

PowerSDR with Pi SDR for Flex SDR1000 Software Setup

Software installation is performed with a provided unified installer containing both the PowerSDR v2.5.3 and Pi SDR Extensions v4.6.8.

The PowerSDR for Pi SDR unified installer is installing PowerSDR v2.5.3 application together with Pi SDR Extensions in a single setup/install step.

After the initial software installation, the first-time PowerSDR v2.5.3 application run comes and the rig (SDR1000) configuration.

<**Warning**> The minimum Pi SDR IQ Plus firmware version that is required is v2.44. If you do not have this (v2.43) firmware flashed in your Pi SDR IQ Plus, please flash it now. PowerSDR v2.5.3 Pi SDR Extensions v4.6.8. do require Pi SDR IQ Plus firmware v2.44 (18-May-2018).

<**Warning**> Before you proceed further, please make sure that you do not have any other PowerSDR version active and installed in the PC system that you plan to use.

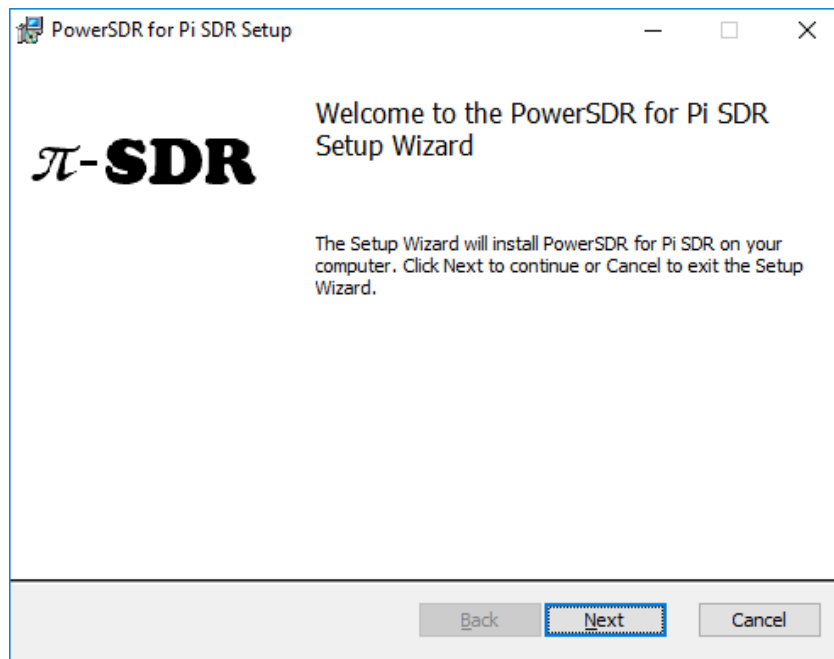
<**Warning**> The new PowerSDR v2.5.3 installation will use settings from any previous v2.5.3 PowerSDR installation. So to avoid any issues, after installation you have to select the PowerSDR button Setup->Factory Defaults.

<**Warning**> The following procedure is for first time user setup. For current user installations of previous setup, prior to v4.5.9, users should first uninstall the previously installed components and then perform this installation. For previous versions uninstall instructions please see at the end of this document Anex #1: Uninstall older versions than v4.5.9.

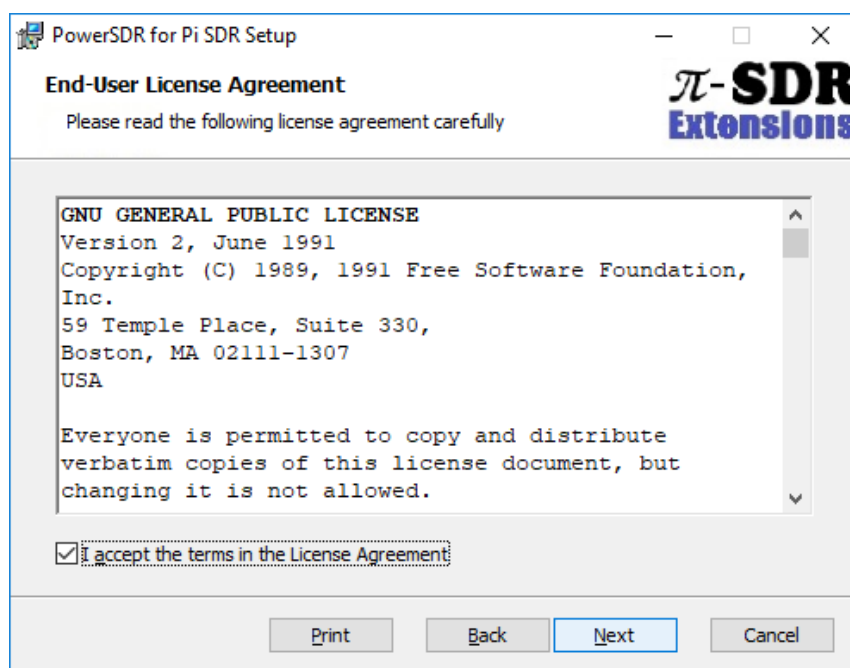
First, you should download and start the PowerSDR v2.5.3 for Pi SDR v4.5.9 installer that resides in Pi SDR site Support/Downloads section here

