



Article Number - 00066-2019

Date - 8th May 2019

Article applies to - iKonvert, GPS160 and ST-NMEA Converter

ISSUE: Updating Firmware on STM32 based Products

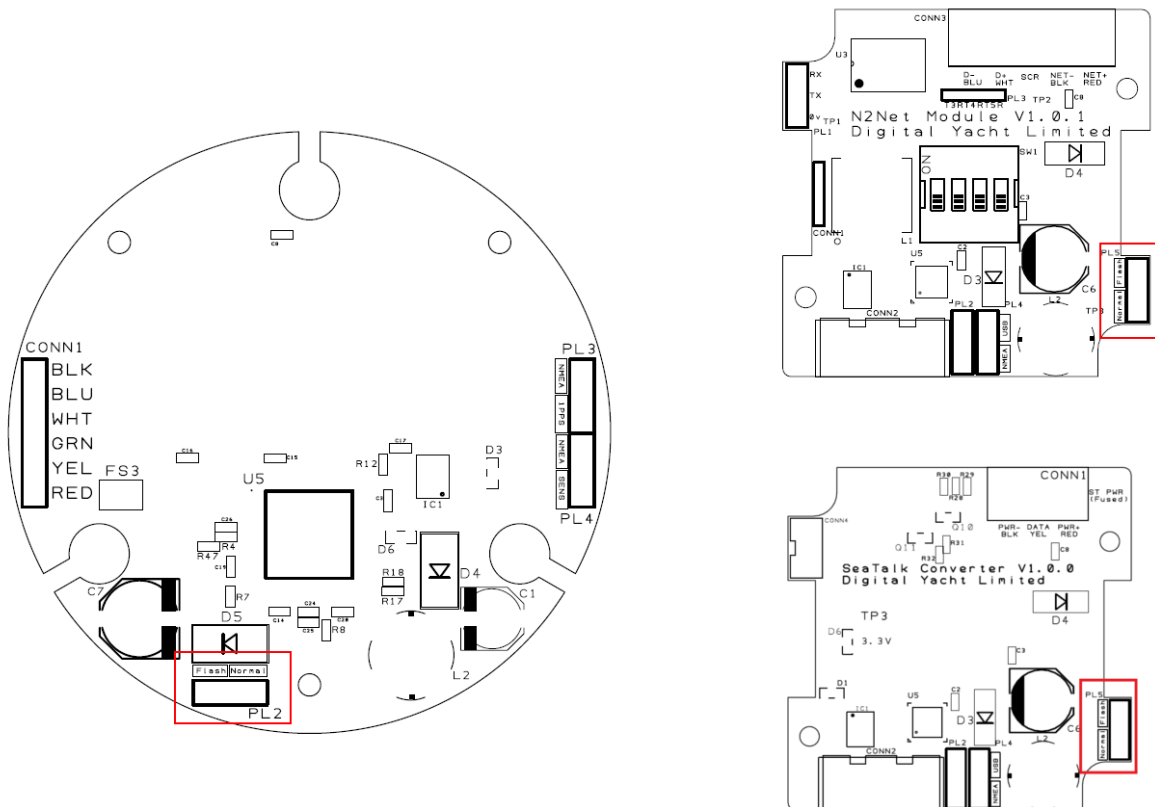
Some Digital Yacht products feature an STM32 microprocessor that can be firmware updated, by running a simple STM32 Update program (STUMP) on any Windows PC, which can be downloaded from here...

<https://digitalyachtamerica.com/download/stump-updater-program/>

If you have a USB version, of one of these products, then you can update the firmware through the USB connection, if you have an ISO/NMEA0183 version then you will need one of Digital Yacht’s USB to NMEA Adaptor cables or similar 3rd party cable.

Update Procedure:

To update the firmware, first remove power from the product to be updated. Next gain access to the PCB and locate the Boot Mode “Jumper” that is located on each of the products as shown below...



