ELAD

ELAD Application Notes AN-002 rev 1.0
Setting FDM-SW2 with external programs:
CW Skimmer, FLDIGI

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Introduction

This application note describe how to setup FDM-SW2 software in connection with CWSkimmer and FLDIGI for decoding CW Spots and messages in digital modes.

1 FDM-SW2 with CW Skimmer

1.1 Requirements

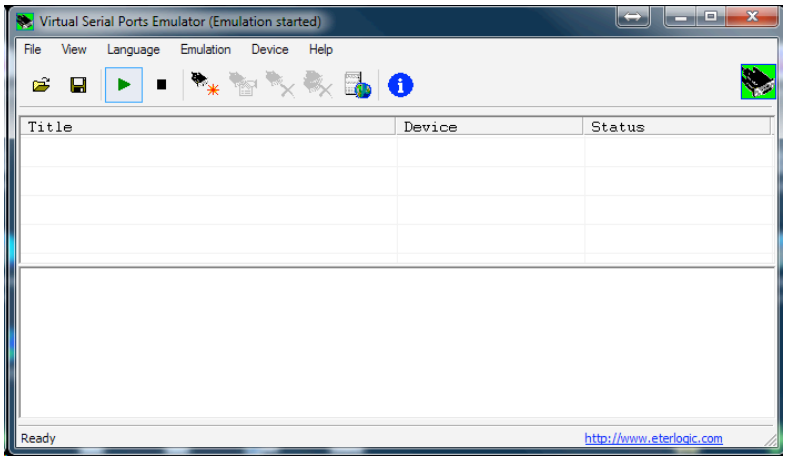
- VSPE Vistual serial port emulator from Eterlogic http://www.eterlogic.com/Products.VSPE.html Freeware for 32 bit systems, shareware for 64 bit operating systems.
- FDM-SW2 running with FDM-S1, FDM-S2 , FDM-DUO Hardware or also reading files.
- CW Skimmer software by Afreet Software, Inc. http://www.dxatlas.com/CwSkimmer/

1.2 Software Installation

1.2.1 VSPE VIRTUAL SERIAL PORT EMULATION installation

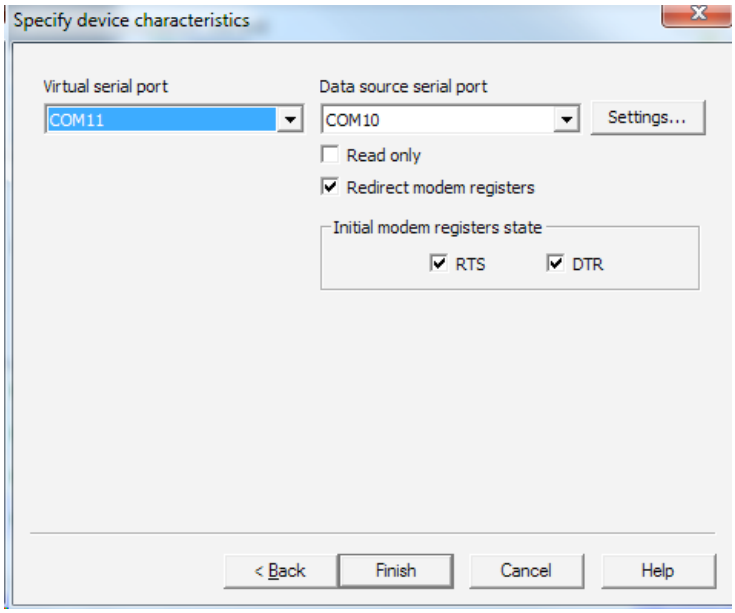
The VSPE must be installed and configured before running the applications need to use the COM ports that we are going to create, because some of them enumerate the available ports only when they are launched.

This is the screen of the emulator when opening:

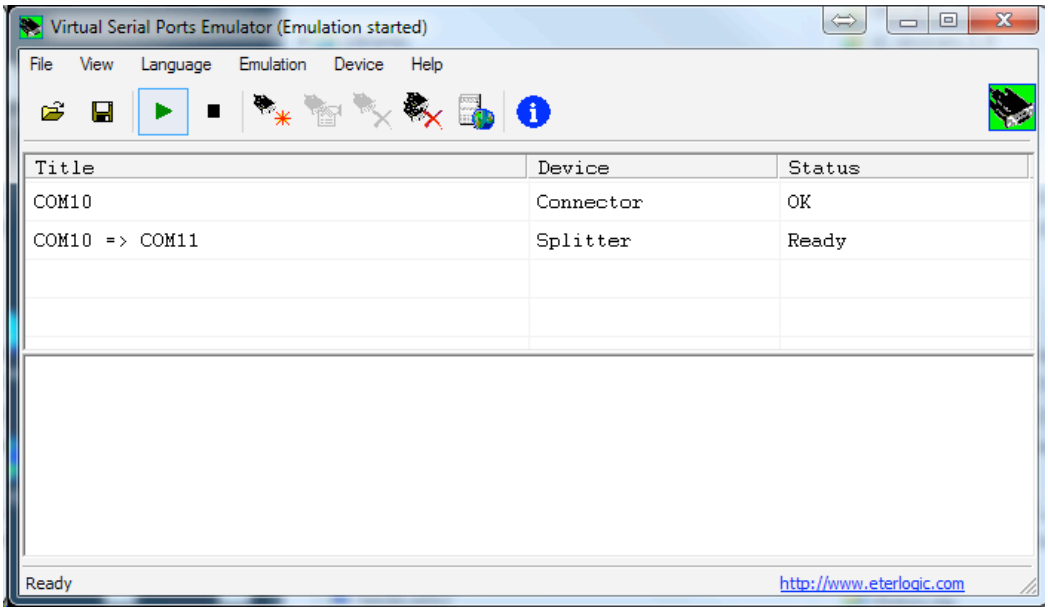


To create a link between two programs is necessary to create 2 COM ports so each program can be configured with one of these ports, while these ports are connected together. The method to create is this:

First create a CONNECTOR type device (add new device-> Connector -> Choose com number) for example COM10;
then create a SPLITTER type device linked to COM10 so add new device-> Splitter -> Virtual port = COM11 linked to data source COM10 then finish:



final result like this:

