Hermes Lite 2 and Thetis Installations and Configurations Including 3rd Party examples for Digital and Logger Applications Plus Tips and Suggestions

Contents

Revised 5/14/2024 09:51 V9 N8SDR/MI0BOT

Outline:

This document is not intended to show you everything nor describe the use of Thetis or any 3rd Party application. It is strictly intended as a source to get your download and Installation of Thetis correct and through examples of screen shots give you some basic idea of how to configure some popular 3rd party applications. I suggest any 3rd party application you intend to use or install you refer to and read the operating instructions or watch possible videos explaining the use of and operation.

Throughout this document I have captured screen shots of application settings and outlined areas which need input such as comports, baud rates, stop bits, parity, audio etc. Some 3rd party applications have links to their websites and or user groups. These are in **BLUE** and clicking on them should take you to that website.

To help you get up and running within as little time in configuring those 3rd party applications for rig control, CW, Digital Modes, and logging I have shown how my comport pairings are used in the screen shot examples, this hopefully helps in your setup and configurations. ***One thing to note my Comport pairings will most likely be much different than yours!*** For the sake of making this easy to follow and configure I have setup 3 pairs of comports I use in the examples, I use separate pairs of ports for the sake of being able to use a digital application and a logger at the same time or perhaps like in Ham Radio Deluxe or FLDIGI were there are several possibilities of rig control, logging, digital modes and CW settings which can use separate comports.

The listings below are Comport Pairings I use throughout the examples. I would suggest you substitute any pairs I have used for those you have. To make this easy use the space below to list your pairs that will basically cross reference to the pairings I have.

Logging programs, I use: Comport Pairs 7&8: **List what Pairs you will use here _____**

Digital Modes I use Comport Pairs 11&12: **List what pairs you will use here _____**

PTT I use Comport Pairs 5&6: **RTS enabled** **List what pairs you will use here_____**

CW keying, I use Comport Pairs 9&10 **RTS enabled** **List what pairs you will use here_____**

For applications that use TCI I use the following ***127.0.0.1*** also known as ***"localhost"*** and UDP port ***40001***
If you are using a different TCI IP address and UDP Port List them here _____ UDP_____

Now you can simply swap the comport pairs or TCI info I use in the examples with the pairs you have listed as a cross reference above to make things easy!

Hermes Lite 2 Thetis Installation and Configuration

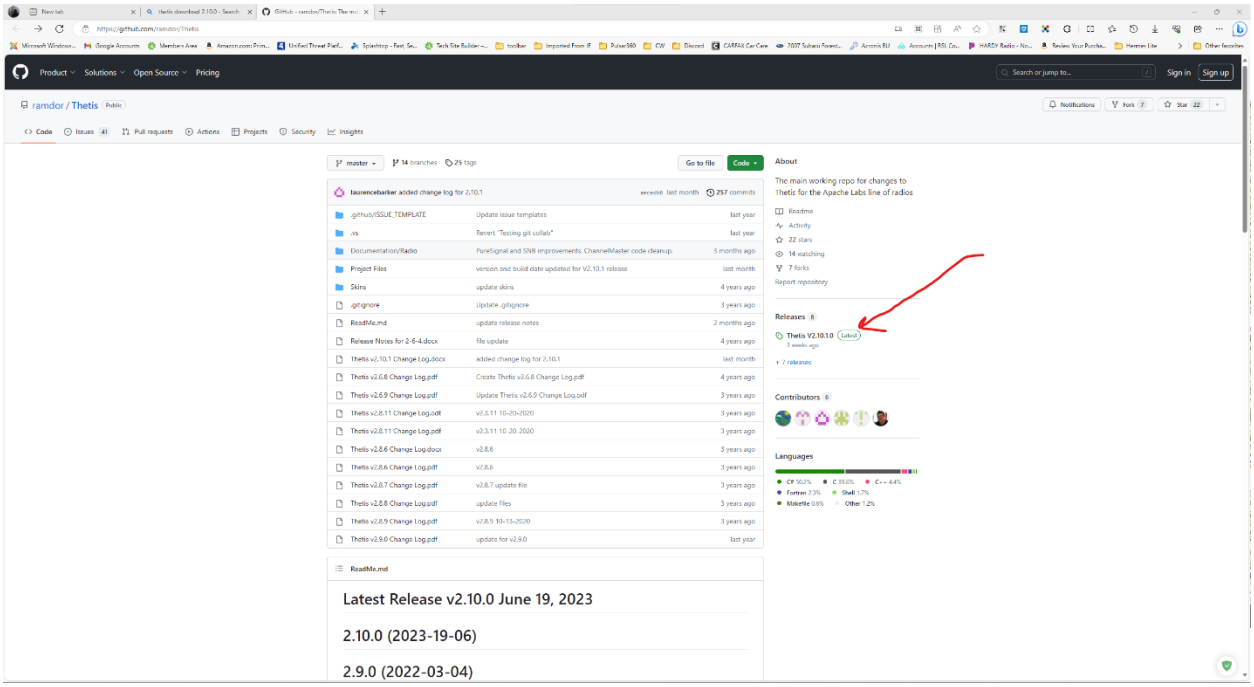
Revised 5/14/2024 09:51 V8

Please note the proper versions of Thetis for a Hermes Lite 2 is the modified version(s) available from Reid Mi0BOT- there are several changes in this version of Thetis that pertain to the Hermes Lite 2.

1) ***The 31-step attenuation, not available in non-modified for Hermes Lite 2 Versions***
2) ***Smoother TX power slider control- Changed to accommodate the PA in Hermes Lite 2***
3) ***Corrected algorithm for Pure Signal when used with Hermes Lite 2***
4) ***Optional WAN support for Remoting to your Hermes Lite 2***

Step 1

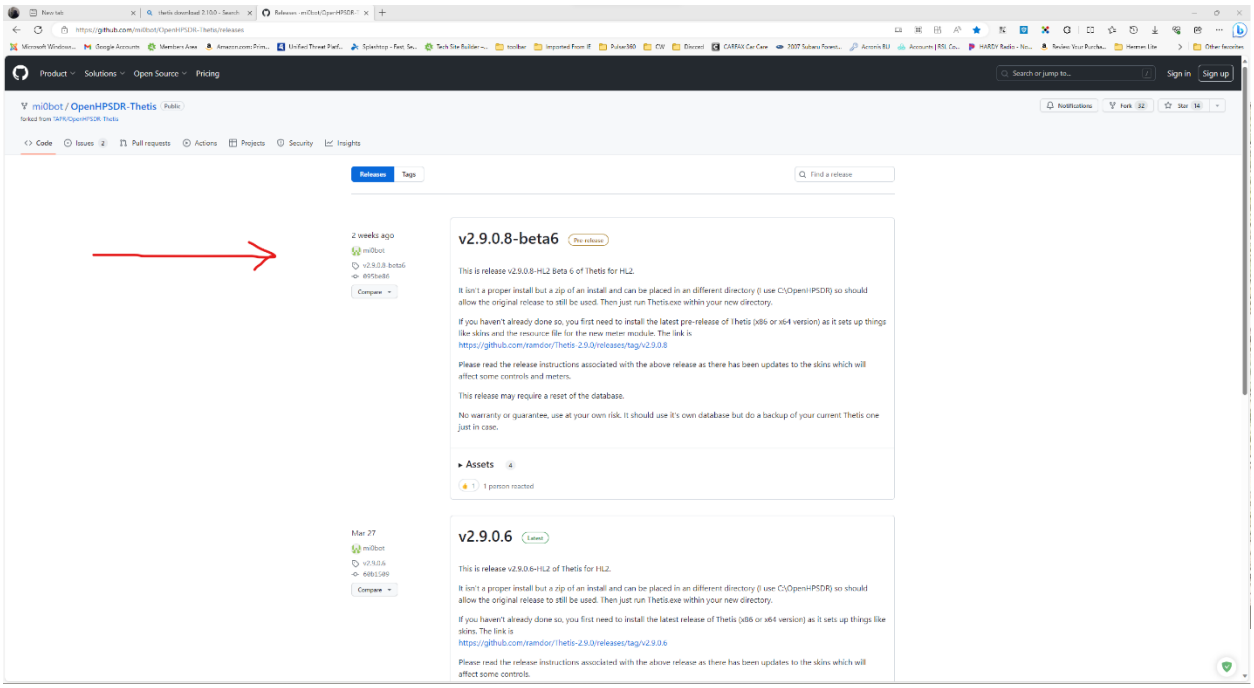
You will need a Full version of Thetis installed prior to any modified Mi0BOT version. Download and install a full version of Thetis you can obtain here: [GitHub - ramdor/Thetis: The main working repo for changes to Thetis for the Apache Labs line of radios](https://github.com/ramdor/Thetis) I would recommend the most current full version unless noted a specific version is required from the notes on Reids Mi0BOT modified version so read any notes there prior. See photo below the current release is listed on the right side click there to download!



(But wait you said use the modified Version) *Yes, the modified version for now will require a full installation of Thetis this is required for metering containers, some graphics, and the Thetis Skins, and possibly a few other items not included in the modified zip beta release.*

Step 2

Now that you have the base full version of Thetis installed, you can proceed with the modified version for Hermes Lite 2. Using this link, [Releases · mi0bot/OpenHPSDR-Thetis (github.com)](https://github.com/mi0bot/OpenHPSDR-Thetis/releases) You'll find the Modified Releases for Hermes Lite 2 Thetis versions. Again, I would suggest using the most current version of those available at the time you do your installation. ***I will also note it might be good to check the link occasionally for any new releases or fixes that become available***: ***Note the current release will be at the top of the page example photo below. (Beta Versions are Time Limited Full Releases are not!)***



Again, please read any notes on installation pertaining to requirements that Reid has mentioned (Example using a specific full version perhaps).

STEP 3

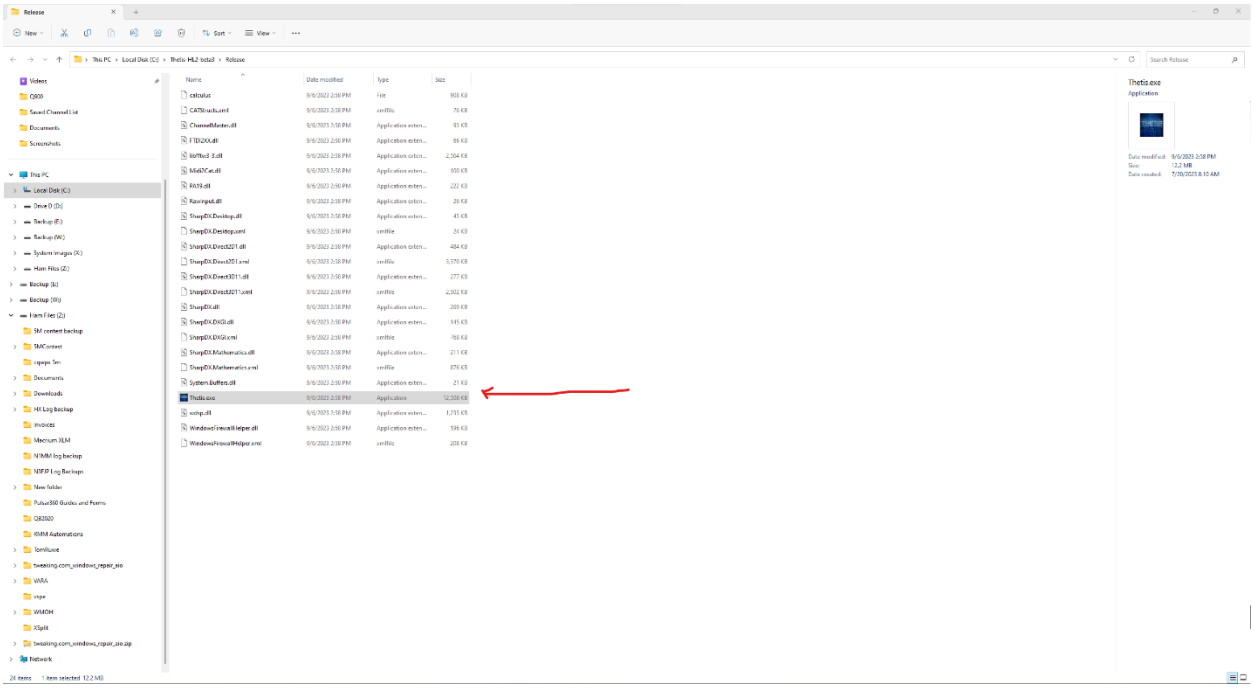
Now that you have the modified zipped version downloaded, you will need to make a new directory: preferably on the same drive you have installed the Full Thetis version such as **c:\HL2** or whatever you wish to call it ***(NOTE DO NOT USE THE FULL VERSION DIRECTORY TO UNZIP THE COMPRESSED VERSION)***

Step 4

Now uncompress the zipped file containing the beta version, ***(Windows 8 to current has a built-in uncompressing utility)*** that can be used for Zipped files simply right click the downloaded file and select Extract ALL for the menu option that appears, this will unzip the files, next copy the unzipped files to the new folder you made above **(example c:\HL2).**

Step 5

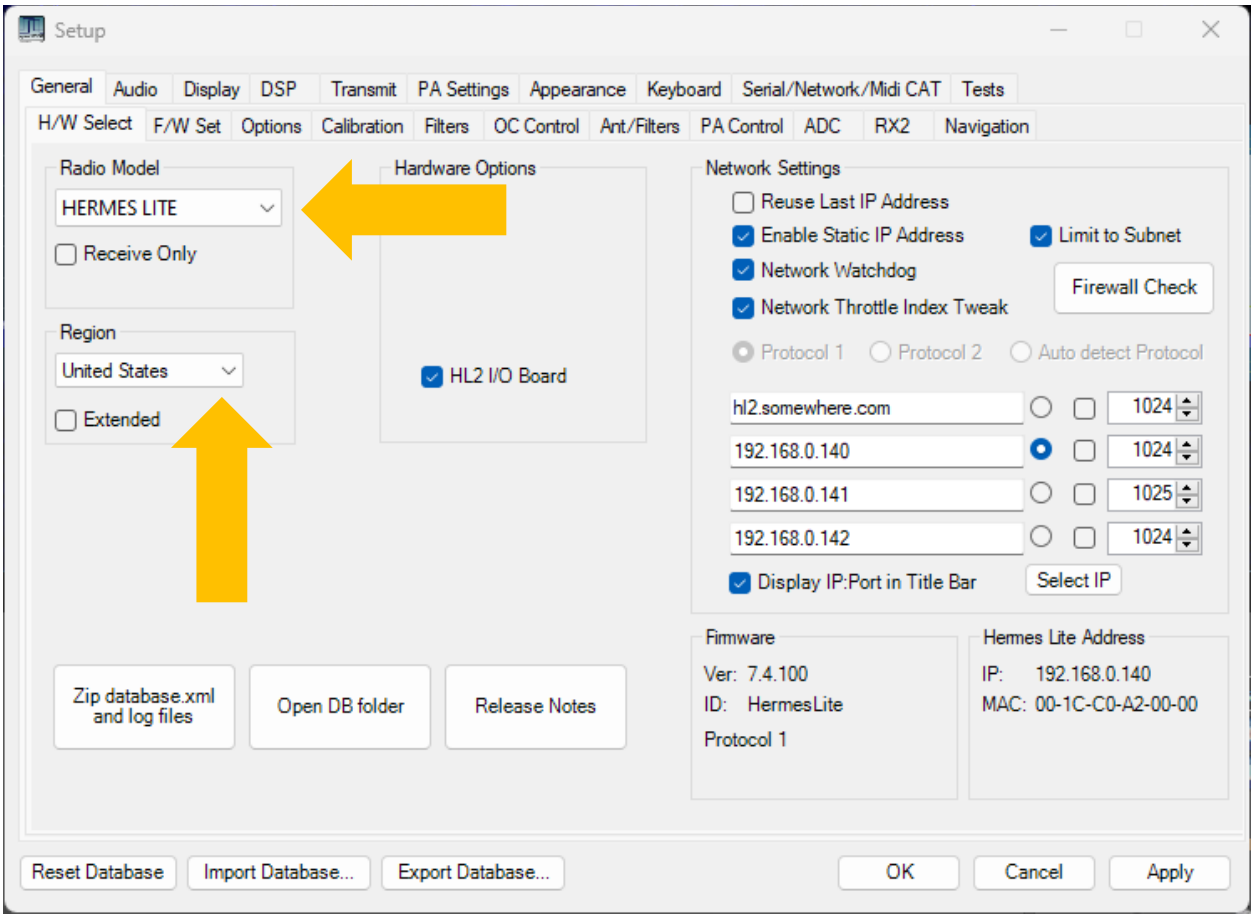
Using file explorer browser to the folder you copied the uncompressed files to; in that folder you will see an executable file called: ***THETIS.EXE (my working folder example below)***



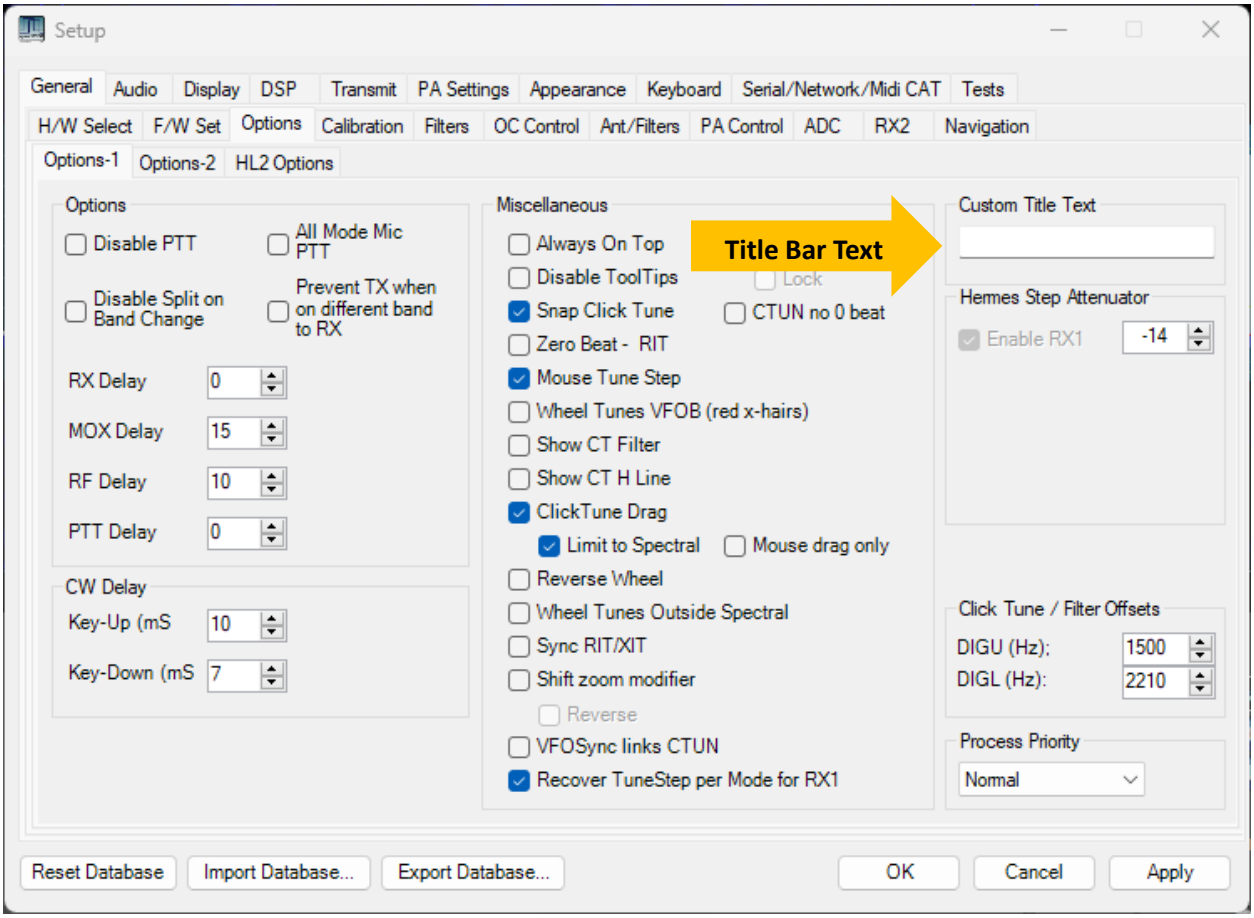
This is the executable file you will be using for ***Thetis*** going forward, I would suggest you simply make a shortcut to your desktop or taskbar to make it easy to launch and run the modified version of Thetis. When I did this, I renamed my shortcut once on the desktop to “Thetis HL2” this made it easy to note which version of Thetis I am using for my Hermes Lite 2. (Right click the shortcut once on your desktop and select rename- depending on your windows version you may need to select show more options then rename aka Win11).

