Notes on how to install the WinUSB driver needed by the Winrad DLL for the HPSDR

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These notes presume that you have already downloaded and executed the installer for Winrad V1.33 – Suppose that you have specified D:\Winrad as the destination directory. You should now have in it a subdirectory named WinUSB that contains the files needed to install the driver. What follows exemplifies an installation under Windows XP + SP3, but under Vista there should be only minor differences.

Most probably you have already installed the libusb USB driver needed by PowerSDR or the other programs that are normally used with the HPSDR. That driver must be replaced by the WinUSB one.

Open the Device Manager panel, with the HPSDR hardware switched on, and you will find in it this entry :
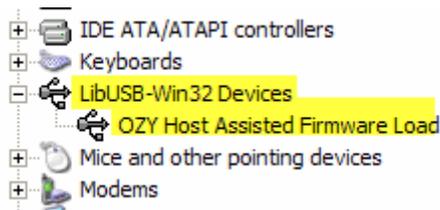
which was placed there by the libusb installer. Right-click on the second yellow line above, and select the choice to update the driver :
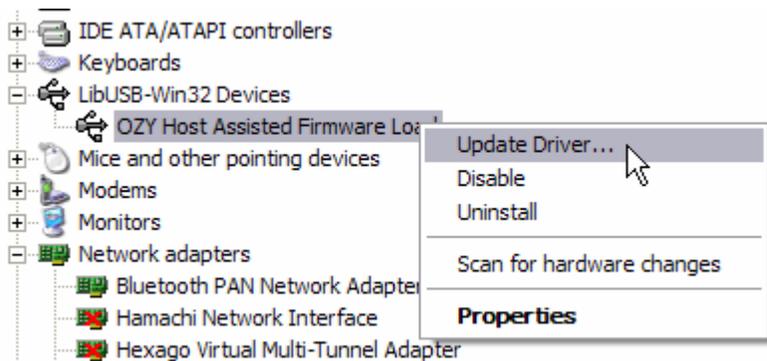
