

Digital Setup Examples for ICOM 718, 706, 7000 and Flex5000

Hardware for ICOM 718, 706, 7000

Donner Digital Interfaces – Sound Card Interface for various radios (\$40.00)

- Requires Serial Port or “USB to Serial Port” Adapter
- COM port on computer is assigned to cable

http://donnerstorenet.ipage.com/DCC/index.php?main_page=index&cPath=2&zenid=508e9a178da4b813c044e57ab9fe4eb7

CI-V Control Cable - ICOM CI-V Radio Control Cable (\$20.00) - Can be found for around \$10

- Based off Prolific Chipset - Works Well with XP and 32bit systems
- Current drivers **have issues** with Windows 7 64 bit
- Requires Software driver to be installed – assigns COM port on computer to cable

<http://stores.ebay.com/KAWAMALL-RAD/i.html?nkw=ci-v+icom&submit=Search&sid=55765193>

CI-V Control Cable - ICOM USB-RTS01 CI-V Radio Control Cable (\$30.00)

- Based off FTDI Chipset - Works Well with all current systems
- Requires Software driver to be installed – assigns COM port on computer to cable

http://www.rtsystemsinc.com/othercables_template.cfm

USB to Serial Port Converter (\$17.80) – If Needed for Computer

- May require Software driver depending on Operating System
- Assigns COM port on computer to cable

<http://www.newegg.com/Product/Product.aspx?Item=N82E16812339013>

Software for Flex 5000

COM-0-COM – COM Port Emulation Software (Free)

- For 64 bit systems be sure to get the Signed Driver version
- Creates COM Port pairs virtually in Computer

<http://sourceforge.net/projects/com0com/files/com0com/2.2.2.0/>

Virtual Audio Cable (\$30.00)

- For 64 bit systems be sure to get the Signed Driver version
- Creates virtual Audio ports in Computer

<http://software.muzychenko.net/eng/vac.htm>

Digital Mode Software

Ham Radio Deluxe (Free) – Radio Control, Digital Mode Operation, Log Book – Current Version v5 Beta

<http://www.ham-radio-deluxe.com/>

ICOM PC Connectivity

ICOM radios will use a Physical connection to PC using CI-V Cable and Digital Cables:

ICOM 718



13 Pin Dinn – Connect Donner Cable Here

CI-V Remote Control Jack

ICOM 706MKIIG



13 Pin Dinn – Connect Donner Cable Here

CI-V Remote Control Jack

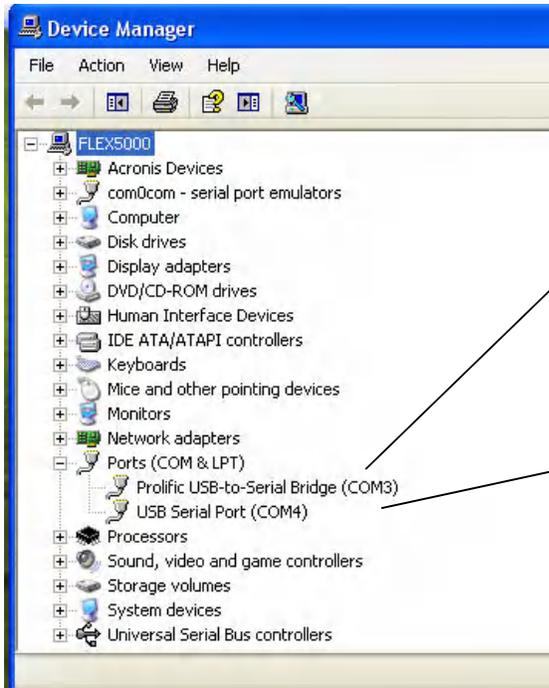
ICOM 7000



13 Pin Dinn – Connect Donner Cable Here

CI-V Remote Control Jack

A COM Port on the computer is assigned to each of the two cables – to be used when setting up Ham Radio Deluxe (Values listed below may be different on your PC):



COM Port Assigned to CI-V USB Cable. (COM3)

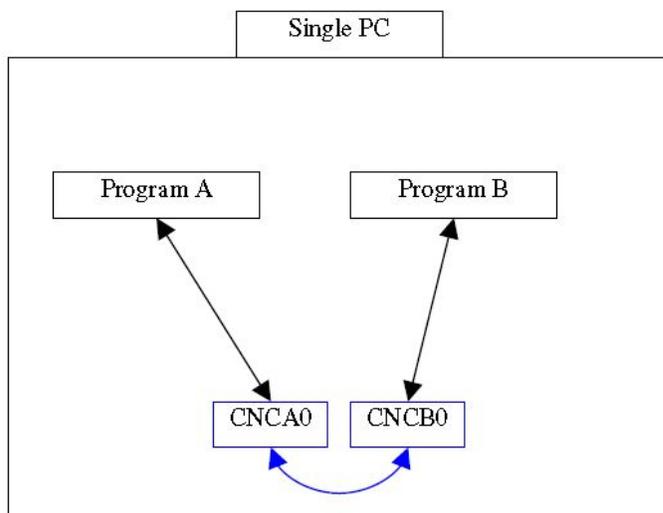
COM Port Assigned to USB to Serial Adapter, attached to Donner Interface. (COM4)

Audio cables for ICOM are connected to the PC “Line In” and “Line Out” ports on the computer sound card. There are 2 audio cables on the Donner Interface – one is black and the other has a Red Marker.