Your almost ready

Now that you have the modified version its time to do a little configuration (please note the following screen shots are MY settings in some of the sections and may not pertain to how your using or your needs they are setting I use for amplifier power out, audio and cat control) I will try and circle or point out the required items on the tabs that pertain to most all configurations of Thetis for the Hermes Lite 2.

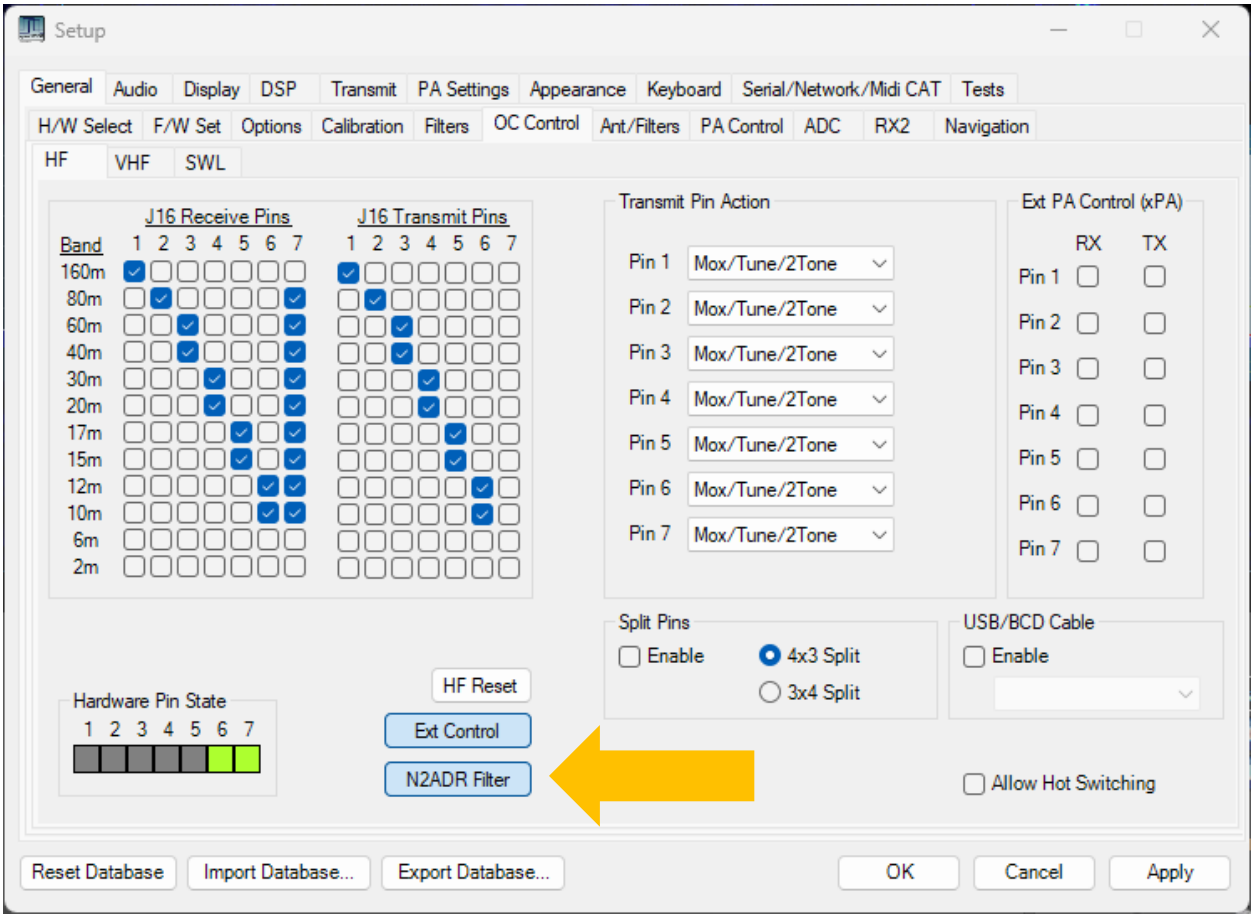


Select Hermes Lite from Drop Down list and Select your Region (extended is optional)



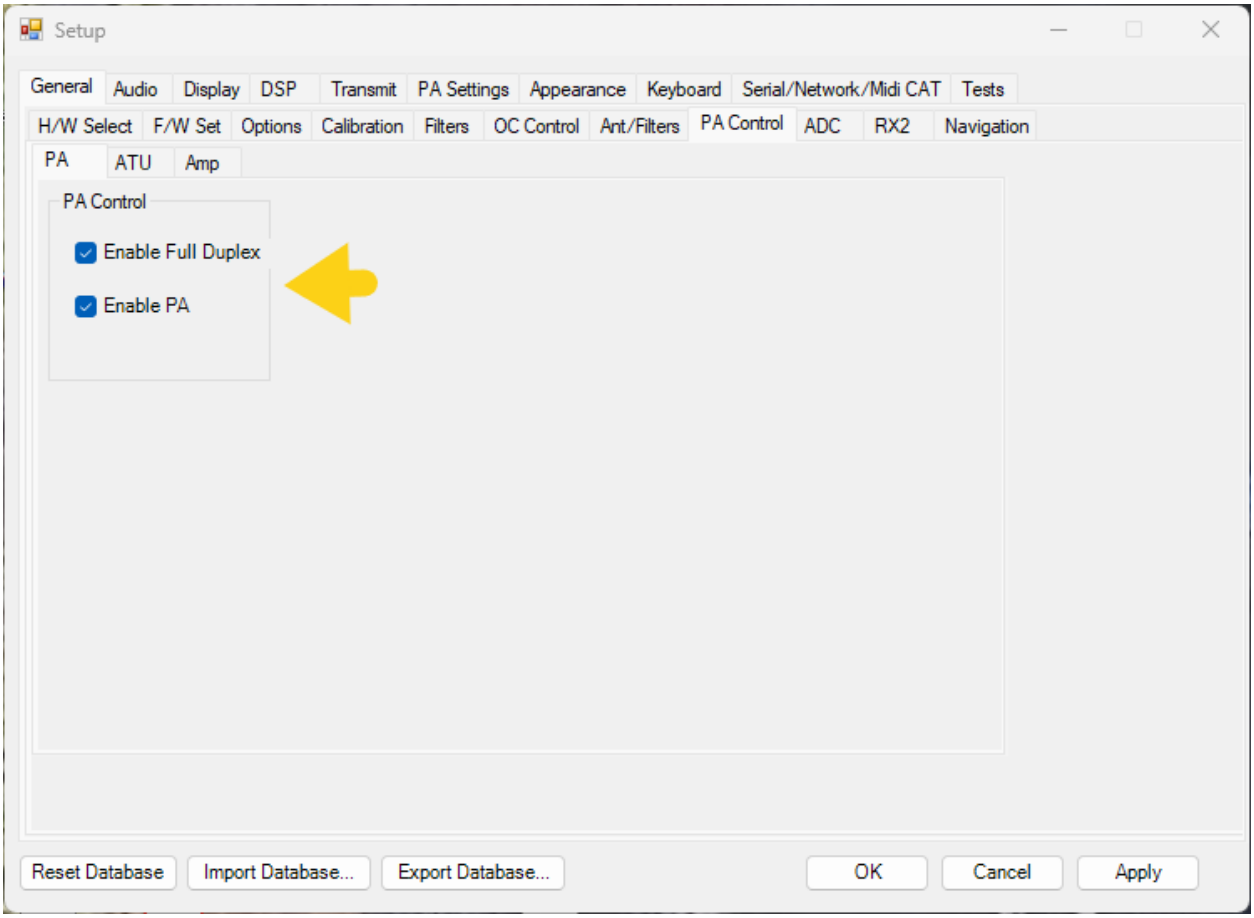
Enter your Call or what you would like to appear on the Title Bar

Select boxes for Enable RX1 and the Auto ATT

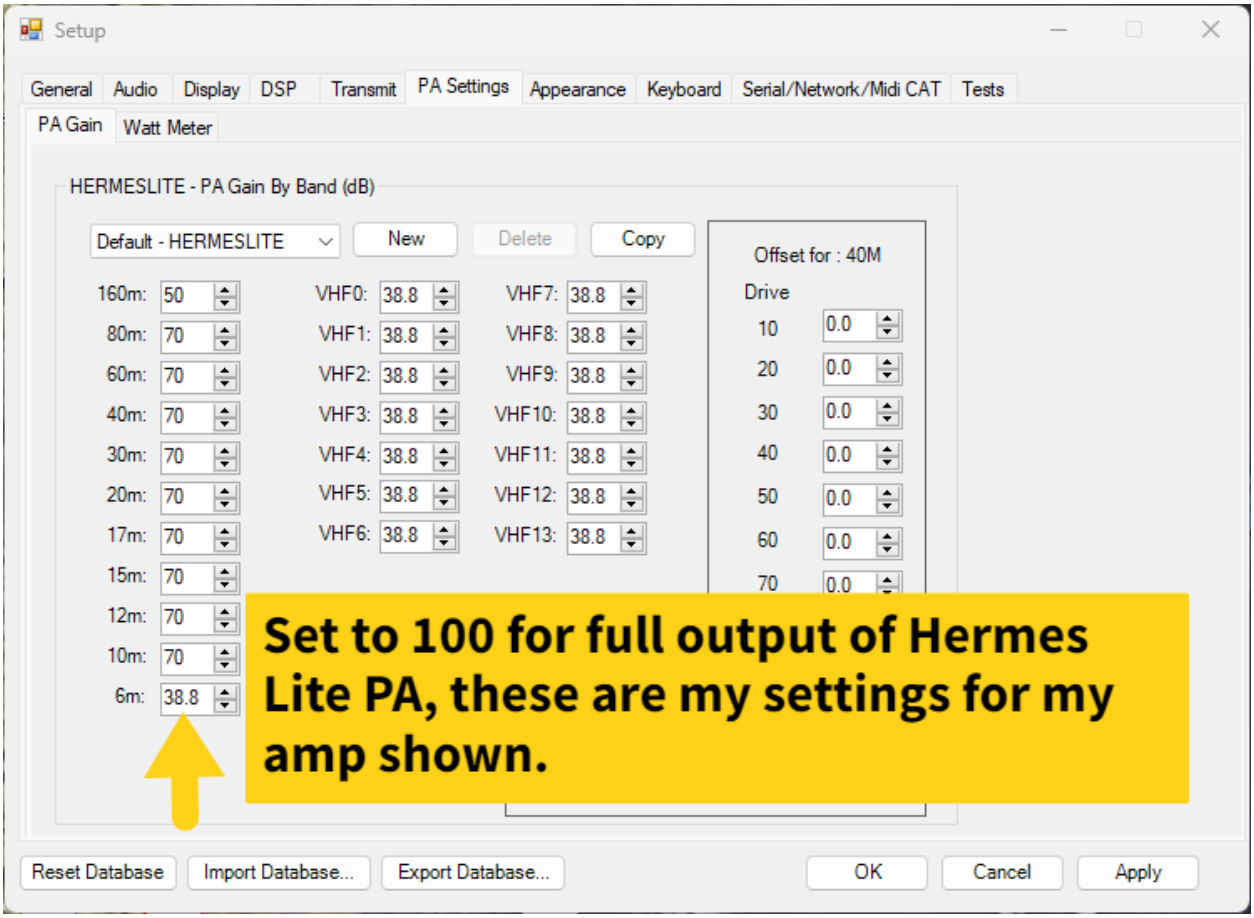


Select / Click N2ADR Filter to prepopulate the Filter pins check compare with pic above.

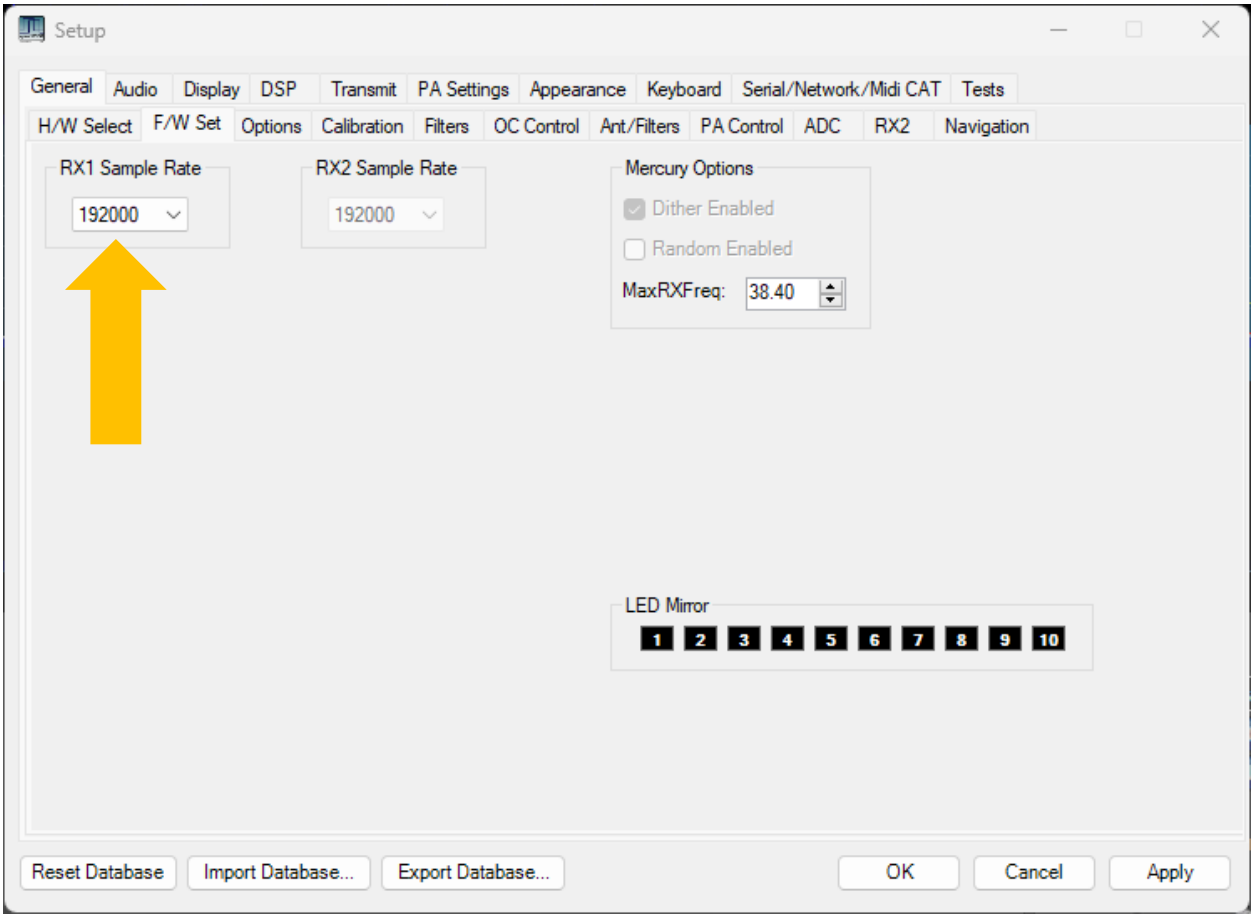
You can check operations when radio on and selecting different bands the lights/blocks under hardware pins will show which pins are selected and in use for that given band.



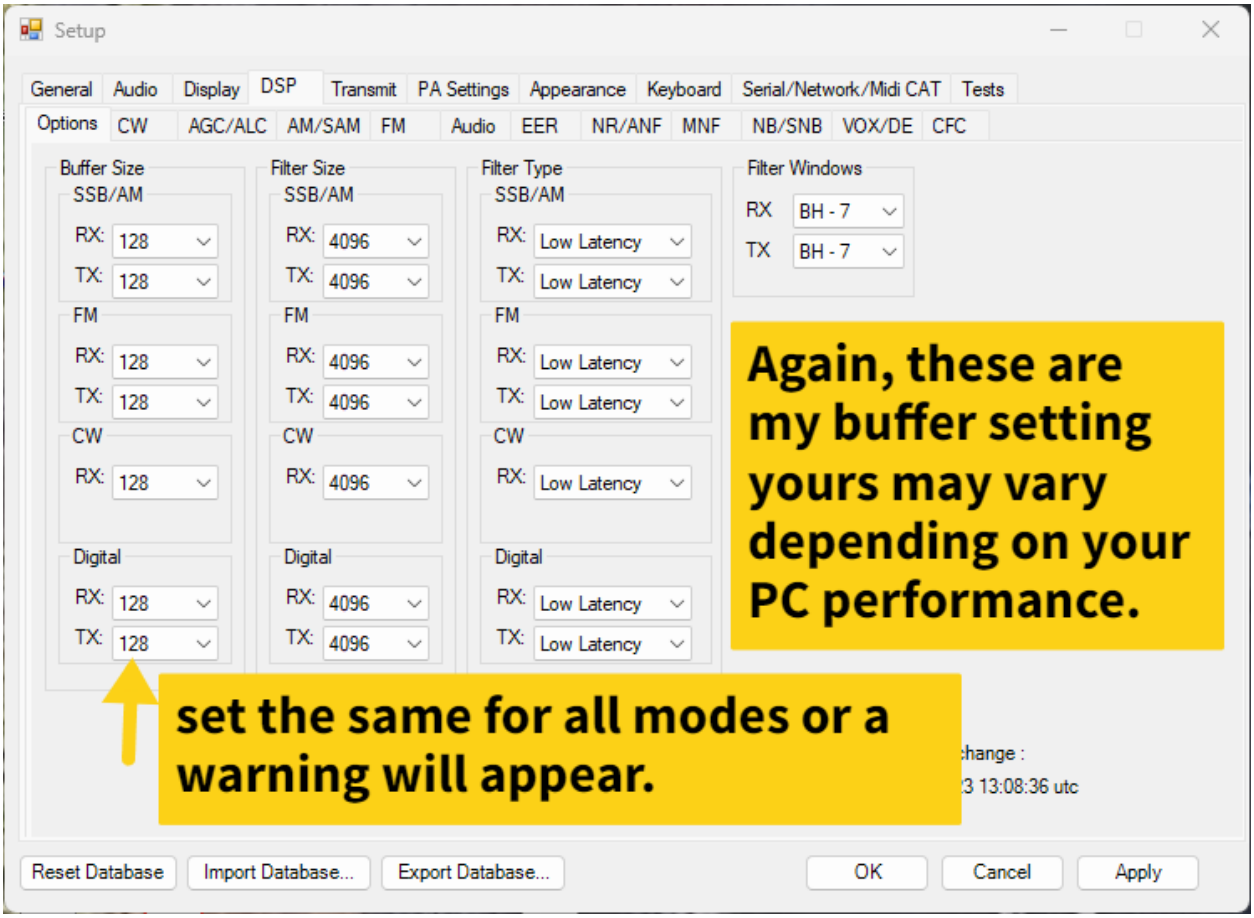
Check these two options one for Full Duplex needed for Pure Signal the Other enables the Hermes Lite 2 PA to be toggled on, leaving this unchecked will results in NO power output on the ant connector or displayed in the metering



For Full 5-7 watts output (this will vary per band and per device) select 100. If you're using a very low drive input amplifier you can adjust these individually to meet the drive requirements and not overdrive the input of your amp. Regardless of the TX slider it will not output more than selected here.



