PowerSDR v2.8.0 for Pi SDR Software Setup

The PowerSDR v2.8.0 for Pi SDR installer is installing PowerSDR v2.8.0 application that provide support for Pi SDR IQ Plus in a single setup/install step.

The PowerSDR v2.8.0 Pi SDR is based on KE9NS extensions to Flexradio's application whereas it is additionally modified for supporting the Pi SDR IQ Plus device.

Supported rigs of the PowerSDR v2.8.0 Pi SDR when operated with the Pi SDR IQ Plus are: SDR1000, RS-HFIQ, G59, G11, Softrock/EnsembleRxTx

After the initial software installation, the first-time PowerSDR v2.8.0 application run is executing a one-time FFT calibration and then proceeds to the first rig configuration.

<**Warning**> The minimum Pi SDR IQ Plus firmware version that is required is v2.80 If you do not have this (v2.80) firmware flashed in your Pi SDR IQ Plus, please flash it now.

<**Warning**> The new PowerSDR v2.8.0 installation will use rig settings from any previous PowerSDR v2.5.3 Pi SDR installation.

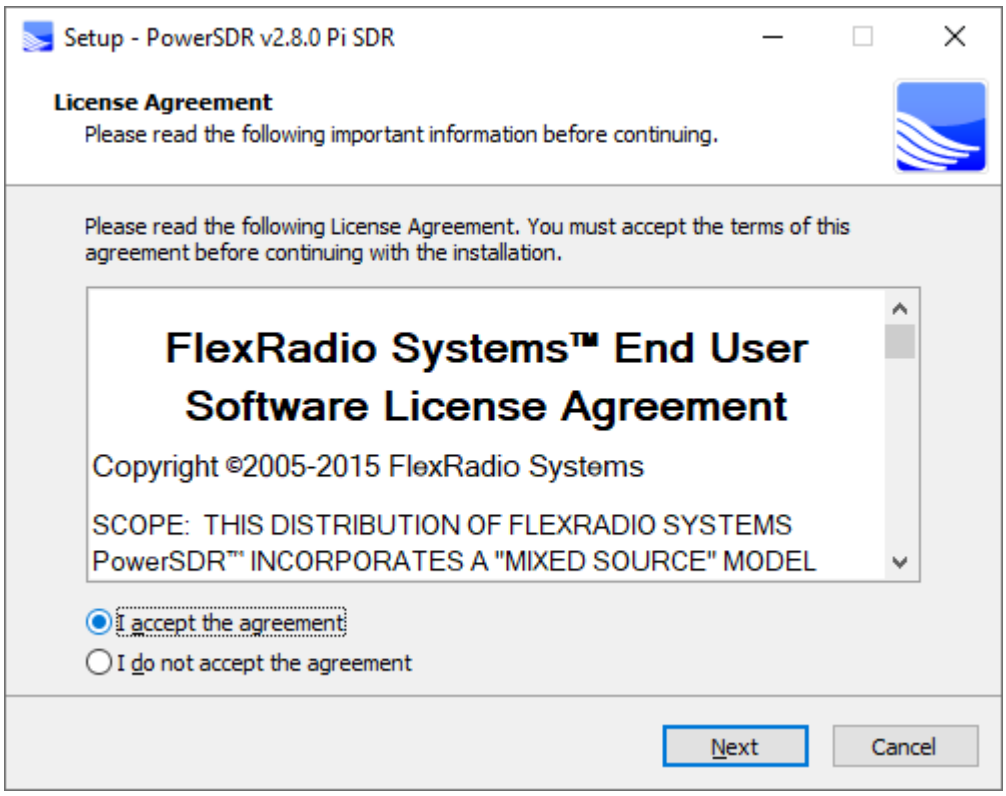
<**Warning**> PowerSDR v2.8.0 Pi SDR share the same rig list with PowerSDR v2.5.3 Pi SDR though it will have different/separate rig configuration .xml files within the Pi SDR application data folder. It will share the skins though with all other PowerSDR versions.

Thus, it can co-exist with a previous/other PowerSDR v2.8.0 installation (eg KE9NS), having different application executable files and rig configuration files but will share and have common skins folder.

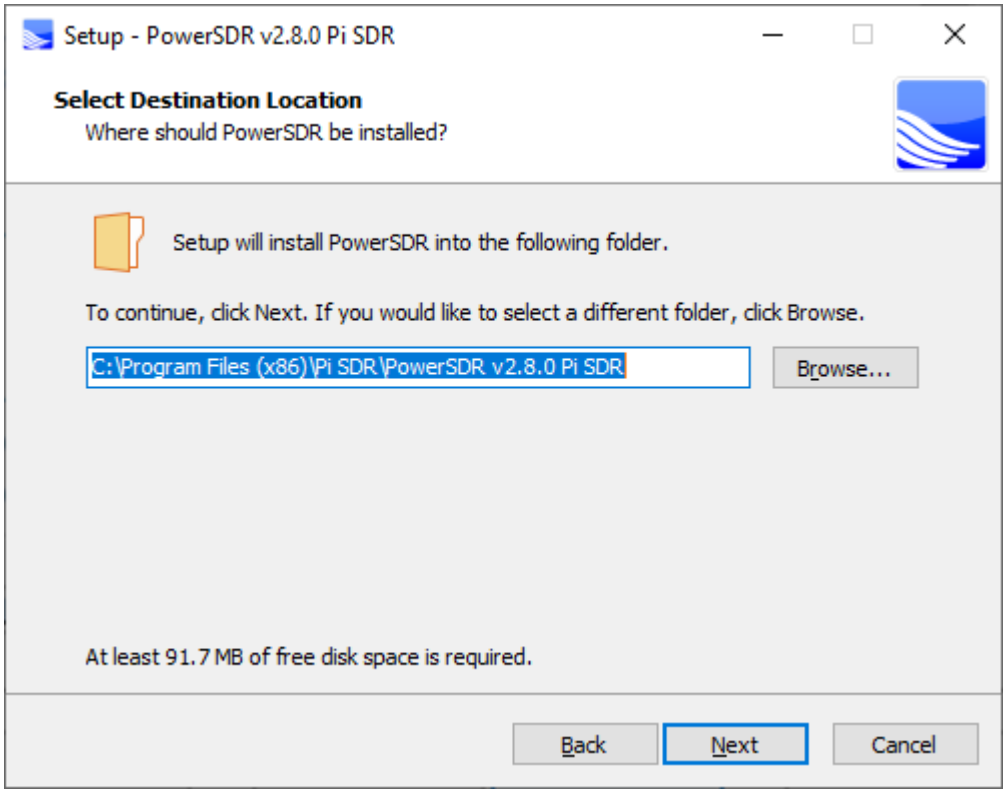
First, you should download and start the PowerSDR v2.8.0 for Pi SDR installer from here