→ <https://www.pi-sdr.net/pi-sdr/index.php/support/downloads>

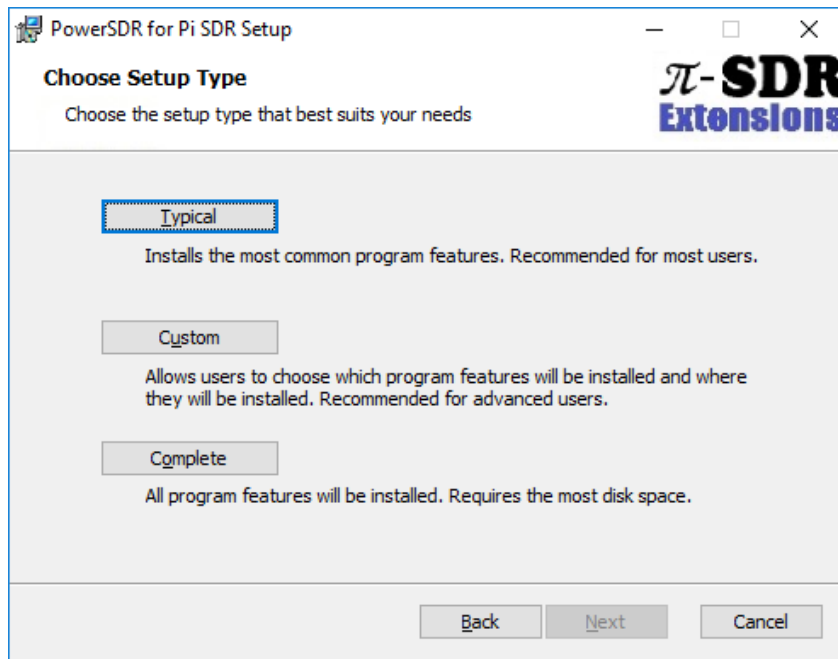
Upon start of the installer you are presented with the initial screen



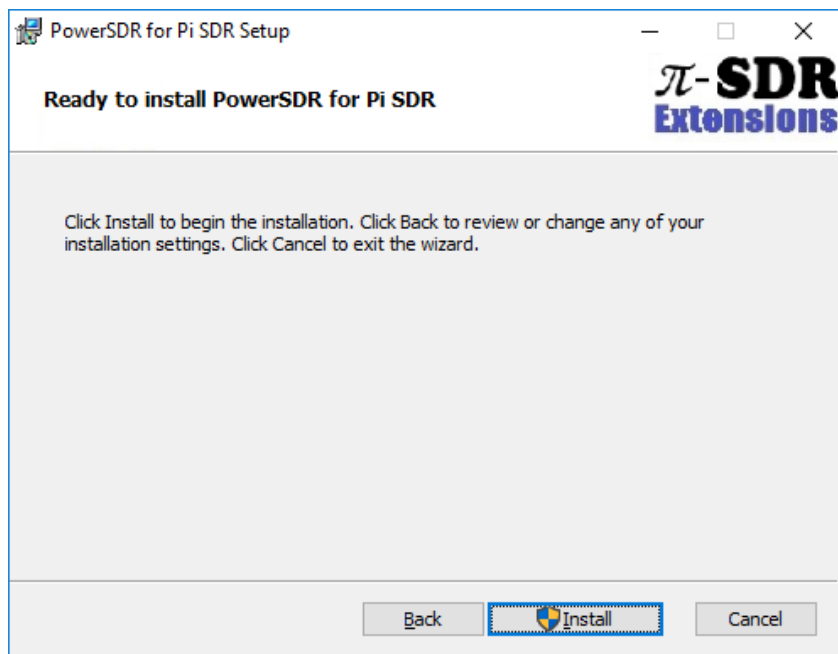
Here you have to select "Next"



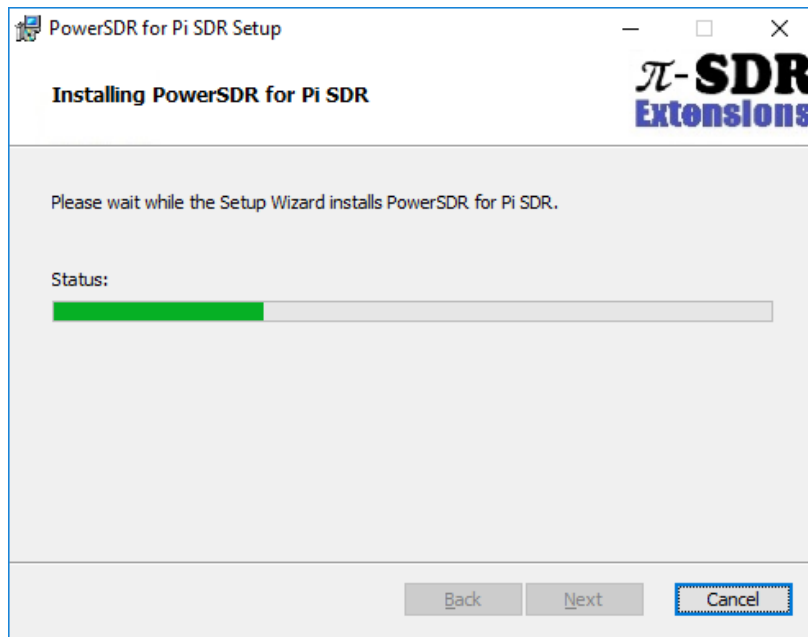
Read and check the terms checkbox, then click “Next”



