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_V8qs9GCQMJhl1xkWEJRv14P90

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

Setup - PowerSDR v2.8.0 Pi SDR —		×
License Agreement Please read the following important information before continuing.		
Please read the following License Agreement. You must accept the terms of thi agreement before continuing with the installation.	s	_
	^	
FlexRadio Systems [®] End User	- 1	
Software License Agreement		
Copyright ©2005-2015 FlexRadio Systems		
SCOPE: THIS DISTRIBUTION OF FLEXRADIO SYSTEMS PowerSDR™ INCORPORATES A "MIXED SOURCE" MODEL	~	
• I accept the agreement		
○ I <u>d</u> o not accept the agreement		
Next	Can	cel

Here you have to accept and select "Next"

Setup - PowerSDR v2.8.0 Pi SDR	_		×
Select Destination Location Where should PowerSDR be installed?			
Setup will install PowerSDR into the following folder.			
To continue, click Next. If you would like to select a different folder, cli	ick Bro	wse.	
C:\Program Files (x86)\Pi SDR\PowerSDR v2.8.0 Pi SDR	Br	owse	
At least 91.7 MB of free disk space is required.			
<u>B</u> ack <u>N</u> ext		Can	icel

Use the default folder location and click "Next"

Setup - PowerSDR v2.8.0 Pi SDR	_		×
Select Components Which components should be installed?			
Select the components you want to install; clear the component install. Click Next when you are ready to continue.	ts you do not	want to	
PowerSDR for Pi SDR		Ý	,
Back	<u>N</u> ext	Can	icel

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 insi then click Next.	talling Po	werSDR,	
Additional shortcuts:			
Create a desktop shortcut			
<u>B</u> ack <u>N</u> e	ext	Can	cel



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



Setup - PowerSDR v2.8.0 F	ri SDR	_		×
	Completing the Powe Wizard	rSDR	Setu	p
	Setup has finished installing PowerSDR application may be launched by selectir shortcuts.	on your (ng the ins	computer. talled	The
	Click Finish to exit Setup.			
	Fir	nish		

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	

🚽 Available F	ladio Interfaces		_		×
Model	SerialNumber	Nickname			
DEMO			U	se	X
Add Leas	ov Radios				
Add Lega	cy naulos				

Click "Add Legacy Radios" and check the following checkboxes

"SDR-1000" and "Softrock-40"

🧾 Legacy Radios	—		\times
Please indicate belo you use with PowerS	w any le SDR.	egacy radi	ios
☑ SDR-1000 ☑ SoftRock 40	Serial	Number]
(DK		

Click "Ok"

	o Interfaces		— LI)
Model	SerialNumber	Nickname		
DEMO			Use	X
SDR1000			Use	X
SOFTROCK40			Use	X

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.

NowerSDR Setup Wizard - Hardware Setup	×
Does your board stack include the Down East Microwave (DEMI) 2M Transverter? O Yes O No	
This Down East Microwave 2M Transverter mounts on top of the board stack and uses a 28MHz IF to get into the 144-146MHz range. For more information, see http://www.flexradio.com.	
Previous Next Finish	



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"





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

PowerSDR Setup Wizard - Sound Card Setup	×
Please select your sound card	
SDR4Net (Network) ~	
If you don't see your card in the list, select Unsupported Card. If using an Unsupported Card, you will need to modify the settings in the Audio Tab of the Setup Form when finished with this wizard.	
Previous Next Finish	

Setup Wizard - Finished	Х
Setup is now complete. To run this wizard again, select Setup from the main form and click the wizard button. To close the wizard, click the Finish button.	
Previous Next Finish	

Click "Finish" and this setup is concluded.

🤝 FlexRadio Syste	ms™ Powe	rSDR™ v2.8.0.197	Pi SDR Ext. v4.9	9.3 : US							_	×
Setup Memory	Wave VFO A	EQ XVTRs	CWX UCB	ESC Fle	cControl Gra	wWtr TX Wate	erID CallSign VFO B	n Scanner	Spotter	Map S	SWL Search RX1 Meter Signal	About TX Meter
START		40M Extra	CW	TX 7.0	00000 Save	Step: Band Restore 1	Stack	40M	Extra CW	JUU	-	200 dBm
	900.0	6.920.0	6.940.0	6.960.0	6.980.0	7.000.0	7.020.0	7.040.0	7.060.0	7.080.	133	SIG
REC PLAY Rec/Play ID	-40 -60									+33 +13	Signal	TX Meter(2nd) ✓ Fwd Pwr ✓
AF: 50 MON: 5	-80 0 -100									\$/ \$4	10 5. \	50 100
AGC-T: 80	-140									<\$1	K	FWD
AGC Preamp Med ~ High ~	9 <i>00.0</i>	6.920.0	6.940.0	6.960.0	6.980.0		7.020.0	7.040.0	7.060.0	7.080.i	60 20 12	160 80 40 30 17 15 10 6
SUL: - 160											LSB CWL	USB DSB CWU FM SAM SPEC
BCI Rejection	0				Auto W	tr/Pan Lvl					DIGL	DIGU DRM
ID Timer: OFF 06-Sep-21 LOC 14:47:47 Space WX: OFF Click On CPU % 1	S	$\begin{array}{c} coco \\ \hline coco \\ coco \\ coco \\ \hline coco \\ c$	VK1 VK2 NR NB SR	ANF NB2 BIN RX-Main Pan) R	Center RX1 Display () Panafall Avg Pea TNF +TN RX-S	Mic k DX		0.5x	Transmit Pro Default TX Flt on P Low Hig	file Pan th	5.0k 3.3k 2.4k 1.0k Low 150	4.4k 3.8k 2.9k 2.7k 2.1k 1.8k Var 1 Var 2 High 2850 ‡
	0 V/	↓ 0 ↓ ↓ AC1 VAC2 ↓		RX-Sub Pan) R	MultiRX Swap	DEX		100 -40	200 🖨 310	X EQ	Width:	Reset

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

🤝 PowerSDR Setup		– 🗆 X					
General Audio Display DSP Transmit Primary VAC 1 VAC 2	PA Settings Appearance Keyboard	Ext. Ctrl CAT Control Tests					
Primary Sound Card Setup Details Driver: SDR4NET Input: SDR4NET Output: SDR4NET Mixer: None Receive: Transmit:	Sound Card Selection SDR4Net (Network) Buffer Size 2048 V Sample Rate 192000 V Output Voltage 1 00 Tent	Channels Channels Latency (ms) Manual 200 Mic Boost					
Factory Defaults Import Database OK Cancel Apply							

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

S PowerSDR Setup – 🗆 🗙							
General Audio Display DSF	Transmit PA Settings Appearance Keyboard	Ext. Ctrl CAT Control Tests					
Hardware Config Options Calibration Filters RX2 Navigation PI SDR							
I/Q channels Si570 G59/G11							
Rx IQ swap	Clock modifier 0	AF Preamp.					
Tx IQ swap	Tx IQ swap						
	Sec. Rx2 Ant.						
If remain unchecked, the first	PTT Cmd						
With MAC : A6-FD-20-E	PTT Inv.						
List refresh							
Select							
Factory Defaults Import Database Export Database OK Cancel Apply							

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.