

Leica Viva GNSS

October 2010

CS 10/15 and GS 10/15 Firmware Upgrade

Summary

Firmware is software that is embedded in a piece of hardware. More or less it is software for hardware. Leica regularly releases updated firmware to improve performance or add additional features.

This quick guide will go through the procedures of properly updating the firmware component of the Leica GS 10/15 receivers and the CS 10/15 controllers.

The following methods of upgrading firmware will be discussed:

- Webservice (GS)
- Hard cabled to a CS 10/15 (GS)
- Bluetooth to a CS 10/15 (GS)
- MyWorld (GS & CS)
- With an SD card (CS)

CS 10/15 and GS 10/15 Firmware Upgrade

Precautionary Statement

It is important to upgrade the firmware on the Leica Viva GNSS instruments in the correct order. If the only method of upgrading the GS is via Bluetooth to the CS. The two components will not make a Bluetooth pairing if the CS has a different firmware version than the GS. If the CS has been upgraded before the GS, simply downgrade the CS back to the same firmware as the GS and then upgrade the GS first.

The upgrading the firmware of the CS controller and TS instrument is through an I memory device. Using the SD Card memory device is the only method to upgrade the instrument correctly. Upgrading is not possible through an USB stick, CF Card or the Internal memory. The SD card is used in the firmware upgrade process when upgrading through myWorld or the manual method.

SD Cards – Leica recommends using only Leica approved SD Card. Using any other memory card with Leica equipment can result in loss of information and the inability to properly upgrade the instrument.

Accessories to upgrade

Data Transfer Cables



Serial cables


733 280	GEV160	Serial data transfer cable, 2.8m, connects GS10/GS15 receiver (port 2) to PC. (Lemo to 9pin RS232)
733 282	GEV162	Serial data transfer cable, 2.8m, connects GS10/GS15 receiver (port 1) or CS10/CS15 controller to PC. (Lemo to 9pin RS232)
723 755	GEV195	Serial data transfer cable, converter cable USB to serial (Lemo to USB connector), 2.0m, connects GS10/GS15 receiver (port 2) to PC. PC driver included on CD.
758 468	GEV218	Serial data transfer cable, converter cable USB to serial (Lemo to USB connector), 2.0m, connects GS10/GS15 receiver (port 1) or CS10/CS15 controller to PC. PC driver included on CD.



USB cable

767 899	GEV234	USB cable, 1.65m, connects GS10/GS15 receiver or CS10/CS15 controller to USB port of a PC or connects GS10/GS15 receiver to CS10/CS15 controller. (Lemo to USB)
---------	--------	---

Cables to connect GS10/GS15 to CS Controller

 In cases where high data speed communication is required between GS10/GS15 and CS controller, cables should be used instead of a Bluetooth connection.



USB cables

767 899	GEV234	USB cable, 1.65m, connects GS10/GS15 receiver or CS10/CS15 controller to USB port of a PC or connects GS10/GS15 receiver to CS10/CS15 controller. (Lemo to USB)
772 807	GEV237	USB cable, 1.65m, connects GS10/GS15 receiver to CS10/CS15 controller. (Lemo to Lemo)

Memory Devices



767 856	MSD1000	SD memory card 1GB for GS10 and GS15 receiver and CS10 and CS15 field controller.
---------	---------	---



767 906	CCS01	Docking station for CS10 and CS15 field controller for charging and data transfer to PC. includes: GEV223 (USB A to USB mini data transfer cable).
---------	-------	--

Continued on Next Page

CS 10/15 and GS 10/15 Firmware Upgrade

**Method: GS
10/15 via
Webserver**

This method requires an active connection of the GS10/15 to the computer as well as the new firmware uploaded onto the 'System' folder located on the SD card. For a detailed explanation creating an ActiveSync® or Mobile Device Connection Center connection, please download the ActiveSync quick guide from MyWorld to accomplish these tasks.

**Procedure:
GS 10/15
Webserver
Method**

With the GS connected to the computer and the Webserver active, Select the 'User' Icon

Status Overview

GPS	0/10	OS	0/0	RTK	---
...	0/5	www	Disconnected
80%					

Home | Go to Work! | Current Status | Instrument | User

Go to Work!
Wake-up sessions

Current Status
Satellite / position status
RTK / logging status
Battery / memory status

Instrument
Set operating mode
Satellite settings
Raw data / auto point logging

User
Load system files
Language management
Help & support

2010-02-26 11:38 (Pacific Standard Time)

LEICA GS15 | Version: 1.22 (641) | S/N: 1500138

Select 'Load Firmware'

Status Overview

+	GPS	7/11	OS	0/0	RTK	---
...	...	0/6	www	Disconnected
70%						

Home | Go to Work! | Current Status | Instrument | User

User

- o Load firmware
- o Load licence key
- o Language management
- o Help & support

2010-02-26 11:55 (Pacific Standard Time)

LEICA GS15 | Version: 1.22 (641) | S/N: 1500138

Continued on Next Page

**Procedure:
GS 10/15
Webserver
Method**

Check the box at the bottom of the screen instructing to load the firmware off of the SD that is inserted into the GS (System Folder)