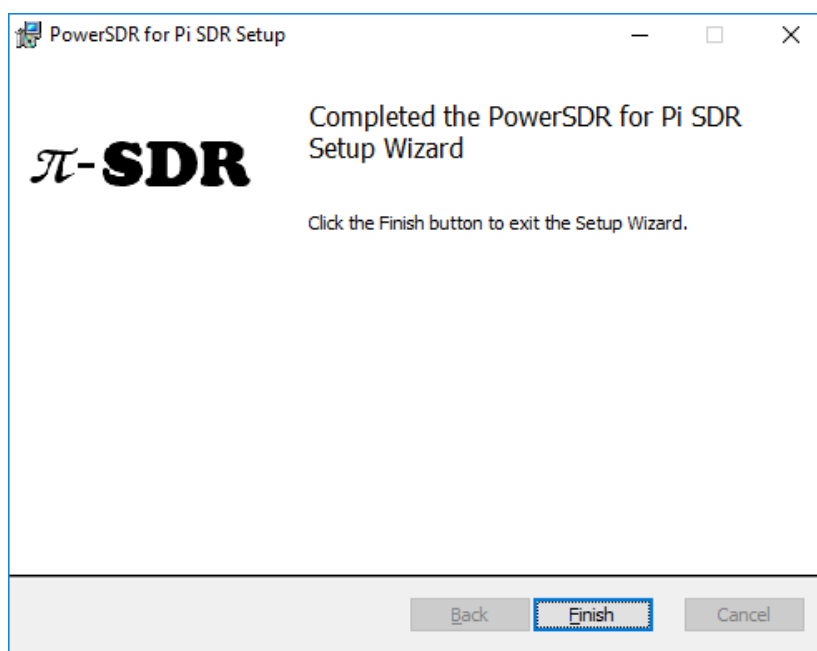
Click on “Typical” selection



Click on “Install” button, after that you will be asked to authorize the installation



Installation will be performed and will last a few minutes, please wait for completion.



Installation has been completed and you can click "Finish"

After that step, you will have in your Applications list the item 'PowerSDR for Pi SDR'.

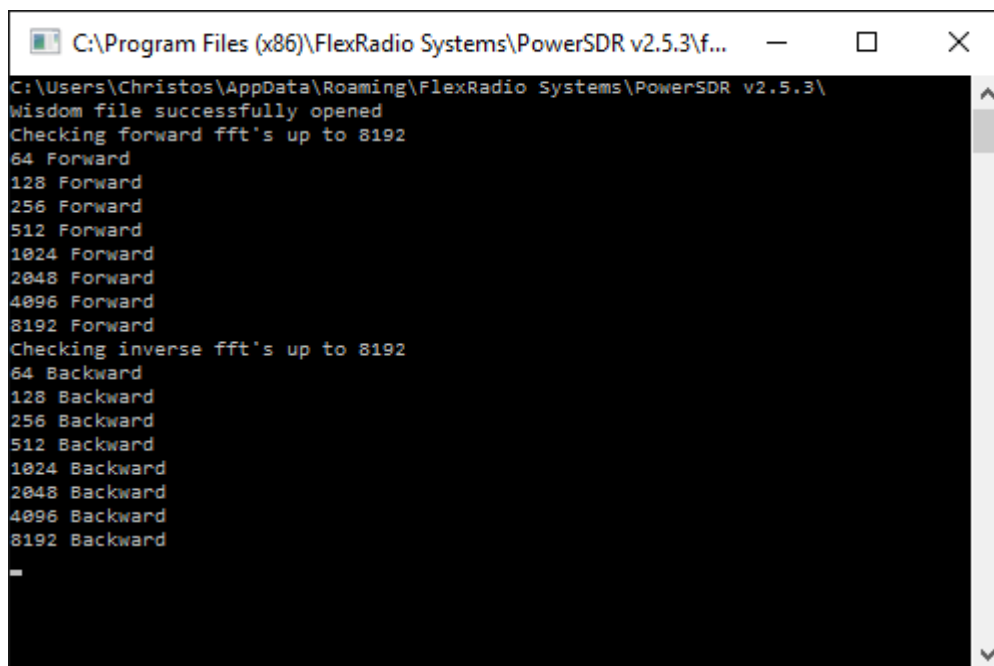
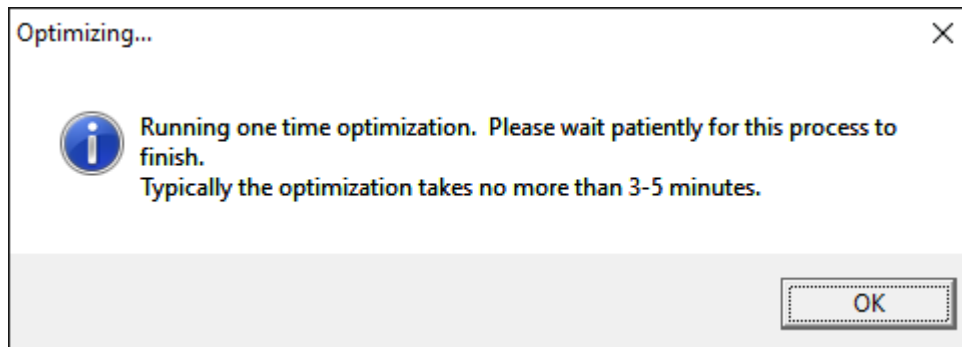
Also a 'PowerSDR v2.5.3 Pi SDR' desktop link and a 'PiSDR' applications menu item will appear in your system.

