trimble Total Control version 2.5 or later

## Using USB to Connect to Windows 2000

When the 5700 receiver is connected to a USB port on a computer, it is treated as a peripheral device of the computer. Under Microsoft Windows 2000, you must use software to stop a peripheral USB device before you physically disconnect it or turn it off.

To stop a 5700 receiver:

1. On the task bar, right-click the *Unplug or Eject Hardware* icon.
2. From the menu that appears, select *Unplug or eject hardware*. The *Unplug and Eject Hardware* dialog appears.
3. From the *Hardware devices* list, select Trimble USB GPS, and then click **Stop**.
4. The *Stop a Hardware device* dialog appears. Click **Stop** to confirm that you want to stop the 5700 receiver.
5. A message appears, confirming that it is safe to remove or disconnect the receiver. Click **OK** to close the message, then click **Close** to close the *Unplug or Eject Hardware* dialog.

You can now power down the 5700 receiver or disconnect it from the computer.

**Tip** – You can also stop your 5700 receiver by clicking the Unplug or Eject Hardware icon and selecting *Stop Trimble USB GPS* from the menu. The receiver is stopped immediately and the confirmation message appears.

## Using USB to Connect to Windows 98 and ME

The USB driver for the 5700 receiver is installed on your computer when you install the Data Transfer utility. If you connect your 5700 receiver to a computer running Windows 98 or Windows ME before you install the Data Transfer utility, the system is unable to locate a driver for the 5700 receiver and you cannot connect to the receiver using its USB port.

To avoid this problem, make sure that you install the Data Transfer utility *before* connecting to the 5700 receiver. For more information on installing the Data Transfer utility, see Trimble Data Transfer Utility, page 8.

If you cannot connect to your 5700 receiver using a USB connection, do the following:

1. If the *Add New Hardware* dialog appears, click Cancel to cancel the Add New Hardware wizard.
2. Install the Data Transfer utility.

3. From the Windows Start menu, select *Settings / Control Panel*.
4. Double-click the System icon
5. In the *System Properties* dialog, select the *Device Manager* tab.
6. Highlight the Other or Unknown Trimble device (with a icon) and do one of the following:
  - Click **Remove** to delete this device.
  - Click **Properties**, then **Update Driver**, and follow the steps on the screen to update the driver for this device, using the file Trmbusb.inf in the folder Windows\Inf.
7. Disconnect the USB cable and then reconnect it.
8. The device driver should be installed automatically. If it is not, restart your computer.

## CompactFlash Cards

Make sure that you format your CompactFlash cards in the receiver. This prevents data on the card from being corrupted if the card is removed while data is being logged to it.

Trimble recommends that you use only SanDisk industrial grade Compact Flash cards in your 5700 receiver. If you do not, the following problems may occur:

- When the receiver is logging data at 10 Hz, records may be written to the data file out of sequence.
- When you are transferring files to your office computer using a USB connection, the connection times out. If this happens, either connect to the computer using one of the receiver's serial (COM) ports, or insert the Compact Flash card directly into your computer by using a Compact Flash reader.
- If you use a Compact Flash card reader connected directly to your PC, and if you write files to the Compact Flash card using this reader, be sure to eject the card correctly before removing it from the PC to be placed back in the receiver.

## 5700 Receiver Known Issues

The following are issues that you should be aware of:

- If, when you are using the Data Transfer utility, you have trouble communicating with your 5700 Receiver, or you cannot read files from the receiver once it is connected, close any other software applications that are running on the computer and try again.
- If you do not use recommended SanDisk Compact Flash cards in your 5700 receiver, data logging and transfer problems can occur. For more information, see above.
- Some USB devices stop working when connected to a computer for extended periods. If this occurs when you try to connect to the USB port on your 5700 receiver, disconnect the USB cable

and then plug it in again.

**Warning** – If you have an interruption during transferring of data via USB or the serial port USB (pull USB cable, power cycle, power interruption, etc.), you could potentially crash your computer.

- Under Microsoft Windows 2000, stop the 5700 receiver, using the *Unplug and Eject Hardware* dialog, **before** you disconnect the USB cable. This dialog is on the task bar whenever the 5700 receiver is connected.
- In the GPS Configurator software, you can use the *Event marker* check box on the *General* tab to enable event marker input. If you enable event marker input, then disconnect and reconnect the receiver, the *Event marker* check box is cleared, but event marker input is still enabled in the receiver.

## 5800 Receiver Known Issues

- The Bluetooth connection between the 5800 receiver and the Trimble Attachable Control Unit (ACU) or the TSCe with Bluecap module should be used primarily for the control of RTK surveys. If your job also requires the logging of raw GPS data for in-fill or for static/fast static surveys, Trimble recommends using a cable connection from the 5800 to the Trimble Survey Controller for the logging of raw GPS data, or logging data to the 5800 internal memory.

Although the Bluetooth connection supports data logging to the handheld, the cable connection provides greater security and is less susceptible to data loss.

- It is recommended that you change the 5800 internal battery when the "Low Battery" message is displayed by the Survey Controller, or when indicated by the receiver power LED. Do not wait until the battery is completely discharged and the receiver stops operating. Allowing the receiver to stop operating due to a discharged battery can affect the ability to reconnect over the Bluetooth link. If this situation does occur, a receiver reset can be used to re-establish Bluetooth communications.
- Prior to starting a survey where data will be logged to the handheld, it is good surveying practice to turn on the 5800 receiver and allow enough time for it to acquire a current time, ephemeris and almanac, and start tracking satellites.