The line with the Black Stereo plug goes to the soundcard “Line In”. The line with the Red Marker goes to the soundcard “Line Out”

FLEX PC Connectivity

The Flex radio is connected to the computer through one Firewire Cable. Communications between programs is handled via Virtual Connections through software on PC:

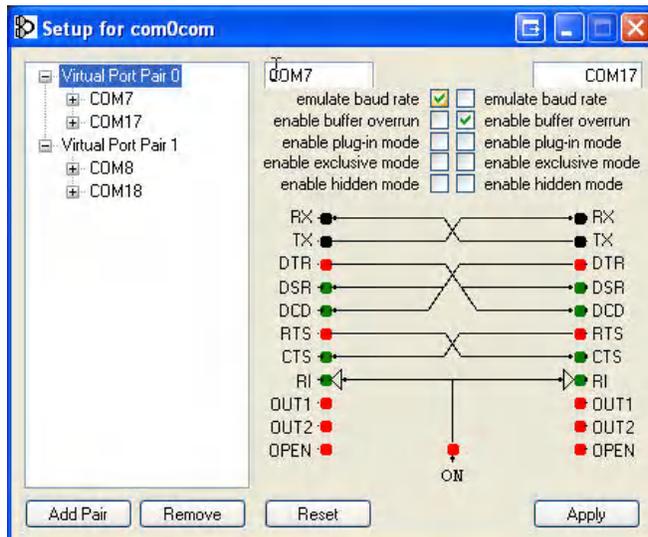


Substitute CNCA0 & CNCB0 for COM Port Pair #s below

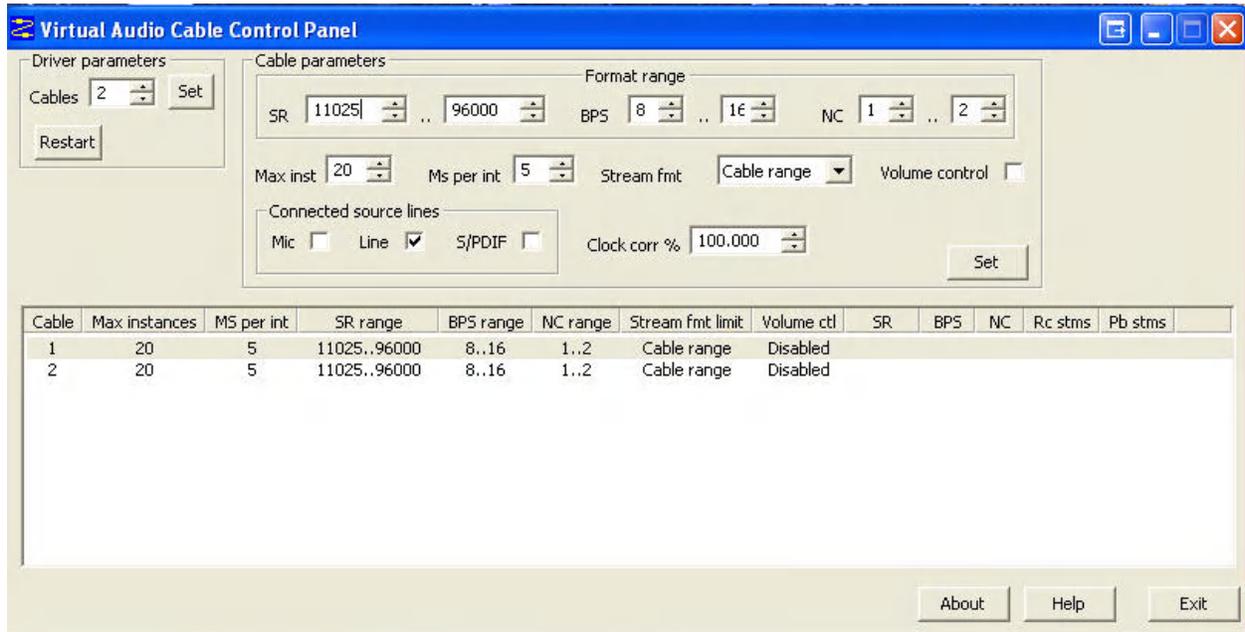
Each Piece of software will use one end of the COM Port Pair