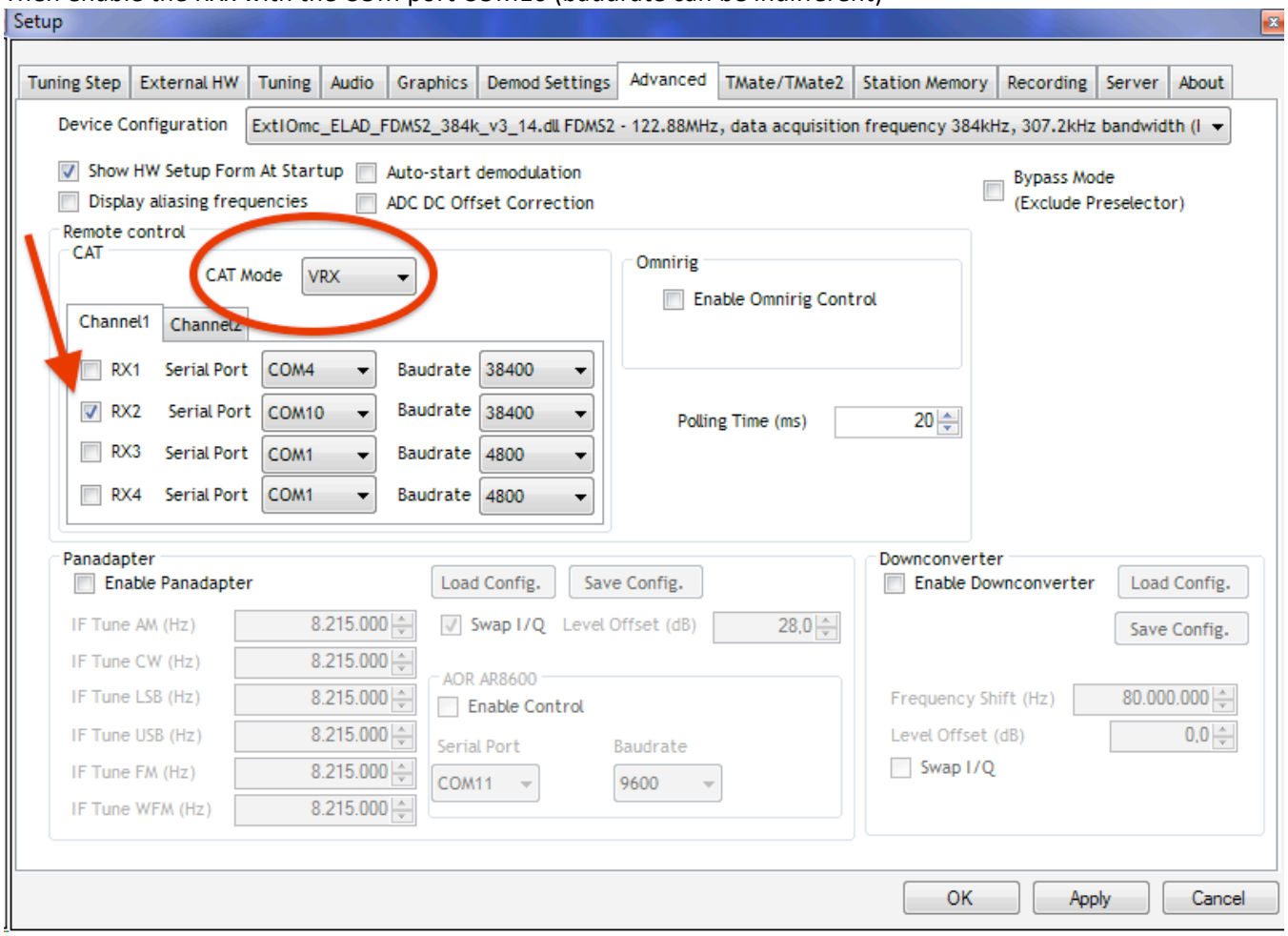


1.2.2 FDM-SW2 CAT operation

Goto SET->ADVANCED

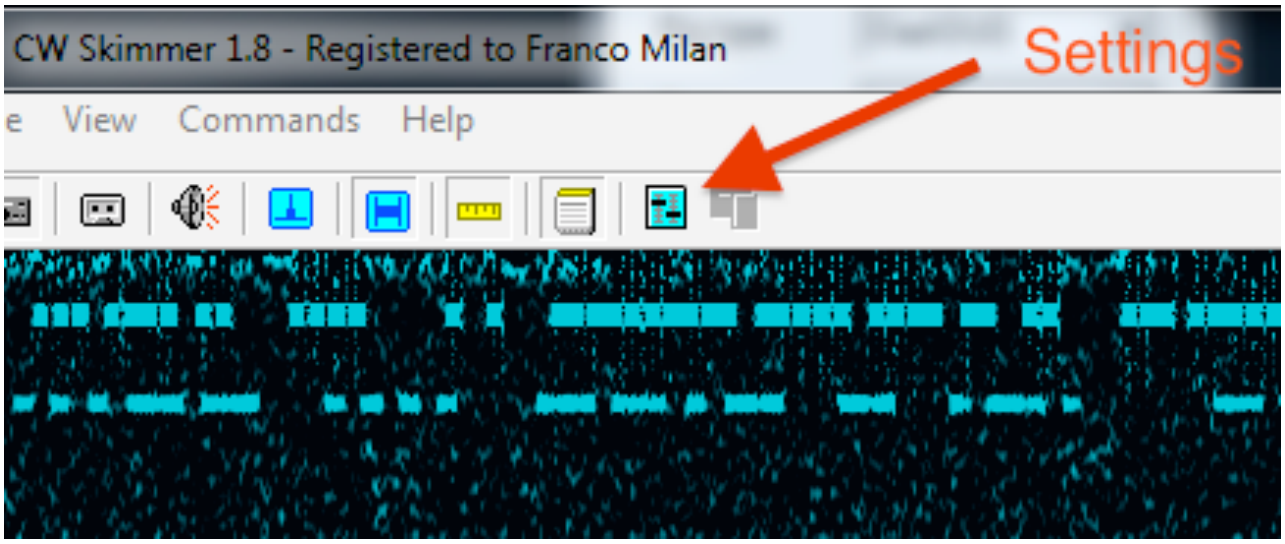
And select CAT MODE on VRX

Then enable the RXx with the COM port COM10 (baudrate can be indifferent)