For Pure Signal to function / lock correctly select 19200 (I believe lower values will also work but have not tried) Higher 38400 value will cause Pure Signal glitches and frustrations.



These settings will vary depending on your PC's performance and abilities to process data streams. If you note stumbling on your TX or RX raise the values. I would recommend you keep all RX/TX and mode values the same, a warning message will populate on this displayed tab if otherwise. * As of 2024 I currently use Linear Phase Option for Filter Types especially for AM mode

Now you should be ready with the basic configurations of Thetis for the Hermes Lite 2.

Time to enjoy , adjust your audio and setup other hardware and or software such as logging or digital applications, remember that Thetis always 4 separate comport configuration for external software or devices that talk back to it, this allows multiple applications or hardware to be at one time, example a digital mode and a logging program or contest logger and CW, you can a setup a CW keying port as well if needed .

Enjoy operating your Hermes Lite 2 SDR transceiver, when used along Thetis the combination is hard to beat especially for the cost involved in this remarkable transceiver!

Hermes Lite 2 Thetis Remote Configuration

Should you wish to operate your Hermes Lite 2 remotely, that is possible when using the latest Thetis for Hermes Lite 2 (*** Beta 6 at time of this document).**

NOTE:* Opening and adding access to IP addresses over your WAN should be done so with caution and you should know how to make your network secure, if your unsure of how or what steps should be taken to secure your WAN access from the prying eyes of the internet you may wish to use a VPN and other options (TeamViewer, SpalshTop, Any Desk, TwinGate etc.) instead. ** You are solely responsible for your network! *

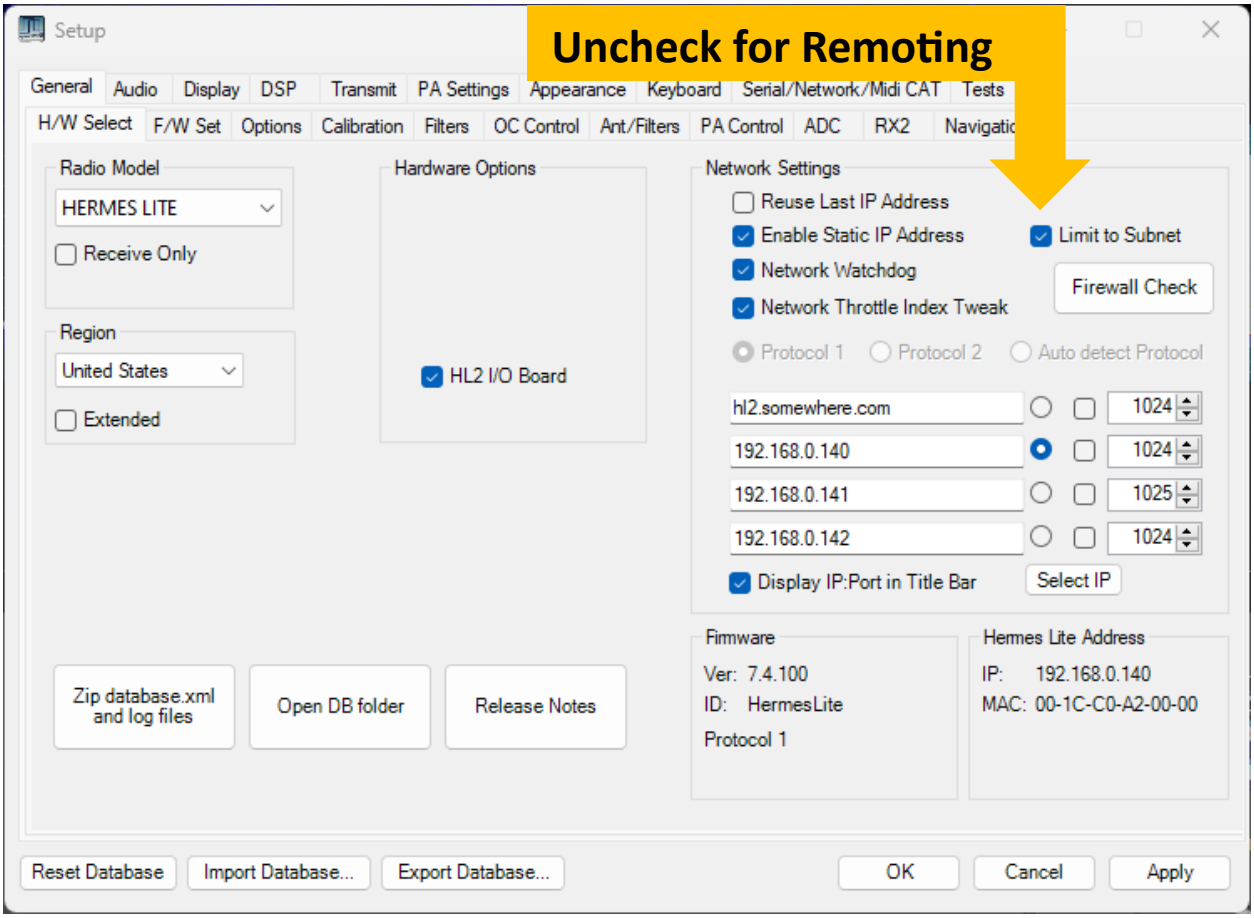
To use the direct WAN access remotely you will need to setup and configure (like outlined above) Thetis on your laptop or desktop where you intend to remote from.

On the system you are remoting from you will need to configure the following

The following is noted from Reid and Pez regarding Beta 6 and Remote operations. Cut and copied from the Hemes Lite 2 Google Group below:

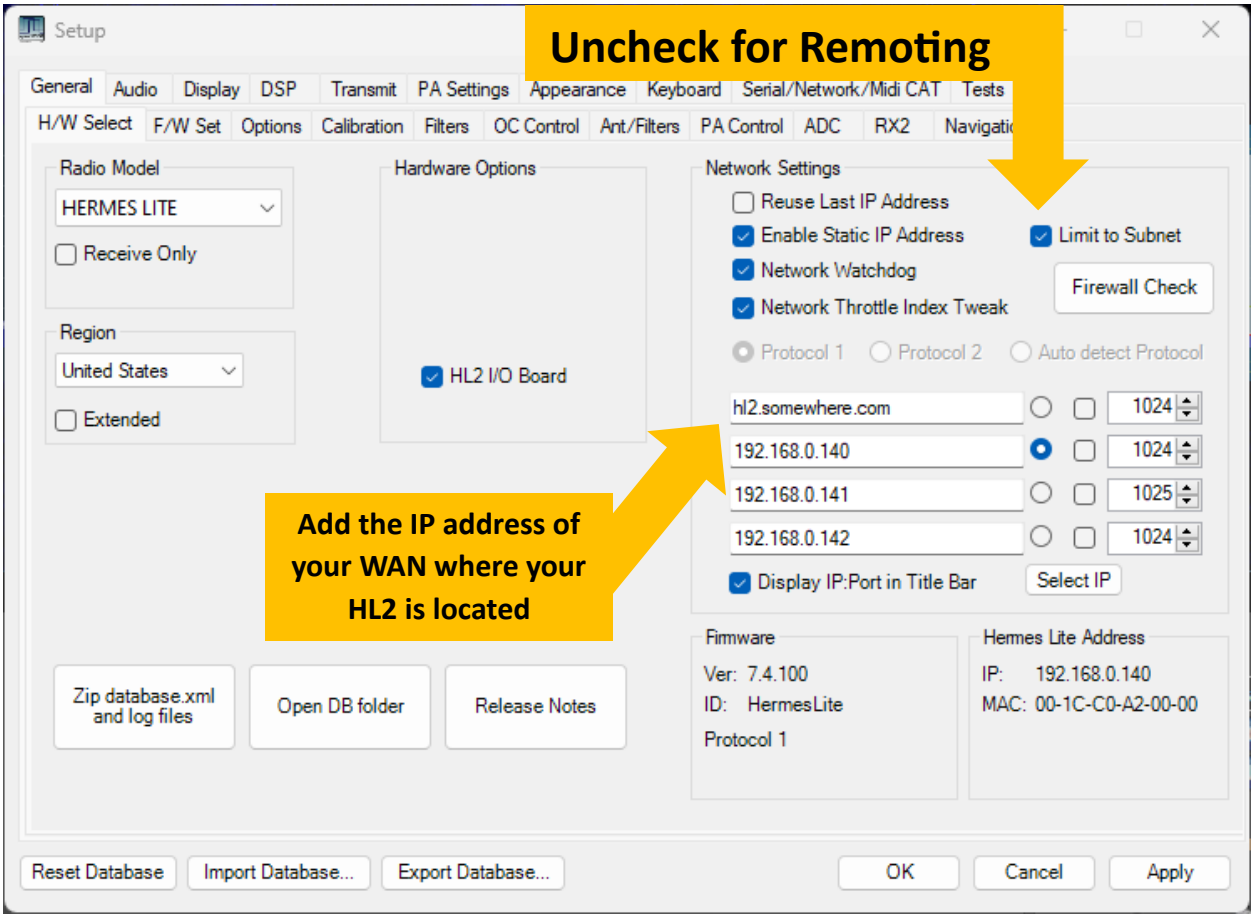
You can now connect to one or more HL2s over a WAN connect. This has been tested with direct port access but should work over a VPN. WARNING, direct port access could open your network to hacking.

When selecting Static IP, there is a second option which needs to be unchecked to take the local subnet limitation off. This will widen the search for an HL2. You can also set the port so that more than one HL2 can be accessed. Please read up on NAT and port forwarding. There is a check box below the IP address to allow the currently connected device's IP and port number to be displayed on the title bar.



You can now provide either a dot IP or a DNS style address.

Add the IP address or DNS address of your WAN where your Hermes Lite 2 is located and switch it on.

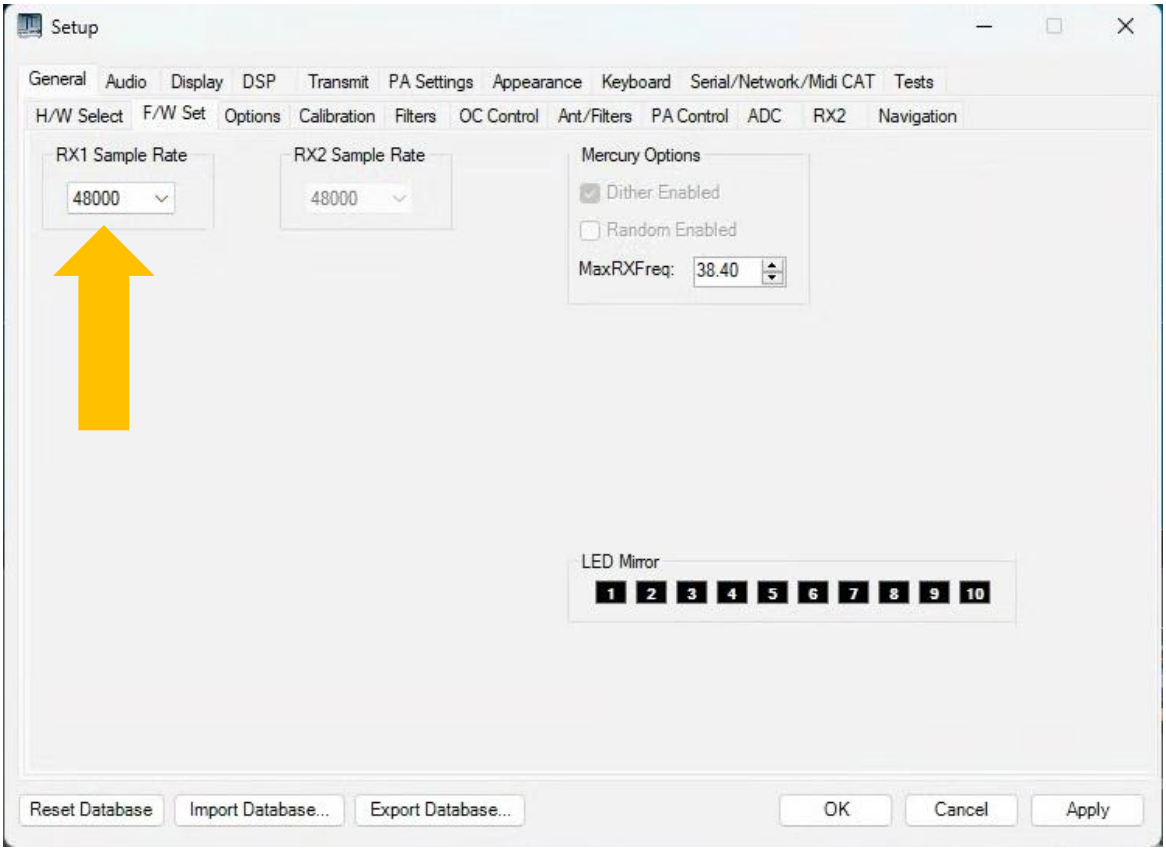


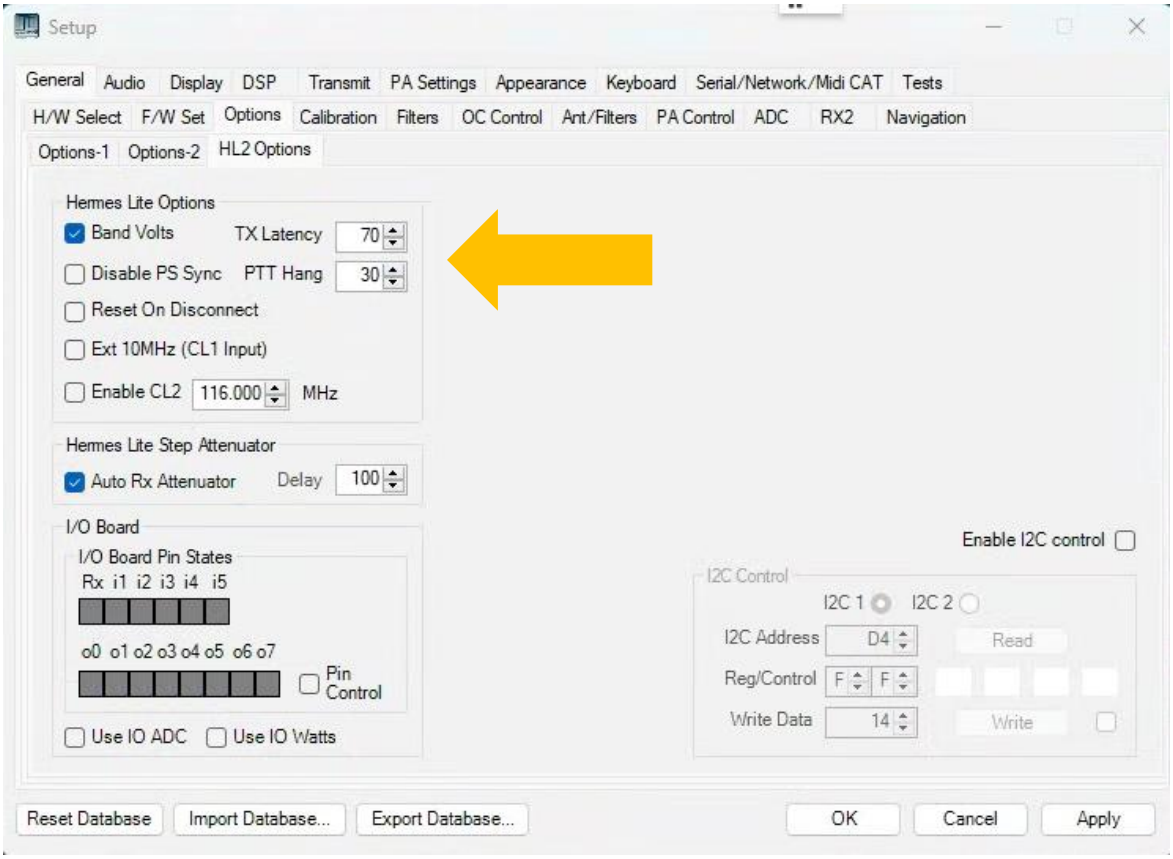
You can now name the static IP which will be displayed in the title bar. This is achieved via the Custom Title Box which is now multi lined. The first line is always displayed, and the next 4 lines are displayed dependent on the static IP address selected. If you need a blank line, just place a carriage return on that line.

Sample rate should be set at 48K. I have been able to have RX1 and RX2 running at the same time on different bands. You can also use MultiRX to get another receiver on VFO A.

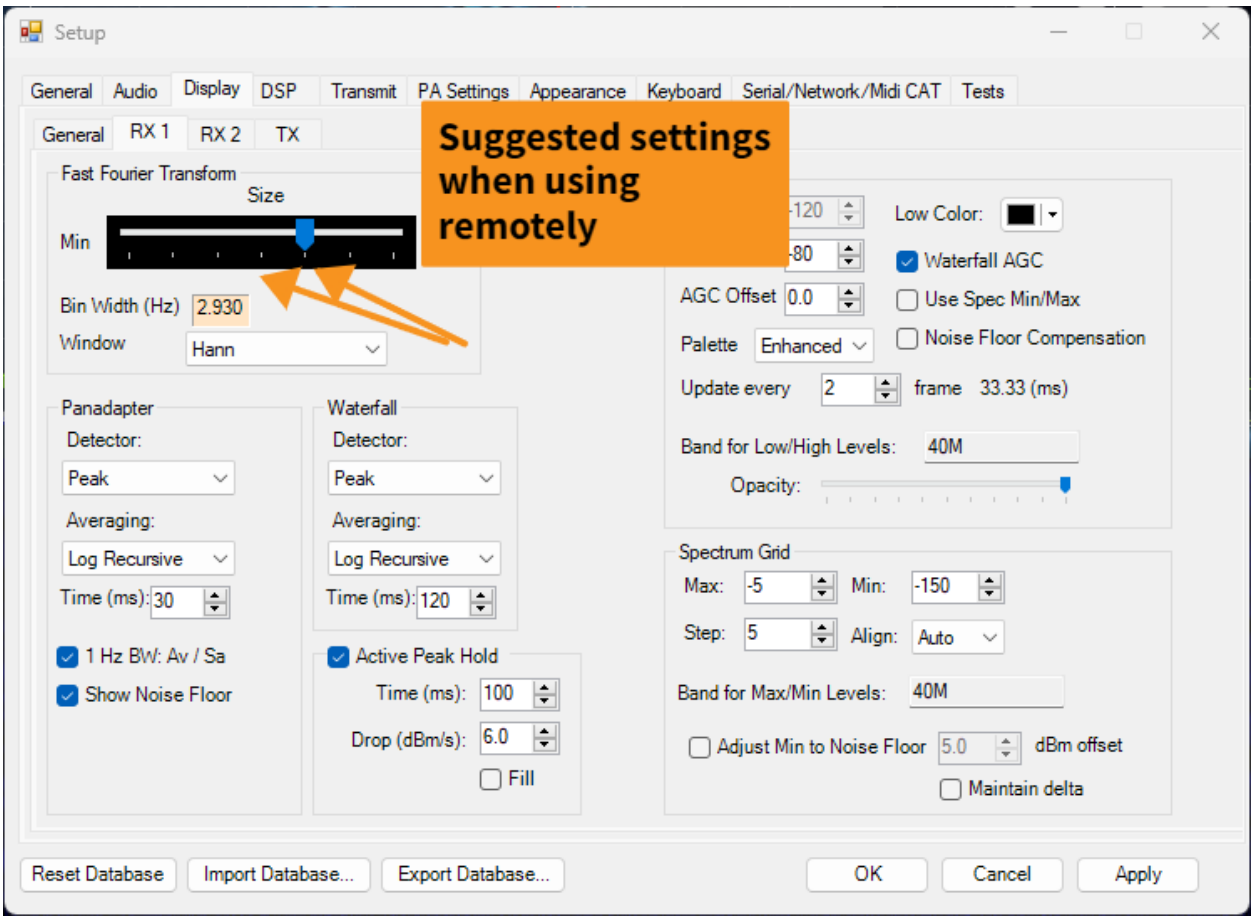
The check box beside the static IP address allows for lower bandwidth by only enabling 2 receivers.