The same will be done for the virtual sound port connections

Utilize COM-0-COM program to create Virtual COM Port Pairs (COM7 & COM17), (COM8 & COM18):



Utilize Virtual Audio Cable program to create Virtual “Line In”, “Line Out” audio cables:

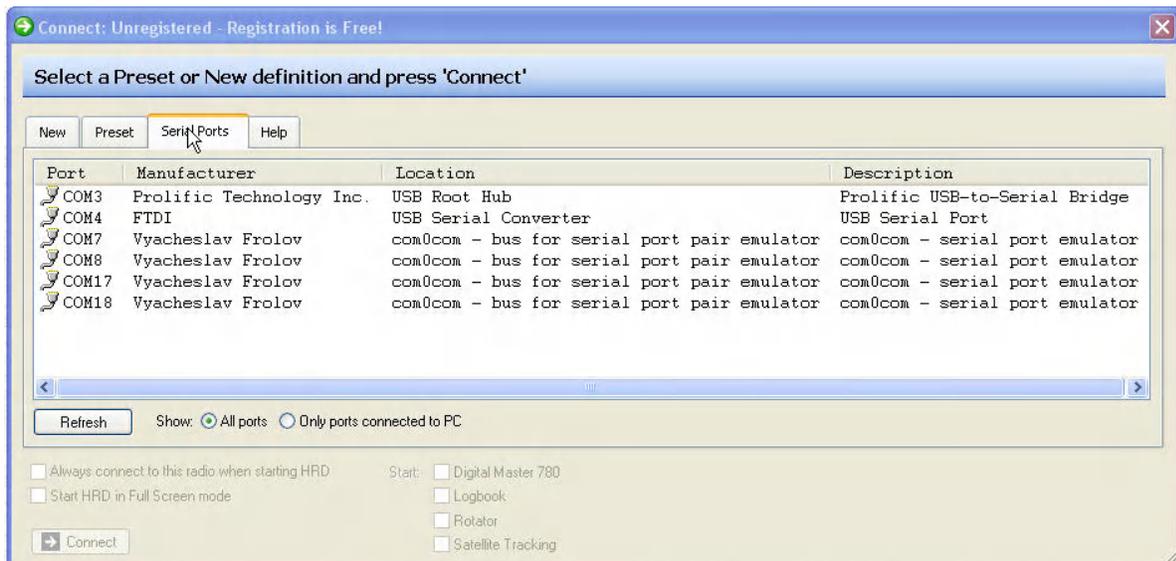


HAM Radio Deluxe

HRD is used to control the radio from the PC. Most of what you can do from the radio directly you should be able to do from the HRD interface.

When you first connect to HRD you will be shown the Connect Dialog Screen.

In case you forgot, or didn't know which serial ports were assigned on your computer, you may use the “Serial Ports” tab to view them:



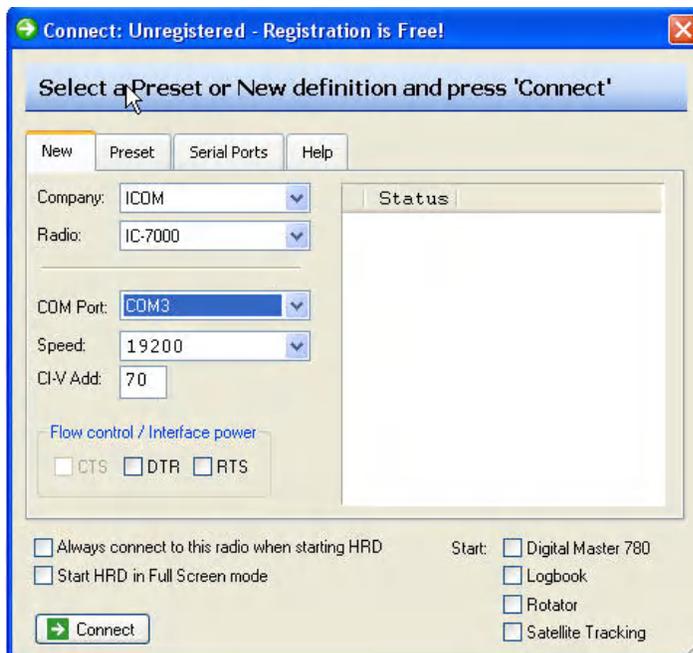
HAM Radio Deluxe Setup for ICOM

Make sure your radio is powered on and connected to the PC with both the CI-V and Donner Interface cables.