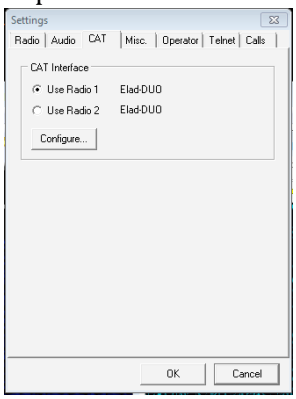


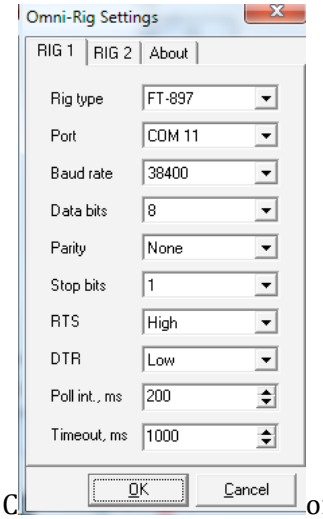
1.2.3 CW Skimmer CAT Connection

Launch CW Skimmer program and open the settings panel



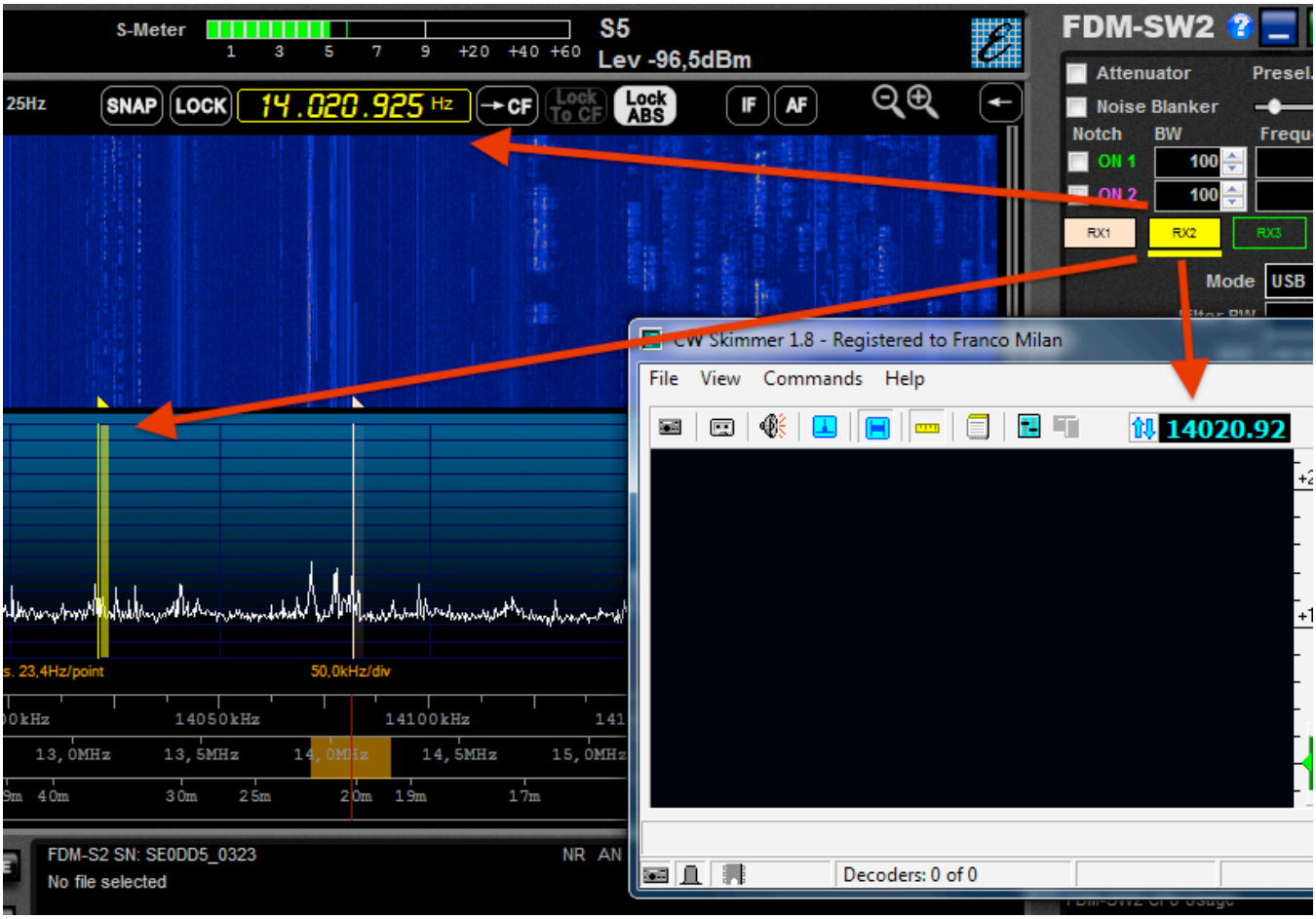
Open the CAT TAB





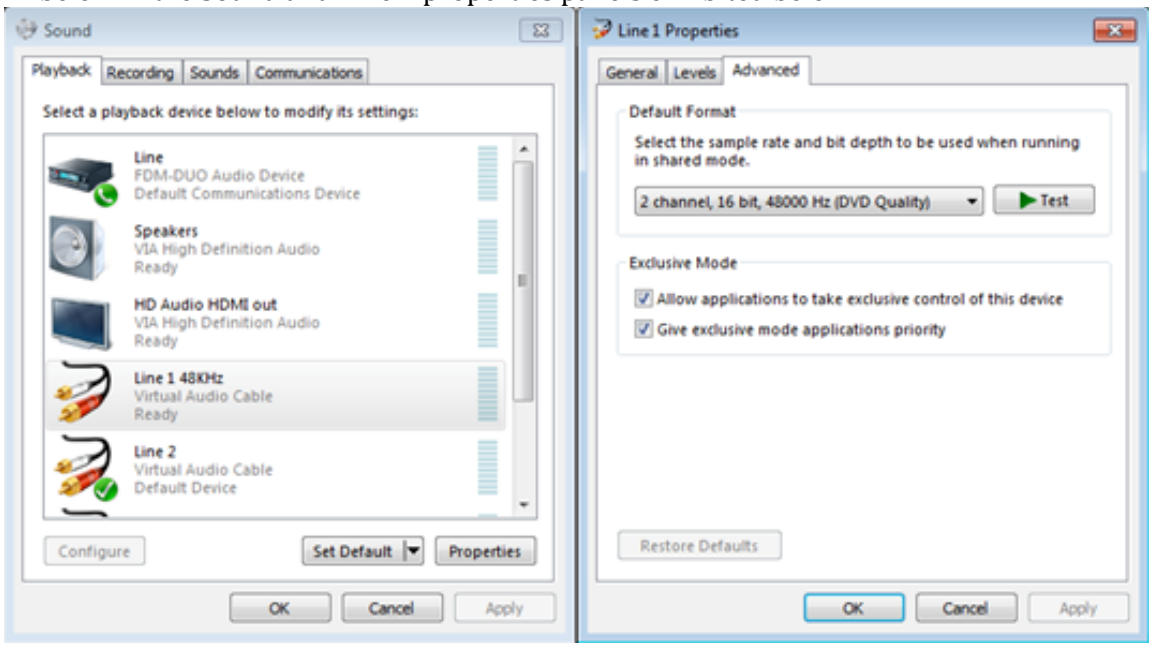
Click on C onfigure

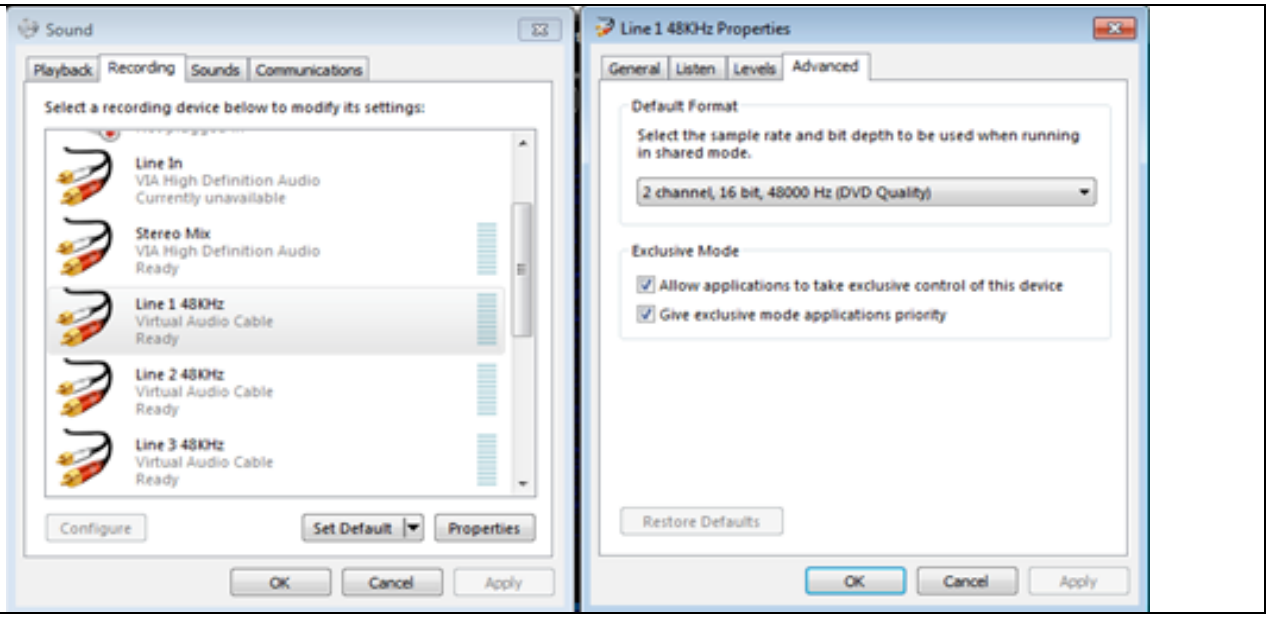
You will obtain the synchronization in frequency