Very limited test transmissions have been made but don't expect PS (Pure Signal) to work. You should set your hardware TX Latency to 70 msec and hardware PTT to 30 msec. Both settings are in the F/W Set form under Hermes Lite Options.


Setup
General
Audio
Display
DSP
Transmit
PA Settings
Appearance
Keyboard
Serial/Network/Midi CAT
Tests
H/W Select
F/W Set
Options
Calibration
Filters
OC Control
Ant/Filters
PA Control
ADC
RX2
Navigation
RX1 Sample Rate
48000
RX2 Sample Rate
48000
Mercury Options
Dither Enabled
Random Enabled
MaxRXFreq:
38.40
LED Mirror
1
2
3
4
5
6
7
8
9
10
Reset Database
Import Database...
Export Database...
OK
Cancel
Apply


Setup
General
Audio
Display
DSP
Transmit
PA Settings
Appearance
Keyboard
Serial/Network/Midi CAT
Tests
H/W Select
F/W Set
Options
Calibration
Filters
OC Control
Ant/Filters
PA Control
ADC
RX2
Navigation
Options-1
Options-2
HL2 Options
Hermes Lite Options
Band Volts
TX Latency
70
Disable PS Sync
PTT Hang
30
Reset On Disconnect
Ext 10MHz (CL1 Input)
Enable CL2
116.000
MHz
Hermes Lite Step Attenuator
Auto Rx Attenuator
Delay
100
I/O Board
I/O Board Pin States
Rx i1 i2 i3 i4 i5
o0 o1 o2 o3 o4 o5 o6 o7
Pin Control
Use IO ADC
Use IO Watts
Enable I2C control
I2C Control
I2C 1
I2C 2
I2C Address
D4
Read
Reg/Control
Write Data
14
Write
Reset Database
Import Database...
Export Database...
OK
Cancel
Apply

One other suggestion is to check under Display RX1 and RX2 set the Fast Fourier Transform size when you switch the “Sample Rates” to 48000 for Remote you may need to resize the rate- the 5th marker may be a good place to start- this will reset the panadapter displayed waveform making things a bit easier to see and quicker when using a remote connection.



I would like to thank Pez for opening his network and allowing me access to his network of two HL2 and help test. It's pretty cool, to sit and listen to two different band in Oz sitting in Northern Ireland. You can't get much further for testing the system. **(Reid’s comment to Pez)**

You should now be able to connect to your WAN and access your Hermes lite 2- Please note your successful use of remoting requires good internet connections as both ends. Happy Remoting!

Hermes Lite 2 Thetis Digital Modes and Loggers

Configuration of 3rd party programs such as Digital applications and Loggers can easily be achieved using Thetis and the various tabs within the (Serial/Network/Midi Cat) section.

To get started you will need to create Comport pairs for your various applications, there are several programs that can be used to do this, examples (vspMgr, ComoCom) I have used vspMgr since I ran an old Flex 3000 years ago. There are others out there as well just search for "Virtual Comport emulators" once you find one look for tutorials on how to setup and use it.

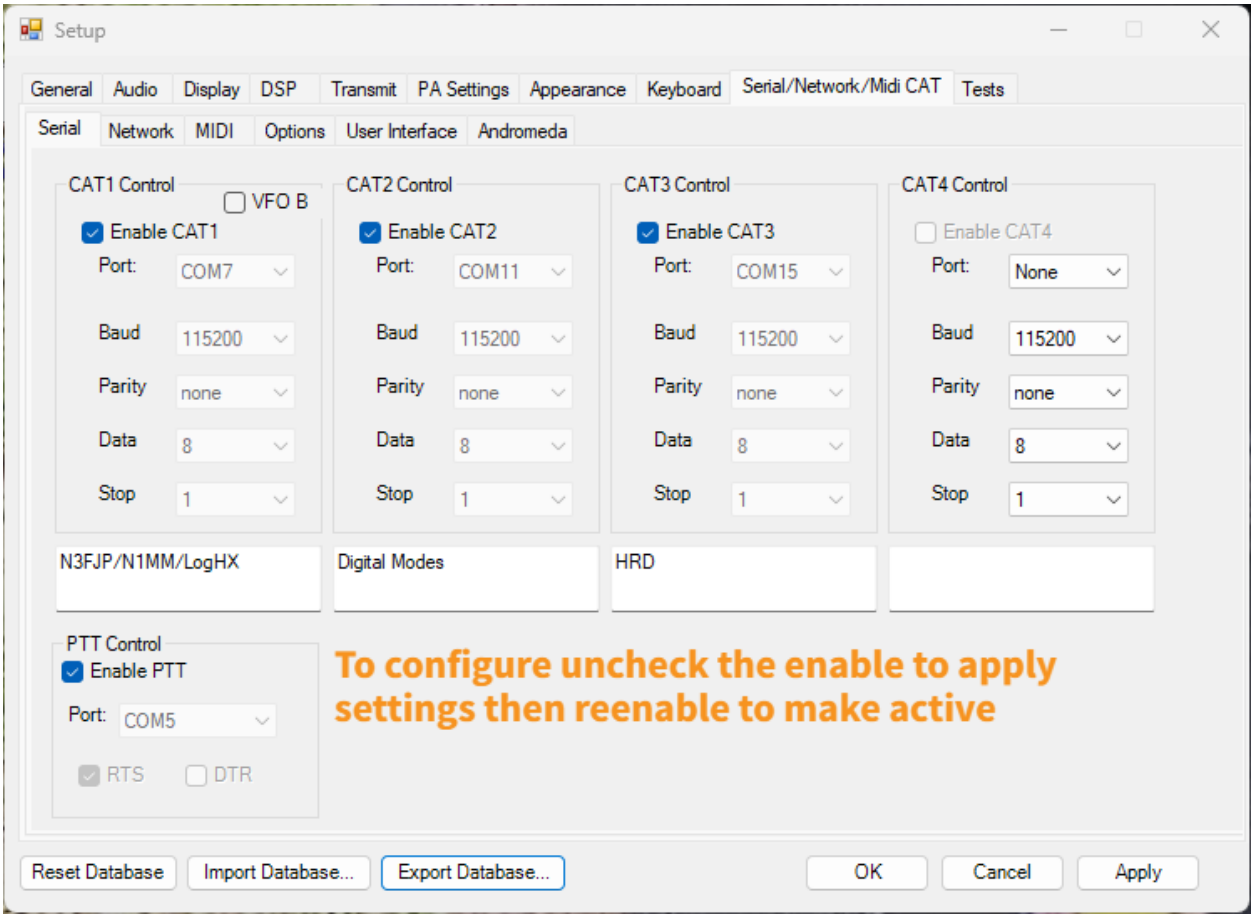
You can create several pairs of comports and this will depend on the number of applications you intend to run or number at once connected to Thetis (Currently 4 applications can be run at one time and connected back to Thetis) or if you choose to the same paring but one application at a time. The choose is yours, I find creating separate pairs for each application easier to keep straight and configure, but that's my personal preference and opinion. **Refer to the cross reference listing you hopefully made at the beginning of this document as suggested!**

If your running Digital modes you will also need Virtual Audio as well, this can be accomplished via the original Virtual Audio Cable Program by Eugene Muzychenko or using VB-cables, both these applications I have used in the past and currently with successful results, each will require either a purchase of license or donationware. Please configure and setup according to the instructions provided by the application, you will need a minimum of 2 pairs (in and an out).

There is also TCI (Transceiver Control Interface) a utility created by Expert Electronics which allows rig control between applications that also use TCI interfacing, I'll show a couple examples of this as well (Please Note currently the Thetis implementation of TCI only supports rig control it doesn't currently support audio over TCI as well like (SunSDR radios do) that said you can use TCI for rig control and VAC for the Audio.

With the above installed and configured let's run through a few popular applications ** (Note my COMPORT PAIRS may not be the same numbers as yours are) Don't worry it is the virtual pairings that matter.

Below is how I have laid out my Serial Ports, as mentioned I use separated pairs for various applications, in the boxes below the cat control you can label what that pair is used for (this makes configuration and troubleshooting much easier)

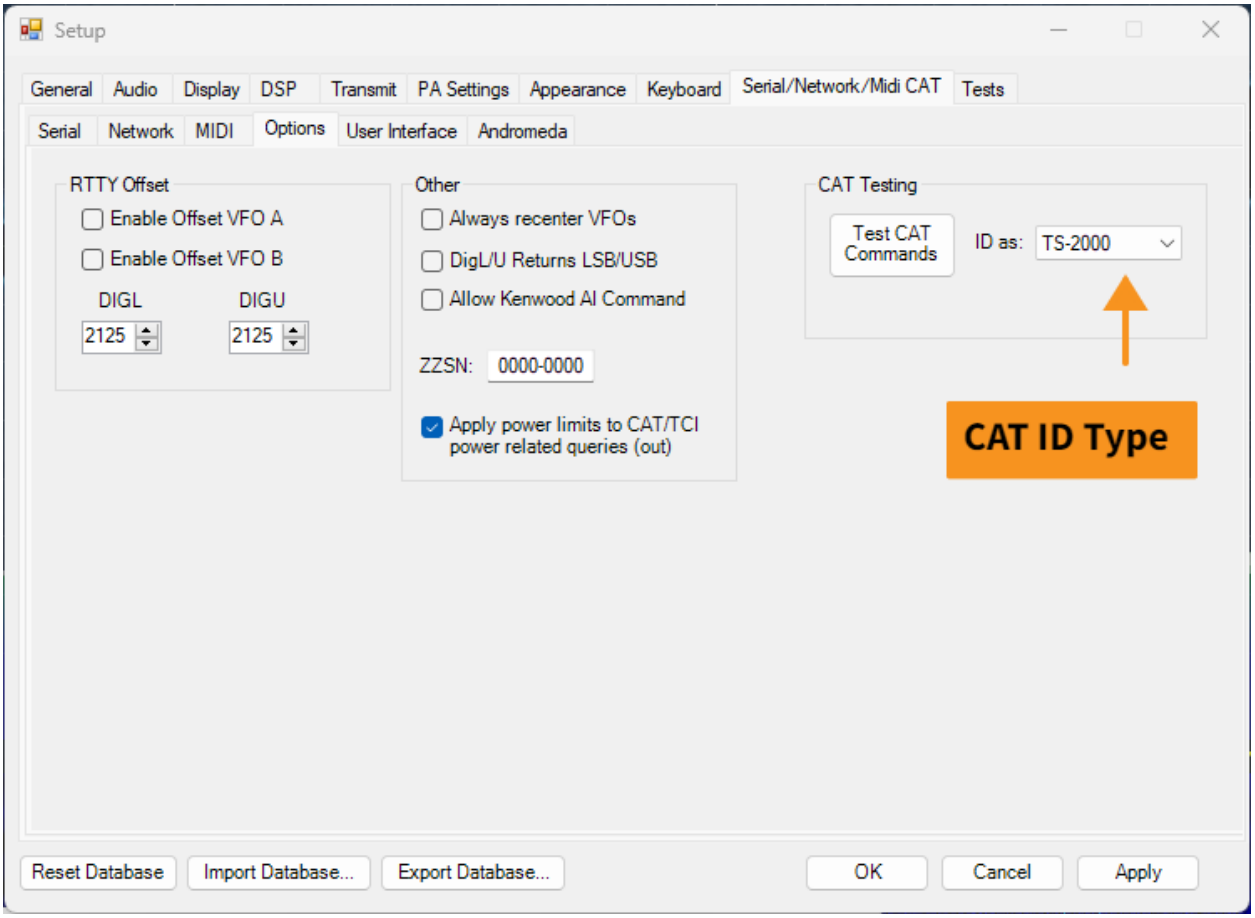


Note: If any of your application(s) require a PTT control create and assign a pair of virtual comports to trigger the PTT command.

Again, my Comport pairs may not be the same as your simply substitute them for your pairs:

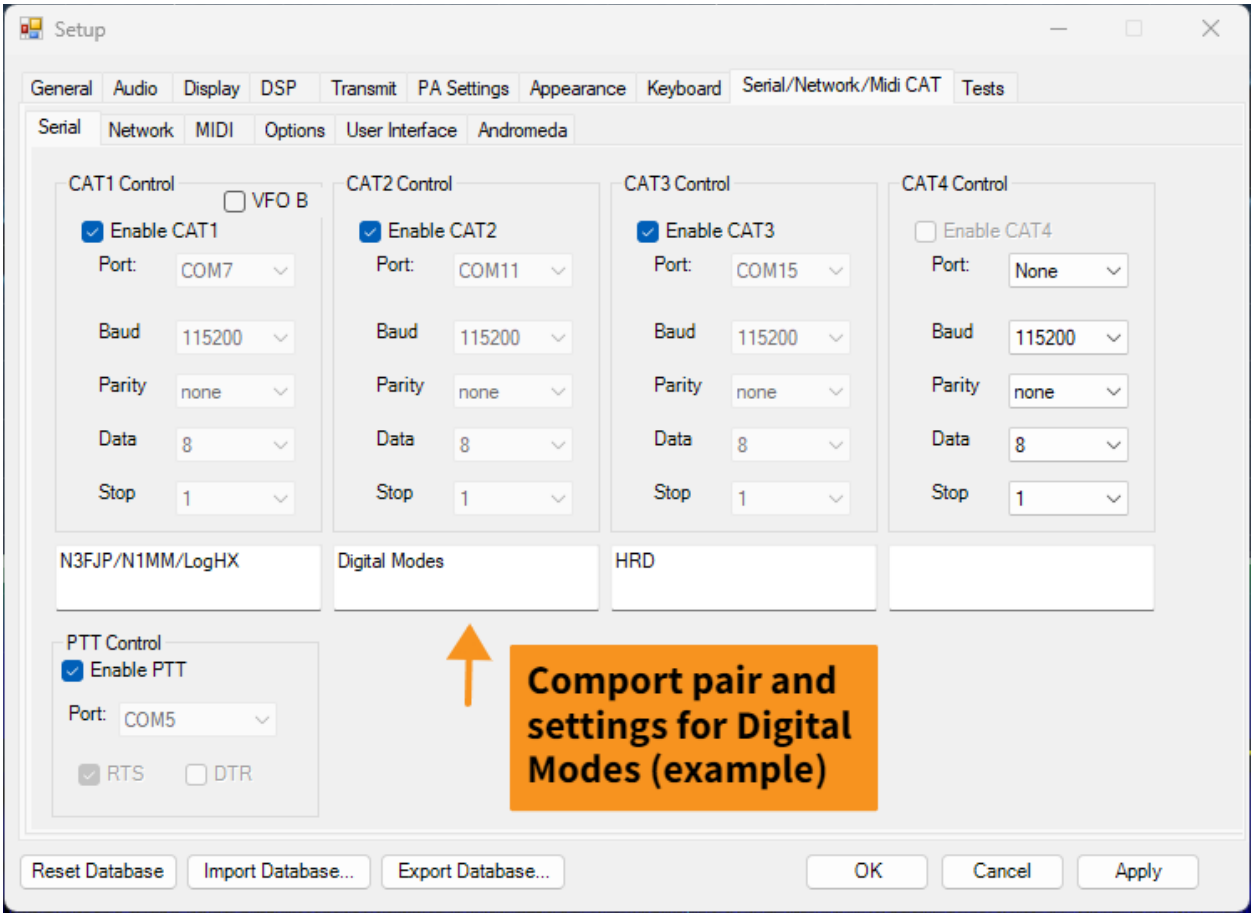
Pairs I am using are: 7&8, 11&12, 15&16 and 5&6 (pair for PTT) and later pair 9&10 for CW.

One other Note more mentioning is Serial/Network/Midi Cat sub menu Options here you can select the type of emulation and testing of Cat Commands- I have set my CAT ID as a TS-2000

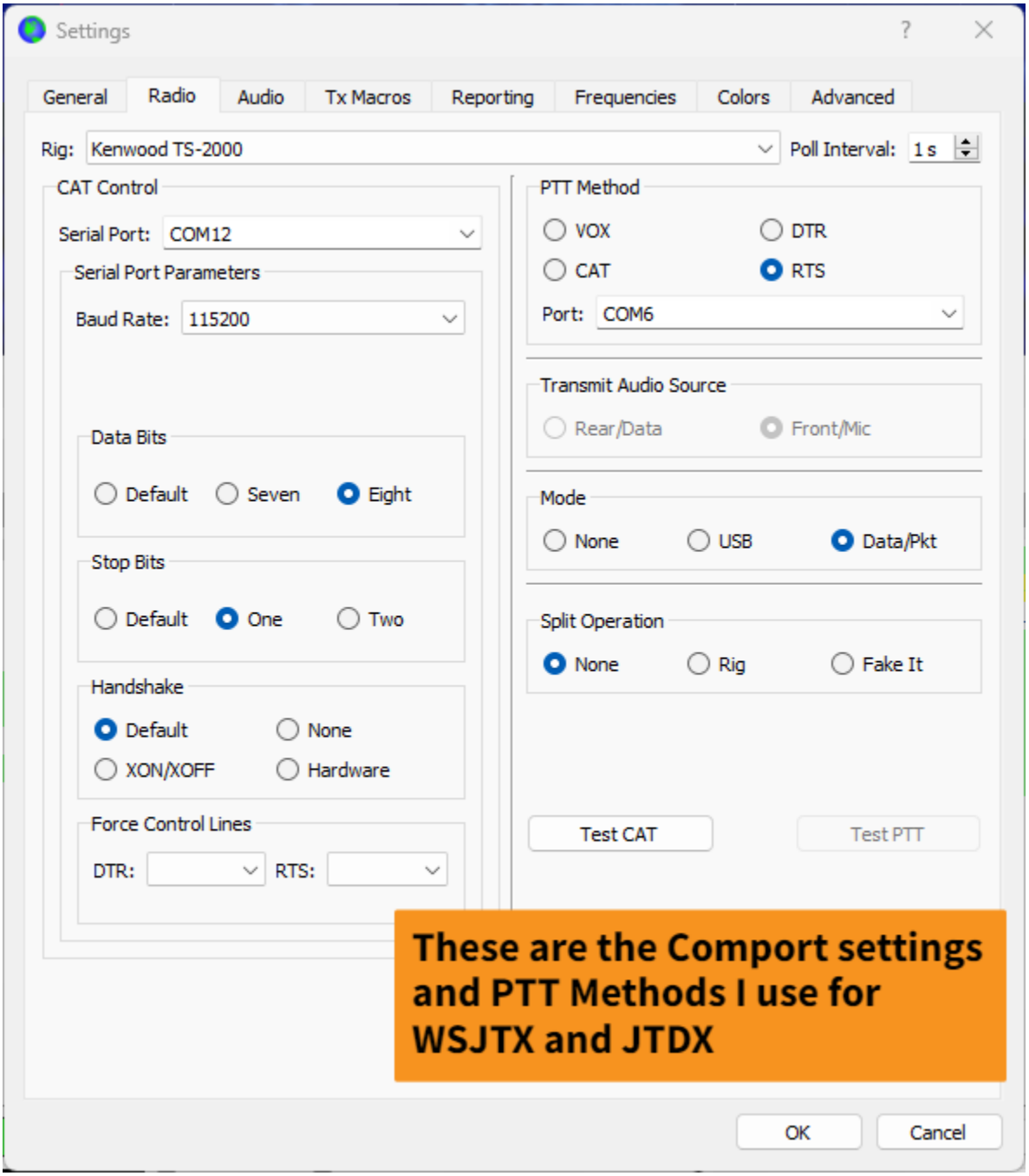

Setup
General
Audio
Display
DSP
Transmit
PA Settings
Appearance
Keyboard
Serial/Network/Midi CAT
Tests
Serial
Network
MIDI
Options
User Interface
Andromeda
RTTY Offset
Enable Offset VFO A
Enable Offset VFO B
DIGL
DIGU
2125
2125
Other
Always recenter VFOs
DigL/U Returns LSB/USB
Allow Kenwood AI Command
ZZSN:
0000-0000
Apply power limits to CAT/TCI power related queries (out)
CAT Testing
Test CAT Commands
ID as:
TS-2000
CAT ID Type
Reset Database
Import Database...
Export Database...
OK
Cancel
Apply

WSJTX

In my examples for Digital modes, I use pair 11&12 and pair 5&6 for PTT keying.

