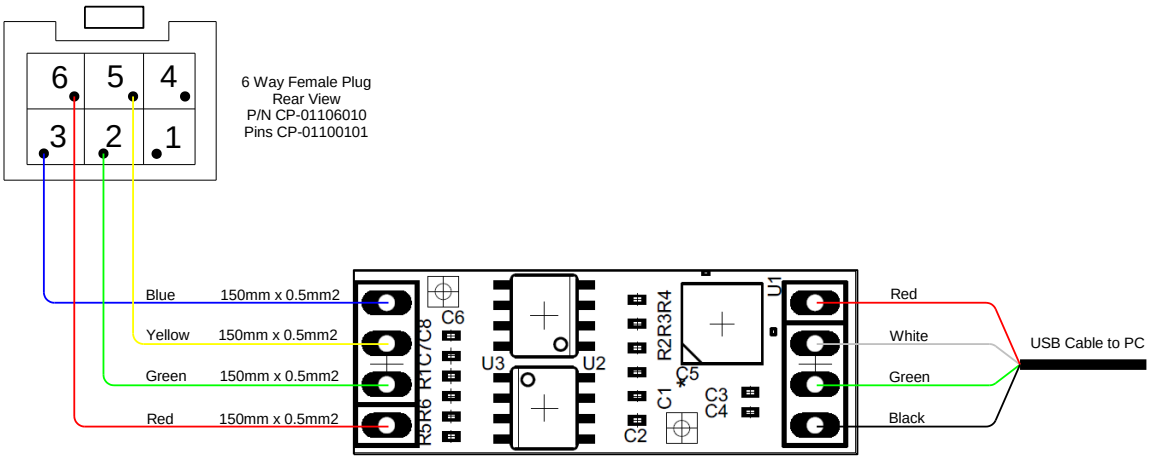
USB Communication Cable

Communication between devices and the Galaxy Software is done via a USB Cable manufactured by Spitronics. This will allow the tuner the option of USB cable Bluetooth or WiFi options which is otherwise not possible. Another advantage is to reduce production cost and board space. These components are only used during tuning and you do not need the cable once the ECU/TCU are tuned. The electronics in the cable consist of the USB converter as well as isolation devices. This cable will protect the laptop during high voltage interference.
The USB cable requires drivers to be installed to operate. They can be downloaded from the Spitronics website under Downloads – USB Drivers. The baud rate to all products are 19200.

As development progressed over the years these products were upgraded as well. So keep in mind that cables between the products do differ. In some cases, you may require an adapter to use the USB cable on older products.

USB Connection Diagram



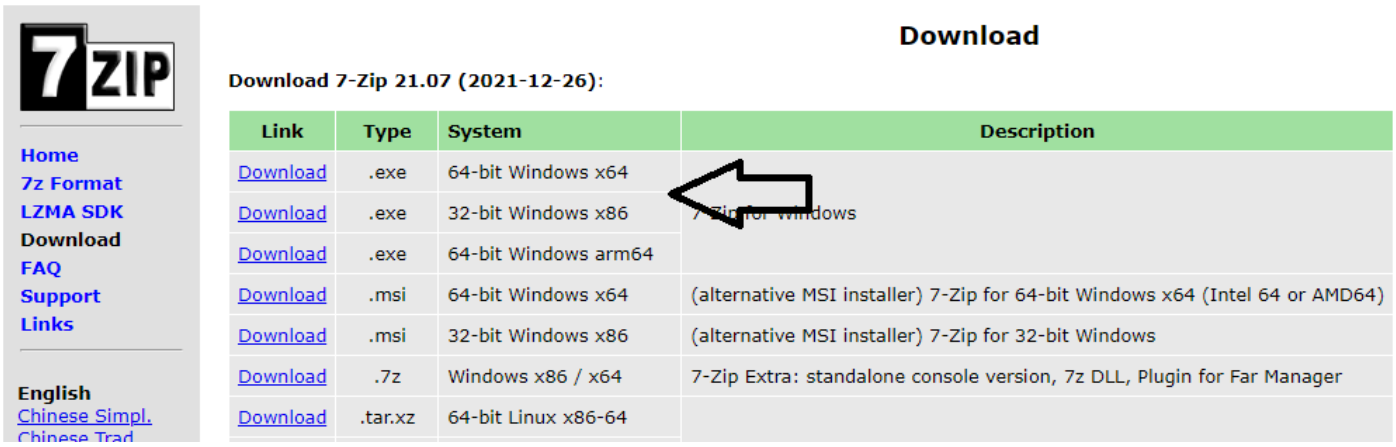
This connection diagram indicates where the wires is connected encase a cable gets damaged.