1.2.4 Virtual Audio Cable (VAC) Installation

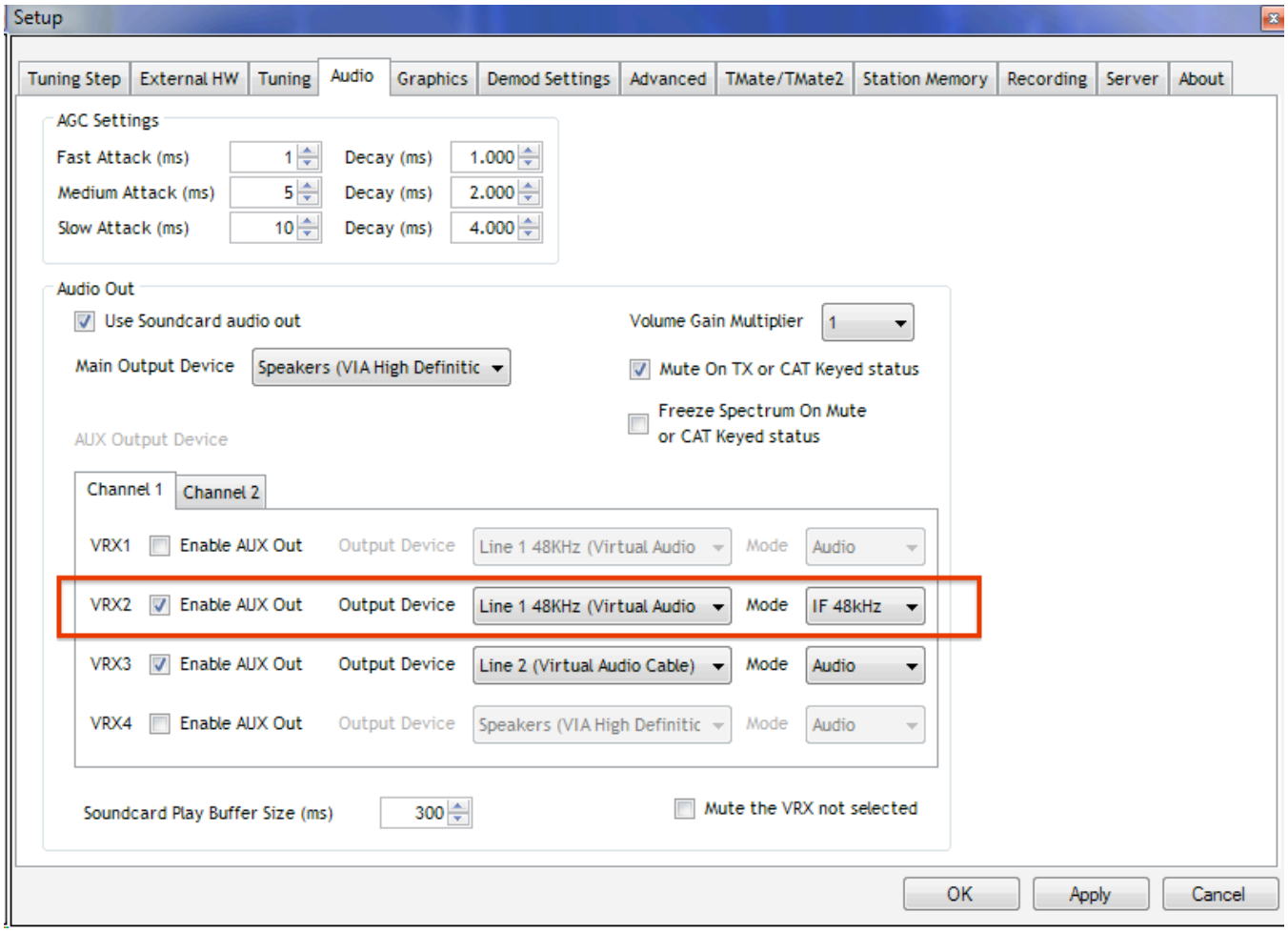
Virtual audio cables for audio playback and recording devices must be created. Configuration panels appear as shown below in the Sound and Line 1 properties panels exhibited below:

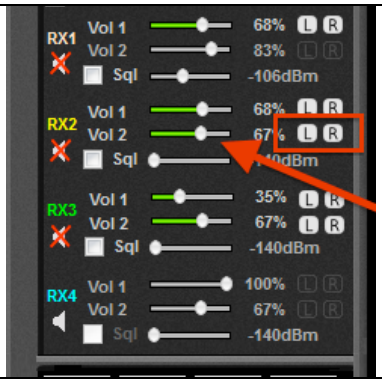




1.2.5 FDM-SW2 Audio IF Installation

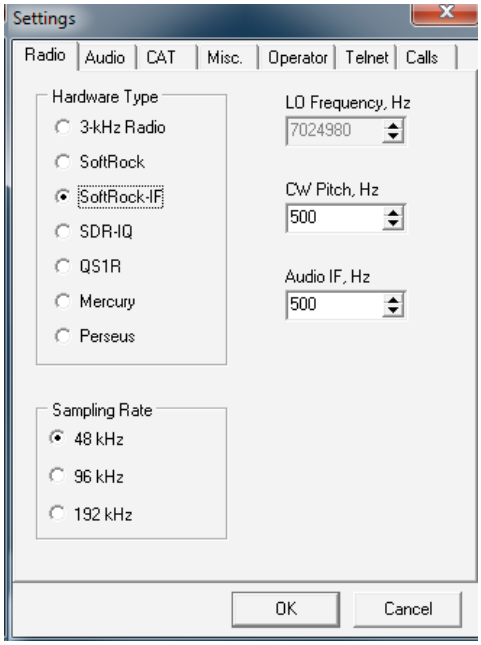
In the Setup window Audio Tab check VRX1 Enable AUX Out, Line 1 (Virtual Audio Cable) and Mode IF 48 kHz to feed CW skimmer software in IF mode (*IF-SOftrock*)



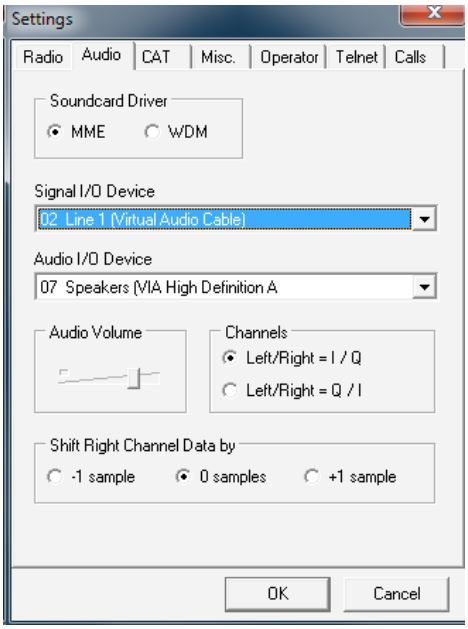
	The I/Q audio level can be adjusted using Vol2 while L and R buttons must be on as indicated by the red arrow

1.2.6 CW Skimmer Audio

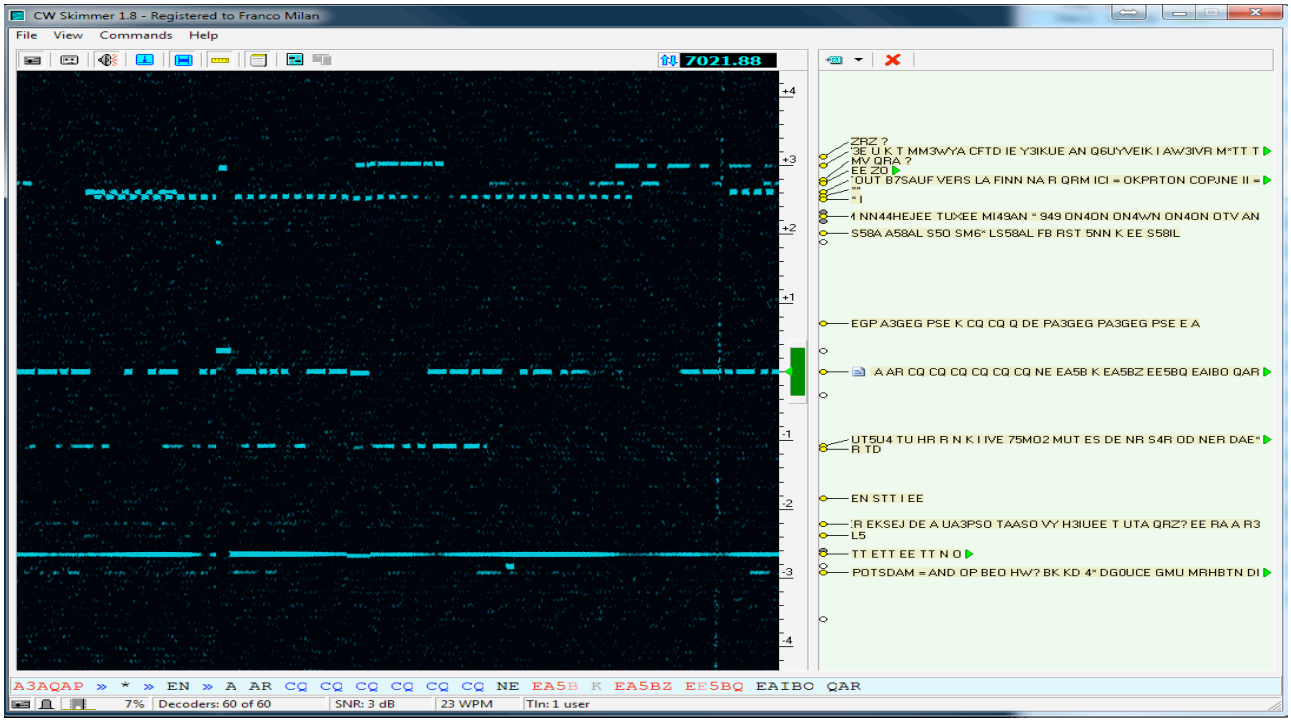
Open Settings in CW Skimmer and set Radio as Softrock-IF as shown below:



On Audio TAB the I/O device must be set as Line of Virtual Audio Cable →



After proper CW Skimmer settings are established decoded CW signals display over a 48KHz frequency range.