➔ https://mega.nz/file/4KgHWaoK#foecycnhK6A26sliF_V8qs9GCQMJhI1xkWEJRv14P9o

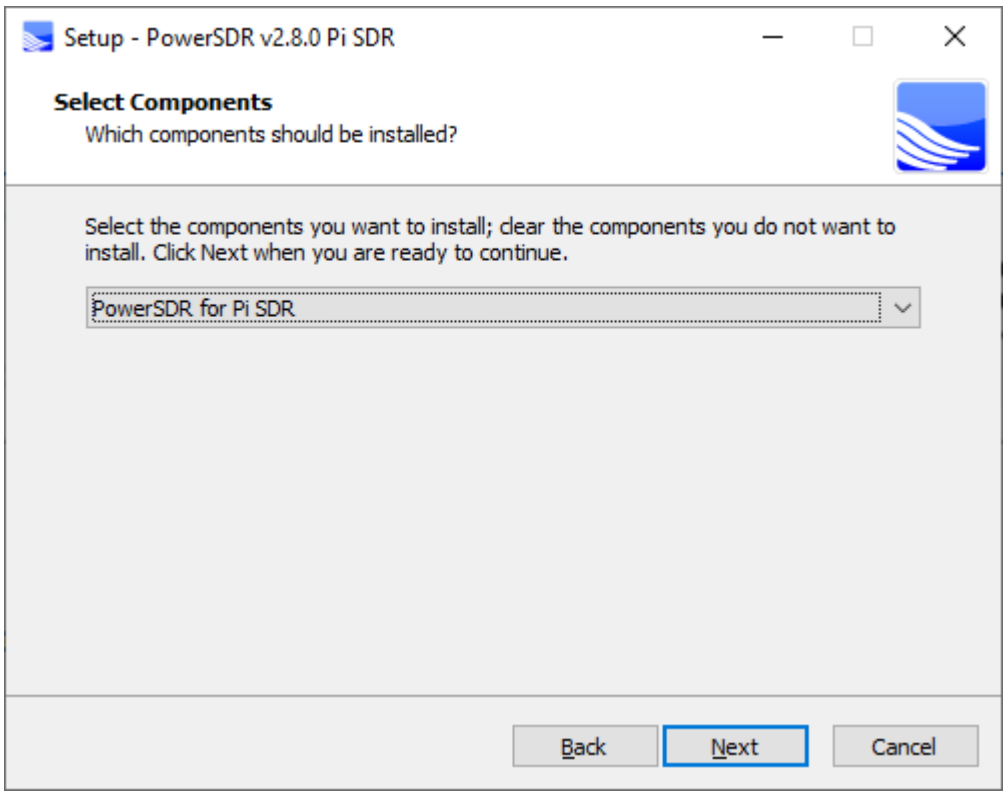
Upon start of the installer you are presented with the initial screen



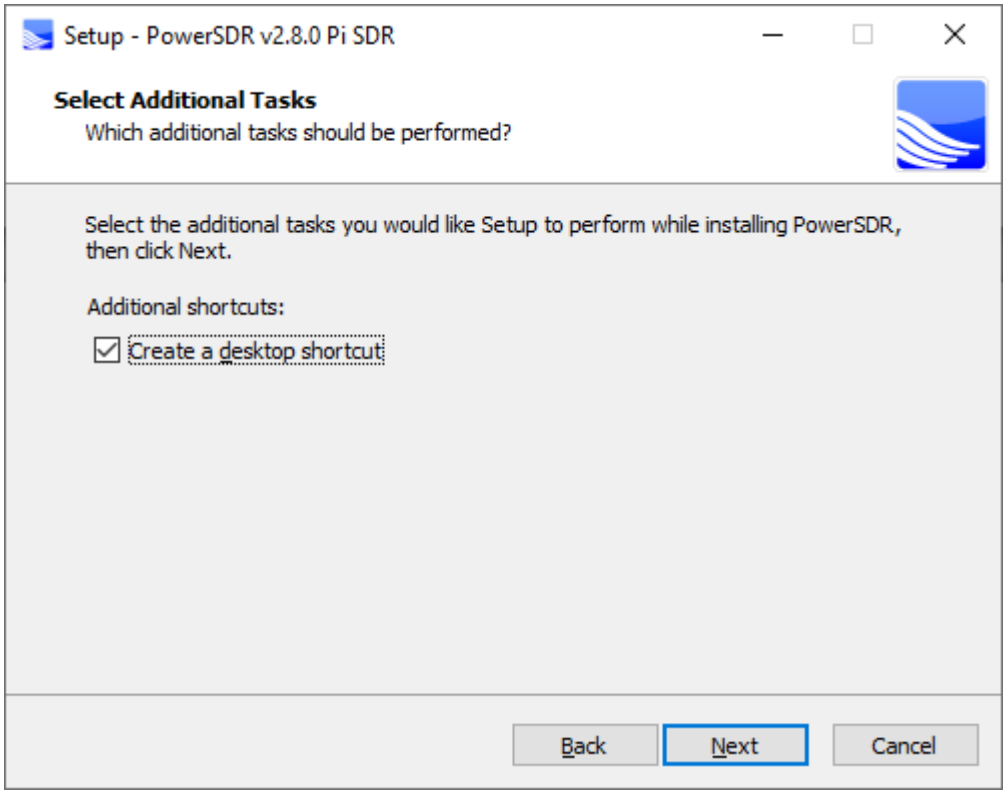
Here you have to accept and select “Next”