Installing the USB Drivers

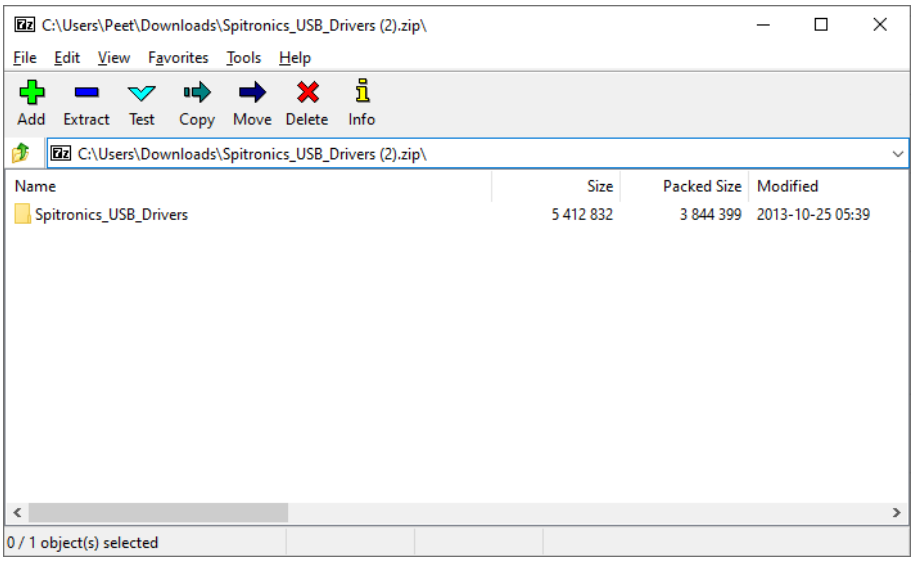
The USB drivers files are ZIP files witch use less space and will let antivirus programs allow you to download the EXE files in them. Click on the ZIP or RAR link below. It will download a ZIP or RAR folder in your downloads folder on the PC.

RAR
https://support.spitronics.com/download-files/USB Drivers/Spitronics_USB_Drivers.rar
ZIP
https://support.spitronics.com/download-files/USB Drivers/Spitronics_USB_Drivers.zip

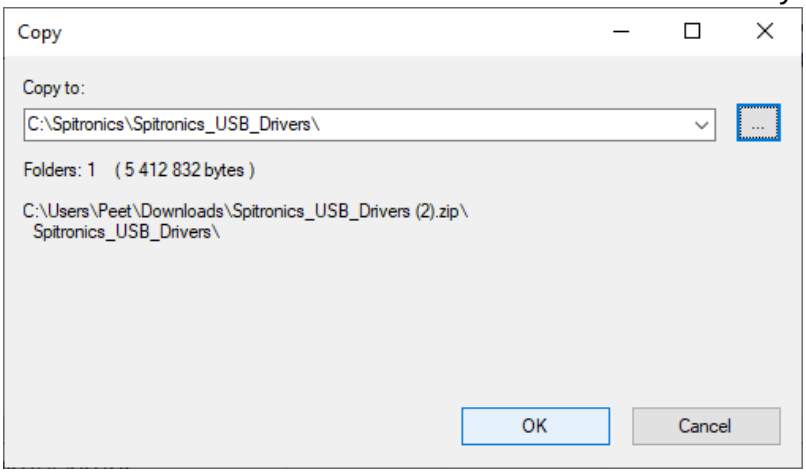
Decompress the files on your PC. If you don't have a ZIP program you can download it free from https://www.7-zip.org/download.html

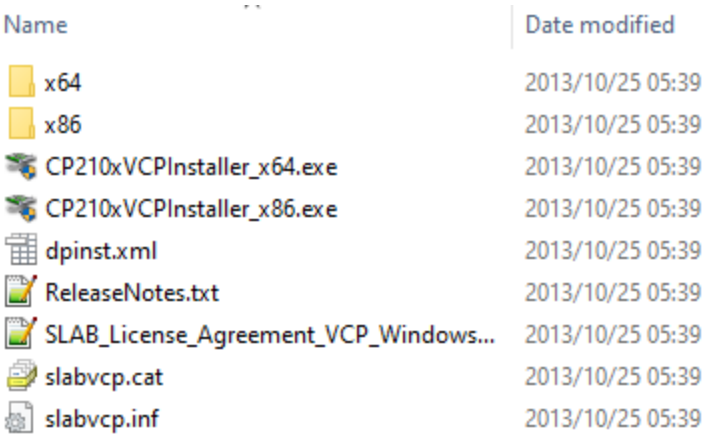


Select 64 bit or 32 bit depending on your PC. Now click on the ZIP file. it will activate the ZIP program and allow you to decompress the files.