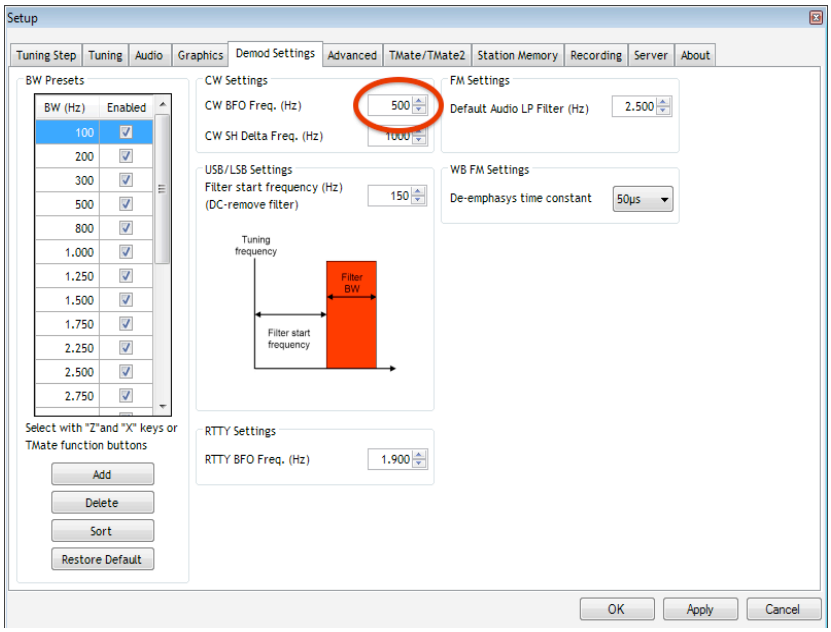


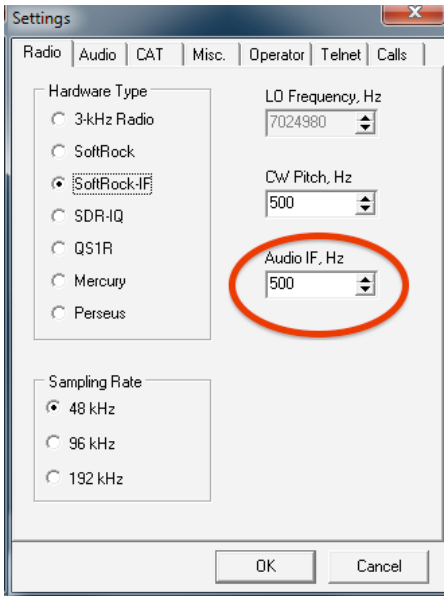
NOTE: Check alignment of CW skimmer against the FDM-SW2 software display and select options as listed below:

(1) If your preference for RX1 in FDM-SW2 is SSB (USB or LSB) set the Audio IF in CW Skimmer to 0 (zero)

(2) If your preference for RX1 in FDM-SW2 is CW the value of pitch set in FDM-SW2 must be the same as the Audio IF in CW Skimmer

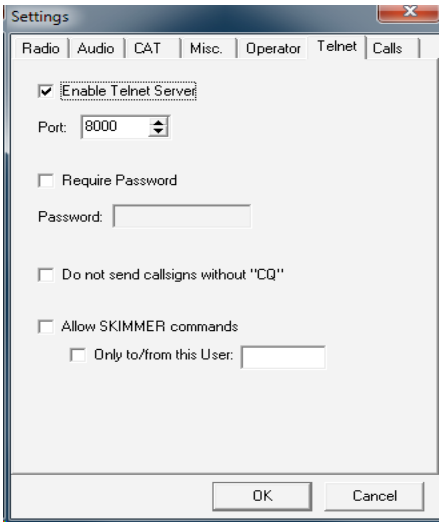
Refer to examples exhibited on page 8.





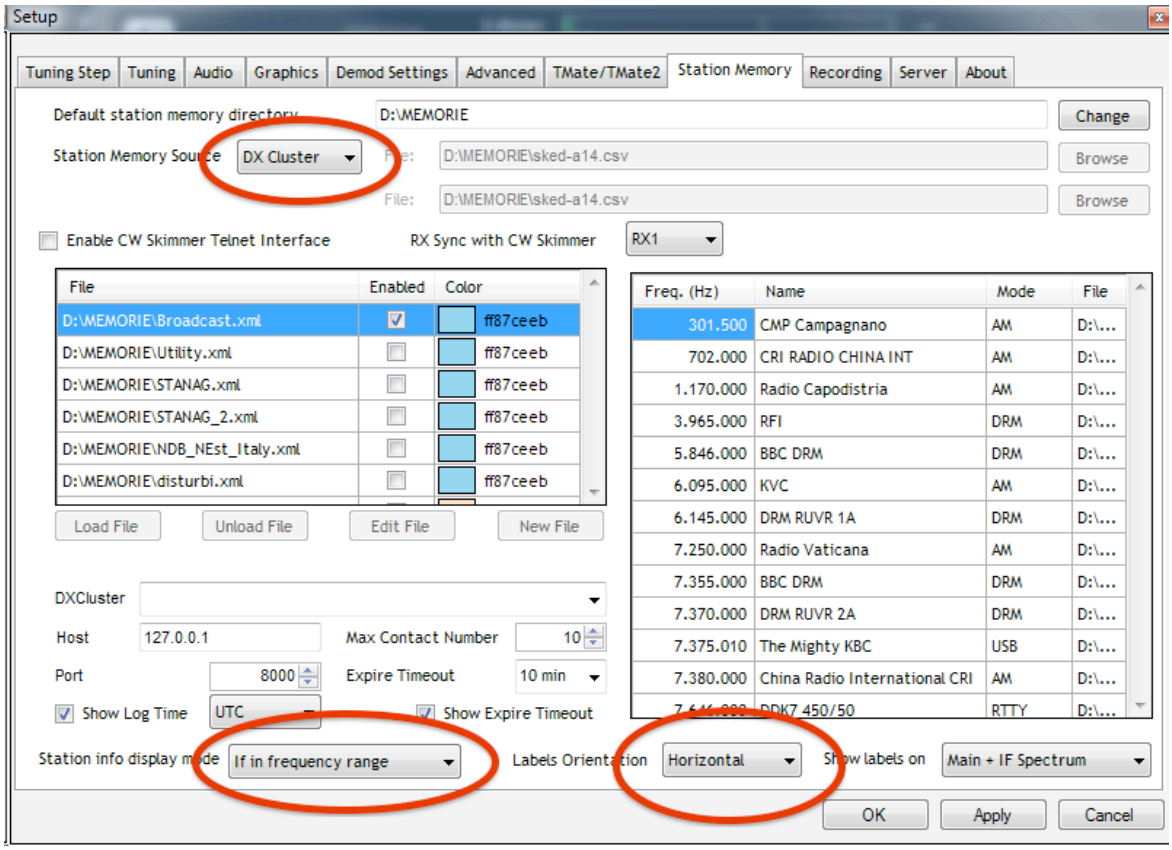
1.2.7 Setting CW Skimmer as a server cluster

Check Enable Telnet Server box in skimmer Settings



1.2.8 Setting FDM-SW2 software to view DX Cluster spots

Open the FDM-SW2 Station Memory panel. Set Station Memory Source to DX Cluster in the pull down menu. Set Station info display mode to If in frequency range and labels Orientation to Horizontal to show the spots on spectrum. Refer to example on page 9.

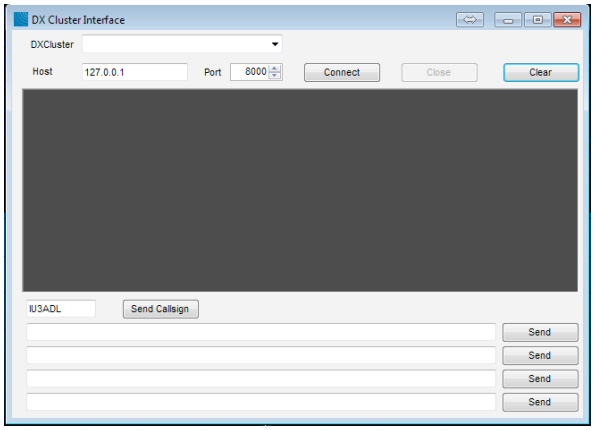


Close the Setup panel.