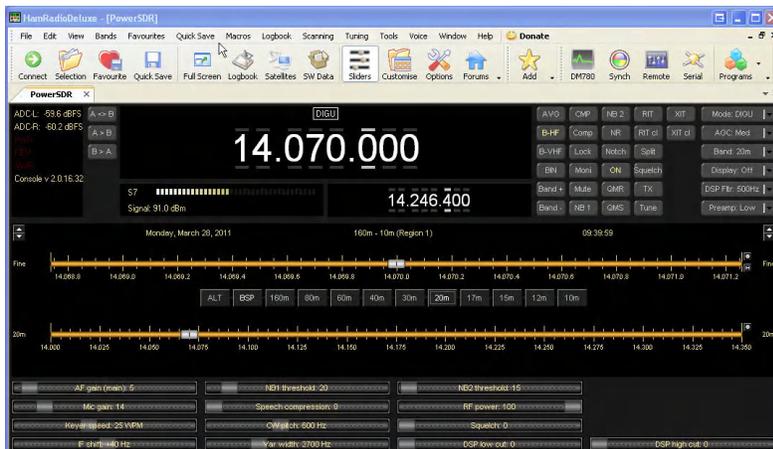
Select ICOM and Radio Model from the Dropdowns.

Assign the **COM Port that is associated with your CI-V Cable** as HRD will use this to control your radio. The CI-V Address will be auto filled in based on your Radio Model. Select a port speed, I usually choose the highest value. When complete press the “Connect” button.

Optional – Place a check mark in the “Digital Master 780” and “Logbook” selections to auto start those programs when you press “Connect”



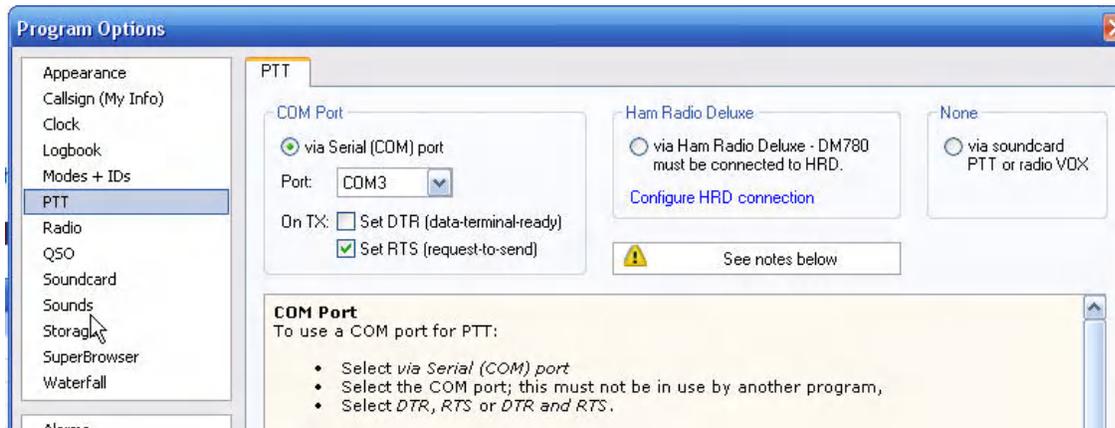
If all is well HRD should connect to the radio and display the frequency



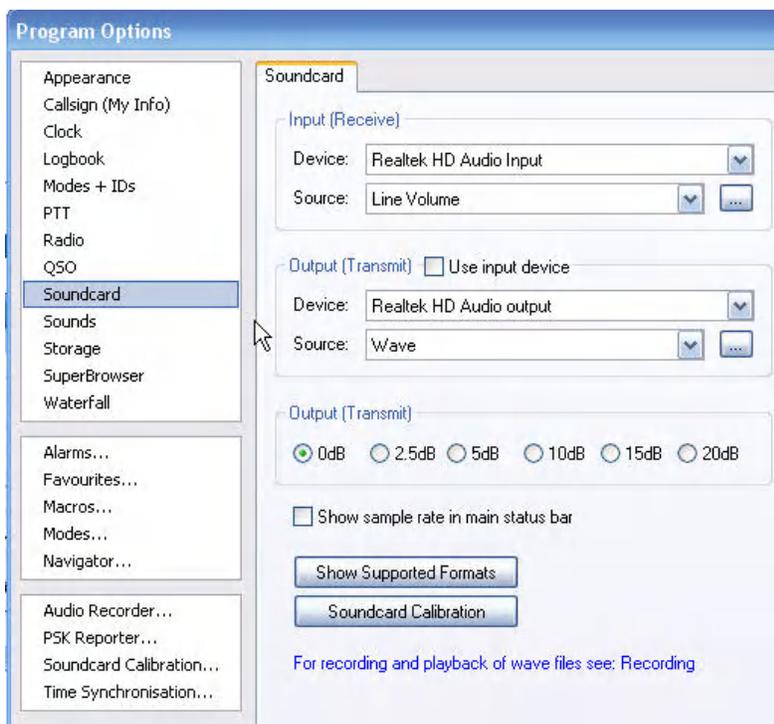
If not already started, Start DM780 using the Toolbar button in HRD. DM780 is an included program In HRD used for Digital mode communication.