Windows will then present you a sequence of questions, that must be answered as follows :
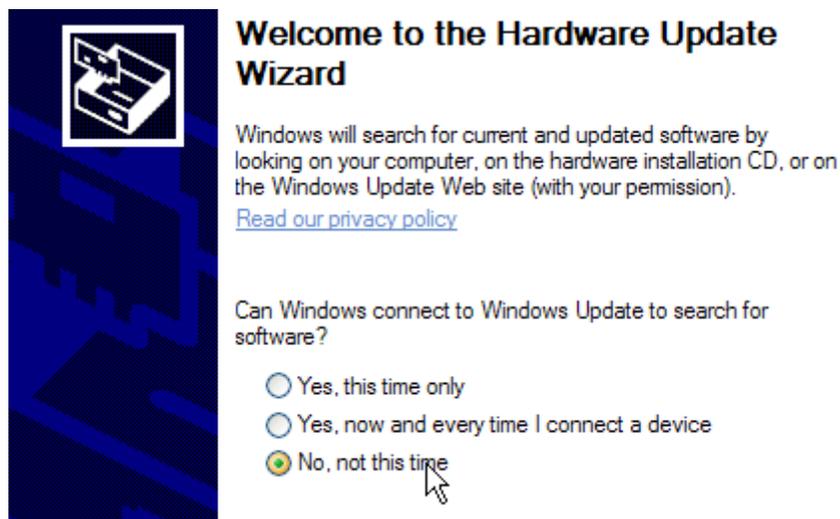
Then :
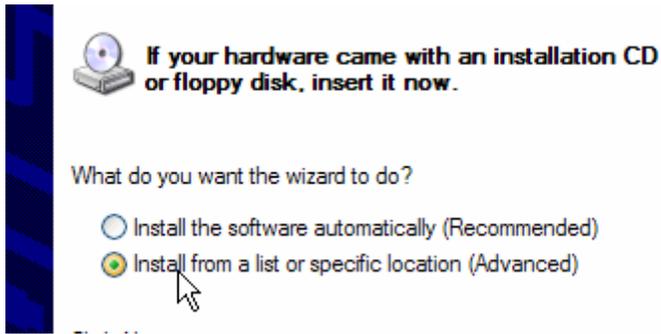
Windows will now ask you where is the directory that contains the INF file of the new driver.
You should specify D:\Winrad\WinUSB, or anyway the directory where you installed Winrad.
The example below is specific to my PC, where I used a different directory name :
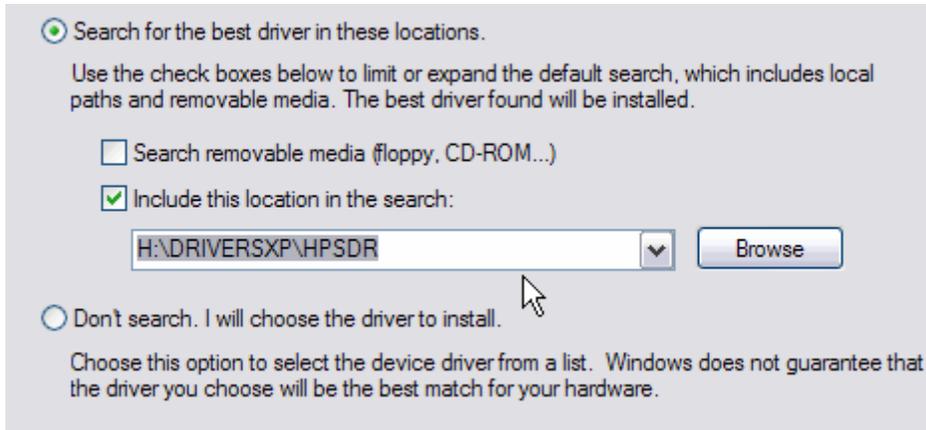
Select now the correct driver in the next panel (this step sometimes is not needed) :
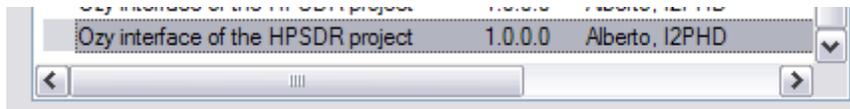
The driver installation will start. At a certain point it will reach a stage where the Windows co-installer searches on the Microsoft site for an updated version of the libraries. This step can take some time, a few minutes, and you could have the false impression that the installation is hanging. Wait patiently, and it will complete...
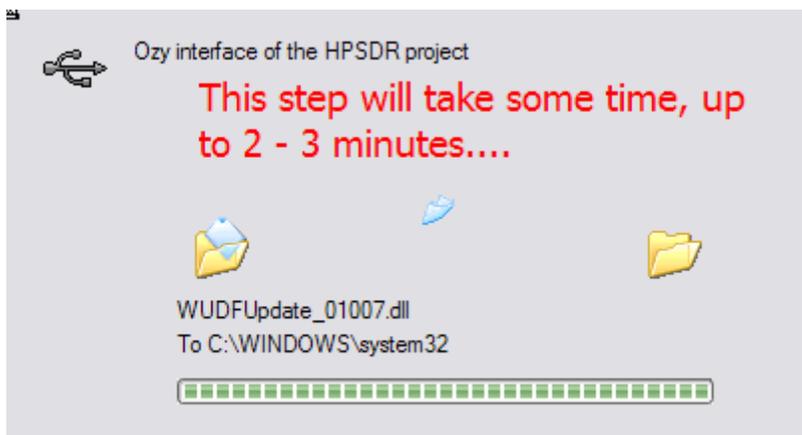
Finally, you will be greeted by the announce by Windows that everything went smoothly...