For any future successive update there will be no need for any uninstall, any new update installer will perform seemingly any required upgrade.

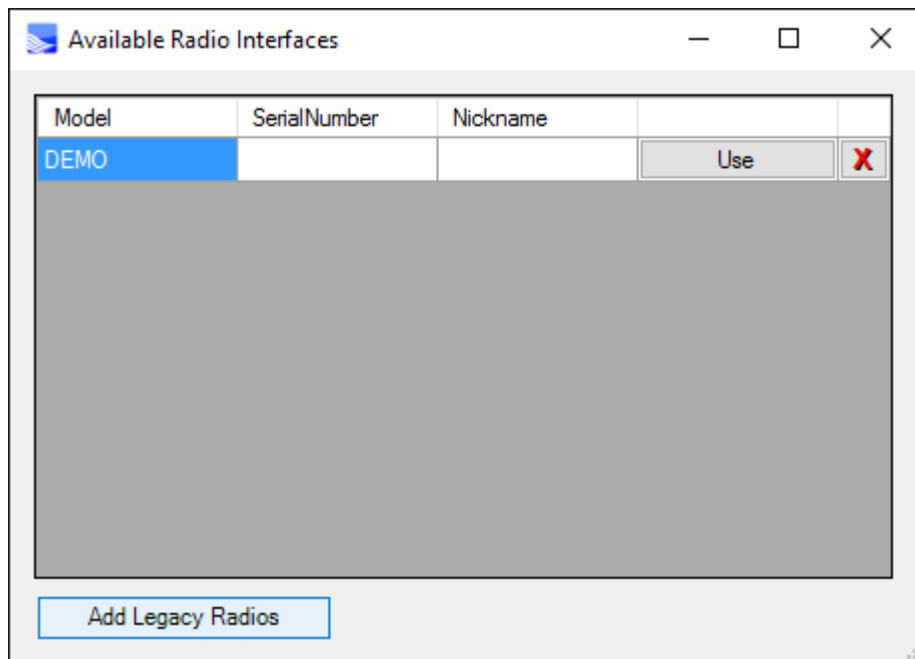
After the initial application installation, there is a first run of PowerSDR for Pi SDR where the setup wizard will be invoked regarding our rig.

Start the PowerSDR v2.5.3 Pi SDR application from the startup menu or from the desktop icon.

On the first-time run an optimization is performed

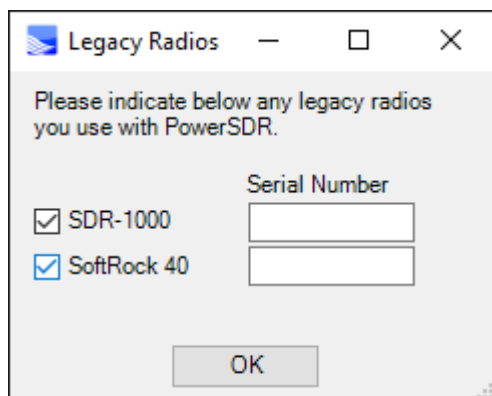


After the optimization, a window appears with the available radios, first time only DEMO radio exists and we need to add the SDR1000

