Setting up the PowerSDR software with Commander and WinWarbler for CW, Phone, PSK, and RTTY

PowerSDR and <u>WinWarbler</u> can provide PSK, RTTY (using the included MMTTY engine) and full featured cw transmission. WinWarbler can also serve as a Digital Voice Keyer (DVK), by transmitting pre-recorded audio files.

The first step is to define a connected pair of virtual serial ports using a 'Virtual Com Port Emulator.

One choice of com port emulator is VCom or **com0com**. Vcom can be obtained from <u>http://www.philcovington.com/SDR.html</u>. Setup **Vcom** to create and connect virtual serial ports 3 and 6 as shown:

1	
N8VBvCOM Driver	
Virtual Port Pairs	
СОМ6 - СОМ3 -	
COM9 - COM4 -	
COM10 - COM5 -	
COM11 - COM7 - COM7 -	
COM12 - COM8 -	
COM13 - COM15 -	
COM14 - COM16 -	
COM13 - COM23 -	
COM14 - COM24 -	
COM15 - COM25 -	
Save Configuration	

Another Choice of virtual Com Port Emulator is VSPmanager.

VSPManager and it's companion DDUtil, are a integrated Virtual Com Port program and com port sharing/directing program designed with DXLabs in mind. The combo offer multi rig, multi antenna sharing, amplifier selection between PSDR and DXLabs. VSPmanager, a free Virtual Com port program that is very easy to use and is available

from Steve Nance K5FR. DDUt, also included the ability to integrate Commander/Winwarbler with CWSkimmer for full one click Split Operation.

See: <u>http://k5fr.com/ddutilwiki.index.php?title=VSPM</u>

When setting up your VIRTUAL COM PORTS, keep in mind, that some Ham Radio programs only offer a limited amount of com port setup choices. Usually limiting the choices between com 1 and com 8. Whereas Flex allows almost unlimited com port numbers to be selected.

Therefore I set up my com port pairs choosing a Low number (for conventional programs) mated to a High Number (for Virtual programs)



(I couldn't get it all in one picture, continued on next page)

and Dart Manuar	Port Man	agement		
COM26 COM17 COM27 COM27 COM27 COM18 COM28 COM33 COM34 COM40 COM41 COM41 COM5 COM19 COM5 COM19 COM6 COM20		he port mote that prote that prote that End 1 End 2 End 1 End 2 End 2 All virtu delete that all	umbers you want as all virtual port names th DDUtil. COM24 • • COM25 • • No Port Selected No Port Selected able Strict Baudrate I ak Line/Restore Cor ual serial ports will be d. Please make sure ports are closed.	a virtual pair. s must start with Create Pair Delete Pair Emulation anection

As you can see above, I have 6 **physical** com ports and a group of **Virtual ports**.

Each of the Virtual Com ports has two "numbers", but actually only makes one port.

To communicate the data across two programs, you select one side of the virtual com port in one program and the other side of the virtual com port is selected in the other program.

For instance, my Flex Control Program, PSDR, Uses Com 19 for its Cat Control port which connects to DXLab's Commander by selecting Com 5.

So if your Contest Program only allows use of com 1 through 8, you need to create pairs that use one of these single digit numbers with a selection of high 2 digit numbers.

For Digital Modes, such as RTTY and PSK which DXlabs WinWarbler provides, you can use a soundcard just as you do with conventional radios.

OR YOU CAN GO FULL DIGITAL for maximal efficiency

For the purpose of this wiki, we will discuss using VAC or Virtual Sound Cables. The benefit is the elimination of having to decode analog to digital, and then decode digital to

analog, with it's inherent latency and slight loss of quality. Virtual Audio Cables are digital to digital, faster, cleaner, and more efficient.