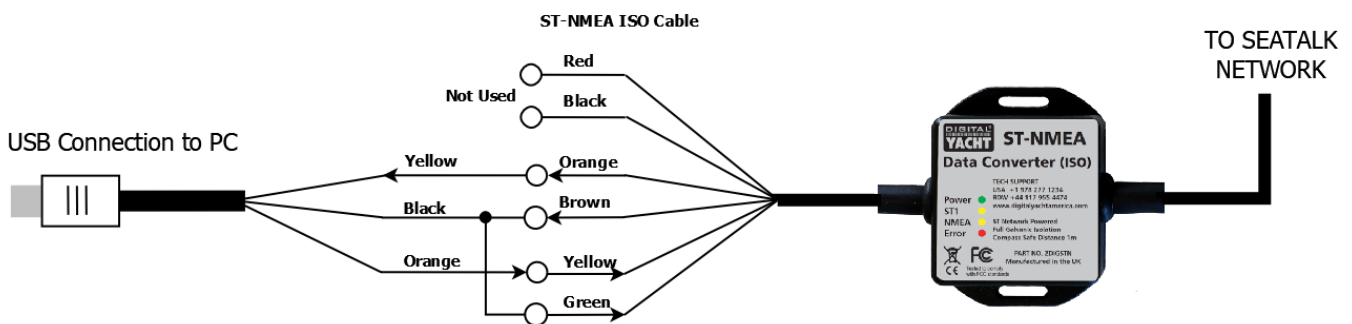
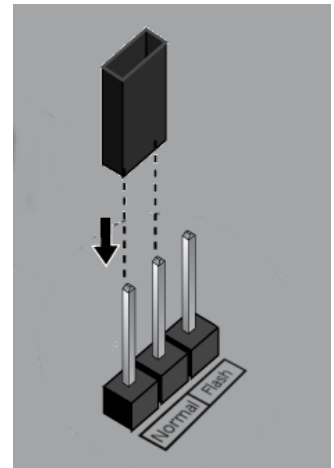
NOTE – Jumper is on underside of GPS160 PCB

Move the “Jumper” from the **Normal** to the **Flash** position, as shown.

When the product next powers up, the STM32 microprocessor will be in a special boot loader mode where it is ready to receive the firmware update.

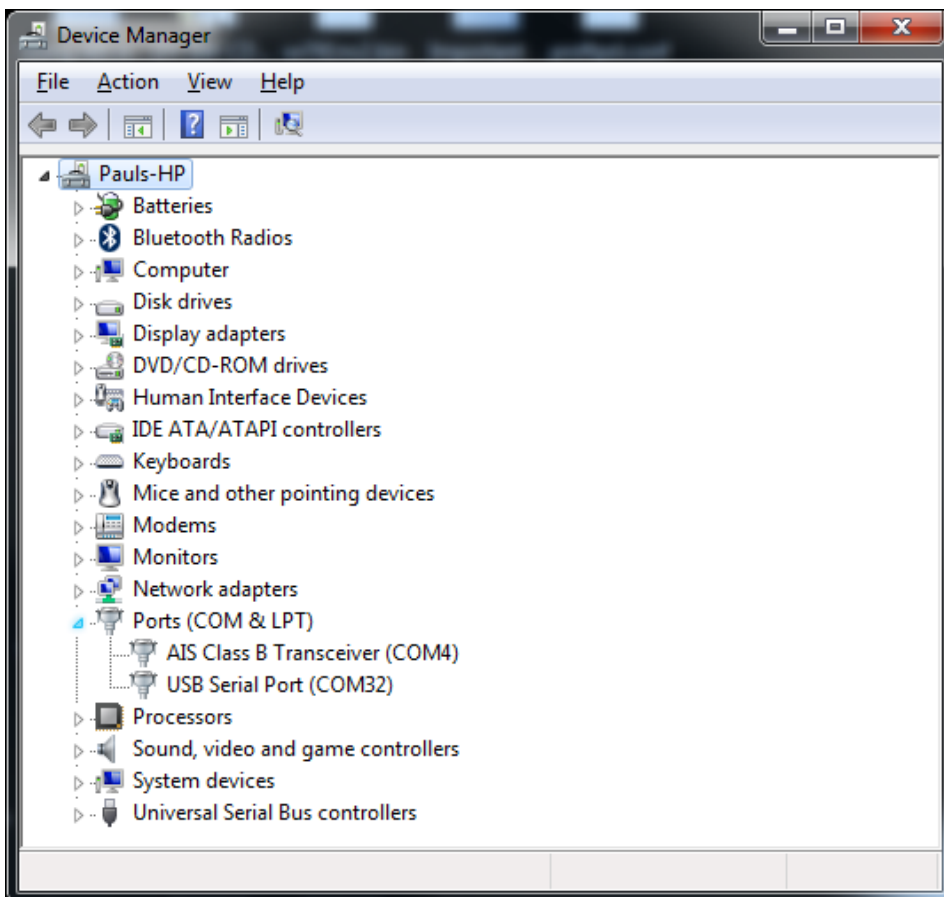
Now connect the product to the Windows PC. If it is a USB product, simply plug the USB cable in to the PC, but if the product is an ISO/NMEA0183 version, then you will need to connect it to a Digital Yacht USB to NMEA Adaptor cable as shown below.