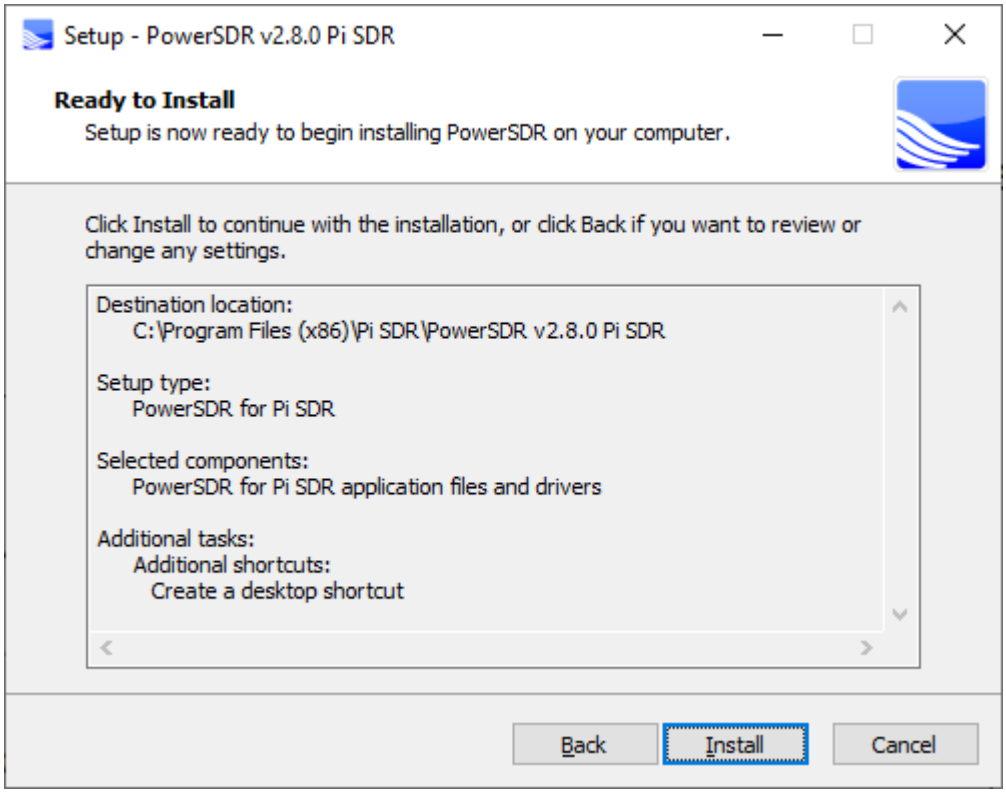
Use the default folder location and click “Next”



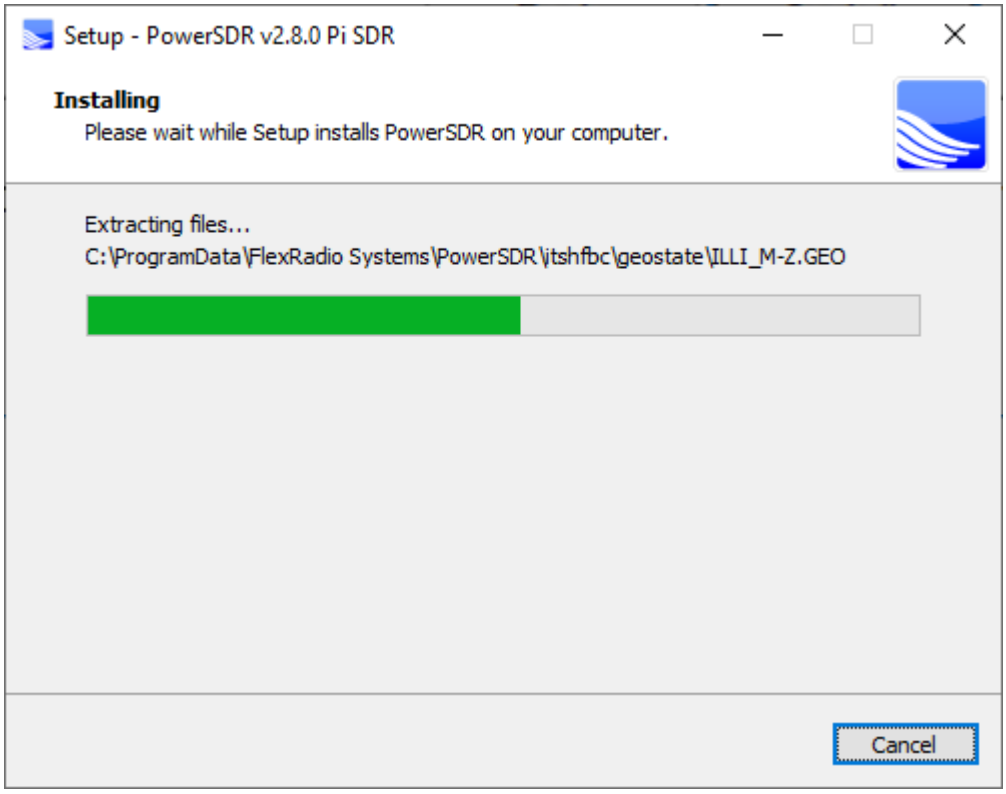
Click “Next”


Setup - PowerSDR v2.8.0 Pi SDR
Select Additional Tasks
Which additional tasks should be performed?
Select the additional tasks you would like Setup to perform while installing PowerSDR, then click Next.
Additional shortcuts:
Create a desktop shortcut
Back
Next
Cancel

Click “Next”



Click “Install”, installation will be performed and will last a few minutes, please wait for completion and all tasks to be closed.



Installation has been completed and you can click “Finish”, if any background installation task is still pending please let it finish on its own time.