Status Overview

GPS	8/11	ant	0/0	RTK	Free	---
3rd	0/5			www	Disconnected	70%

Home | Go to Work! | Current Status | Instrument | User

User - Load firmware

Software	Version
Boot:	1.22 (104)
Firmware:	1.22 (641)
ME Boot:	4.002 (0)
ME Firmware:	4.004 (0)
EFI:	1.02 (2)
OS:	6.00 (163)

+ Load new firmware

.fw file on GS SD Card (System folder)

2010-02-26 12:00 (Pacific Standard Time)

| LEICA GS15 | Version: 1.22 (641) | S/N: 1500138

To initiate loading the firmware, press the green plus symbol +

While the GS is uploading the new firmware, the system will turn off and back on twice. Once the upload is complete the position LED, battery LED and one of the receiver LEDs will be on. If the LEDs on the GS are flashing or they are powered off the GS is STILL updating the firmware and should be left alone.

When completed, refresh your web browser and the updated version will be displayed at the bottom of the screen.

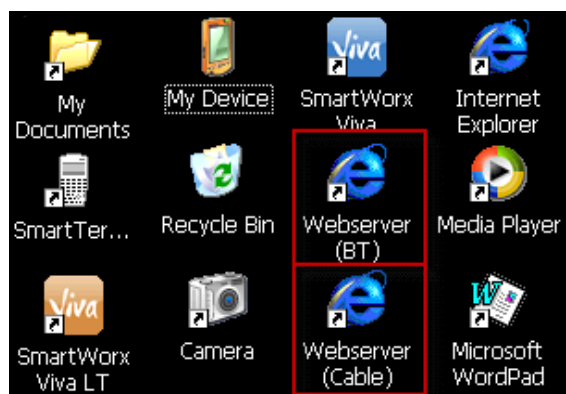
Continued on Next Page

CS 10/15 and GS 10/15 Firmware Upgrade

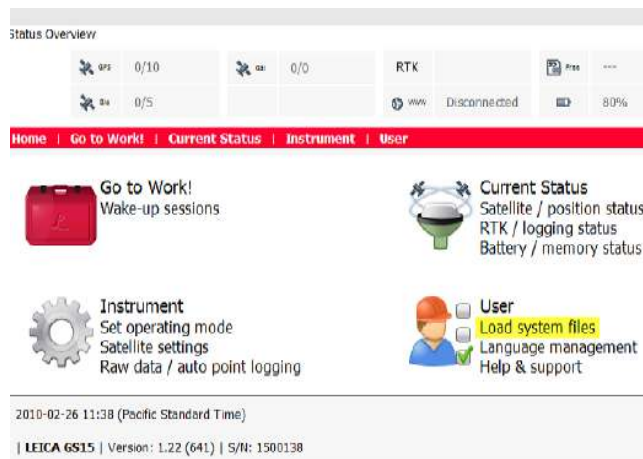
**Method: GS
10/15 via
Cable or BT**

Using either of these two methods will require you to upgrade the firmware on the GS **BEFORE** the upgrade of the CS. If upgrading the GS firmware via Bluetooth then it is necessary that the GS and CS are synced prior to using the installation process. Upgrading the firmware of the GS via cable will require the correct cable connection between the CS and the GS. You can use the GEV234 cable or the GEV237 cable

**Procedure:
GS 10/15
Bluetooth or
Cable Method**



On the Desktop of the controller select either of the two methods to upgrade the firmware.



Once selected, a virtual Webserver will activate. You **DO NOT** have to be connected to the internet for this Webserver to operate. The firmware on the GS can be upgraded in the same manner as with the connection via Webserver as directed in the the previous section.



Continued on Next Page

CS 10/15 and GS 10/15 Firmware Upgrade

**Method: CS
or GS 10/15
via MyWorld**

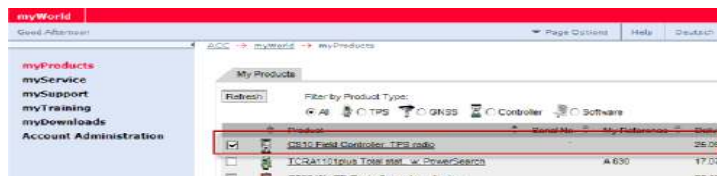
An SD card needs to be inserted into the instrument with more than 150 Mb of space available, an USB connection to the PC (ActivSync or Mobile Device Center), correct driver installation and a MyWorld account has to be set up in order for the user to upgrade the CS and/or GS firmware using this method. It is recommended that the computer's screen saver and sleep mode be turned off while uploading firmware.