Next:

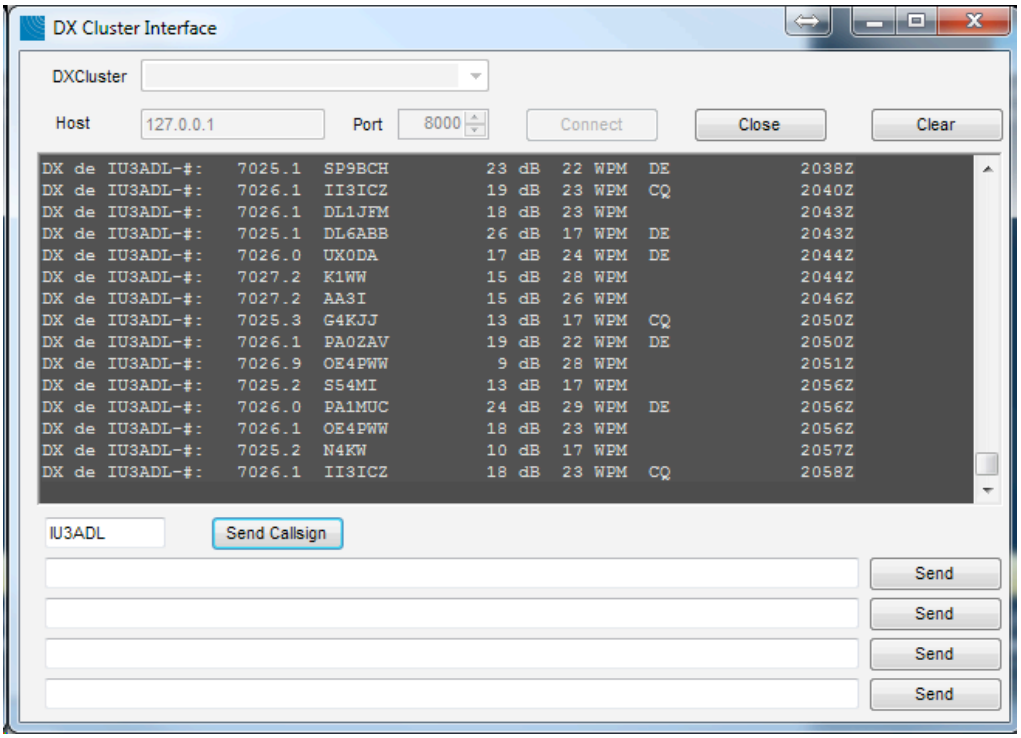
Click on MEM button to set the DX Cluster connection

Memory Screen Opens

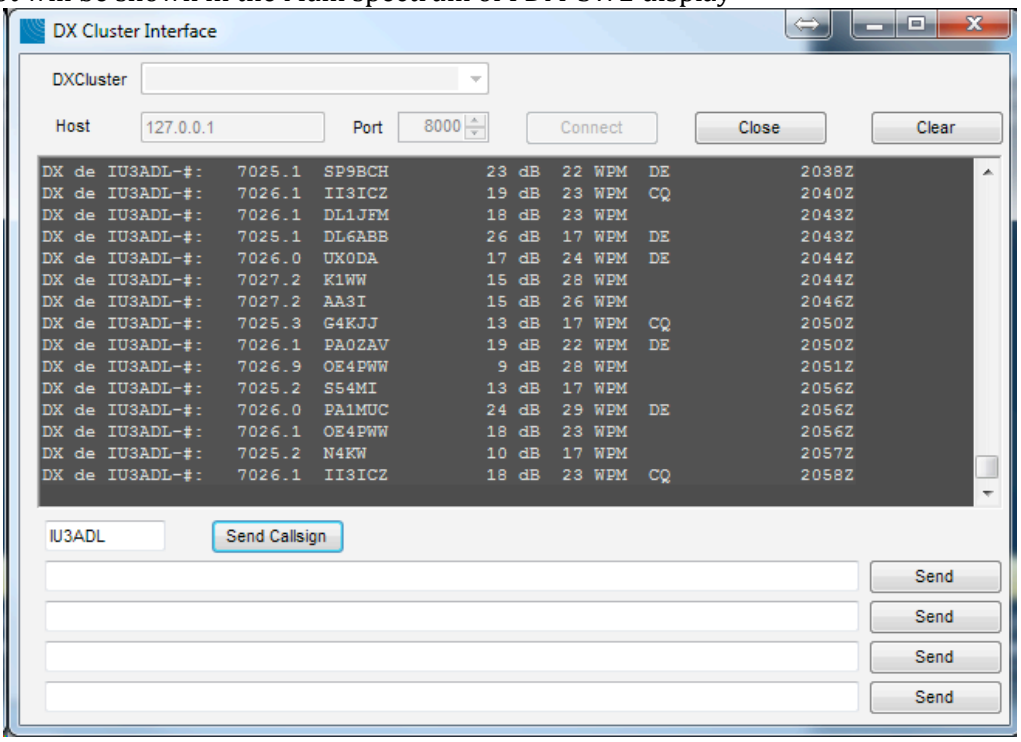


In the memory screen window type HOST 127.0.0.1 *(IP address of local host)* - Verify port number is the same as the Telnet port in CW Skimmer *(in this case 8000)* - When the terminal requests a Callsign type your call in the space provided and click Send Callsign.

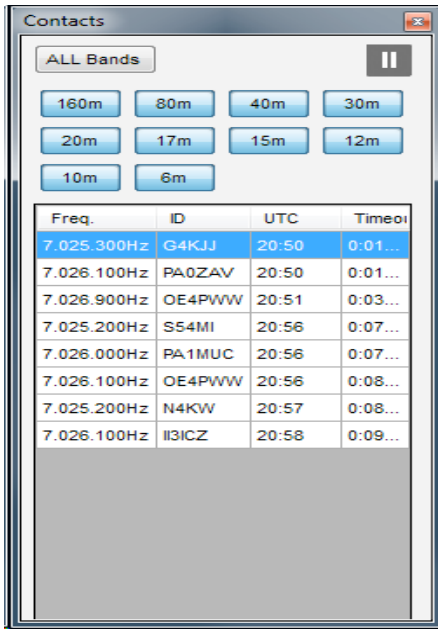
Once your call is entered the terminal displays each Callsign recognized by CW Skimmer



The same spot will be shown in the Main spectrum of FDM-SW2 display



Calls will also be displayed in the Contacts panel. Clicking on spots will tune the FDM DUO to a selected frequency.