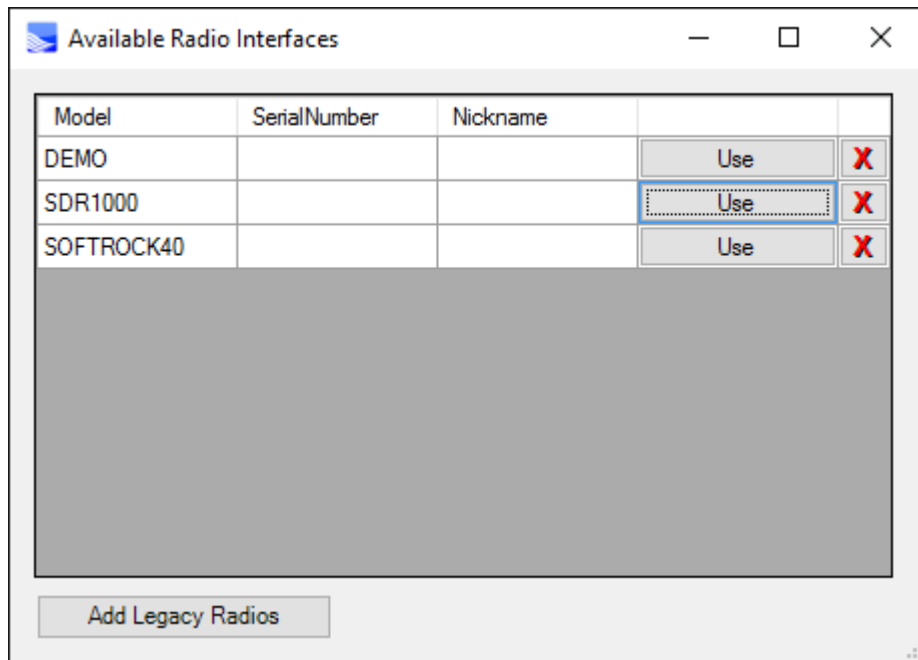


Click "Add Legacy Radios" and check the following checkboxes

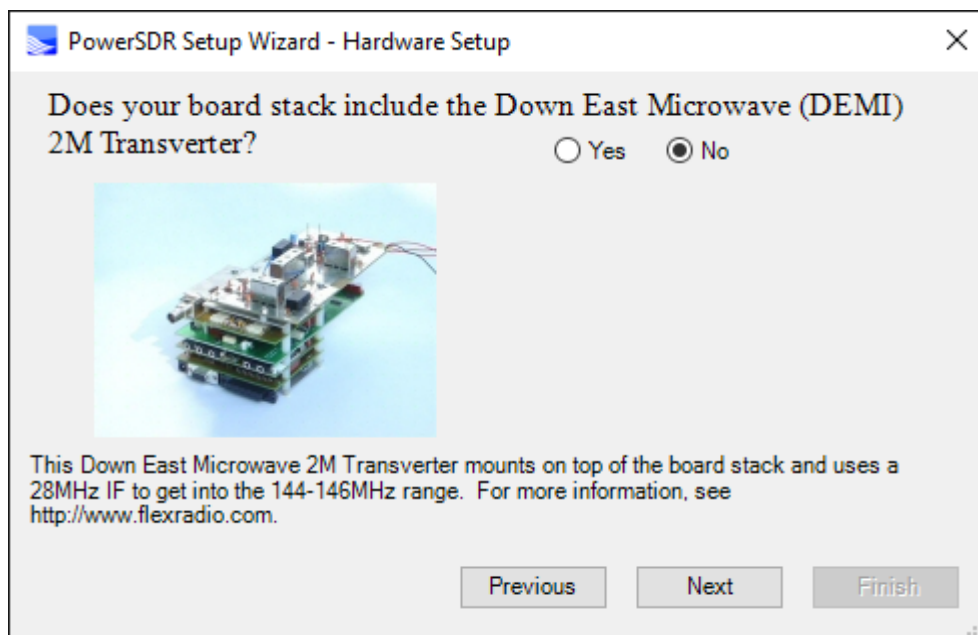
"SDR-1000" and "Softrock-40"



Click "Ok"



Upon finish adding the radios, click the “Use” button in the SDR1000 line and the initial rig setup wizard starts




Click “Next”

PowerSDR Setup Wizard - Hardware Setup

Is the 100W Power Amplifier (PA) included in your hardware configuration?

☐ Yes ☒ No



The Power Amplifier bumps the output power of the SDR-1000 from 1W up to 100W. For more information, see <http://www.flexradio.com>.


Previous Next Finish

Click "Next"

PowerSDR Setup Wizard - Hardware Setup

Is the LDG Z-100 Antenna Tuning Unit (ATU) included in your hardware configuration?

☐ Yes ☒ No



The integrated ATU allows the user to tune coax antennas with an SWR of up to 10:1. For more information, see <http://www.flexradio.com>.


Previous Next Finish

Click "Next"

PowerSDR Setup Wizard - Hardware Setup

Does your hardware configuration include the External Clock Reference Option?

☐ Yes ☒ No



The External Clock Reference Option allows the DDS to be synchronized with a more stable clock source. For more information, see <http://www.flexradio.com>.

Previous Next Finish

Click "Next"

PowerSDR Setup Wizard - Hardware Setup

Is the USB to Parallel adapter included in your hardware configuration?