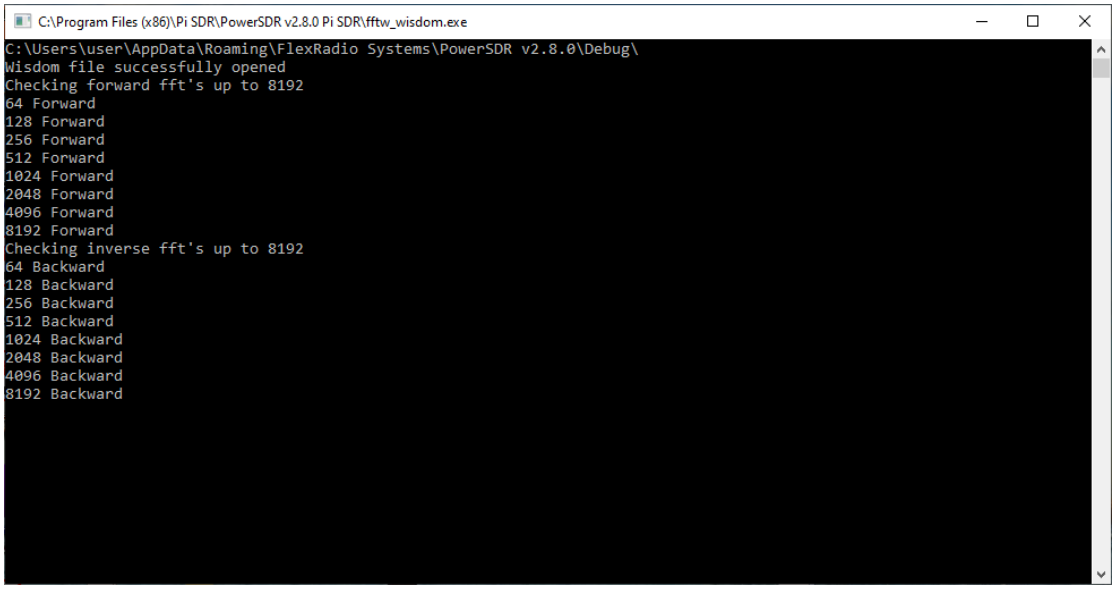
After that step, you will have in your Applications list the item ‘PowerSDR v2.8.0 Pi SDR’.

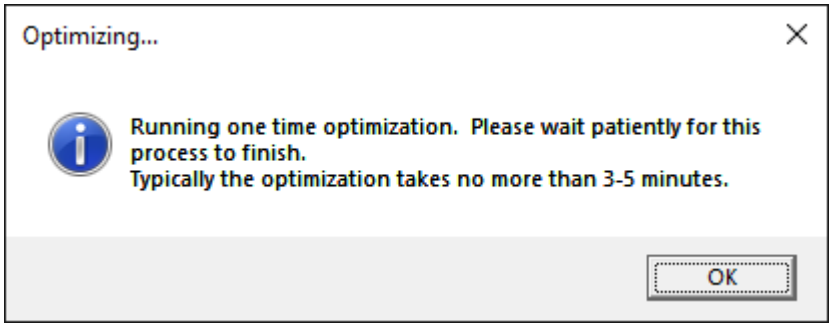
Also a ‘PowerSDR v2.8.0 Pi SDR’ desktop link and a ‘PiSDR’ applications menu item will appear in your system.

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.

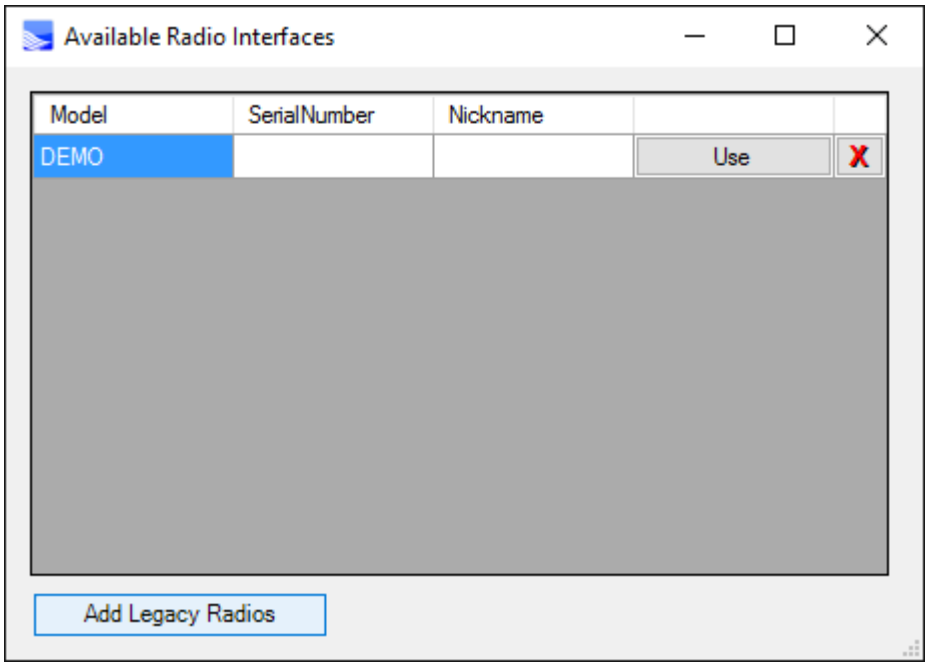
Start the PowerSDR v2.8.0 Pi SDR application from the startup menu or from the desktop icon.

On the first-time run an optimization is performed



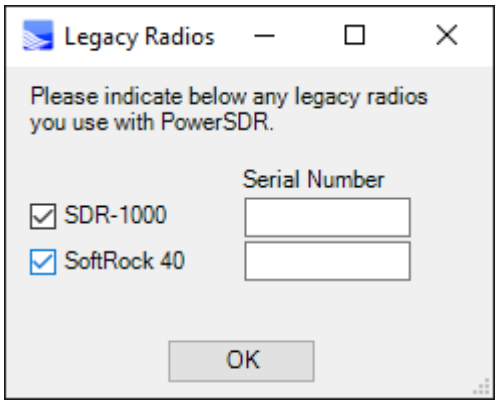


After the optimization, a window appears with the available radios, first time only DEMO radio exists and we need to add the SDR1000