From the DM780 Menu, select Tools and then Program Options.

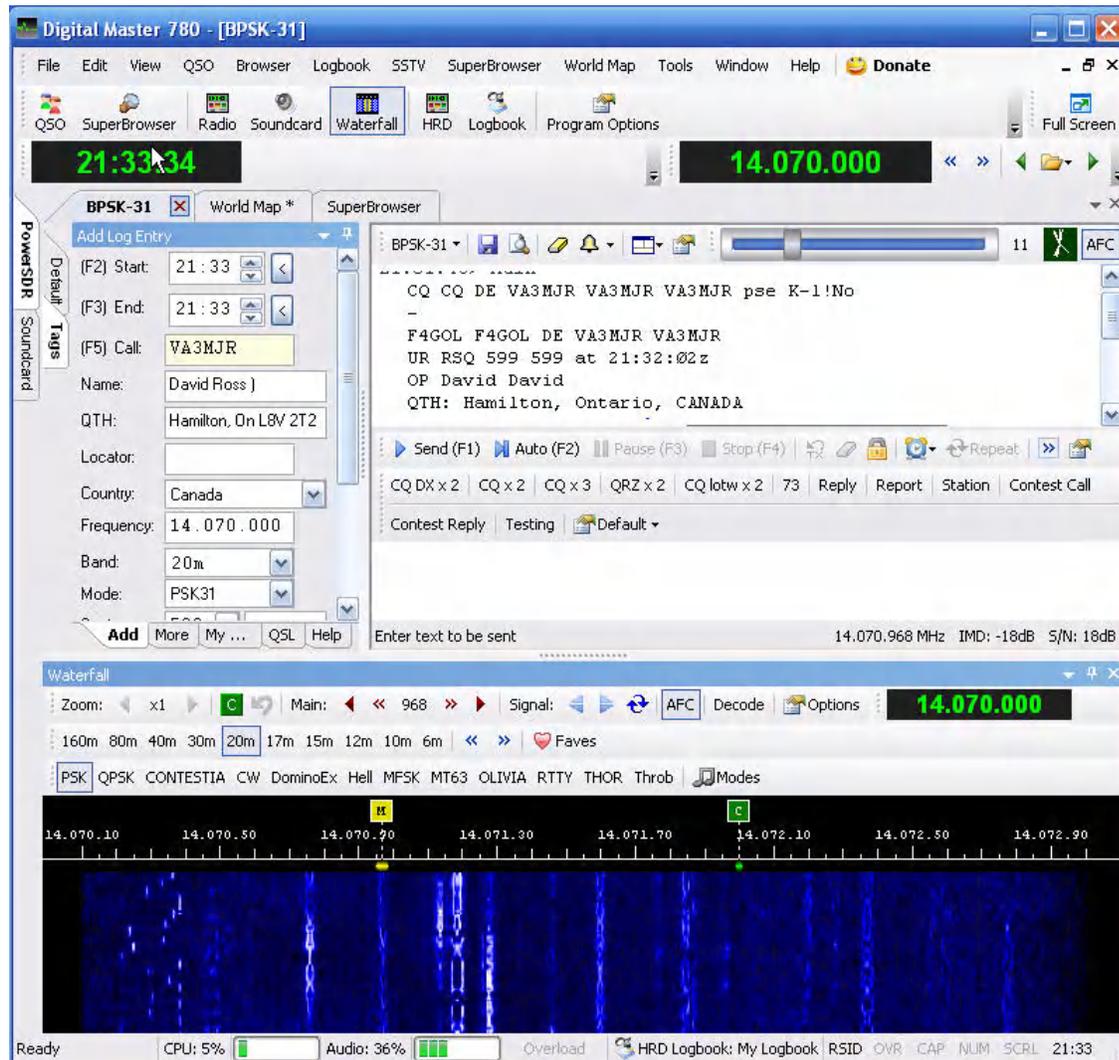
Select PTT and assign the **COM Port that is associated with your Donner Interface Cable**. This will allow DM780 to control the Keying of the radio when you go to transmit.



Select Soundcard and assign values for Input/Output pointing to the Soundcard on your Computer. The soundcard ports are connected to the Donner Digital Interface.



At this point, assuming all is well, the signals from your radio should start appearing on the DM780 Waterfall.