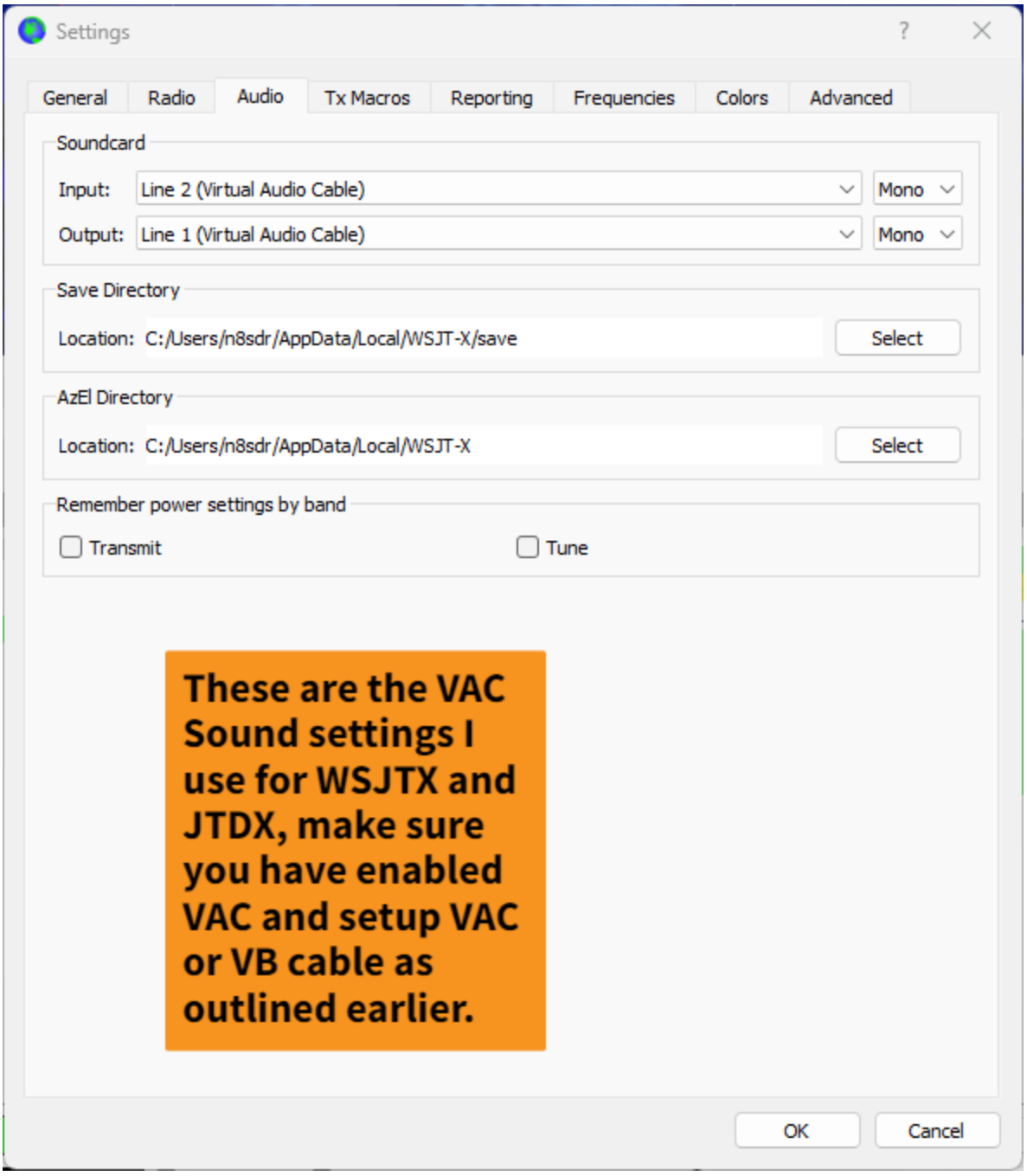


WSJTX Radio Tab



These settings are the same for **JTDX** just apply them where needed for that program.

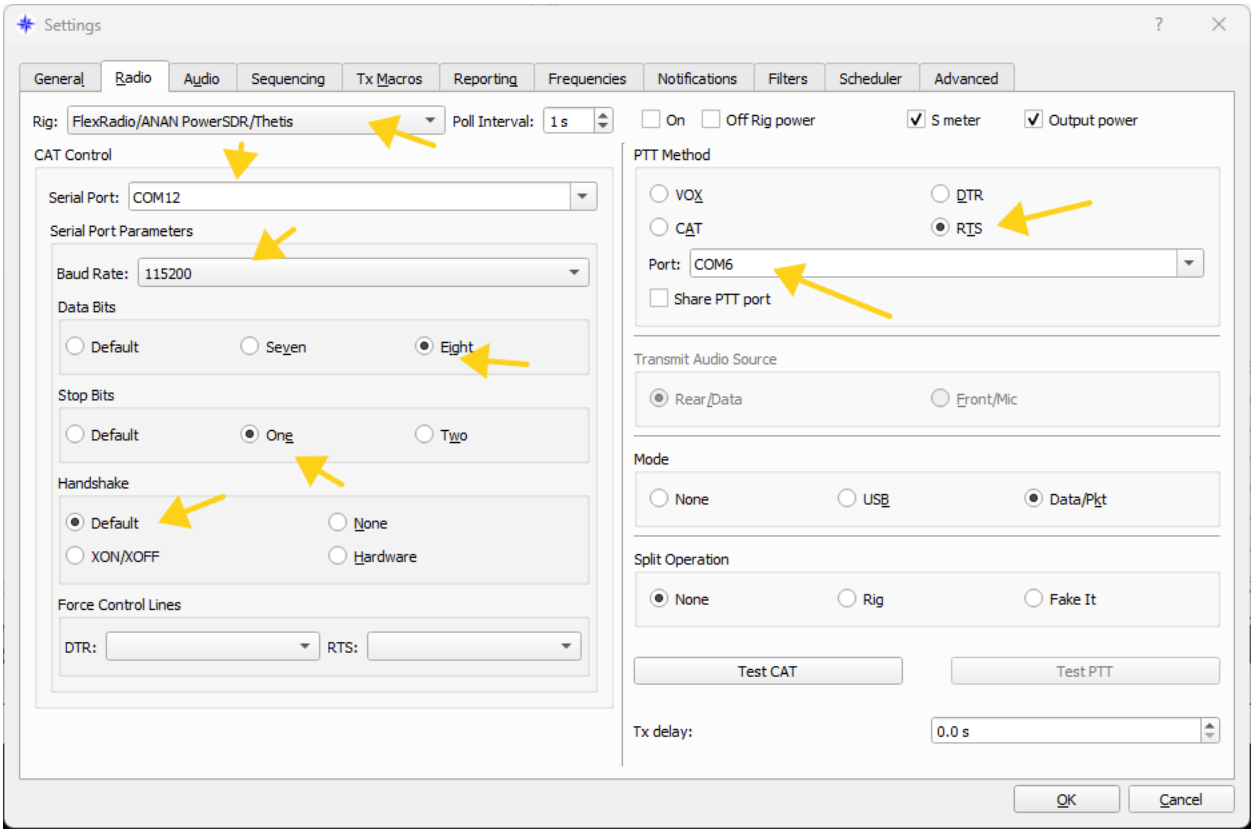
These are the VAC soundcard settings I'm using- Again make sure you download, setup and configure VAC or VB cables to use a Virtual Sound Card Device!



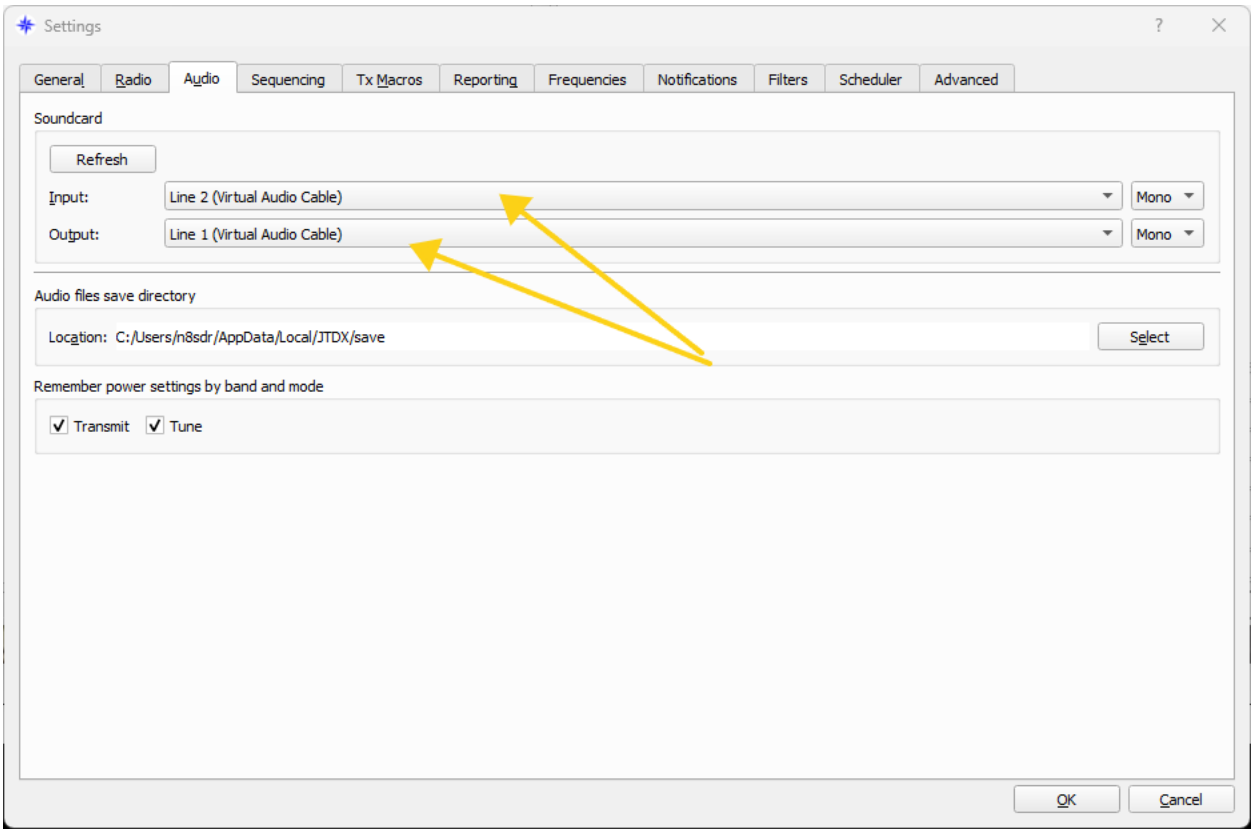
MY VAC soundcard settings for either WSJTX

For **JTDX** here are the application screen examples:

For Rig Control and PTT



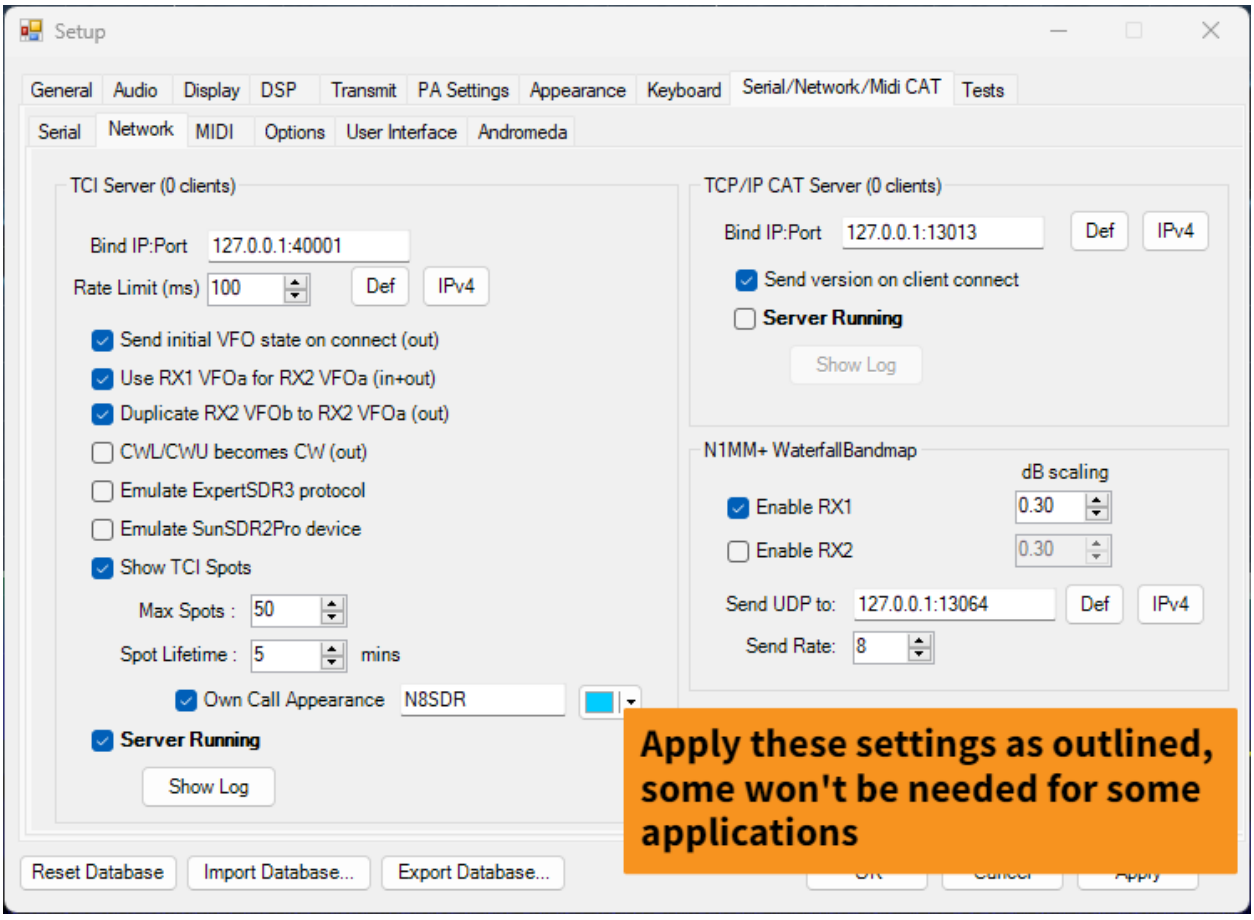
For Audio:


Settings
General
Radio
Audio
Sequencing
Tx Macros
Reporting
Frequencies
Notifications
Filters
Scheduler
Advanced
Soundcard
Refresh
Input:
Line 2 (Virtual Audio Cable)
Mono
Output:
Line 1 (Virtual Audio Cable)
Mono
Audio files save directory
Location: C:/Users/n8sdr/AppData/Local/JTDX/save
Select
Remember power settings by band and mode
Transmit
Tune
OK
Cancel

TCI and MSHV Digital Application

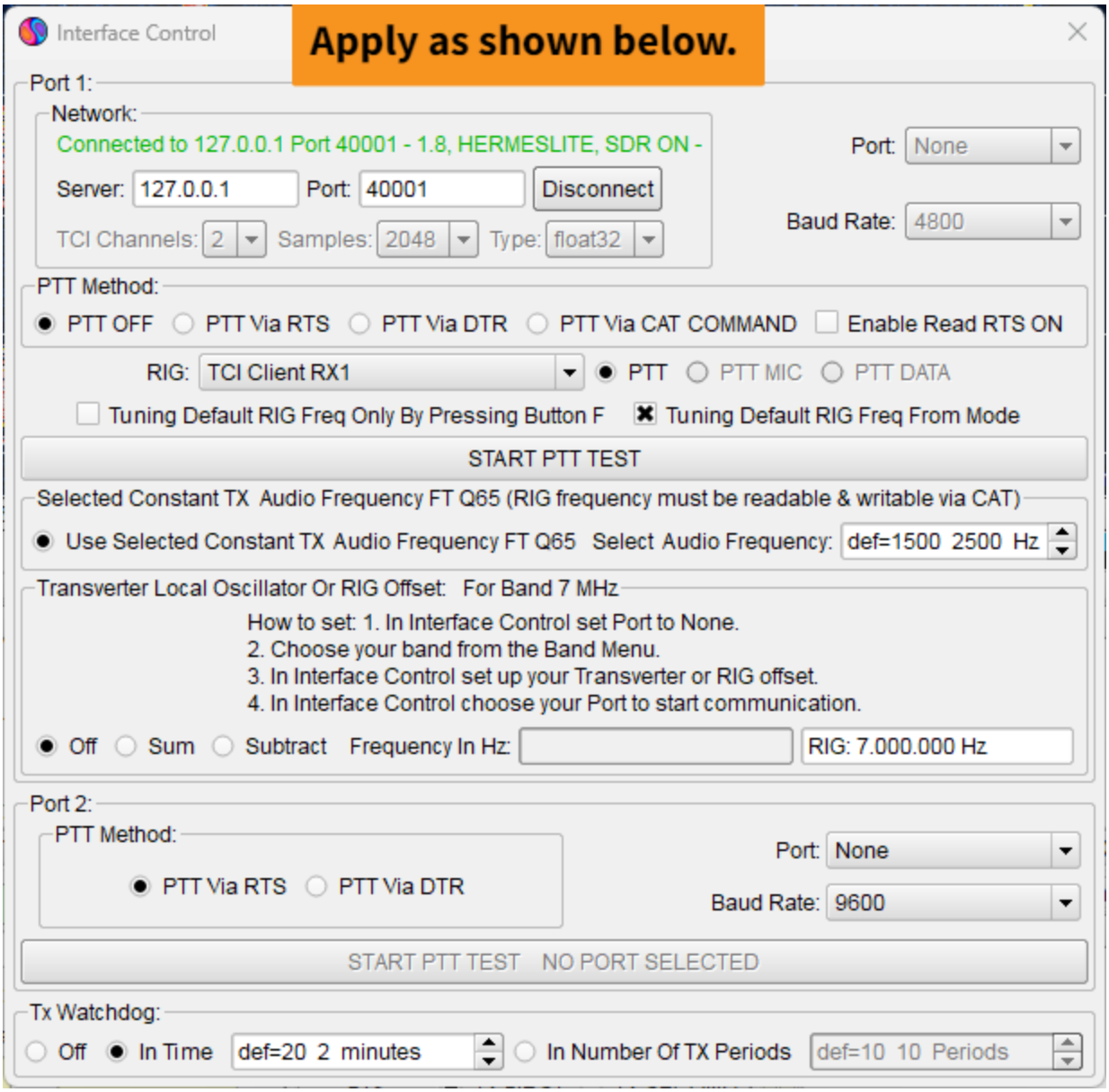
My personal preference for Digital modes like FT8, FT4 and meteor scatter is MSHV it also supports TCI (transceiver control Interface) as does Thetis (For ***RIG CONTROL ONLY*** at present time) so let's do a quick setup.

In Thetis go to **Serial/Network/Midi Cat** and Sub menu tab **Network** set as shown below some of the options won't be needed for MSHV but other TCI programs I'll try and show a later. (obviously replace my call (N8SDR) with your own and pick a color for your call appearance (again this wont matter currently with MSHV) the nice thing about TCI is you can connect many application to it at one time it uses UDP orts over the network, so unlike a virtual CAT which is limited to 1 connection per pair, TCI isn't! it can support multiple instances of applications running, Hopefully Ritchie or some other Thetis programmer will finish the importation of TCI because it also can support Audio as well back and forth, and won't require a VAC audio path. That is how it works with SunSDR / EE transceivers. If the 3rd party uses TCI, it can pass both rig control and audio together.