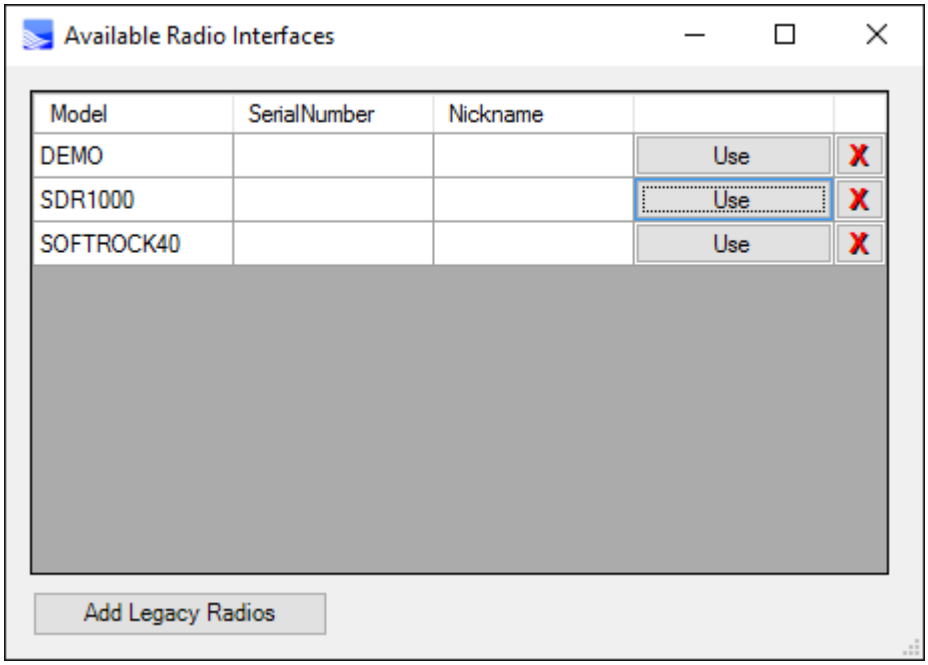


Click “Add Legacy Radios” and check the following checkboxes

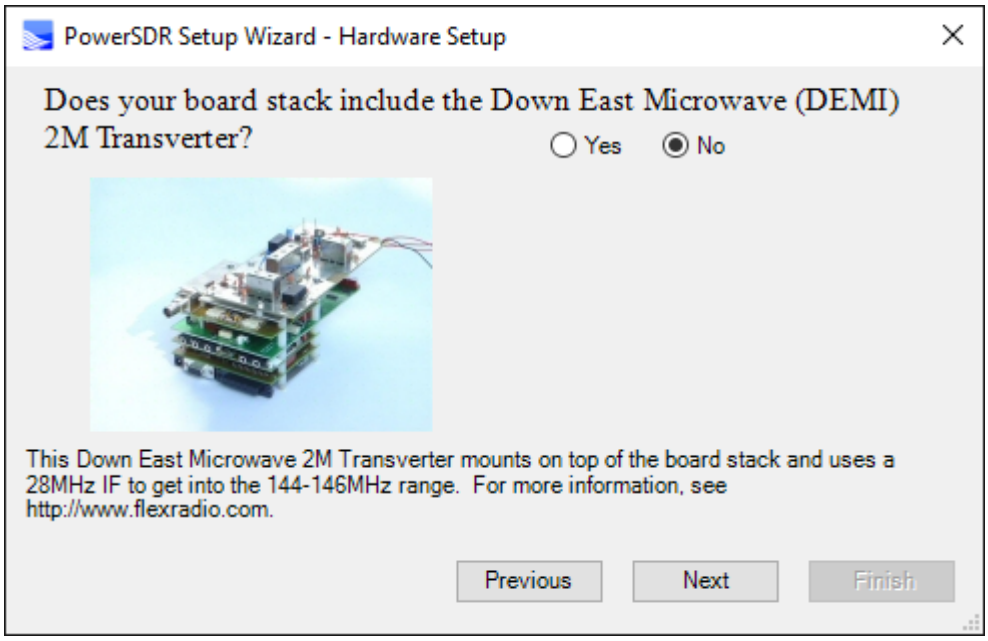
“SDR-1000” and “Softrock-40”



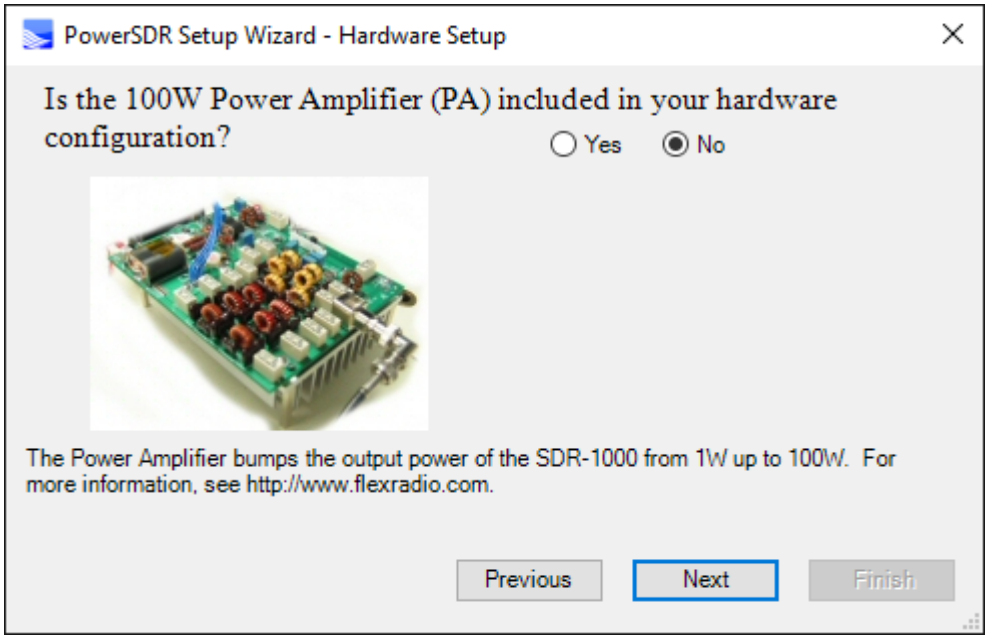
Click “Ok”



Uppon finish adding the radios, click the “Use” button in the SDR1000 line and the initial rig setup wizard starts. Bear in mind that we always use the ‘SDR1000’ as radio even if we have a Softrock/Ensemble in order to have all the added functionality.