Popular frequencies for PSK31 digital communication are :

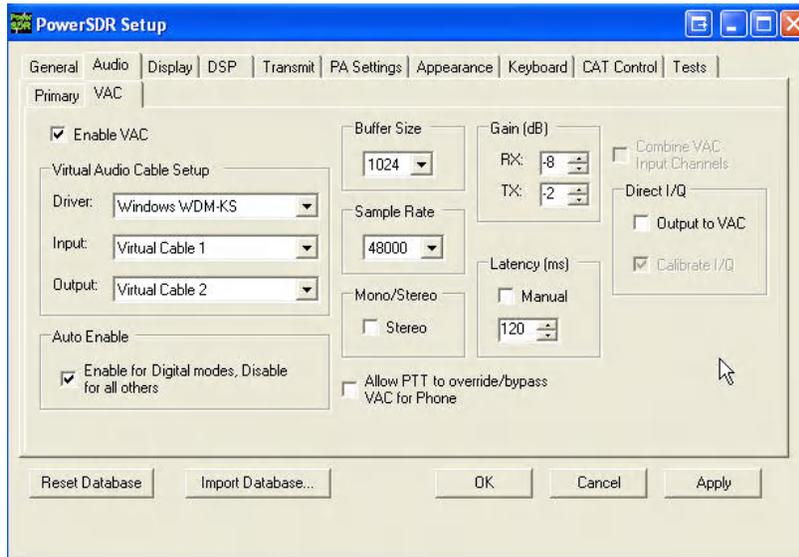
- 10m 28.070
- 12m 24.920
- 15m 21.070
- 17m 18.100
- 20m 14.070
- 40m 70.035
- 80m 3.580

HAM Radio Deluxe Setup for FLEX

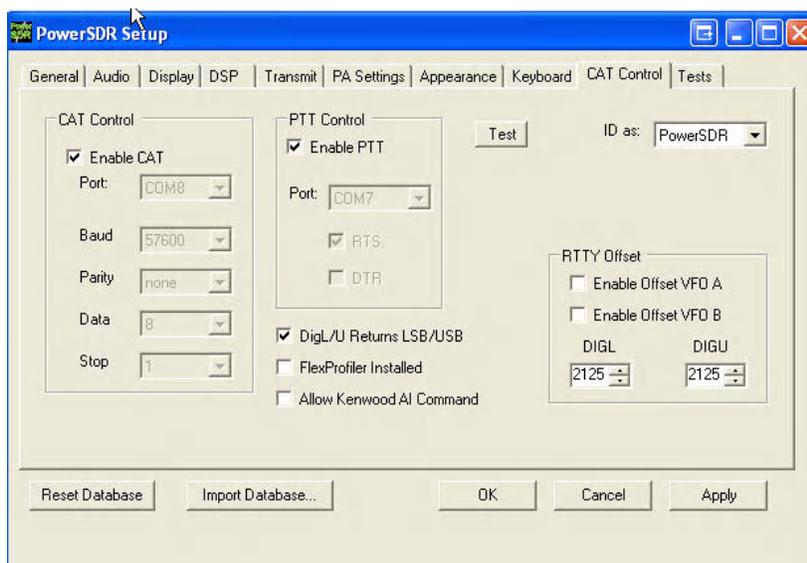
Before you can connect to HRD you must first setup the PowerSDR software that runs the Flex Radio. Make sure your radio is powered on and connected to the PC via the Firewire cable.

Remember that Communications between the Flex Radio and other programs is handled via Virtual Connections through software on PC. We have pairs of connections for COM Ports and Audio Ports.

In PowerSDR setup the VAC (Virtual Audio Cables). Assign the Input to "Virtual Cable 1" and the output to "Virtual Cable 2". **These are the virtual audio cables we created with VAC program.** When we setup HRD we will do the opposite.



In PowerSDR setup CAT and PTT Control. Use one of the COM Port pairs that we created with COM-0-COM for each of the settings. When we setup HRD we will use the opposite side of each COM Port pair.