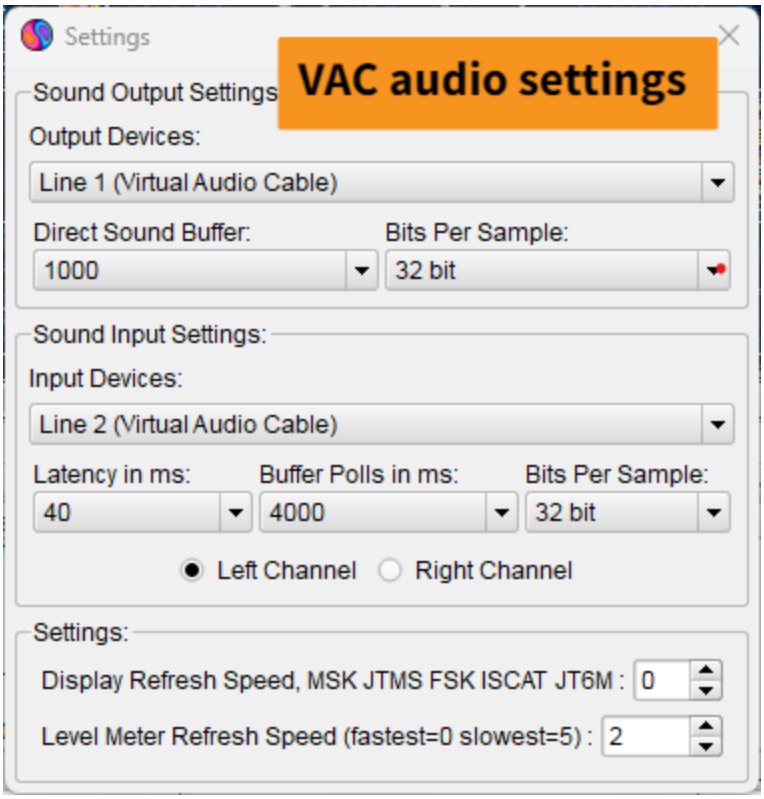
Above settings for Thetis TCI, again some of these settings won't be used for some applications, but while you're here might as well configure for the future!

In MSHV open Options, then Interface control and set as shown



You really don't need to set anything starting from Transverter and Port 2 Method, I would suggest you set a TX watchdog method either is your choice. What is important is the TCI server and Port number and that you choose under the section for RIG: TCI Client from the dropdown menu, note you can assign RX1 or RX 2 from that menu, yes you can use run two instances of MSHV each on a separate RX1 or RX2 , you simply need to create and run a second MSHV application placed in a sperate directory.

MSHV Audio Options-Sound Settings menu set as shown below.

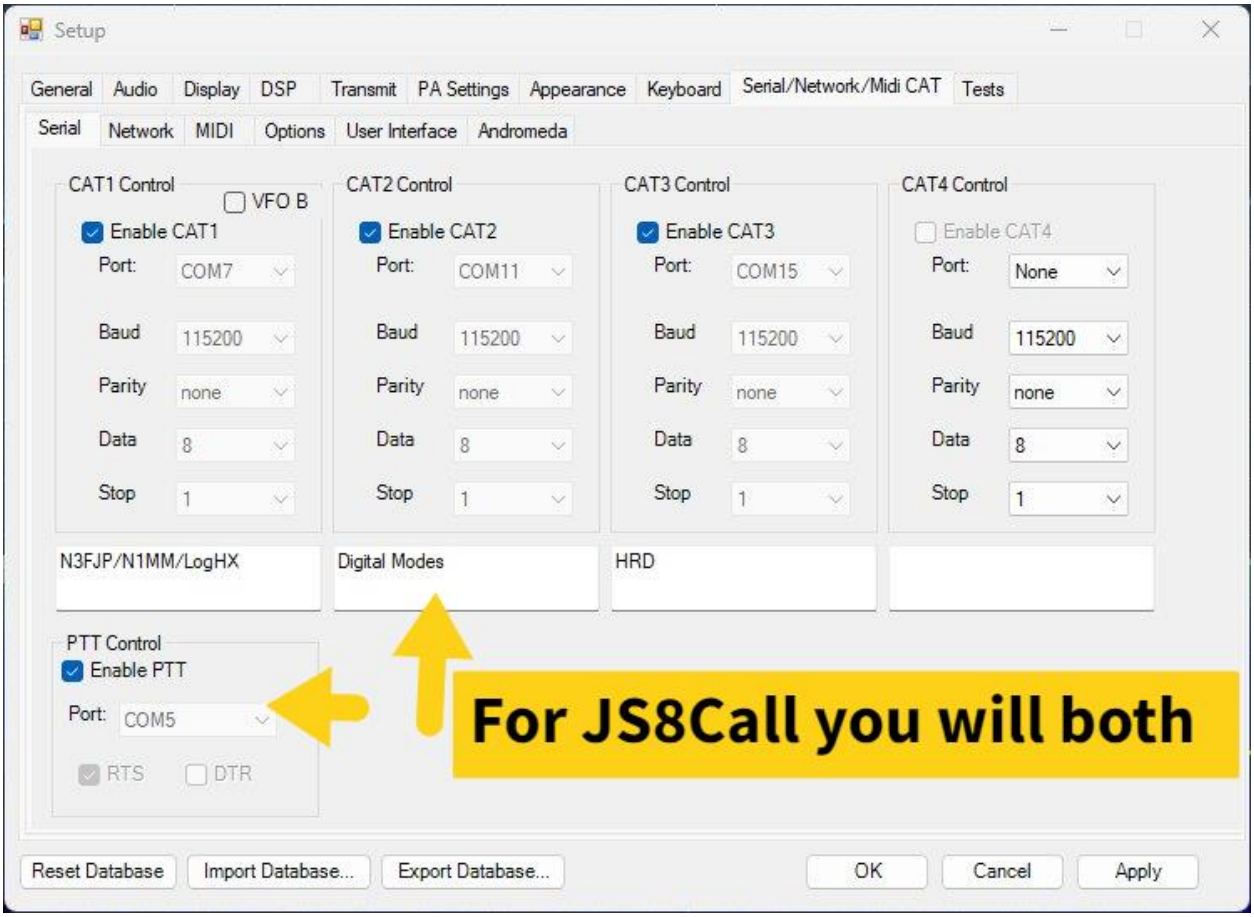


You will find videos on YouTube and the MSHV user groups.io for more info on how to use it, that is not going to be covered here, these are intended as quick configurations to get you setup with an application for Rig and Audio control, not a user operations document, sorry.

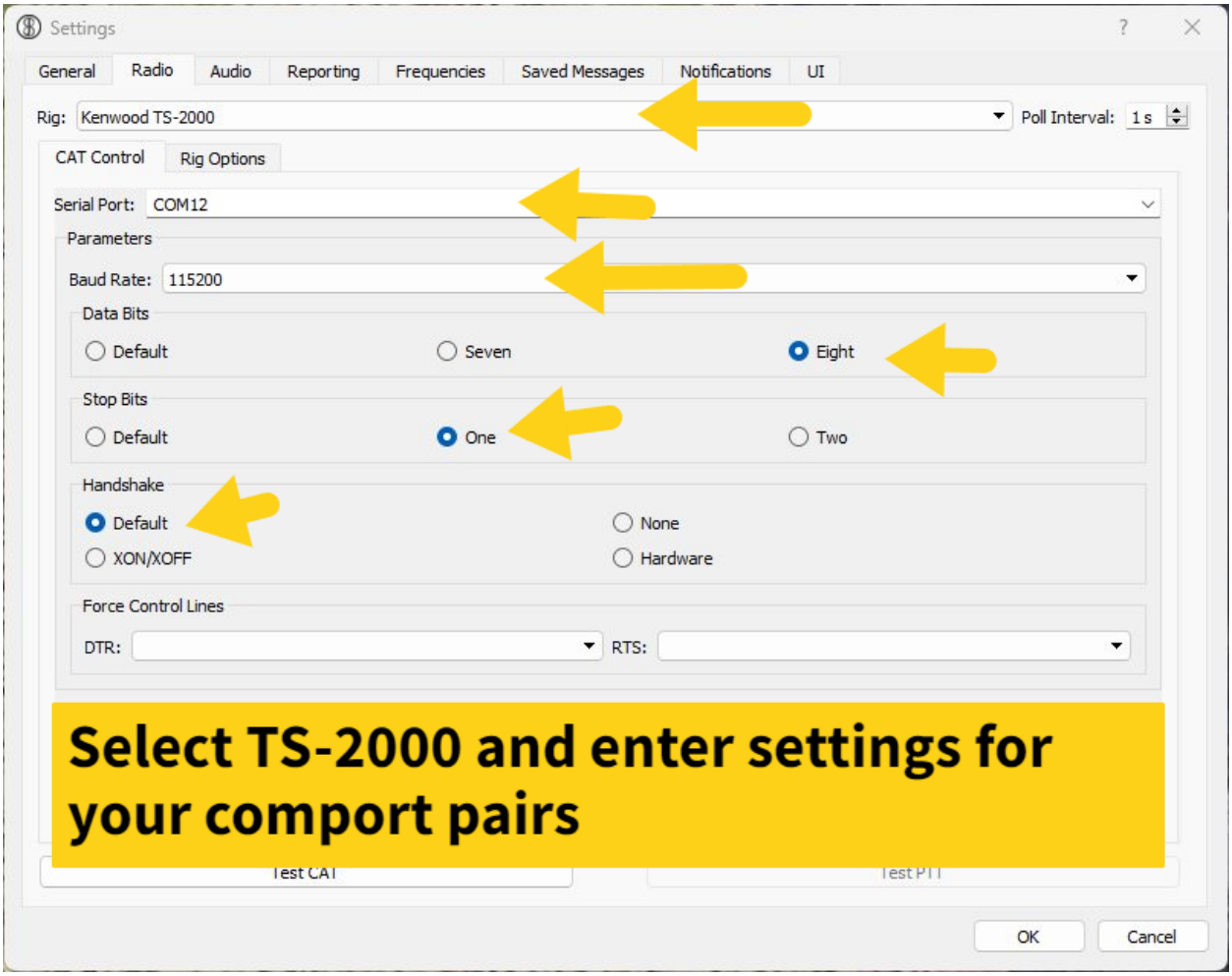
You can use the above methods for various Digital programs they operate and are confirmed in a similar manner. Just apply the principles shown here to them and you will be set up in no time!

JS8CALL

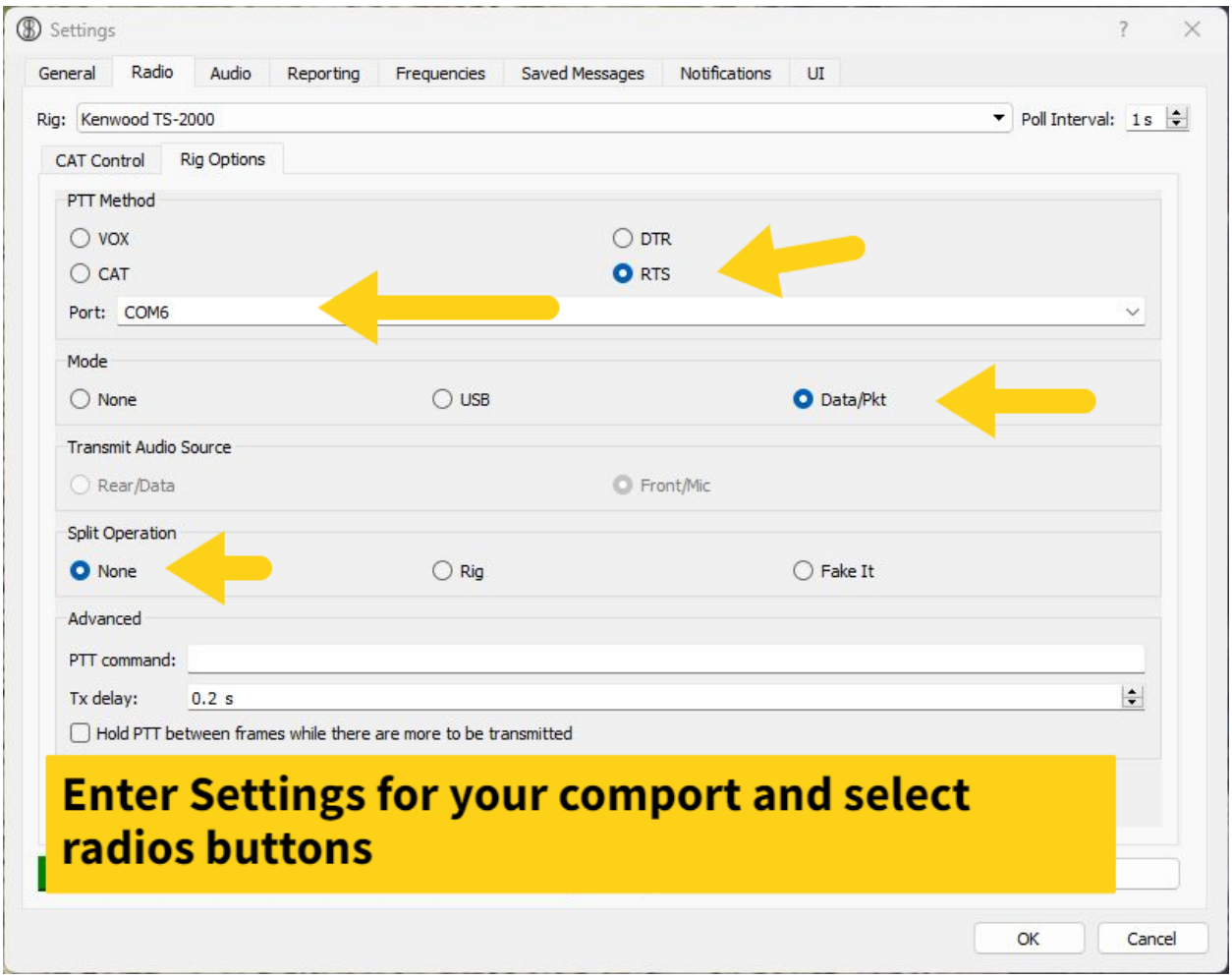
JS8Call is another Digital application which will require a PTT trigger port, again I use comport pairs 7&8 for Rig control and 5&6 for PTT.



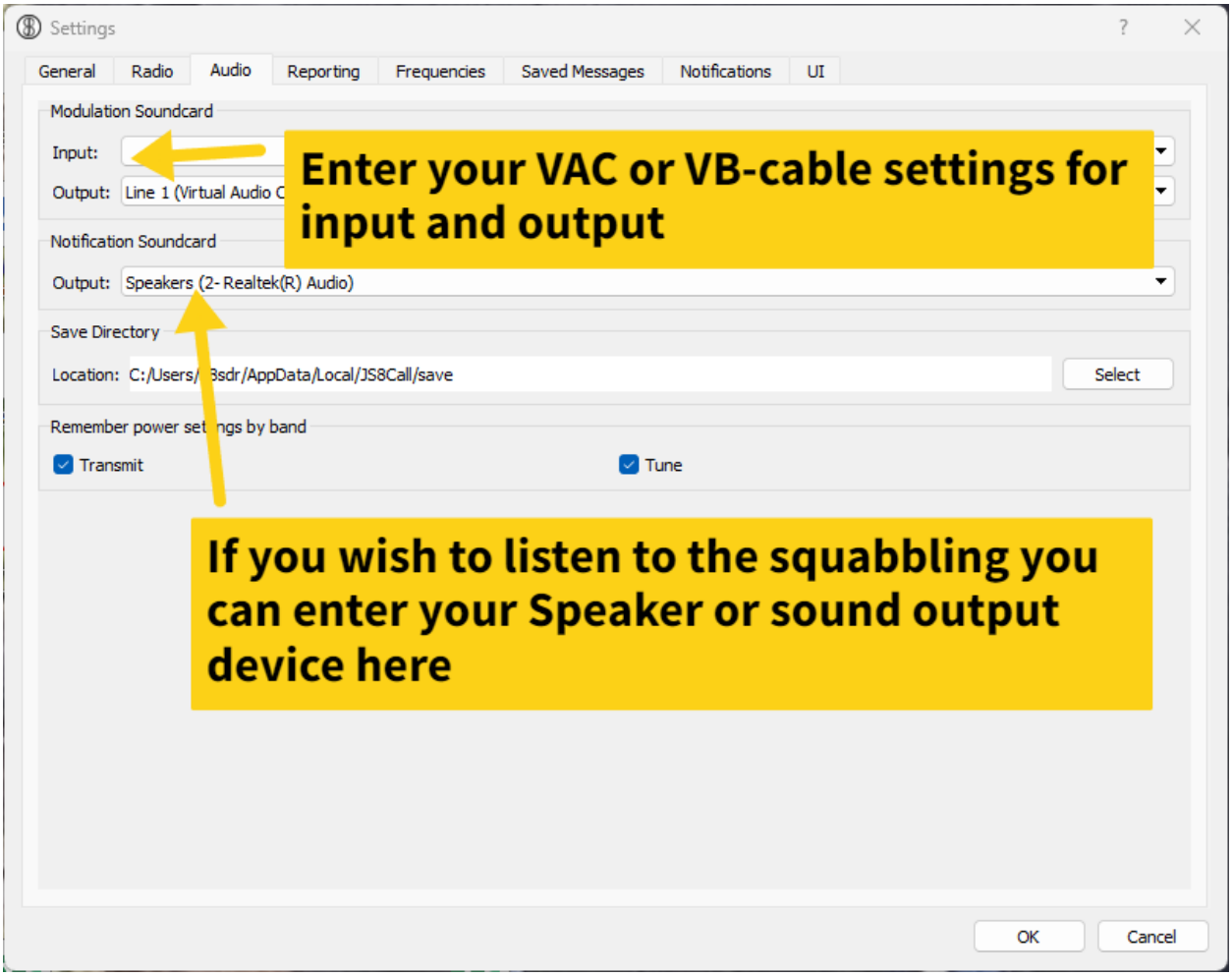
In JS8CALL this is how I configure ***(** again swap comport pairings for those which you have setup)***



And for PTT under Rig Options, I setup like this.



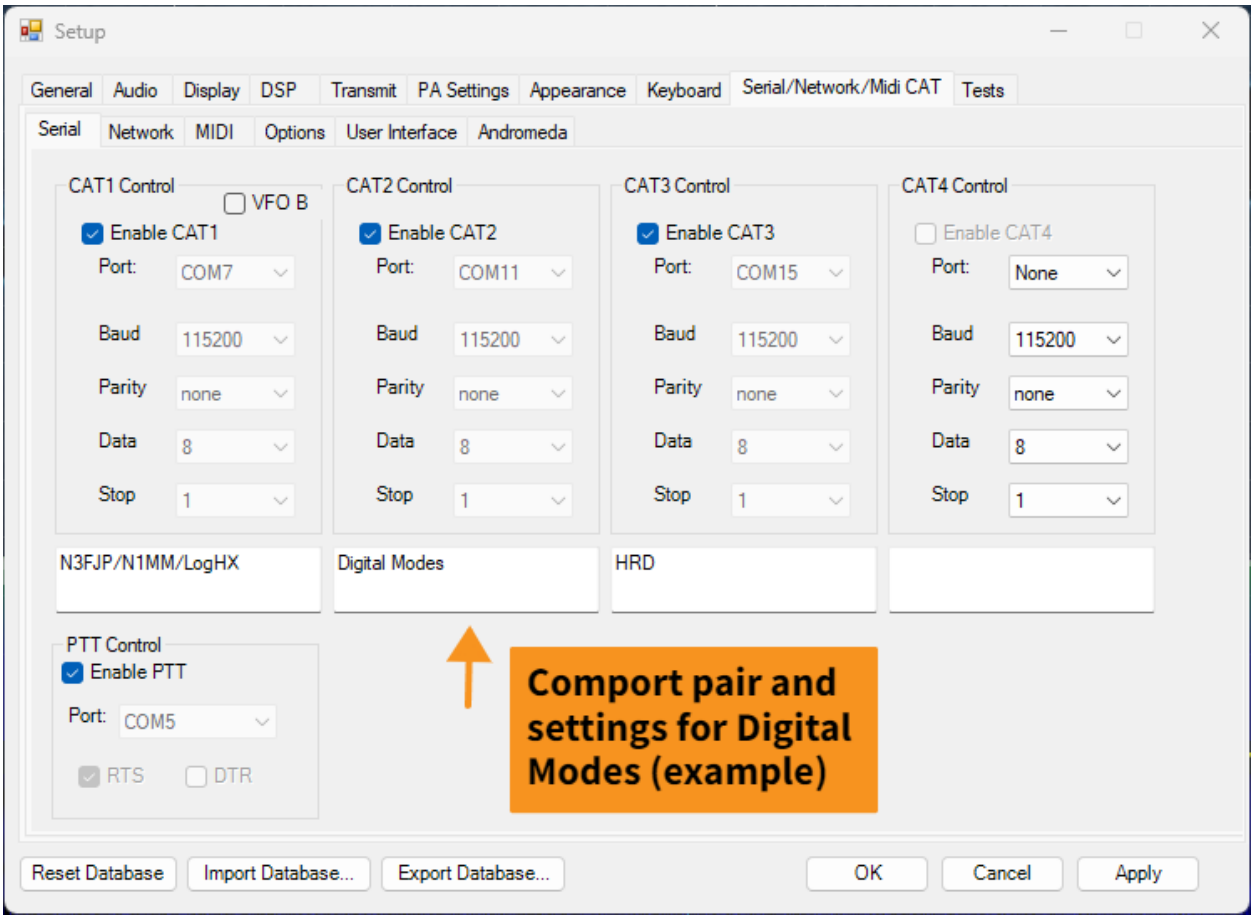
And For Sound settings use your VAC settings, if you want to hear the notification etc. then enter a sound output device as well (like your speakers etc.)