The diagram shown is for at ST-NMEA Converter but the wire colour connections are the same for iKonvert and GPS160.

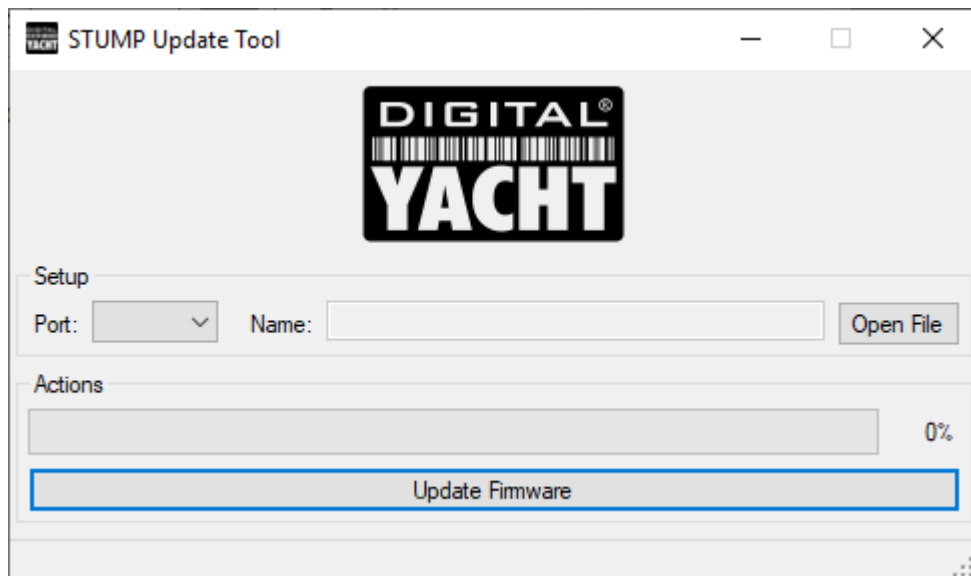


Plug the USB connector in to the Windows PC and as long as the PC is connected to the internet or it already has the USB driver loaded, it should allocate a COM port to the USB connection.

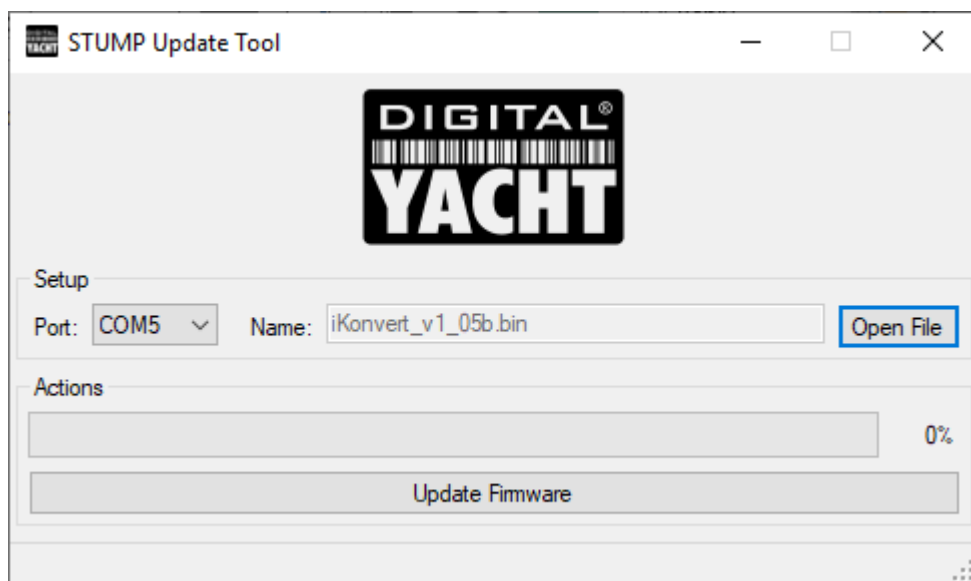
To check what COM port it has been allocated, go to the Windows Device Manager and in the **Ports (COM & LPT)** section, you should see an entry “USB Serial Port (COMx)”, as shown below...