**Procedure:
CS or GS
10/15 via
MyWorld**

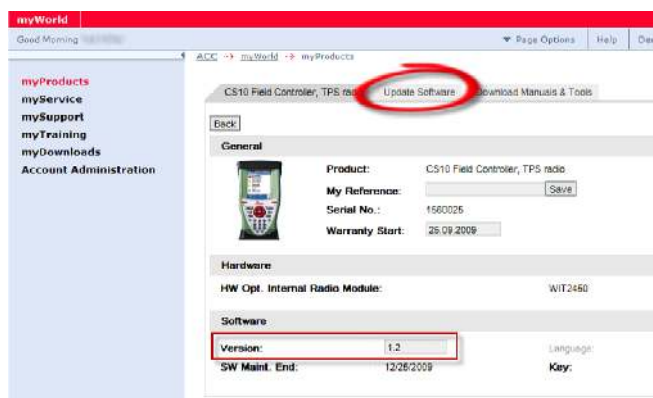
From the home page of your MyWorld account, select either of the myProducts hyperlinks.



Select your registered instrument and either double click on it or click DETAILS.



Select the 'Update Software' tab. Notice the version of the instrument, this displays the version from the last MyWorld update and this may not correspond with the version on your instrument.

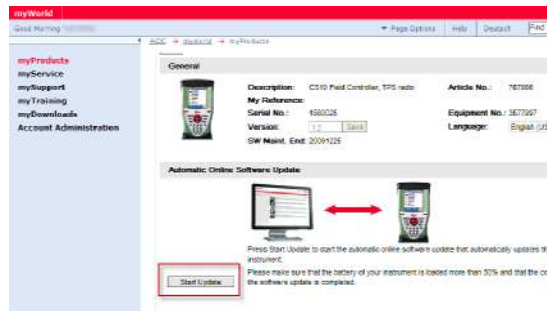


Continued on Next Page

CS 10/15 and GS 10/15 Firmware Upgrade

**Procedure:
CS or GS
10/15 via
MyWorld**

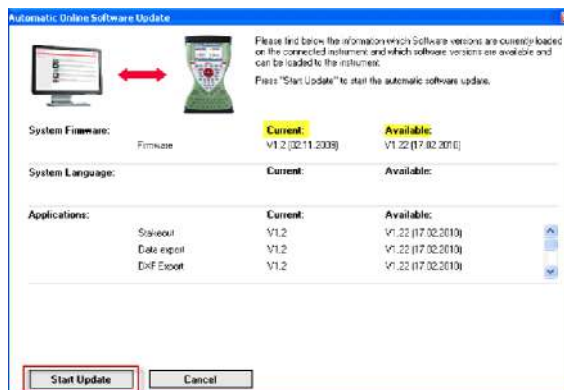
From the middle of the screen press the 'Start Update' to get an Activesync connection from the instrument to MyWorld.



Press 'Connect' to sync up the instrument to MyWorld



Once synchronized, MyWorld will display the instruments current firmware and what is available. Press 'Start Update' to start the upload process. This will take upwards to an half an hour (depending on the speed of the internet connection).



Continued on Next Page

CS 10/15 and GS 10/15 Firmware Upgrade

Method: Upgrade Firmware via SD Card

A formatted Leica SD card (MSD1000 Art. No. 767856) needs to be inserted into the instrument with more than 150 Mb of space available as well as access to MyWorld or a DVD where the firmware, language files and applications can be downloaded. Upon starting the upgrade the battery on the instrument needs to be greater than 75% charged.

SD Card Procedure: Upgrade Firmware via SD Card

You first need to transfer the main firmware file, system language file and application files on the SD memory card.

If you have a Viva SmartWorx firmware DVD:

To retrieve the firmware, language and application files from a DVD, browse to the appropriate folder and copy the files to the **\System** folder on the SD card.

To download the needed files from Leica MyWorld.

To retrieve the files via MyWorld, follow the first three steps of the procedure shown previously of upgrading via MyWorld. From the 'Update Software' page, scroll down and download the main firmware, system language and applications. It is essential that the correct language is chosen before downloading.



Once downloaded, copy the files into the **\System** folder of the SD memory card to be used in the procedure. The downloaded application files are zipped and need to be unzipped before putting them onto the system folder of the SD Card.

Continued on Next Page

TS11/15 CS10/15 Firmware Upgrade

SD Card Procedure: Upgrade Firmware via SD Card

Please remember to have a battery with a minimum of 75% charge before performing any firmware upgrade.

With the SD card in the instrument, Smartworx running and the Main menu on the screen, go to 4 (User) > 4 (Tools & Utilities) > 2 (Load firmware, Apps) to reach the Load Firmware & Apps screen:



From here select Firmware from SD Card, if the file is on the SD card the Version will populate. Press Ok or F1 to begin the process. It is extremely important that the firmware components be uploaded in his order:

First – Load the main firmware

Second – Load Language – This is the system language that controls what language the system uses for all menus. There are only one version of the applications for Viva. The applications will be loaded in same language as the version of the active system language.

Third – Load the applications. If you select the choice box display at the bottom of the screen as "Install all Apps" the system will load all of the application located on the SD card at one time.



TS11/15 CS10/15 Firmware Upgrade

Technical Support Contact

If you have questions or comments about the information in this guide, please contact Leica Technical Support at:

Toll Free: 1-800-327-4773

Email: survey.support@leicaus.com

You can also find more information on Leica MyWorld at:

<https://myworld.leica-geosystems.com>