Settings
General
Radio
Audio
Reporting
Frequencies
Saved Messages
Notifications
UI
Modulation Soundcard
Input:
Output:
Line 1 (Virtual Audio C
Enter your VAC or VB-cable settings for input and output
Notification Soundcard
Output:
Speakers (2- Realtek(R) Audio)
Save Directory
Location:
C:/Users/ 3sdr/AppData/Local/JS8Call/save
Select
Remember power set ngs by band
Transmit
Tune
If you wish to listen to the squabbling you can enter your Speaker or sound output device here
OK
Cancel

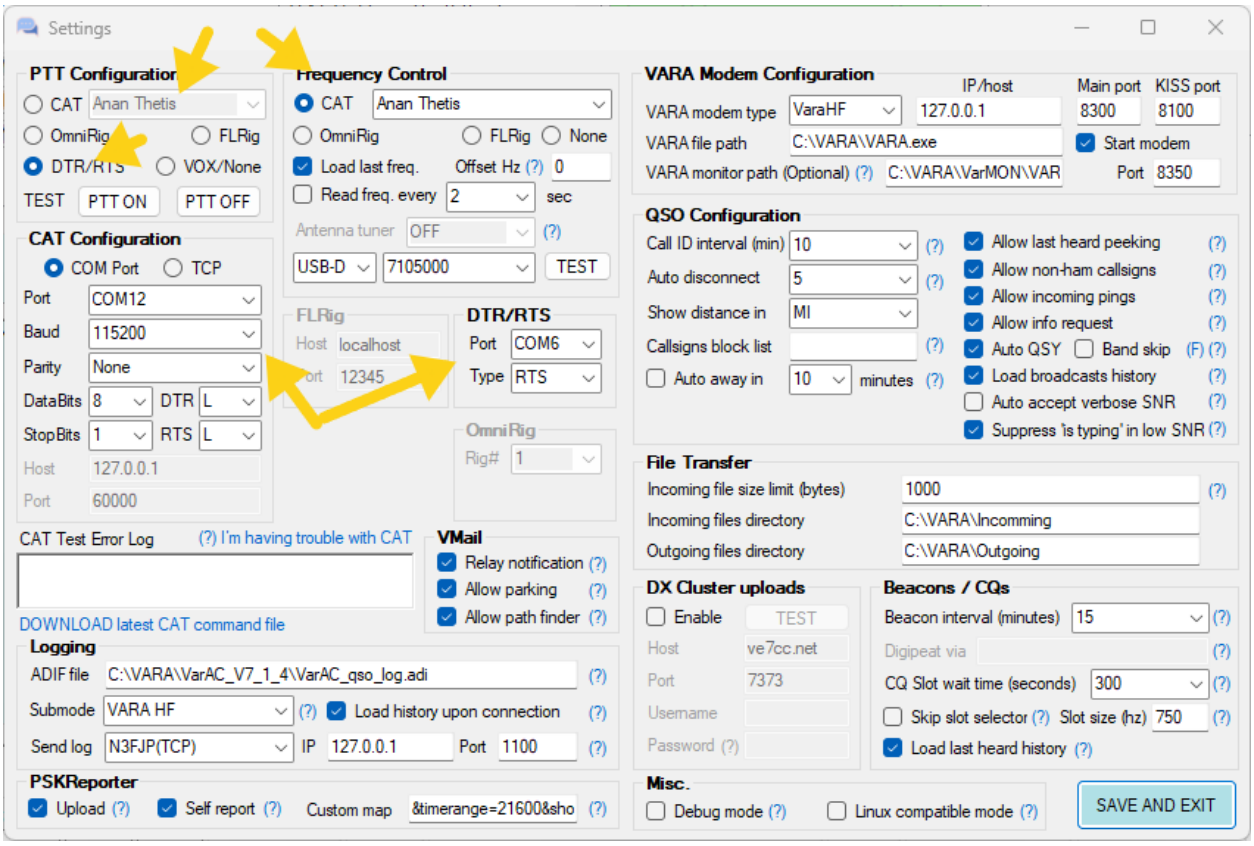
VarAC

VarAC is an interesting mode sort of a combination of FT8 and RTTY, yep **NON-ZOMBIE LIKE**, you'll actually get to engage and have a QSO via keyboard, even send small files and pictures back and forth. Theres plenty of videos on VarAC and a great FB user group- Setup similar to other digital modes using Rig Control and a separate PTT, also there is a separate applications VARA which is used for the Soundcard input and output. See the screen shots below- again these are my Comports pairs shown so substitute the pairings you have set up for your virtual ports.

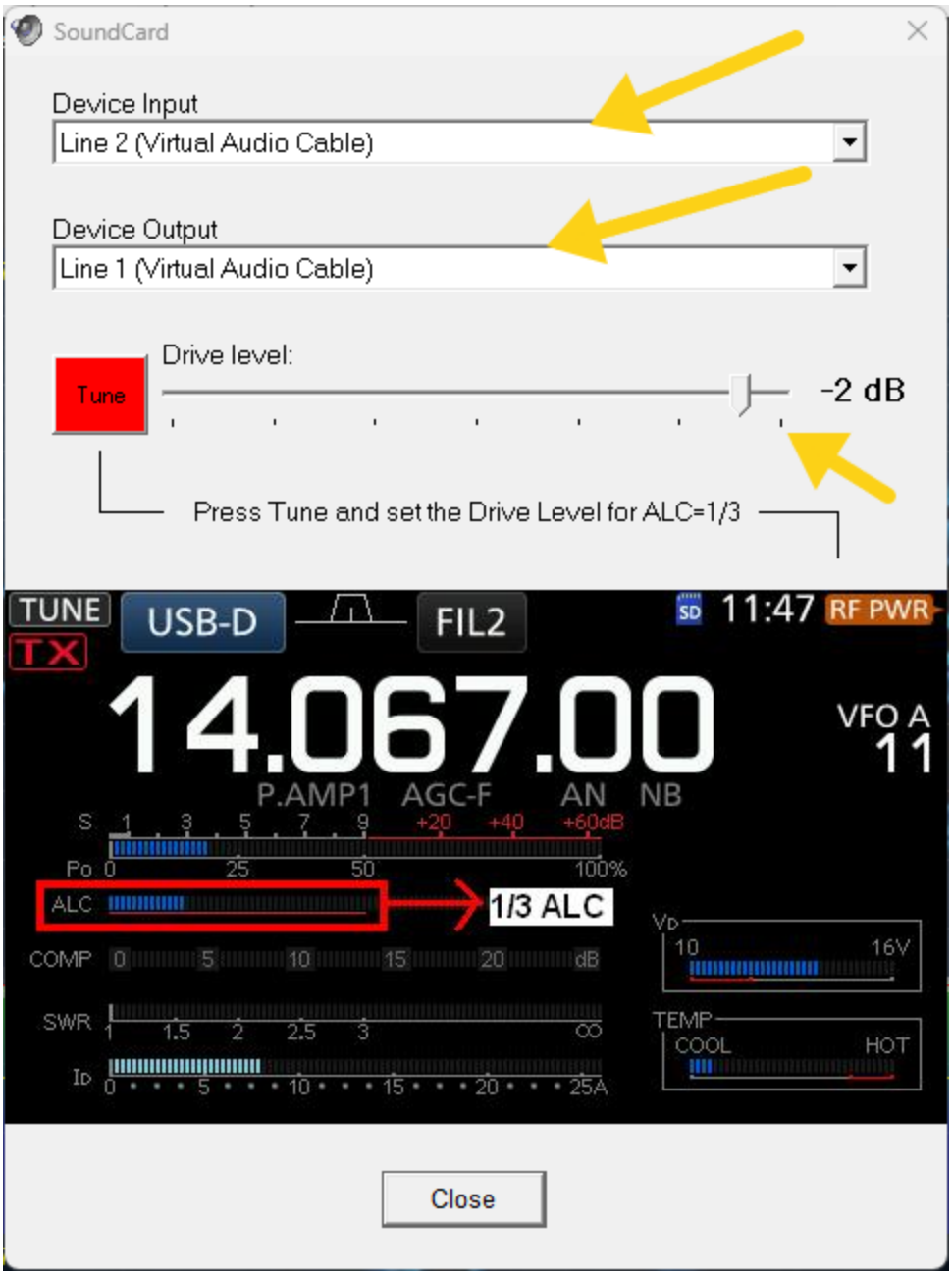
First let's again look at my Thetis CAT control settings. I'll be using pairs 11&12 for Cat control and 5&6 for PTT as shown.



In VarAC this is how I have cat and PTT configured- I have chosen Anan-Thetis as the rig type then applied the CAT port end 12 and PTT port end 6 don't forget RTS under PTT as well.



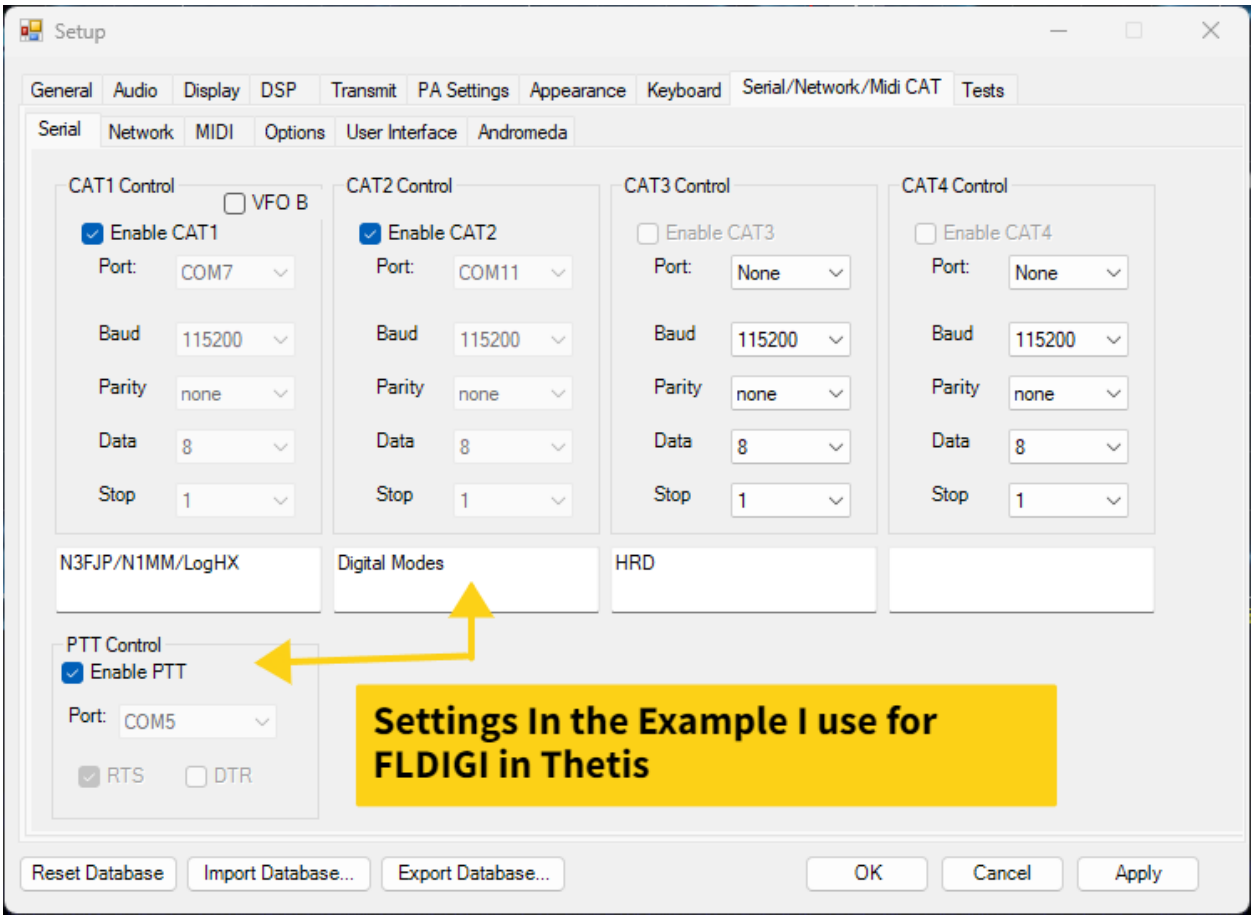
And for the Sound card setup in VARAHF



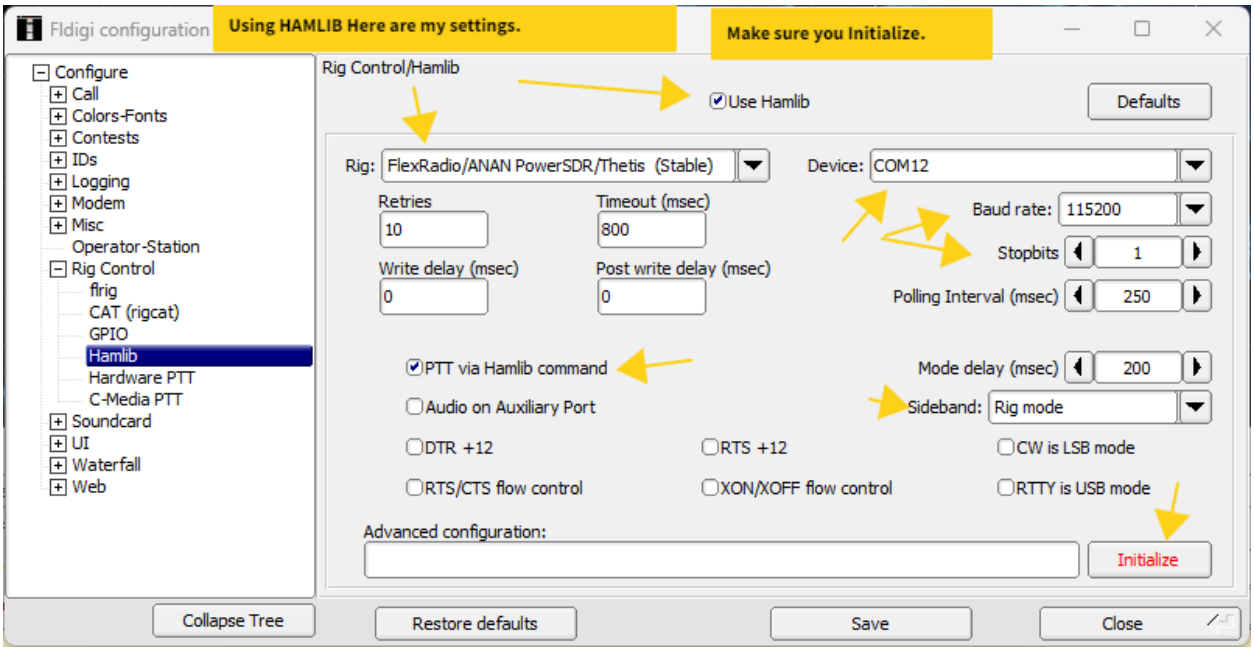
Make sure you adjust the drive level, In Thetis set your meters dropdown to show SLC and adjust slider. Usually around -2 to -1 should get you close here if you're using VAC, VB-0cable maybe slightly different. It is better in Vara to error slightly less as your connections will be more stable and quicker at transfer speeds, if you overdrive the system compensate and will roll back your data throughput. Less is better than a MAX or near max ALC for VARA!

FLDIGI

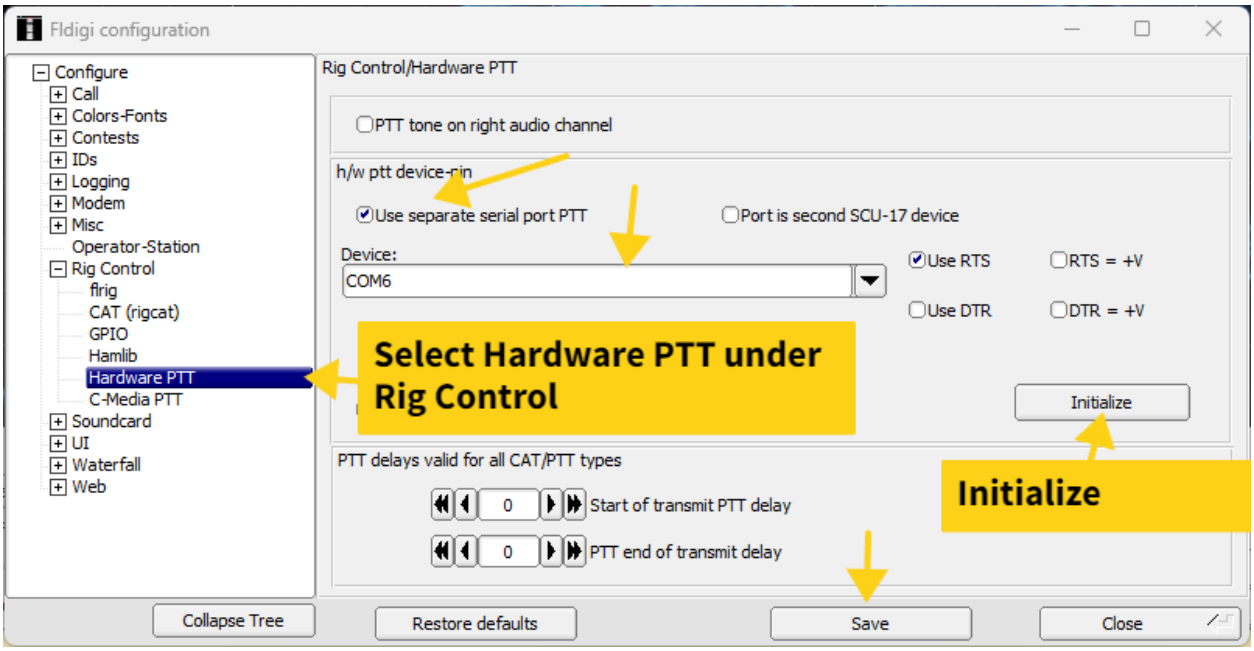
FLDIGI has been around for some time, it is a nice multi digital and CW application, it can use built in Macros for many contests or simply basic operation. Download FLDIGI There are several ways which Rig Control operations can be setup with FLDIGI, I have been using the HAMLIB method, but first lets again refer to how I have Comports setup for digital modes in Thetis.



