

SPG9000 TIMING AND REFERENCE SYSTEM

Firmware Upgrade Instructions

These firmware upgrade instructions apply to all SPG9000 instruments. You can upgrade the firmware from any older version using a USB memory device, or you can upgrade the firmware from the web interface if the current version is 4.1 or later. Both upgrade processes are described in this document and in the User Manual.

Please check the Release Notes for a description of new features, resolved issues and improvements, and general limitations.

NOTE: The upgrade package for version 5.0 includes two firmware files: “**spg9000_4.9.deb**” and “**spg9000_5.0.deb**”. If you are upgrading the SPG9000 using a USB memory device, you can upgrade directly to version 5.0. If you are upgrading the SPG9000 using the File Manager of the web interface, you must upgrade to version 4.9 first, then to version 5.0.

NOTE: At this time, SPG9000 firmware cannot be downgraded to an earlier version.

BEFORE YOU UPGRADE THE INSTRUMENT FIRMWARE

1. It is recommended to save the current configuration as the Power-On Default preset or to a named preset file so that it can be restored after the upgrade has been completed.
 - a. Open a web browser and type the IP address or hostname of the SPG9000 in the address bar.
 - b. Login as the “admin” user.
 - c. Select the “System” tab and open the “Presets” section.
 - d. Select “Save Current” for the Power-On Default preset or enter a new filename and select “Save as New”.

Alternately, go to the **SYSTEM : PRESET : POWER-ON DEFAULT** menu on the front panel and press the ENTER button to save the preset.

2. Unzip the upgrade package to a folder on your computer. Extract the file named “**spg9000.deb**”. The filename might include additional version information, but the extension will still be “.deb”.

UPGRADE THE INSTRUMENT FIRMWARE USING A USB MEMORY DEVICE

1. You will need a USB memory device that is formatted as FAT32. The SPG9000 will not recognize a device formatted as NTFS. You will need approximately 400 MB of available space on the USB device.
2. On the USB memory device, create a folder named “**SpgUpgrd**”. Copy the “**spg9000.deb**” file into this folder. If the filename is not exactly “**spg9000.deb**” it must be renamed.
3. Insert the USB memory device into the front panel USB port on the SPG9000. Wait a few seconds for the system to detect the device.
4. On the front panel of the SPG9000, press and hold the ENABLE button if the display is currently dim. After about 4-5 seconds, the display will change brightness to indicate that the menu buttons are now enabled.

5. Press the **SYSTEM** button and use the up or down arrow buttons to navigate to the **SYSTEM : FIRMWARE UPGRADE** menu.
6. Press the **ENTER** button to start the upgrade process. You will be prompted to press **ENTER** a second time to confirm. If you see a message of "USB device or file not found", please exit the menu, wait a few seconds for the SPG9000 to detect and mount the device and then press **ENTER** again. If you continue to see the message, please check that the USB device is formatted as FAT32, that there is a subfolder named "**SpgUpgrd**", and that there is a file named "**spg9000.deb**" in that folder.
7. During the upgrade you will see several progress messages on the front panel display. The system may reboot several times during the process. The complete upgrade will take 15 to 25 minutes depending on which components are updated. You will know that the upgrade has finished when the **STATUS** menu is displayed on the front panel.

CAUTION: Do not interrupt the instrument during the installation process.

8. Remove the USB device from the SPG9000.

UPGRADE THE INSTRUMENT FIRMWARE USING THE WEB INTERFACE

1. On the web interface, select the "System" tab and open the "File Manager" section. Select the "Firmware" tab.
2. Select "Choose File" and locate the firmware file extracted from the .zip package.
3. Select "Upload". The firmware file will commence uploading to the firmware folder on the SPG9000. This may take up to several minutes, and a progress bar will be displayed.
4. When the file has completely uploaded (and the progress bar disappears), select the file by its checkbox in the leftmost column of the File Manager table.
5. Select "Install". When prompted to confirm or cancel the upgrade, press **OK**. The upgrade process will start, and you should not interact with the web interface while the upgrade process is in progress.

CAUTION: Do not interrupt the instrument during the installation process.

AFTER YOU HAVE COMPLETED THE FIRMWARE UPGRADE

1. It is recommended to force a hard power cycle, especially after hardware components have been updated. Remove and reconnect the power cables.
2. If you use the SPG9000's web interface, you should perform a hard refresh in the browser to clear the page cache. This is done by pressing **Ctrl+F5** in most browsers and ensures that the updated web page content is used.

VERIFY THE FIRMWARE VERSION

1. From the front panel, press the **SYSTEM** button and use the up or down arrow buttons to navigate to the **SYSTEM : INFO** menu. Press **ENTER** to see the **VERSIONS** submenu. The firmware version number, date and build number are displayed on the first page.
2. From the web interface the version number is always visible on the top banner of the page after you login. You can also select the "System" tab and open the "System Information" section to see more detailed version information for several software and hardware components:

Hardware and Software Versions

Serial Number S011719
Firmware 5.0
Firmware Date 2025-12-11 00:46:09
Firmware Build 4045
PTP Manager 2.66
PTP4L 4.3-00212-gbc48f56
NMOS Library 1.0-23e9b48
Main Board 2.1
Reference I/O Board 4.14
TSG Board 4.51.4
GNSS Receiver 3100-1.03

For product information, sales, service, and technical support:

Worldwide, visit <http://www.telestream.net/telestream-support/video/support.htm> to find contacts in your area.