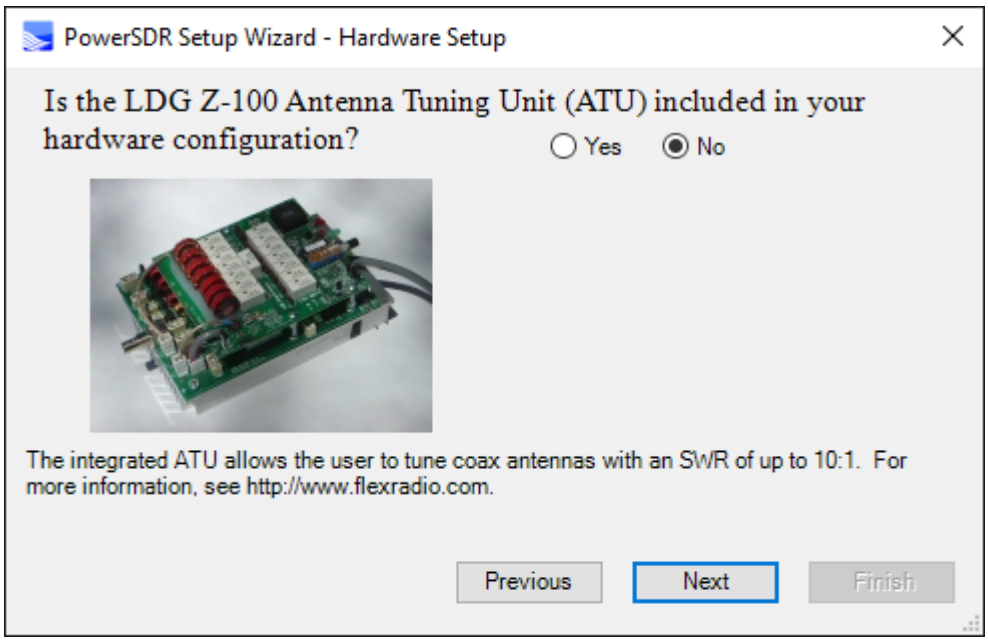


Click “Next”

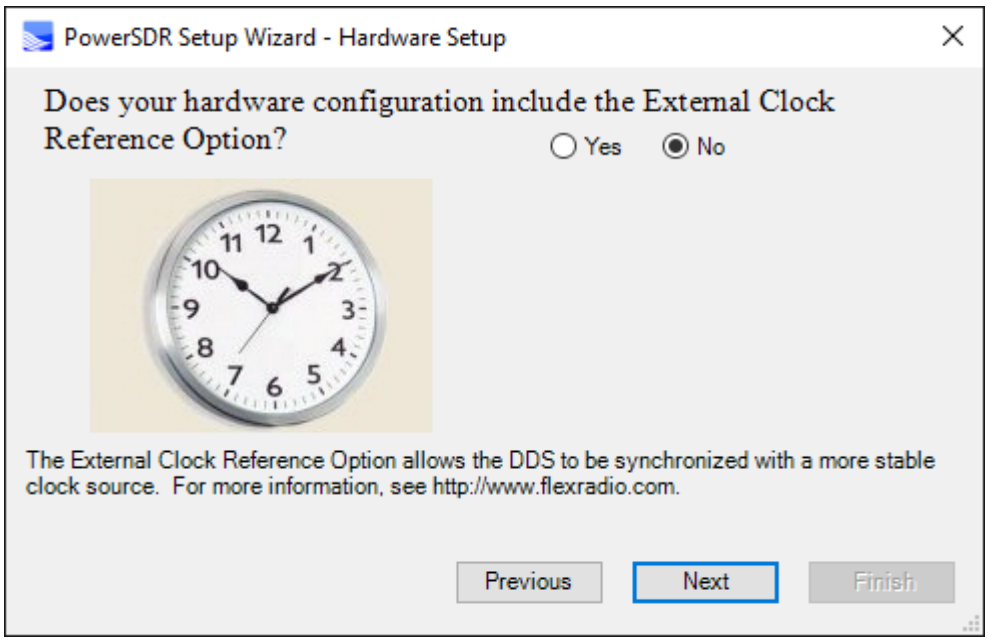


Select 'Yes' in Power Amplifier even if you do not have a PA. In effect this will enable the usage of per band output calibration, a very useful Tx feature.

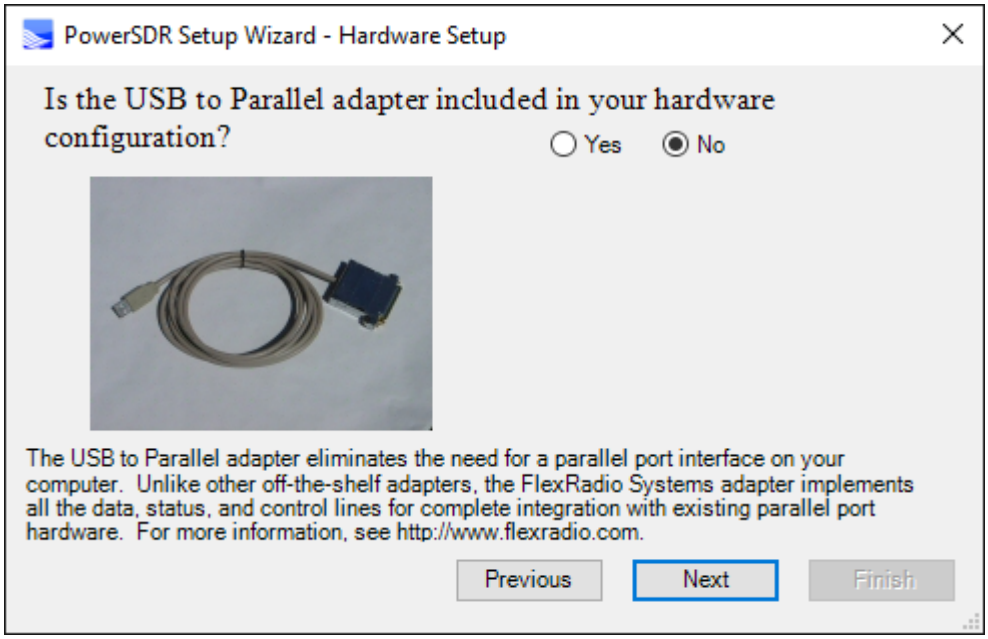
Click "Next"