2 FDM-SW2 and FLDIGI installation

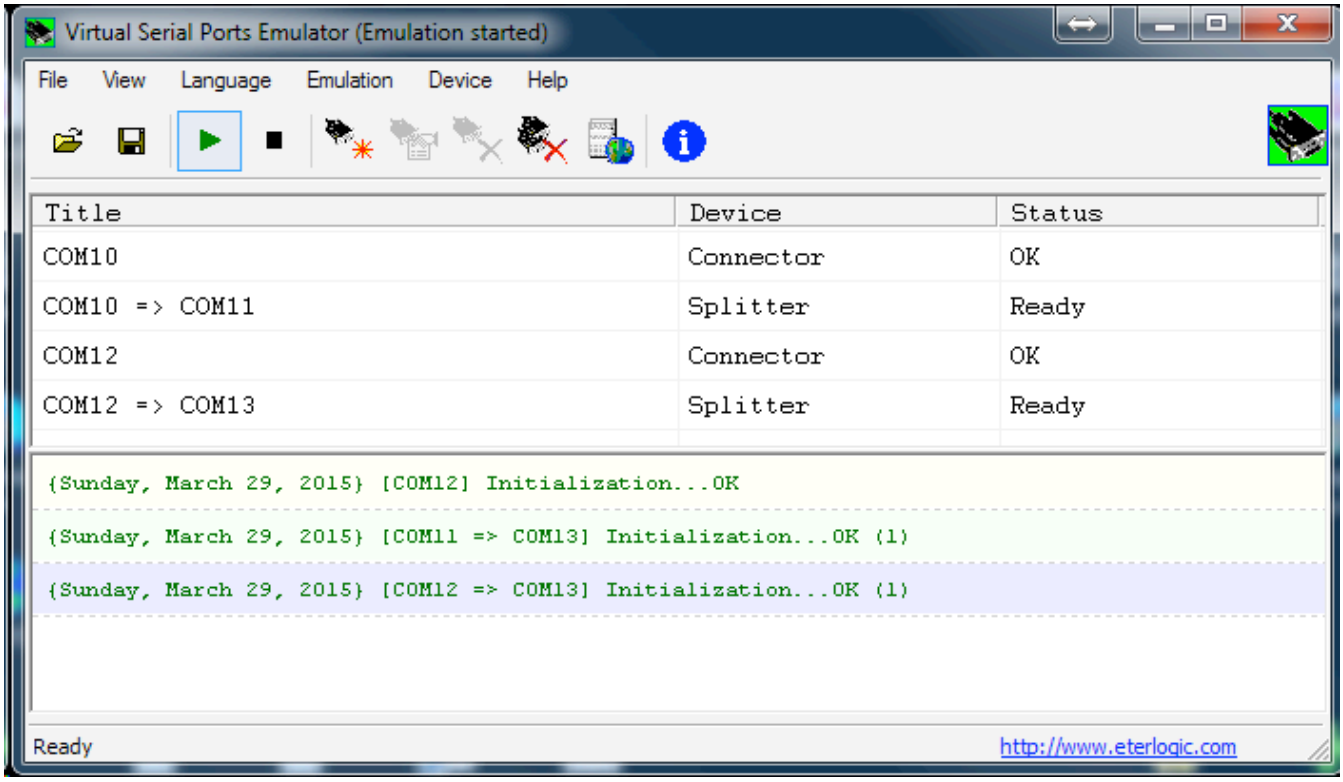
2.1 Requirements

- VSPE Vistual serial port emulator from Eterlogic http://www.eterlogic.com/Products.VSPE.html Freeware for 32 bit systems, shareware for 64 bit operating systems.
- FDM-SW2 running with FDM-S1, FDM-S2 , FDM-DUO Hardware or also reading files.
- FLDIGI from W1HKJ downloadable from here http://www.w1hkj.com/Fldigi.html

2.2 Software Installation

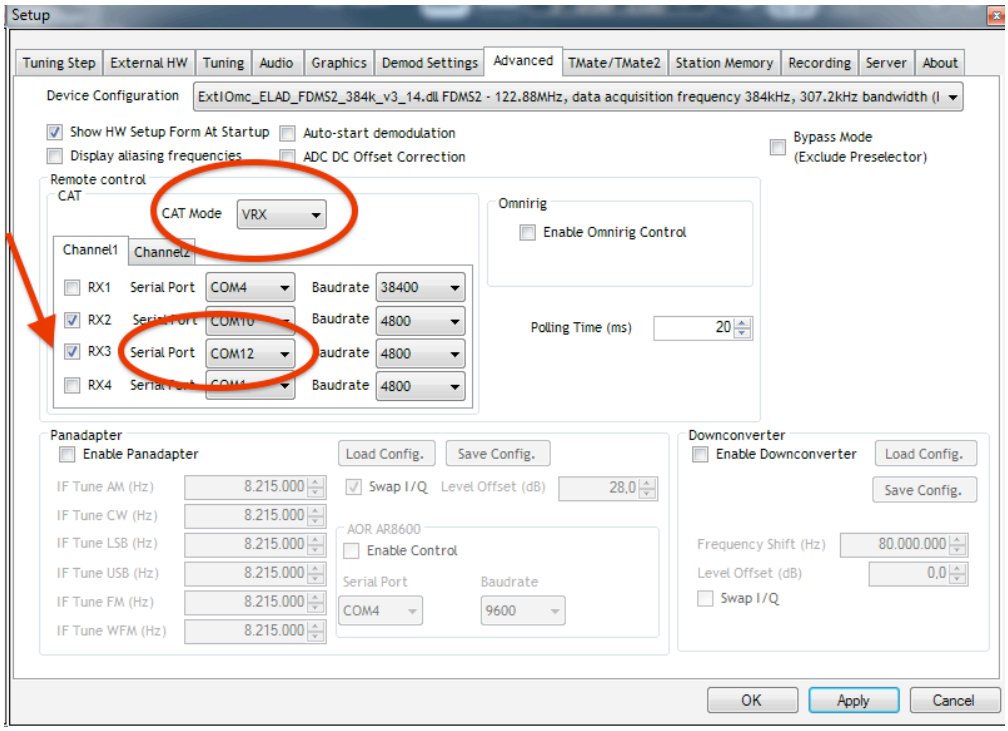
2.2.1 VSPE VIRTUAL SERIAL PORT EMULATION installation

See chapter 1.2.1 to create a pair of virtual COM ports.
In this example create COM12 as connector and COM13 as splitter