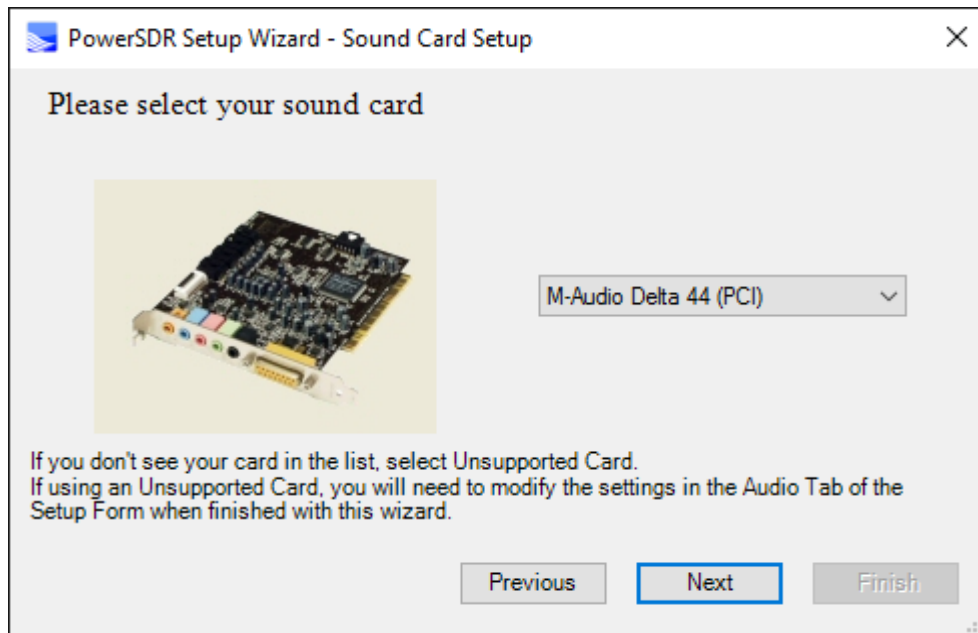
☐ Yes ☒ No



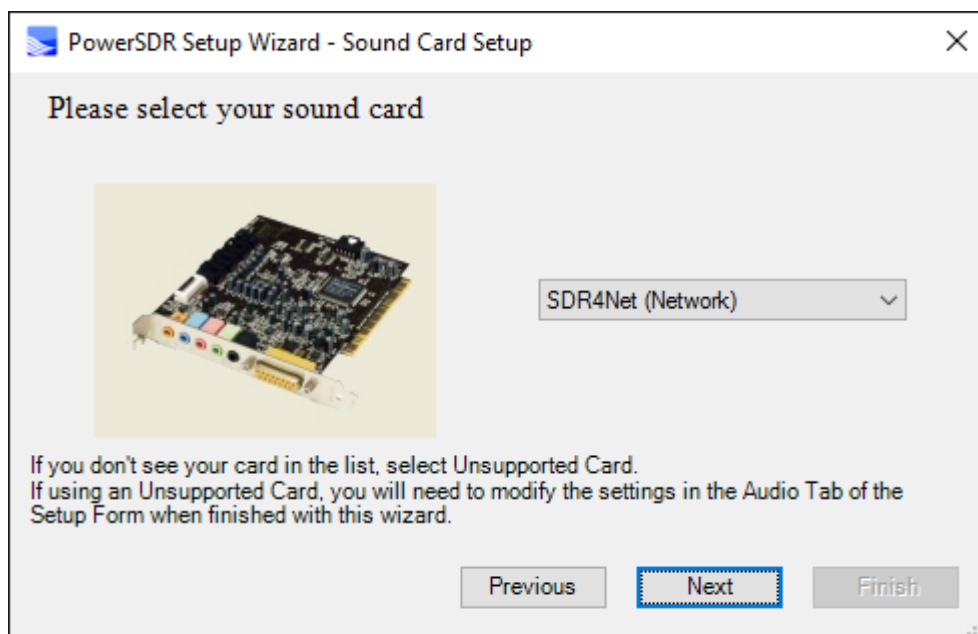
The USB to Parallel adapter eliminates the need for a parallel port interface on your computer. Unlike other off-the-shelf adapters, the FlexRadio Systems adapter implements all the data, status, and control lines for complete integration with existing parallel port hardware. For more information, see <http://www.flexradio.com>.

Previous Next Finish

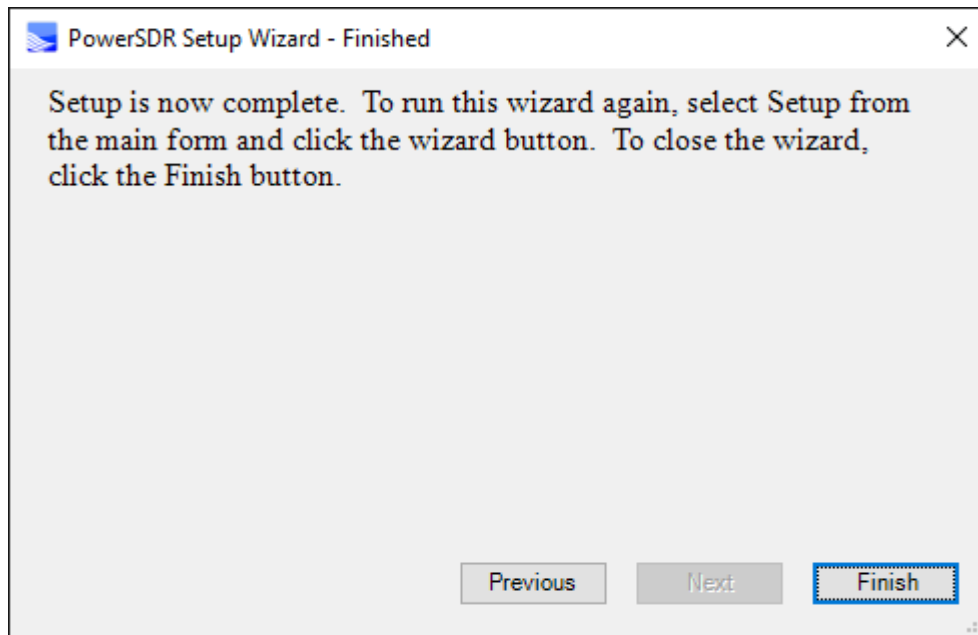
Click "Next"



Here we need to specify the new interface, thus we select it as follows



Click "Next"