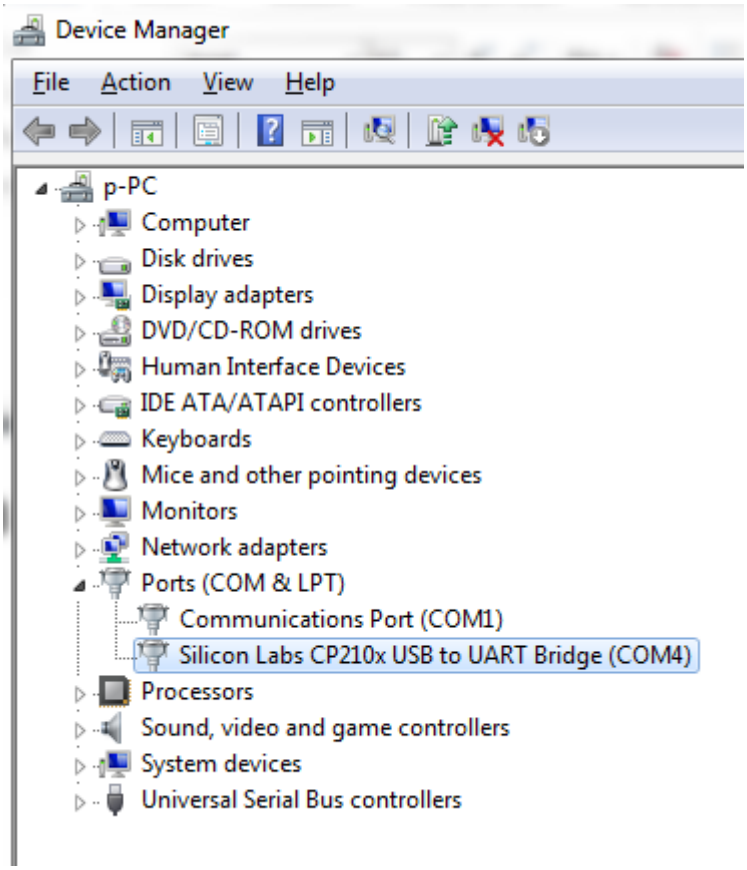
Click on extract and save this folder to the PC. Normally C:\Spitronics\Spitronics_USB_Drivers\.





Now choose between ***CP210xVCPInstaller_x64.exe*** for ***64Bit computers and CP210xVCPInstaller_x86.exe*** for 32Bit computers and install the drivers.

After you installed the driver plug the USB /UART cable into the computer and the cable will be activated. In the device manager you should see the block below in com ports. This means the drivers are installed correctly.



Your USB cable should now connect the Hyperspace Tuning Software and device for communication.

Cable History

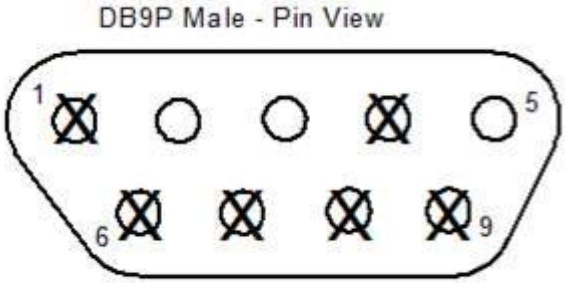
Communication between devices and the Tuning Software is done via a USB Cable manufactured by Spitronics. The electronic components for communication was put in a separate cable to reduce production cost and board space on the devices. The cable can work on all the current devices and are only required for tuning. The electronics in the cable consist of the USB converter as well as isolation devices. This cable will protect the laptop during high voltage interference. This cable requires drivers to be installed to operate on a laptop. They can be downloaded from the Spitronics website under Downloads – USB Drivers. The baud rate to all products are 19200.

As development progressed over the years these products were upgraded as well. Spitronics started out when USB was only in the beginning stage and very expensive to use on micro design level. They started out using a standard USB to RS232 converter for laptops that did not have serial ports. Nowadays these serial com ports are discontinued so the RS232 were abandoned and changed over to UART directly. This saved the 2 RS232 chips. One in the cable and one on the device. Later we found that during tuning the 9pin D-Sub connectors were coming loose during tuning and were also prone to static discharge doe to the metal housing. So they changed to the clip-in Molex connector which is the current cable and will stay like that for a while. So keep in mind that cables between the products do differ. In some cases, you may require an adapter to use the USB cable on older products. See below for explanation on the different types over the years. The current cable (left) clips into the device and won't fall out during tuning. It will also not be vulnerable to statics as the metal counterpart. This will be the style for the future.