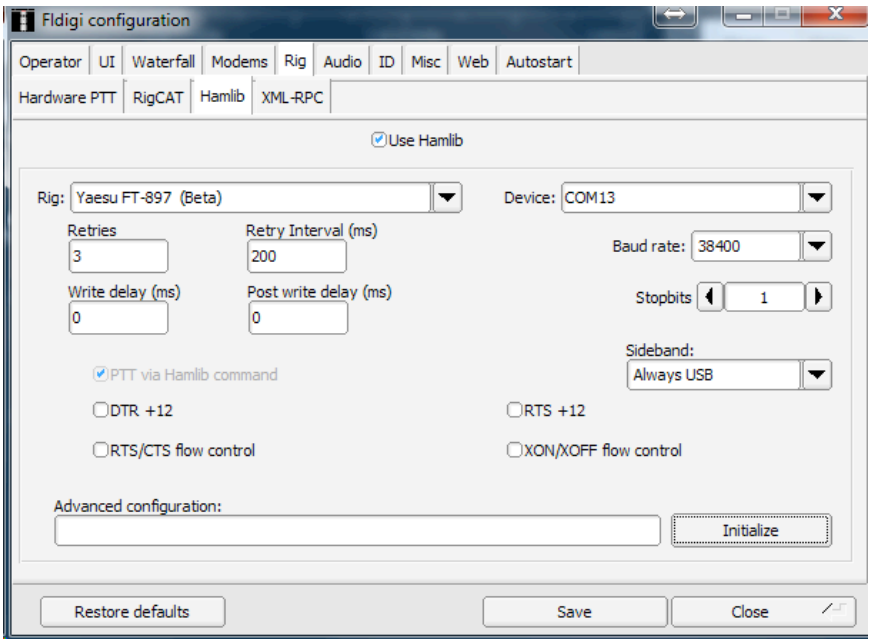
2.2.2 FDM-SW2 CAT operation

Same as 1.2.1
Set Receiver number 3 connected to virtual port COM12

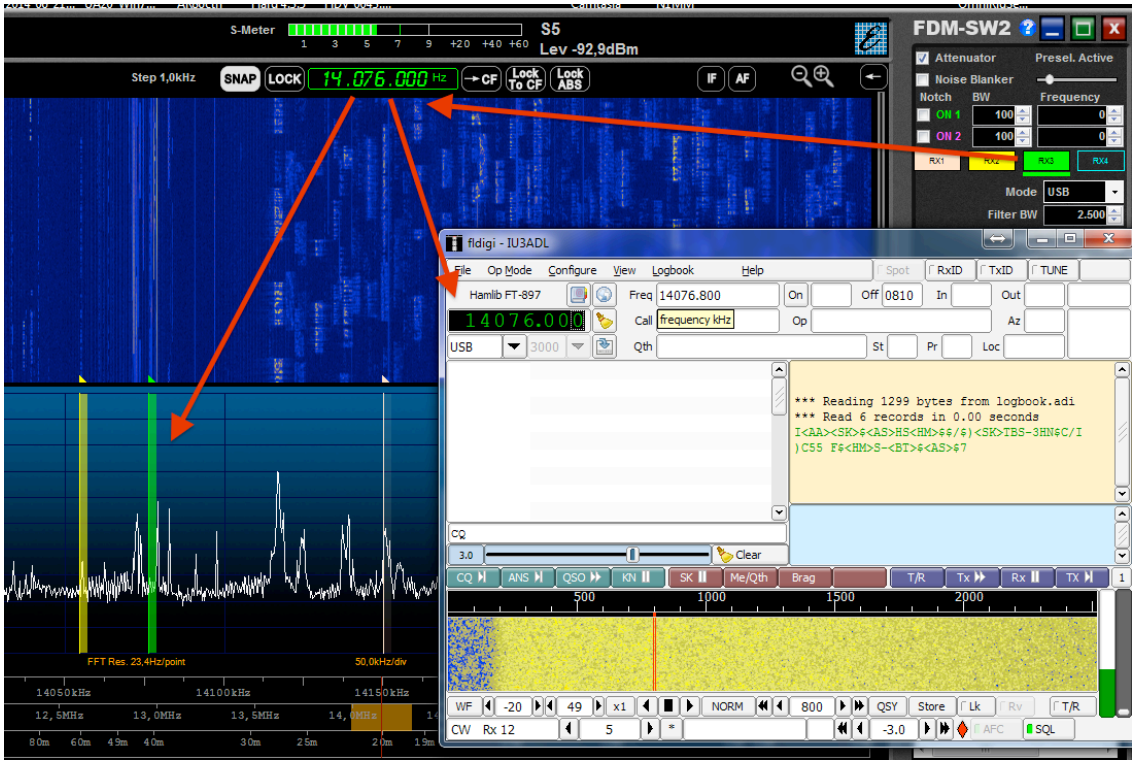


2.2.3 FLDIGI Connection

Select Configure -> RIG -> HAMLIB tab
Enable Hamlib select RIG Yaesu FT-897 and DEVICE COM13 Initialize and save:

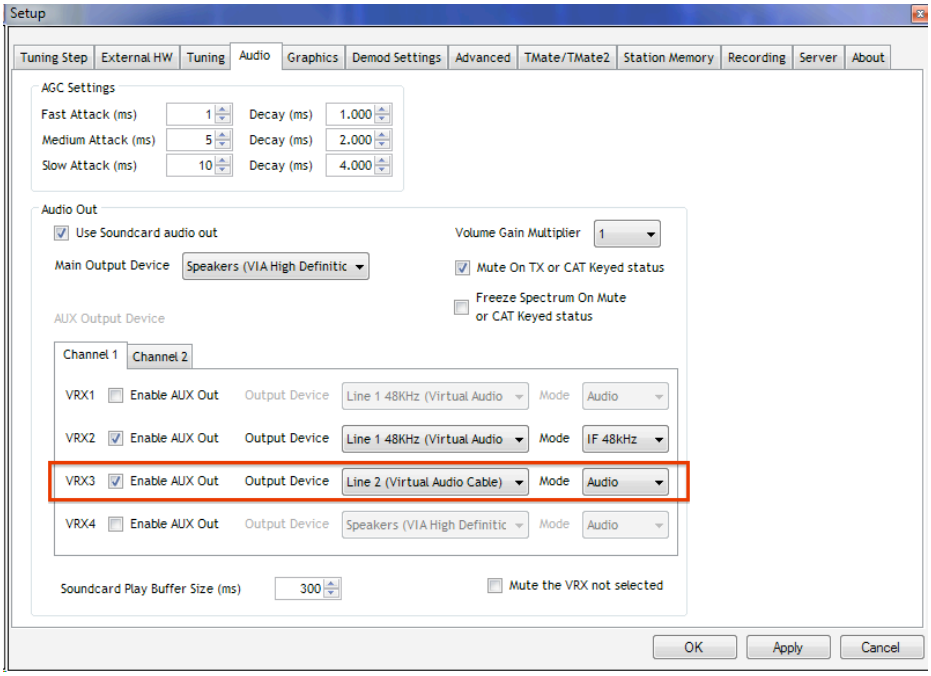


So now RX 3 frequency will be synch like this:

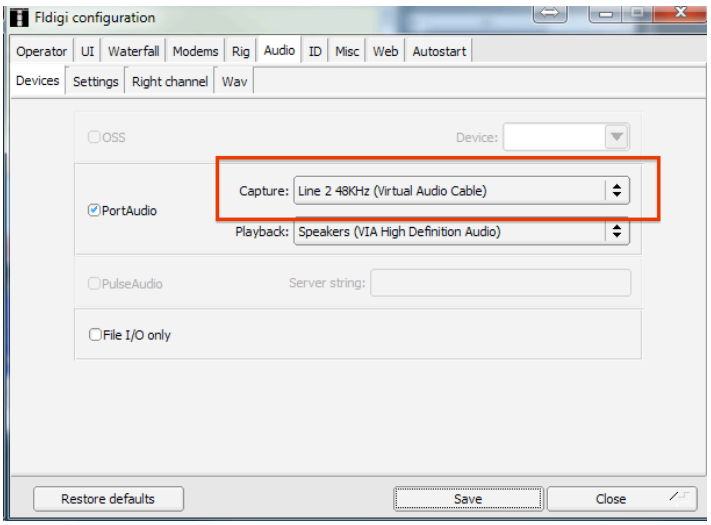


so now Tuning of RX3 can be done by moving GREEN cursor on spectrum, or from FLDIGI tuning panel

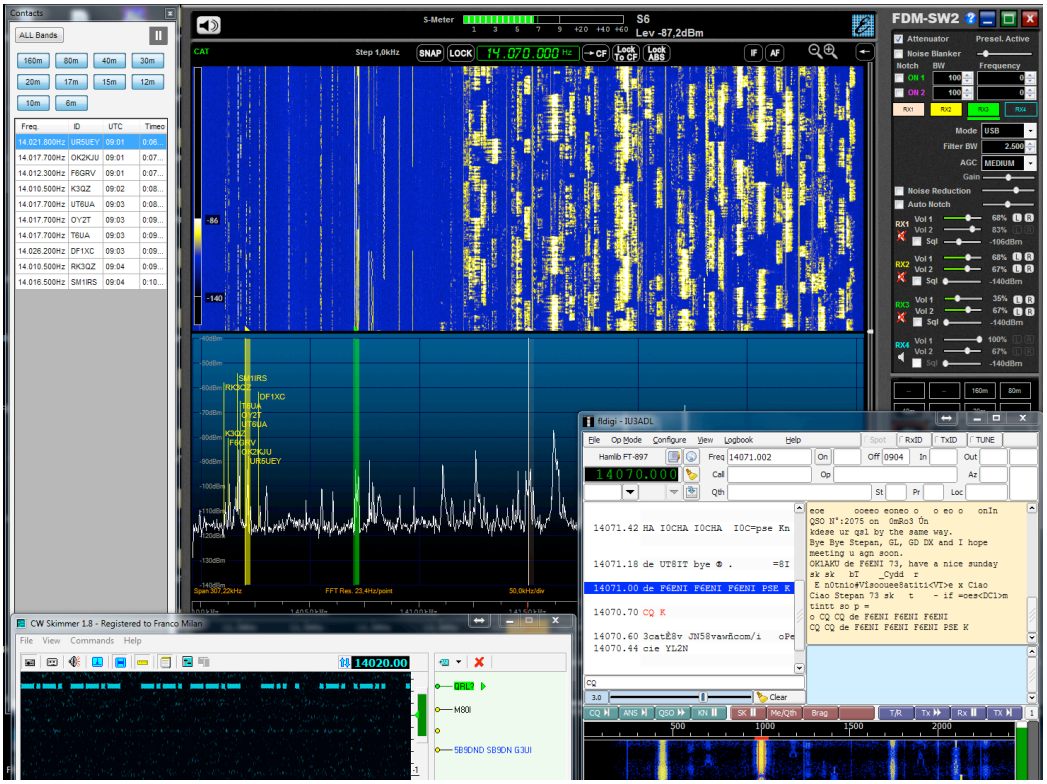
2.2.4 FDM-SW2 Audio connection for FLDIGI



2.2.5 FLDIGI Audio connection



This is the example with two virtual receivers working, RX2 with Cwskimmer decoding CW, and RX3 decoding PSK-31 with FLDIGI at the same time.



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