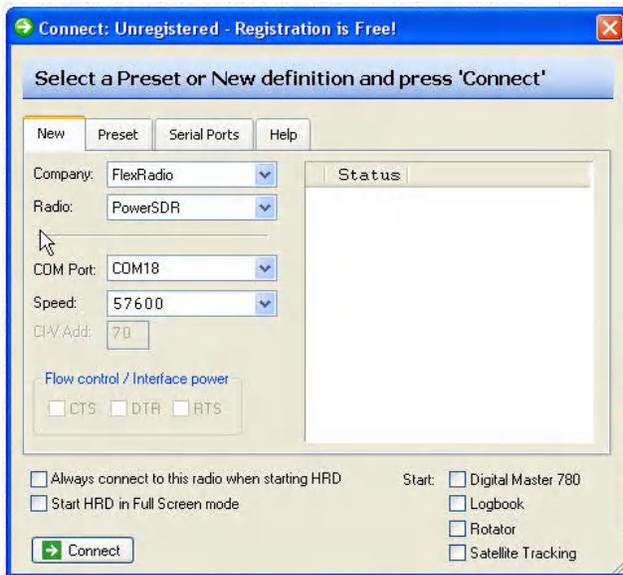


Start Ham Radio Deluxe Software and bring up the Connect Dialog Screen

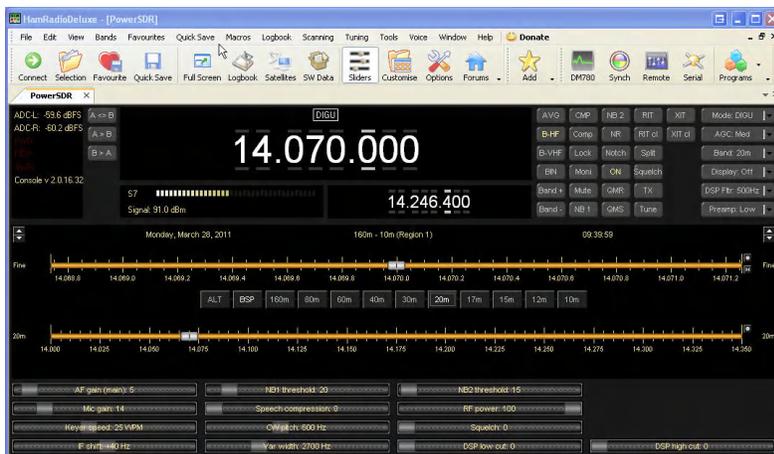
Select FlexRadio and PowerSDR(software that runs the Flex) from the Dropdowns.

Assign a COM Port that was created with COM-0-COM. We want to **use the opposite end of the COM Port pair that has been set in PowerSDR for CAT Control**. Select a port speed, I usually choose the highest value. When complete press the “Connect” button.

Optional – Place a check mark in the “Digital Master 780” and “Logbook” selections to auto start those programs when you press “Connect”



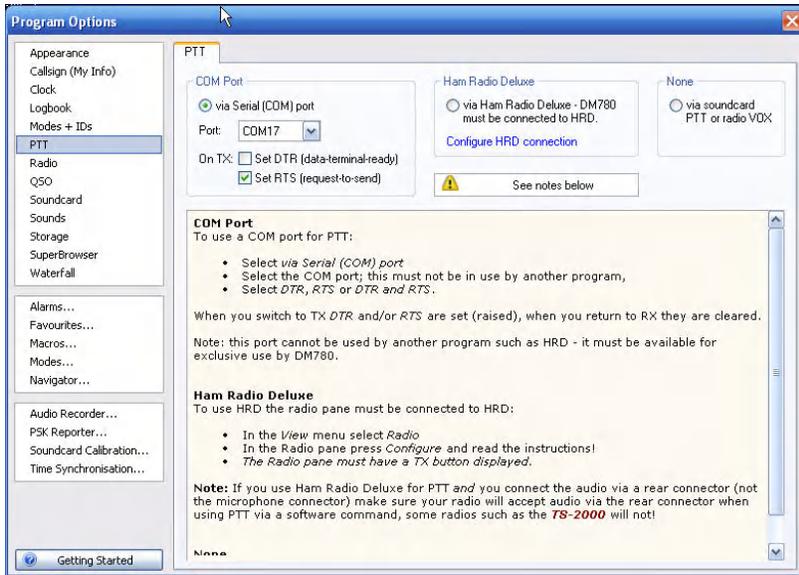
If all is well HRD should connect to the radio and display the frequency



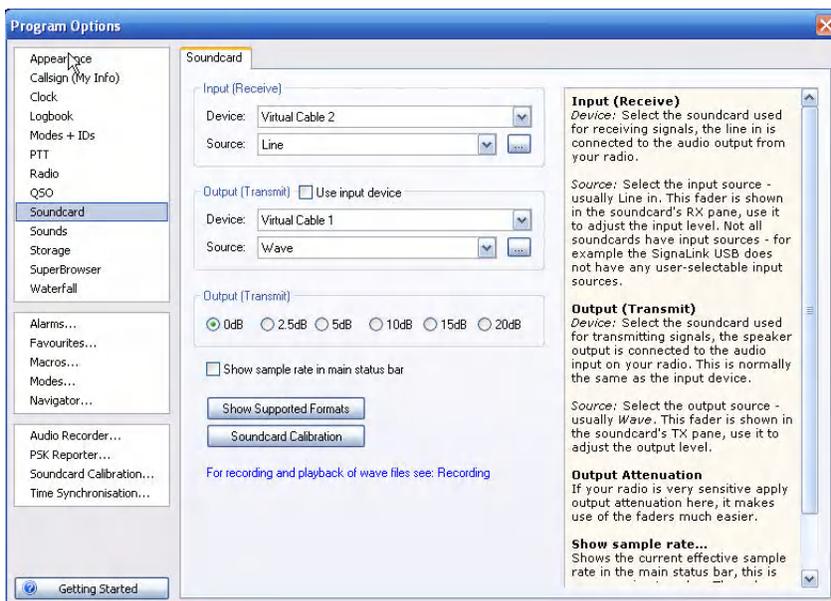
If not already started, Start DM780 using the Toolbar button in HRD. DM780 is an included program In HRD used for Digital mode communication.