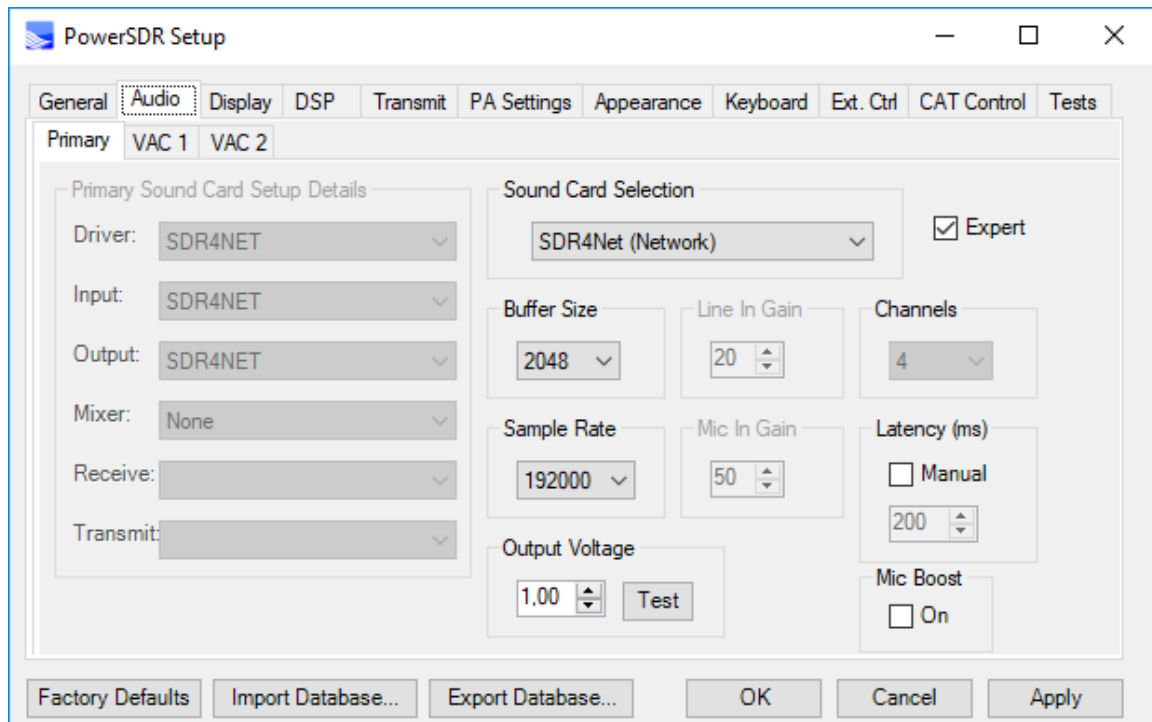


Click "Finish" and this setup is concluded.



Congratulations, PowerSDR v2.5.3 with Pi SDR Extensions v4.6.8 application is launched.

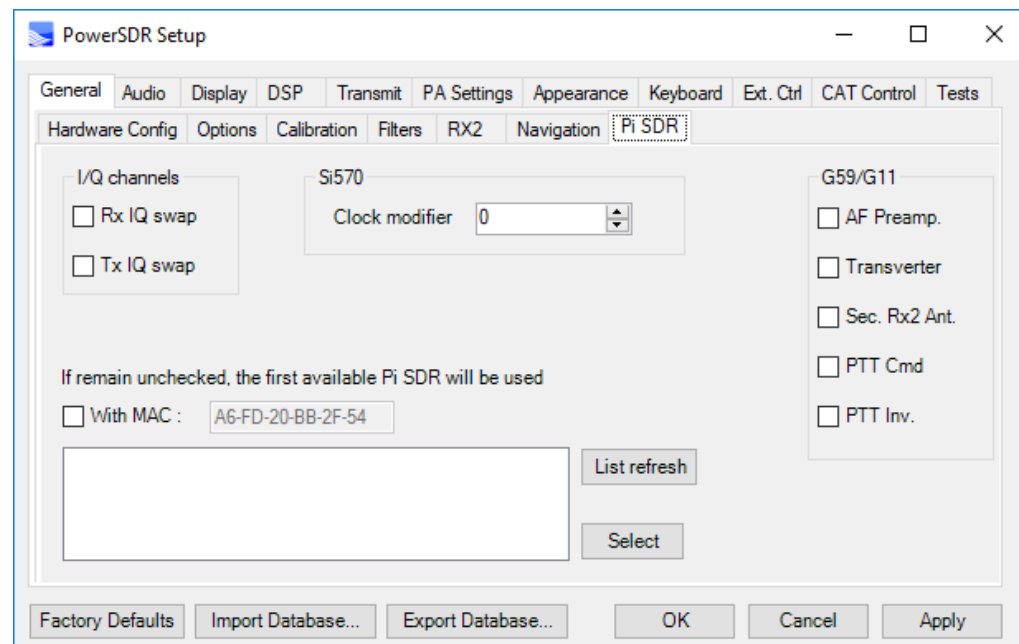
For Setup Audio settings, please click Setup and go to Audio->Primary on the Setup menu and set the “Audio” settings for Pi SDR IQ Plus according to this screen



Here are the audio tab setup settings for Pi SDR IQ Plus, set Buffer Size to 2048 and Sample Rate to 192000. Also click on ‘Expert’ and set Output Voltage to 1.

Click ‘Ok’ and close the Setup form.

Pi SDR Extensions



By starting the Setup form and going to Setup->General->Pi SDR you can have this setup screen.

The main white box area is used to show the Pi SDR's discovered in the network.

List refresh button : will scan and show the MAC and current IP address of each Pi SDR discovered.

Select button : will make the selected Pi SDR as the preferred one for use with this instance of PowerSDR. This function is useful for those users having more than one Pi SDR in their network. In order for this to be effective, the 'With MAC' checkbox has also to be checked.

With MAC : Specifies that a only a Pi SDR with the selected MAC address will be used, otherwise the first available will be used.

I/Q Channels

Rx IQ swap : perform a swap between the I and Q channels in Rx

Tx IQ swap : perform a swap between the I and Q channels in Tx

Si570

Clock Modifier: used only with Softrock/Ensemble or compatible transceivers to add an offset to Si570 local oscillator, by modifying this setting, frequency calibration can be performed. User can either use this dial to manually calibrate exact VFOA frequency, or by using this to get the Si570 LO at a distance of +/- 900Hz from VFOA, then can initiate the automatic frequency calibration (Setup->General->Calibration) for auto spot-on accuracy. An external signal generator is required for all calibrations.

G59/G11

These checkboxes used only with a G59/G11 transceiver.

AF Preamp. : Enables/Disables the G59/G11 on-board AF preamp. Note that receiver level calibration for accurate S-Meter readings are affected by changing this.