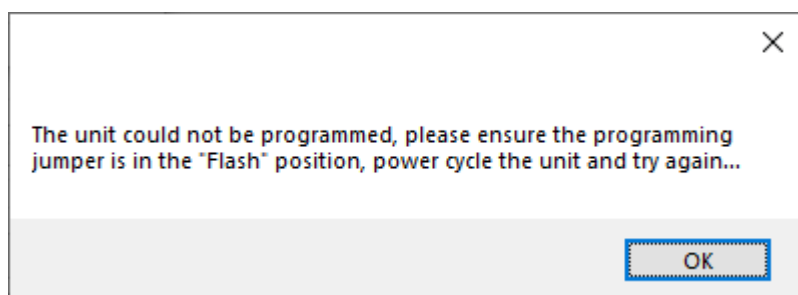
Apply power to the product, please note that no LEDs will illuminate in this Boot Loader mode, and run the STUMP Update Tool, which should display the following window...



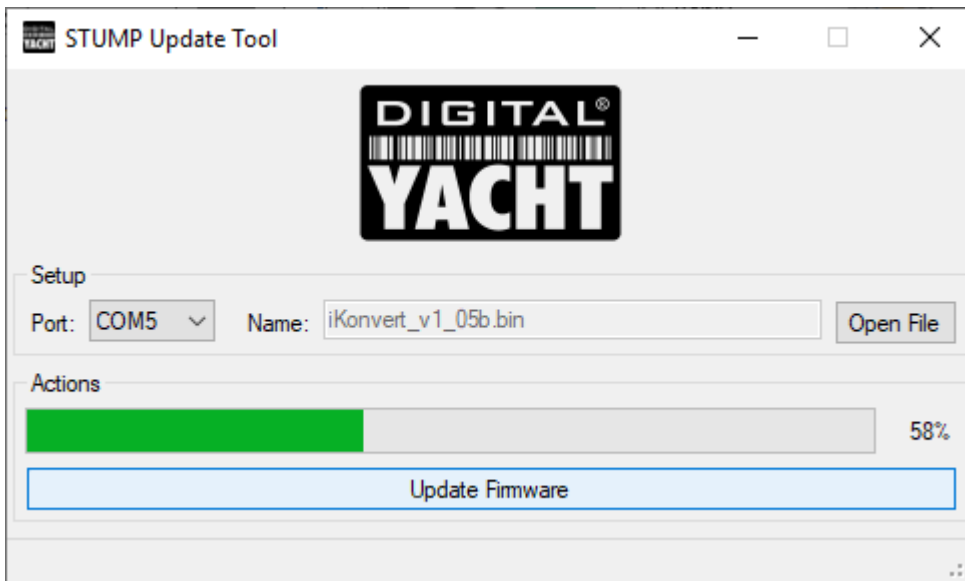
Now select the COM Port number that your USB cable has been allocated by Windows and click the “Open File” button to browse for and select the binary (.bin) firmware update file...



Now click the “Update Firmware” button and the update process should start. If communication cannot be established for any reason; i.e. jumper in wrong position, incorrect wiring to ISO unit or no power, you will see this window appear...



...but assuming everything is OK, you will see the update process start. First the status bar moves across quite quickly as the STM32's flash memory is erased and then a second sweep of the status bar takes place, this time much slower as the new firmware is programmed...



As soon as the second sweep finishes at 100% and assuming no error messages are displayed, then the update is complete and you should see the product's LEDs come on as the microprocessor reboots and runs the new firmware.

IMPORTANT – don't forget to replace the "Flashing Jumper" back to the "Normal" position, before re-assembling the product.