Completing the Hardware Update Wizard

The wizard has finished installing the software for:

Ozy interface of the HPSDR project
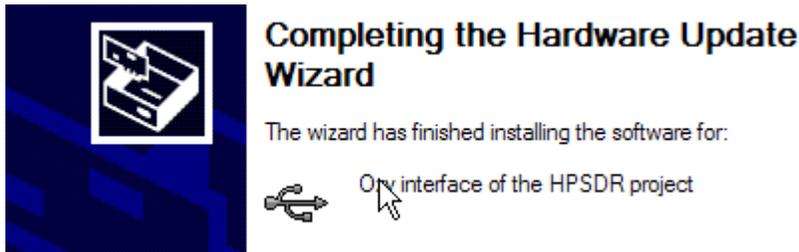
And now, if you reopen the Device Manager panel, you will find this :

- Tape drives
- Universal Serial Bus controllers
  - Generic USB Hub
  - Ozy interface of the HPSDR project
  - Standard Enhanced PCI to USB Host Controller
  - Standard OpenHCD USB Host Controller
  - Standard OpenHCD USB Host Controller
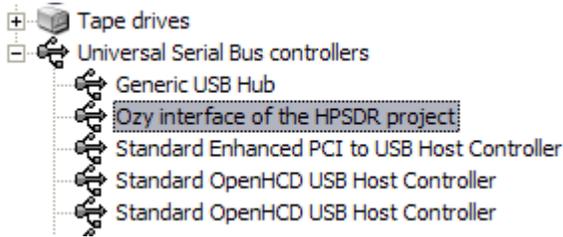
The WinUSB installation is complete.
Tests done show that in some circumstances the following sequence is needed, so you can't go wrong if you do it :

- After the installation of the WinUSB driver, switch off the HPSDR hardware
- Reboot the PC
- Switch on HPSDR again

Now you can start Winrad with the HPSDR hardware turned on, and select it by clicking the ShowOptions button :

| ShowOptions | Select Sound Card | Select Sample Rate |

Select Input   ▶   WAV file...
                           ● Sound Card
Palette type   ▶   HPSDR with Mercury
Window type   ▶   Open Input Mixer...
Lock Volume
High Process Priority
● Normal Process Priority
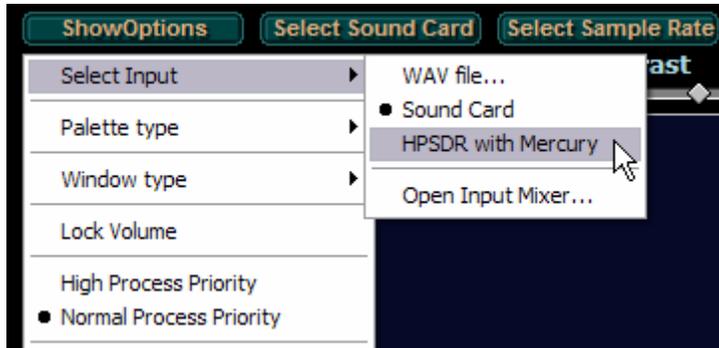
You will see now the DLL panel that allows you to control various aspects of the HPSDR hardware :

HPSDR WinUSB Interfacing Module

10 MHz source   ☑ Mercury ☐ Penelope ☐ Atlas
122.88 MHz source   ☑ Mercury ☐ Penelope
Final sampling rate   ☐ 48   ☐ 96   ☑ 192   **kHz**
Current NCO Frequency   **7.100.000   Hz**
Firmware versions (O, M, P)   1.6   2.7   1.2
Audio output   ☐ Sound card   ☑ Mercury DAC
Preamp ☐   Dither ☐   Random ☐   Overload ◉
Cards installed   ☑ Mercury   ☑ Penelope
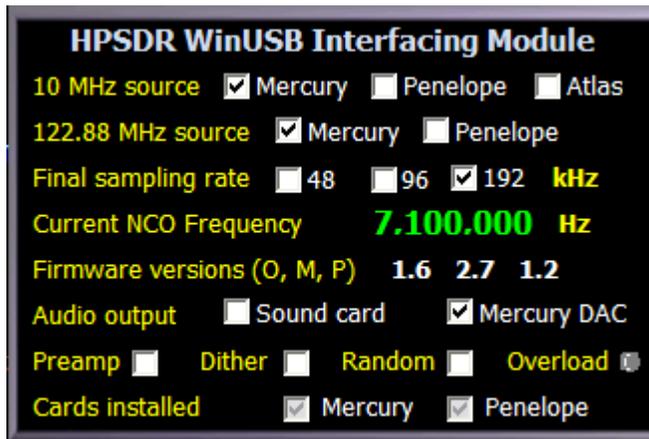
From now on, use Winrad as you would have done with any other input hardware.

Enjoy !   *Alberto, I2PHD*