Transverter : Enables/Disables the G59/G11 transverter function.

Sec Rx2 Ant. : Enables/Disables the G59/G11 secondary receive antenna.

PTT Cmd : Enables/Disables the G59/G11 sending PTT out function.

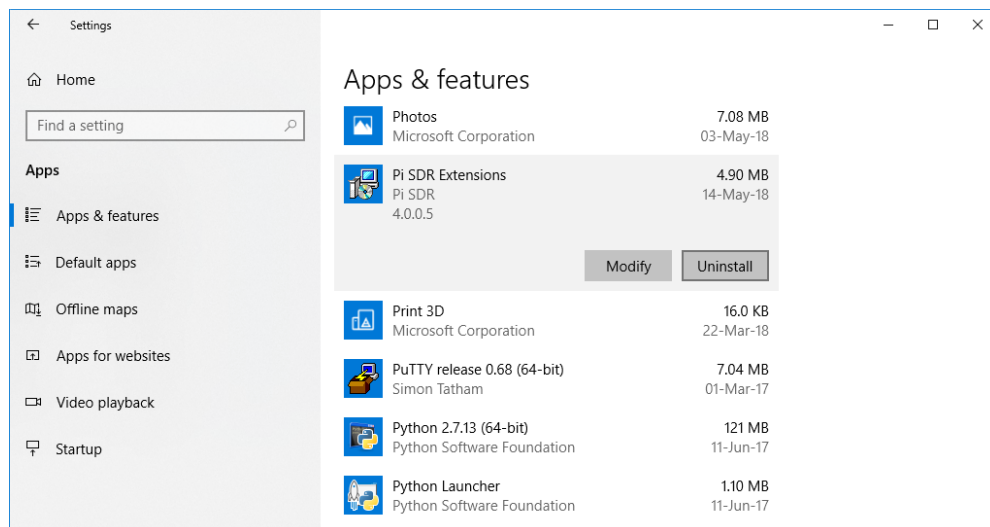
PTT Inv. : Enables/Disables the G59/G11 sending inverted PTT out function.

Anex #1: Uninstall older versions than v4.5.9.

Go to your settings and start the add/remove programs, Apps & features.

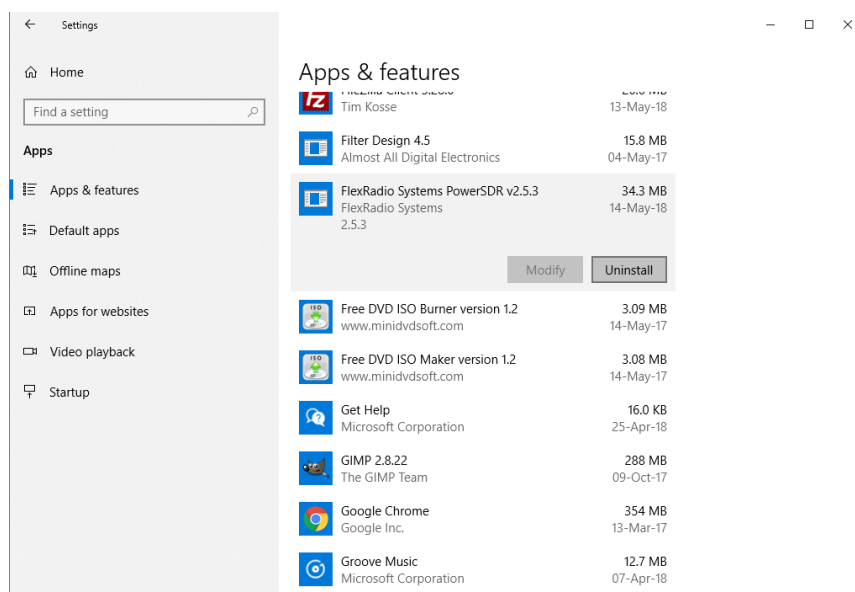
There, since you already had a previous other than v4.5.9 installation, you should have two items installed that have to be uninstalled in sequence.

First is the 'Pi SDR Extensions', locate it in the list, click on it and select 'Uninstall'

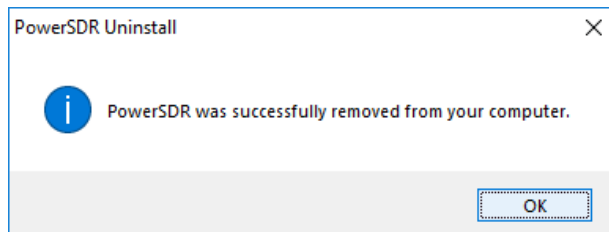
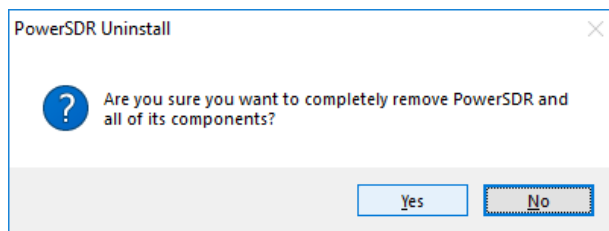


Give your authorization and it will be uninstalled.

Then it is the main PowerSDR v2.5.3 setup, locate it in the list, click on it and select 'Uninstall'



Give your authorization and it will be uninstalled.



After these steps are performed, you can proceed with the install of the new unified PowerSDR for Pi SDR installation.