From the DM780 Menu, select Tools and then Program Options.

Select PTT and assign a COM Port that was created with COM-0-COM. We want to **use the opposite end of the COM Port pair that has been set in PowerSDR for PTT Control**. This will allow DM780 to control the Keying of the radio when you go to transmit.

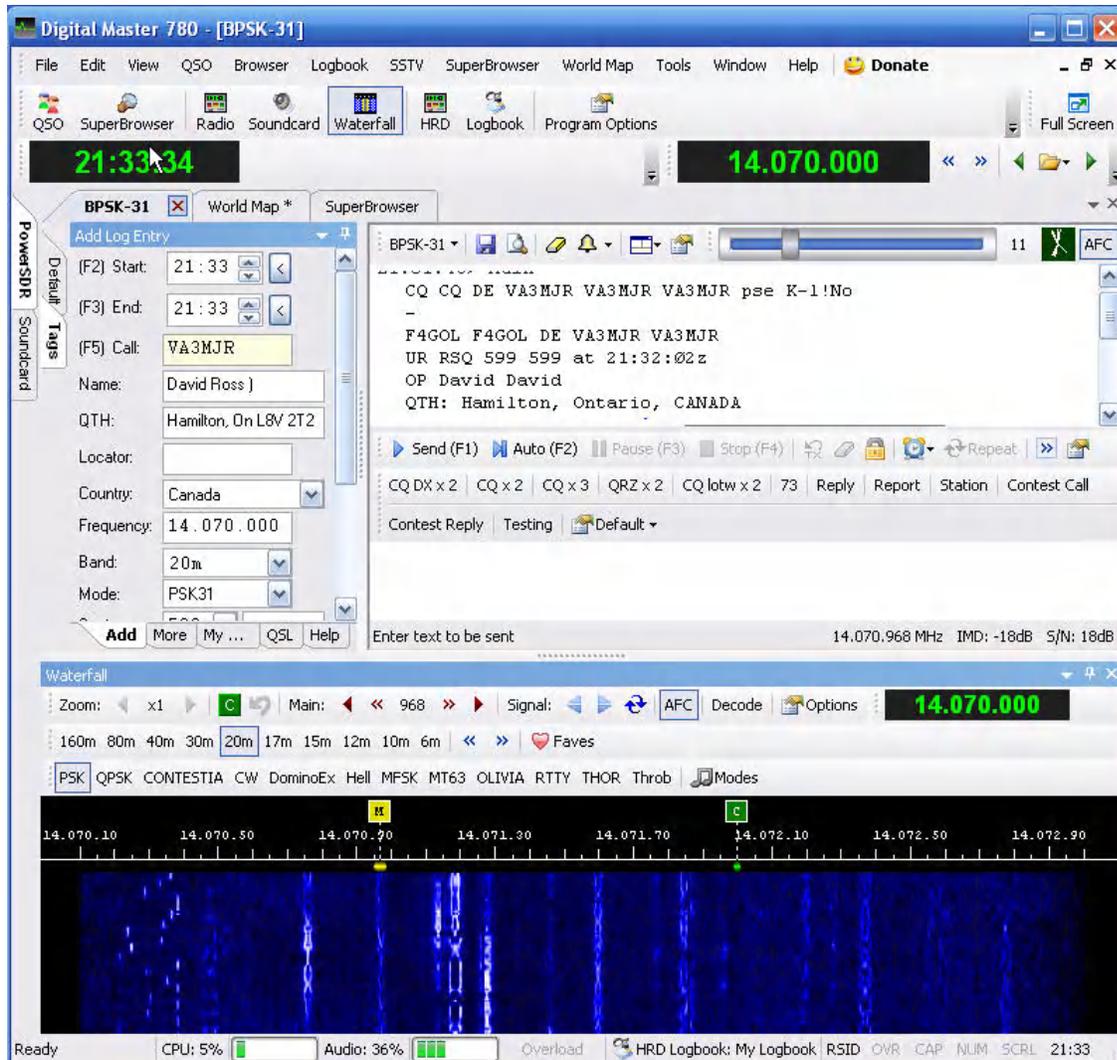


Select Soundcard and assign values for Input/Output pointing to the virtual audio cables we created with VAC. We want to assign them in the opposite order that we did in PowerSDR.



In PowerSDR select one of the Digital Modes DIGL or DIGU. Ensure that the VAC button is turned on.

At this point, assuming all is well, the signals from your radio should start appearing on the DM780 Waterfall.



Popular frequencies for PSK31 digital communication are :

- 10m 28.070
- 12m 24.920
- 15m 21.070
- 17m 18.100
- 20m 14.070
- 40m 70.035
- 80m 3.580