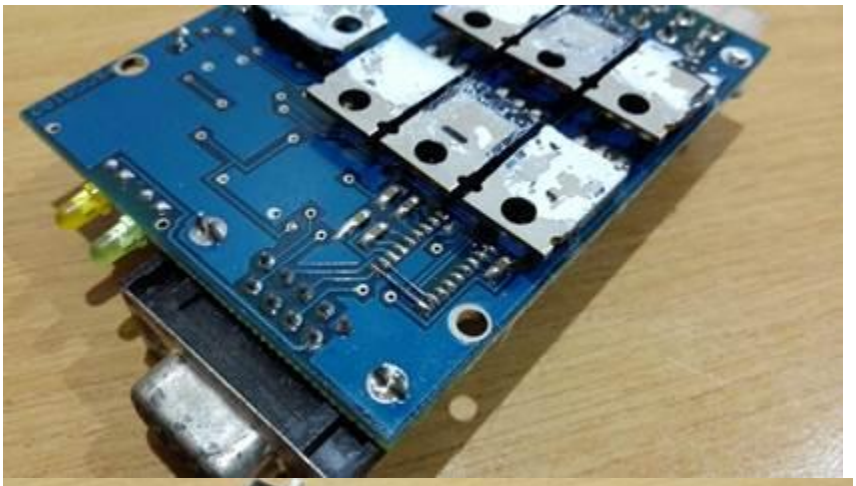
TCU, EMU and Titan

These units were the fore runners. They used a RS232 to USB converter with a 9 Pin Male D-Sub connecter. With these units you had the option of a third party converter and breaking out pins. Note that this connecter is the same as the Mercury and Neptune one but the cable electronics is different. This cables electronics is not compatible with later models. Mark them properly so that you do not get confused. It may damage the other devices as higher voltage levels were used. Below is a picture of the cable and connecter.

The Prolific RS232 to USB converters were popular in the old days and could be used only for TCU, EMU and Titan units. Note however that you had to break-out pins 1, 4, 6, 7, 8 & 9. This is due to other connections from the ECU to the 9 pin D-sub connector. Use a small screwdriver and bend them outwards and then inwards till they break out. Do not damage the other pins. There are small numbers inside. Below is an illustration of the layout.



If you have the skills and equipment like a hot air de-solder machine, you may modify your TCU or Titan to work with the new style USB/UART cables. You need to install two connection links as well. Then you will require also the converter cable and maybe adapter to make the connection to the 9 pin D-Sub. Do mark the box that it is now using the new cable so that other dealers can see if they work on it. Below are photos that illustrate this modification. Blue is TCU and green is Titan.



Venus

Venus used a USB to UART converter with a 9 Pin Female D-Sub connecter. This was to stop confusion and the different connectors was easy to identify the product it was used for. But the male pins on the ECU were susceptible for static spikes. During the era of the Venus the cable changed to the isolation cable due to laptops that “hang” with interference wiring. Some of the cables had the electronics in the wire covered with heat shrink and most have it in the D-Sub holder. Below is a picture of the cable and connecter.

Mercury, Neptune and Venus2

These units also used a USB to UART converter with a but with the 9 Pin Male D-Sub connecter. We changed this unit back to the standard male connector due to static electricity on the male pins that were exposed. The only difference between Venus and Venus2 units was a male connector on Venus and a female connector on Venus2 ECU. Spitronics soldered two 9 Pin D-Sub connecters back to back to make USB converters between Venus, Venus2, Mercury and Neptune compatible. See further in this section for details. Do not use a gender changer as the pins are mirrored and will not work. Below is a picture of the cable and connecter.

Pluto, Pluto2, Mercury2, Neptune2, Orion, Orions3 and Venus3

These units use the new generation cable. It will be standard to all the new products released. Here Spitronics have done away with the D-Sub connecter and go for a 6 Pin Molex connecter which is the same type as the harness connectors. The reason is it is plastic which eliminates the static connection with the human body and it clips in place preventing it from falling out during tuning. It is also more durable. With this cable the electronics is also in the wire covered with a plastic enclosure. Again these USB cable's electronics is compatible with Venus, Venus2, Mercury and Neptune. You will require a converter cable harness to make it work. Below is a picture of the cable and connecter.

Converter Cables

Spitronics made converter cables to interchange cables between similar products. The cable below could convert your Mercury, Neptune and Venus2 USB cable to fit the new Pluto, Pluto2, Mercury2 Neptune2 Orion, Orion2 and Venus3 products.

The cable below could convert your Pluto, Pluto2, Mercury2 Neptune2 Orion, Orion2 and Venus3 USB cable to fit the older Mercury, Neptune and Venus2 products.

These bare connectors could be soldered back to back in male/male or female/female pairs to cater for Venus2 or Venus Racing cable converters. The heat shrink only covers the pins. Solder all the pins in 9 pairs.

Note that only the Spitronics USB cables are compatible with Spitronics products.