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SPS GNSS Receivers: Configuring a Computer USB port as a Virtual Serial Port

It is possible to use the USB interface from a SPS GNSS receiver with a software application that requires a serial port. These steps explain how to create a virtual serial port.

For example, the Trimble® WinFlash utility can be run on a computer that has no serial port by connecting the USB cable between the computer and the receiver.

Another example would enable the receiver to stream NMEA messages over a USB interface into a computer's virtual serial port, allowing applications such as the HYDRO*pro*™ software to use the NMEA messages on a computer that has no physical serial ports.

The SPS modular receivers have a number of USB cables to use. The SPS985 smart antenna has USB cable (P/N 80751-HH) that can be connected to the receiver. The other end of the USB cable then connects to a computer.

The receiver must be running 4.15 firmware or later.

Windows 7 operating system

1. The simplest way to install the Virtual Serial port for the USB interface to the SPS receivers is to go to the Trimble Support website (www.trimble.com/support) and search for the SPS GNSS receiver you have. In the Downloads section, download the file called *Windows7 USB Installer* to your computer or USB drive.

   The file contains an installation program and this Support Note.

2. Run the installation program (Win7_USB_Installer.exe). It will load the Virtual Serial port for the USB interface on your computer or USB drive.

   Note – If you have installed the Trimble WinFlash utility (www.trimble.com/support) on your computer, then another way to install the Virtual serial port for the USB interface is to run the USB Installer program, which is located in C:\Program Files\Common Files\Trimble\USBDriver or C:\Program Files (x86)\Common Files\Trimble\USBDriver.

If this process does not work for your computer, or if you have a different Windows operating system on your computer, then follow the procedure below.

Windows Vista and Windows 7 operating system

1. Go to the Trimble Support website (www.trimble.com/support) and search for the SPS GNSS receiver you have. In the Support Notes section, download the file called *SPS GNSS Interface to a Virtual COM port on a PC* to your computer or USB drive.

2. Open the file and place the trimbleUsb.INF file in a temporary folder on your computer or USB drive.

3. On the computer, select Control Panel / Device Manager.

4. Click on the name of the computer and then from the Action menu, select Add Legacy Driver.

5. A wizard prompts you to locate the TrimbleUsb.inf file. Locate the file and then follow the prompts in the wizard to continue.

Windows XP operating system

1. Go to the Trimble Support website (www.trimble.com/support) and search for the SPS GNSS receiver you have. In the Support Notes section, download the file called SPS GNSS Interface to a Virtual COM port on a Computer to your computer or USB drive.

2. Open the file and place the trimbleUsb.INF file in a temporary folder on your computer or USB drive.

3. Turn on the receiver and then connect the USB cable to the computer. The New Hardware wizard appears.

4. Select the No, not this time option and then click Next.

5. A dialog prompts you to specify the location of the USBSer.sys file. For example, C:\Windows\System32\Drivers.

6. On some computers you may need to repeat Step 4 for the TrimbleUsb.inf file.

7. Check that the receiver is available for use. Go to the Device Manager menu on the computer. The receiver should appear in the Ports list.

Note – If you are running an application such as the HYDROpro software on the computer and you physically disconnect the USB cable from the computer and then reconnect it, it does not always re-establish the connection. This is because opening the serial port from the application locks the device handle and when the USB device is disconnected, the application does not close the serial port and the device handle is still locked. On reconnecting, the USB cable is unable to get the device handle since it is locked. You must close the application before the reconnect to the port will work. This limitation is due to the behavior of the Microsoft USB serial driver.