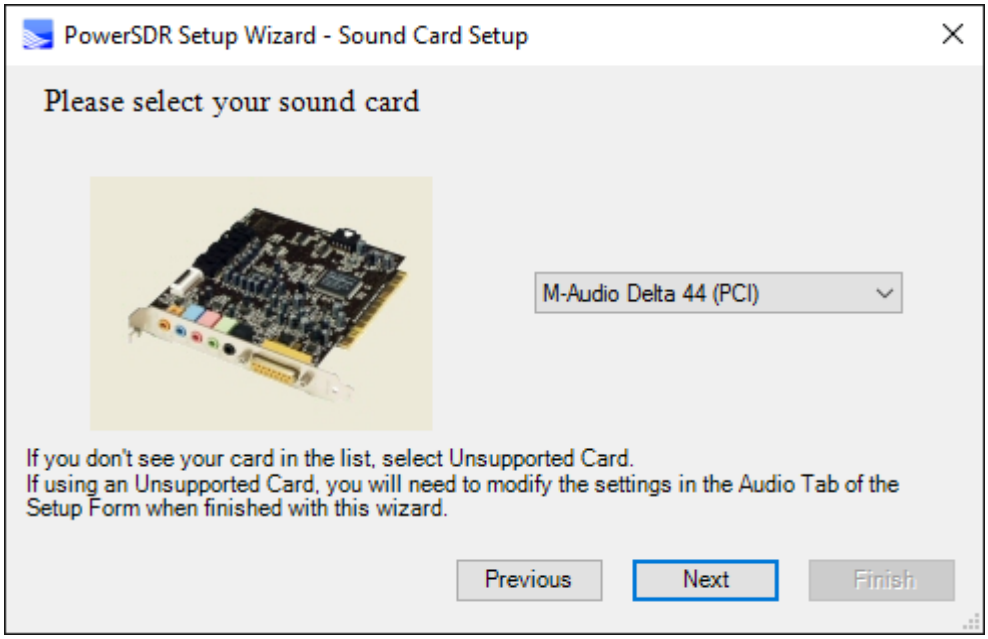
Click "Next"



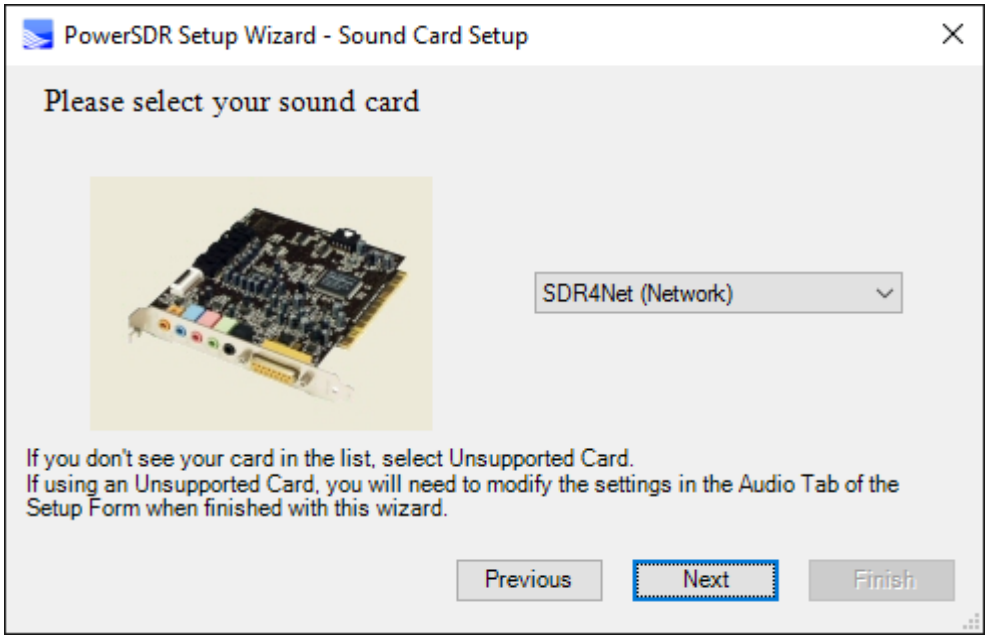
Click “Next”



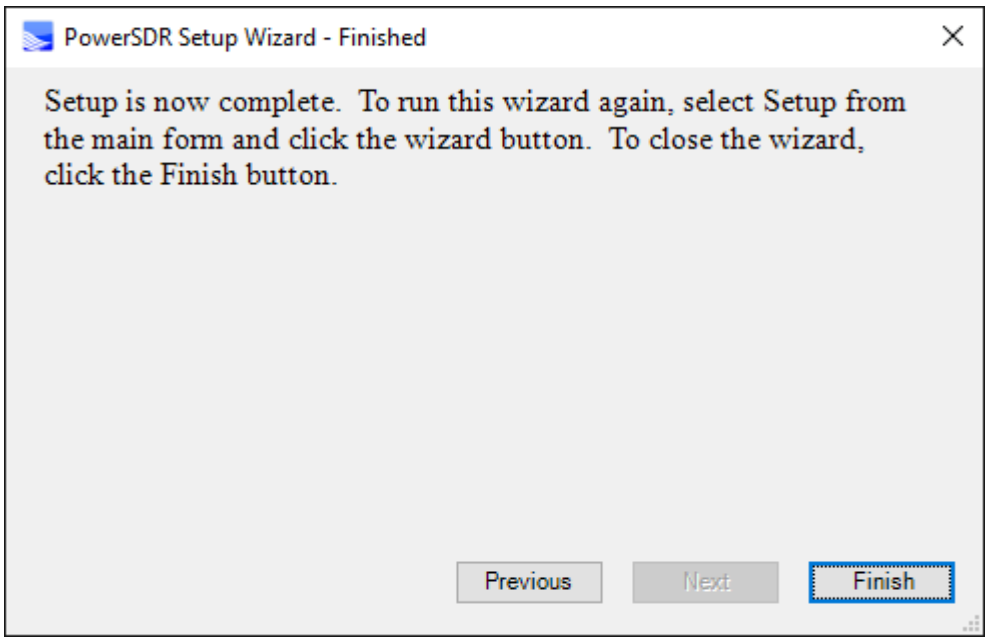
Click “Next”