You can download the Virtual Audio Cable (VAC) program from <u>http://software.muzychenko.net/eng/vac.html</u> The PREFERRED VERSION IS VAC 4.09 only.

and set it up as shown here: You can type in the settings and remember to click the 'Set' button to save your changes.

ableMax instancesMS per intSR rangeBPS rangeNC rangeStream fmt limitVolume ctlSRBPSNCR c stmsPb1207110259600083212Cable rangeDisabled4800016222207110259600083212Cable rangeDisabled480001621]	Set	ne contr	Volun	e range 💌	ream fmt Cable	Str Clod	y per int 7 s S/PDIF ∏	st 20 🕂 Marce lines	Max in Conr Mic	rt	Resta
1 20 7 1102596000 832 12 Cable range Disabled 48000 16 2 2 2 20 7 1102596000 832 12 Cable range Disabled 48000 16 2 1	stms	ms Pb stms	Rc stms	NC	BPS	SR	Volume ctl	Stream fmt limit	NC range	BPS range	SR range	MS per int	Max instances	able
	1	1	2 1	2 2	16 16	48000 48000	Disabled Disabled	Cable range Cable range	12 12	832 832	1102596000 1102596000	7 7	20 20	1 2

NOTE: PSDR and or DXLabs must not be running when you make changes to the default settings in the Control Panel.

The next step is to setup PowerSDR. Open its **Setup** window, select the **VAC** tab, and configure it as shown here:

✓ Enable VAC Virtual Audio Cable Setup Driver: MME Input: Virtual Cable 1 Output: Virtual Cable 2 Auto Enable ✓ Enable for Digital modes, Disable for all others	Buffer Size 512 Sample Rate 12000 Mono/Stereo Stereo Stereo	Gain (dB) BX: -3 ÷ TX: 0 ÷ Latency (ms) ✓ Manual 1 ÷	
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In DXLabs WinWarbler One more step if you are using Win7. Win7 likes to specify sound card settings for it's default sound system.

One more step if you are using Win7. Win7 likes to specify sound card settings for it's default sound card. To fix this, you must go to Win7 Control Panel>Sound and select the Virtual Sound Cable line 1 and 2 and change the settings to those below on BOTH CABLES IN BOTH 'PLAYBACK' AND 'RECORD.

NOTE: this is from http://kc.flexradio.com/KnowledgebaseArticle50504.aspx

Make sure PowerSDR and any digital mode programs are not running

1. Click on the Windows Start button and Select the Control Panel option

2. Click on the Hardware and Sound category

3. In the Sound sub-category, select Manage Audio Devices

4. In the **Playback** tab, locate the first VAC cable, it should be labeled as **Line 1**, **Virtual Audio Cable**. **Right click** on it and select **Properties** from the menu.

5. Click on the **Advanced** tab

6. Click on the drop down box in the **Default Format** section. Select "**2 channel, 16 bit, 48000 Hz (DVD Quality**)"

Zine 1 Properties	×
General Levels Advanced	
Default Format Select the sample rate and bit depth to be used when running in shared mode.	
2 channel, 16 bit, 48000 Hz (DVD Quality) 🔹 🕨 Test	
Exclusive Mode Image: Constraint of the second s	
Restore Defaults	
OK Cancel App	у

7. In the Exclusive Mode section, check both boxes; "Allow applications to take exclusive control of this device" and "Give exclusive mode applications priority".

8. Click on the **OK** button

9. Repeat steps 5-6 for all of the VAC cables in the Playback tab

10. Select the Recording tab.

11. In the **Recording** tab, locate the first VAC cable, it should be labeled as **Line 1**,

Virtual Audio Cable. Right click on itand select Properties from the menu.

12. Click on the Advanced tab

13. Click on the drop down box in the **Default Format** section. Select "2 channel, 16 bit, 48000 Hz (DVD Quality)"

14. In the **Exclusive Mode** section, check both boxes; "**Allow applications to take exclusive control of this device**" and "**Give exclusive mode applications priority**". 15. Click on the **OK** button

16. Repeat steps 5-6 for all of the VAC cables in the **Recording** tab