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



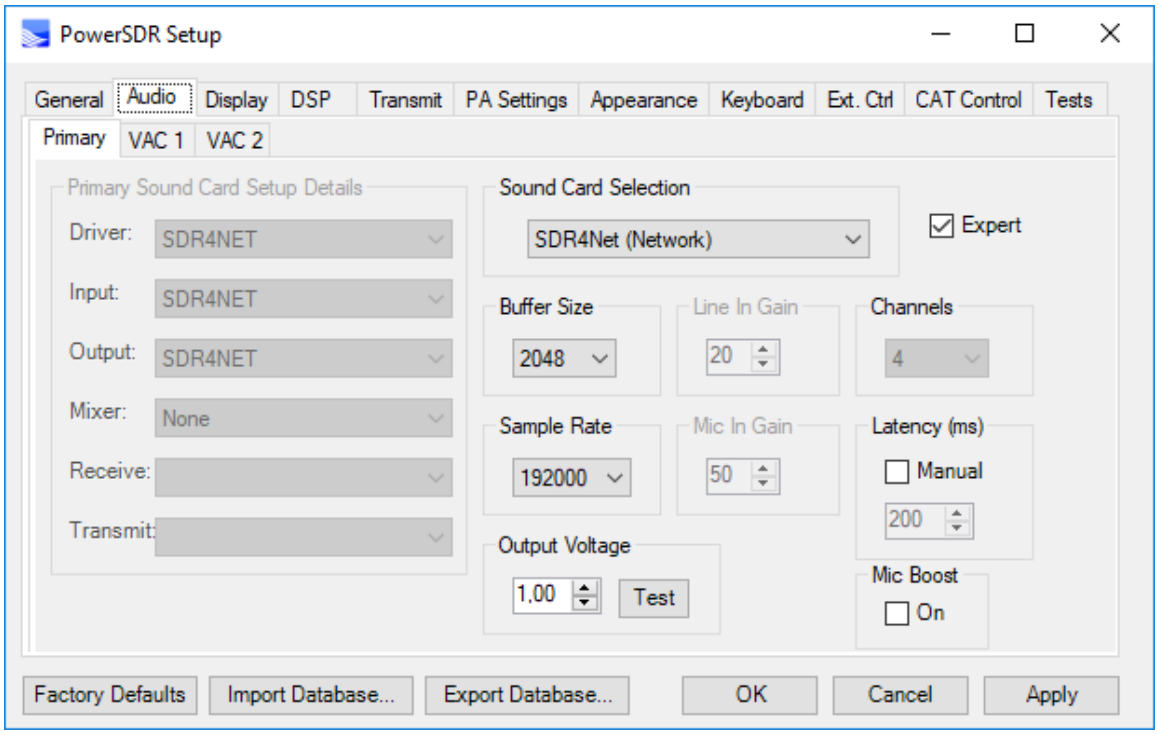
Click “Next”



Click “Finish” and this setup is concluded.

Congratulations, PowerSDR v2.8.0 for Pi SDR application is installed.

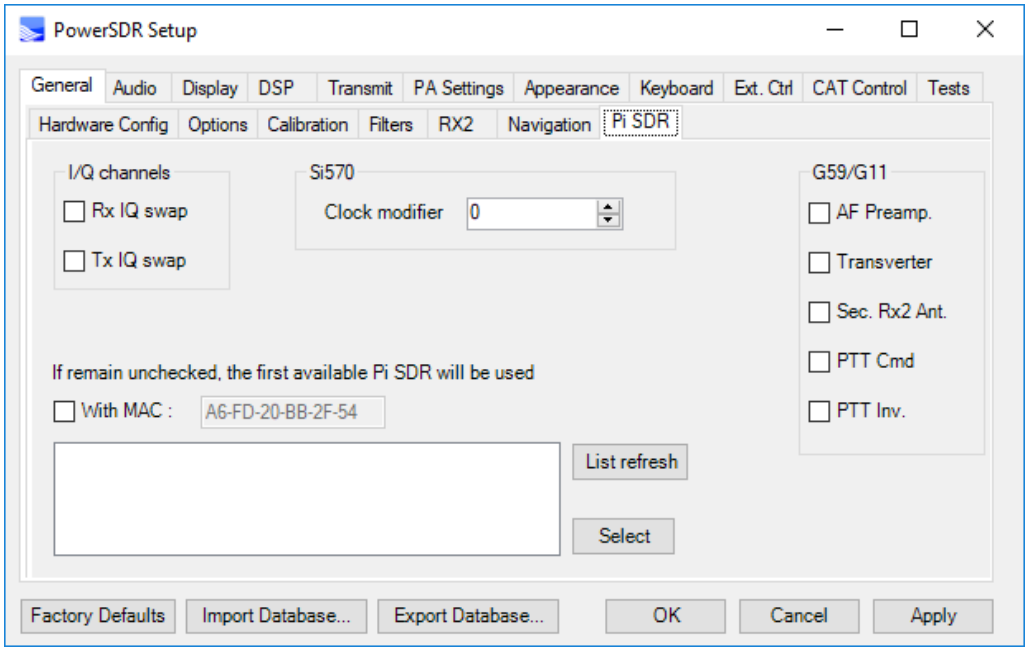
For Setup Audio settings, please click Setup and go to Audio->Primary on the Setup menu and set the “Audio” settings for Pi SDR IQ Plus according to this screen



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.

SoftRock/EnsembleRxTx & Compatibles, UHFSDR with ATTiny(v15.5) and Si570

For Ensemble RxTx & compatibles, the Si570 LO multiplier selection can be performed from the Setup form here

Setup->General->Hardware Config->(DDS Expert)->PLL Multiplier

So Softrock/EnsembleRxTx users should place there the number '4' and UHFSDR users place the number '2'.

After changing the PLL multiplier a PowerSDR stop and exit application is required, settings are valid after application next start.