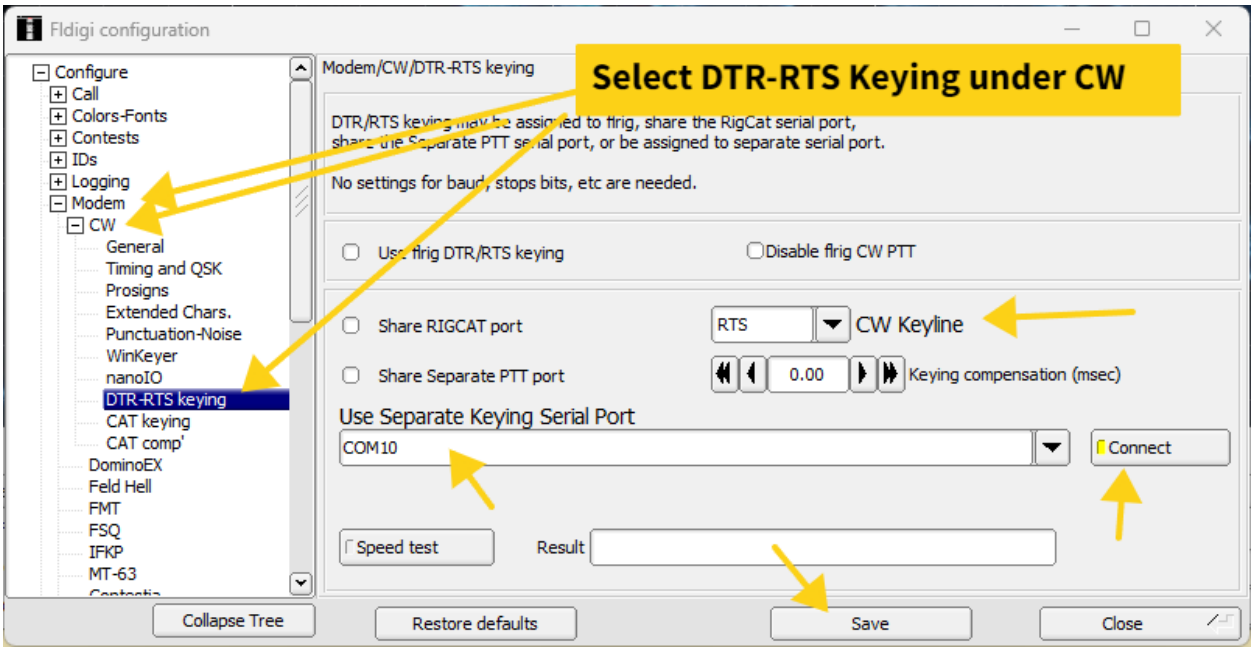
In FLDIGI I use **HamLib** as my Rig Control. See the example settings below again subsite any comport pair shown for those in which you have created. Also make sure you **Initialize** and **Save settings** as we move through the setup.



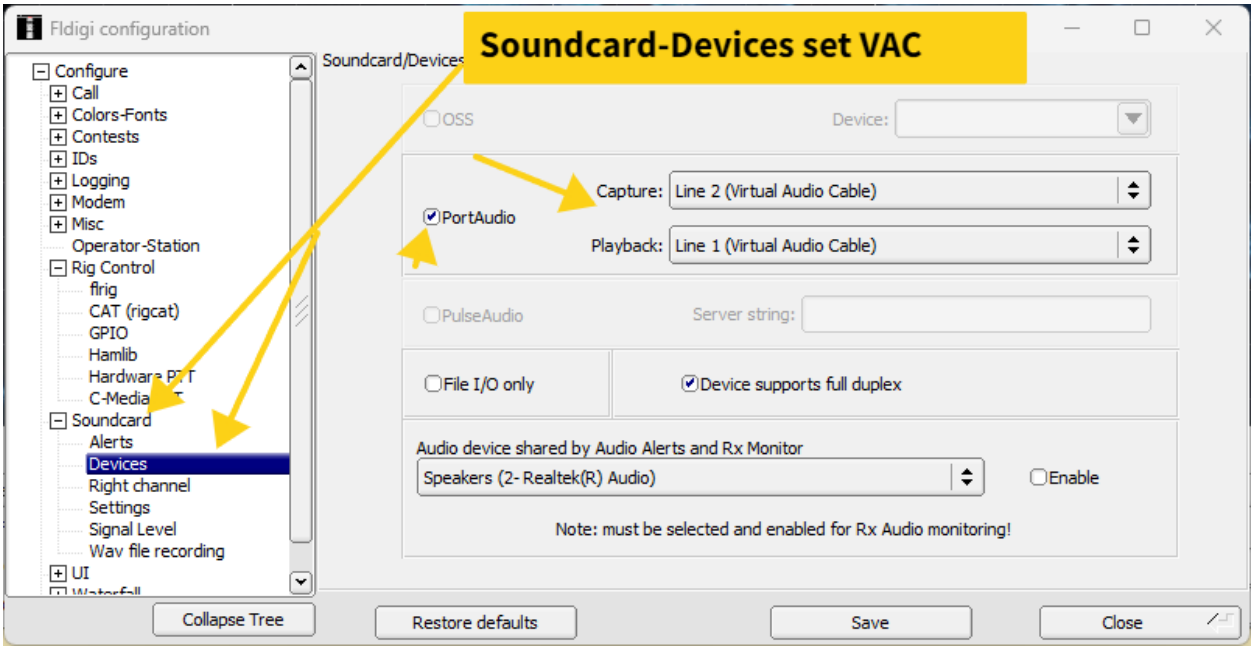
FLDIGI will require a separate PTT Trigger for Digital Mode TX operation see below example. ***(Again change my Comports for those you used in the cross reference listing for PTT keying)***



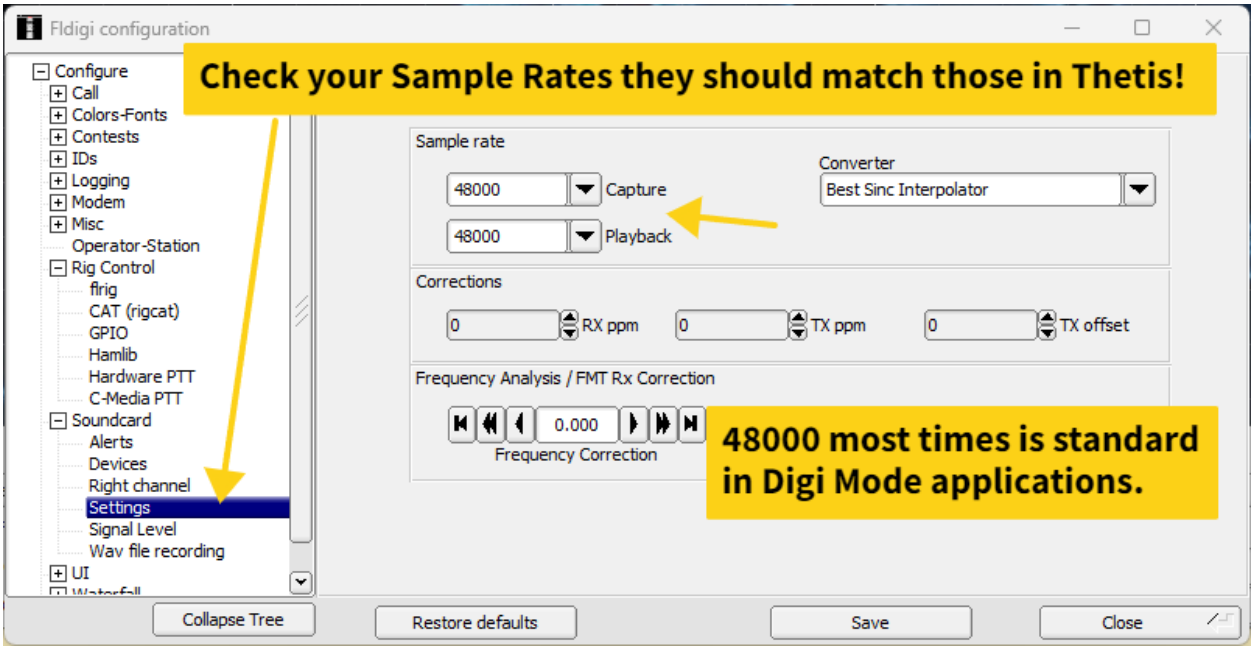
Next for CW keying will need to go to Modem and expand the CW option then move down to DTR-RTS Keying and setup as shown in example ***(Again change my Comports for those you used in the cross-reference listing for keying)***



Next will need to move to Soundcard and again expand the options and look for DEVICES, set as shown in example with your VAC or VB-Cable settings used in Thetis.



Almost done we need to make sure that the soundcard sample rates match those in Thetis and HOPEFULLY your VAC or VB-cable rates as well (Typically those should be 48000) move down to Settings and adjust if needed to match your sample rate.

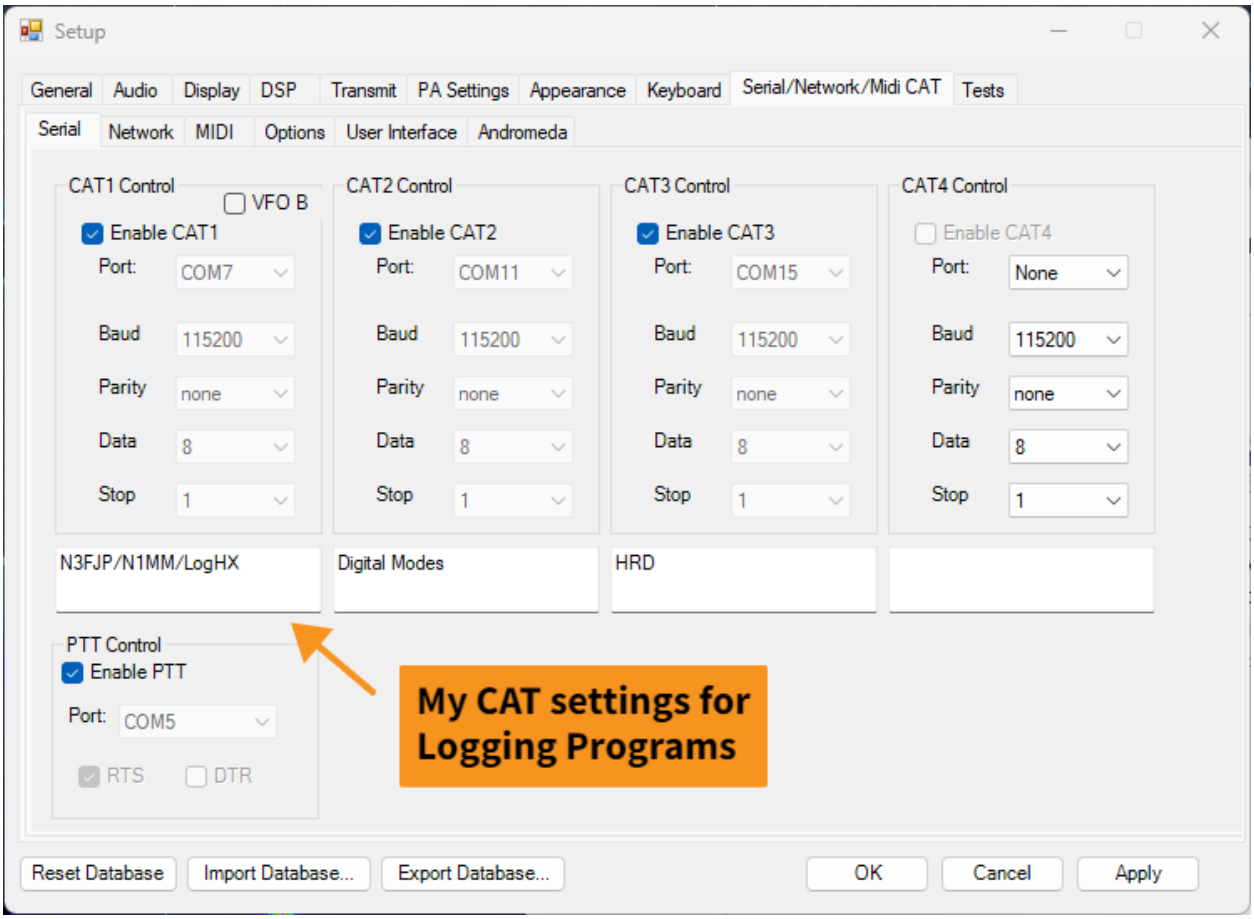


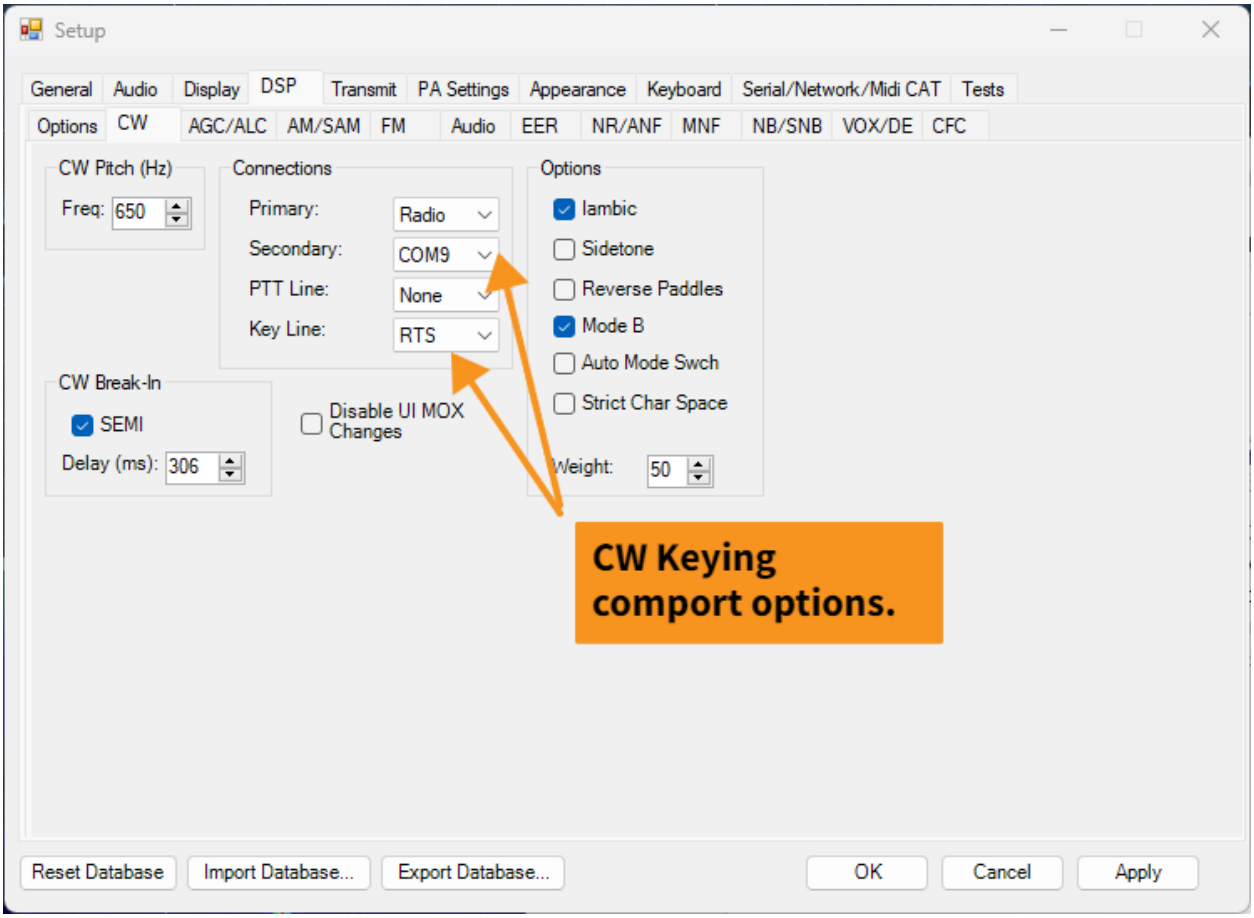
Thetis and Loggers:

In similar fashion to the Digital modes Thetis is easily configurable to work with loggers as well.

Again, the examples below will be using comport pairings I have setup and may not look like yours, again simply substitute my pairs for your Virtual comport pairs and you should be ready to log.

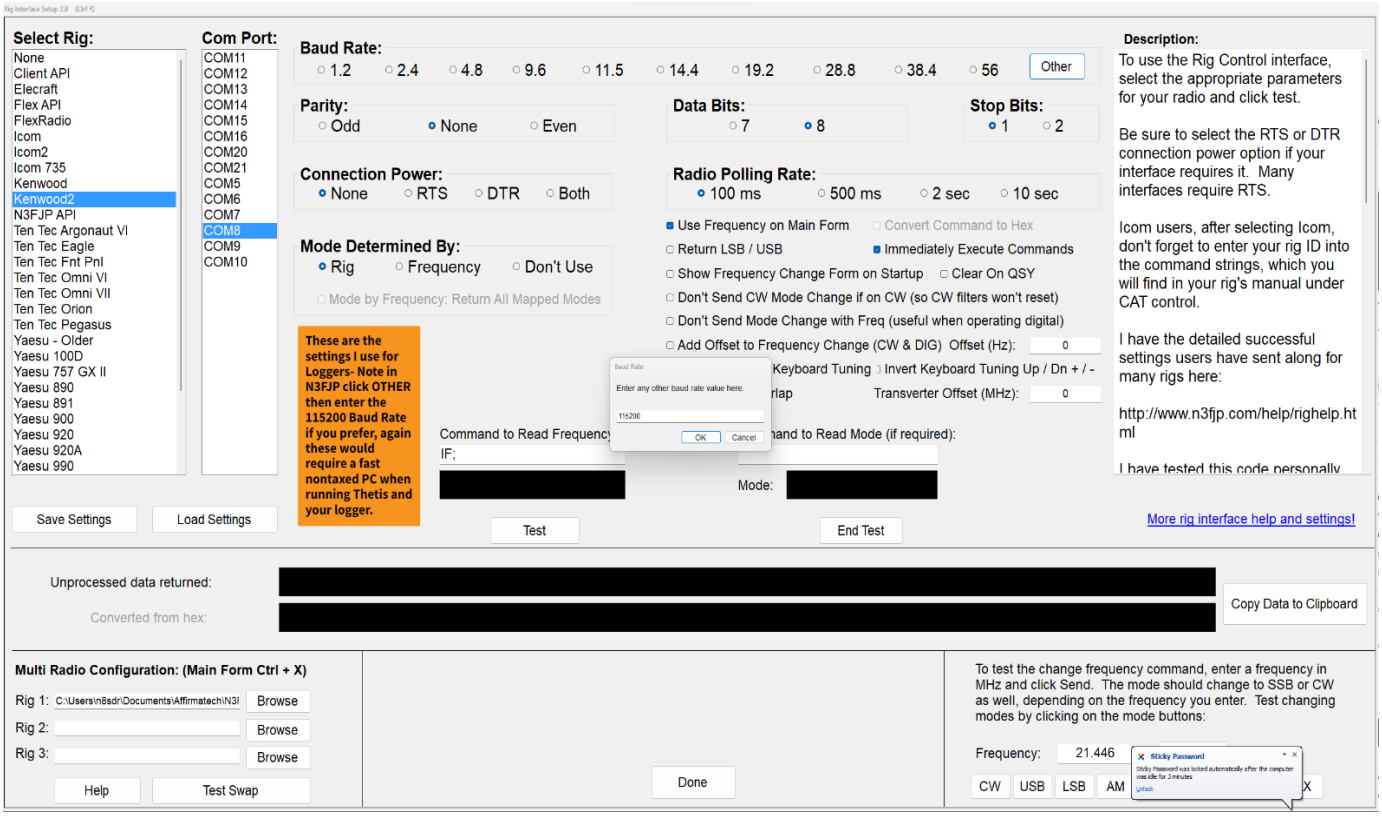
N3FJP Loggers: Regardless of which the basic, ***Amateur Contact Log*** or one of the ***Contest Loggers*** the setup is the same. I'll use Amateur Contact Log for this example. Again, for this I'll be using Comport pairs 7&8 and 9&10 (CW mode) for examples.



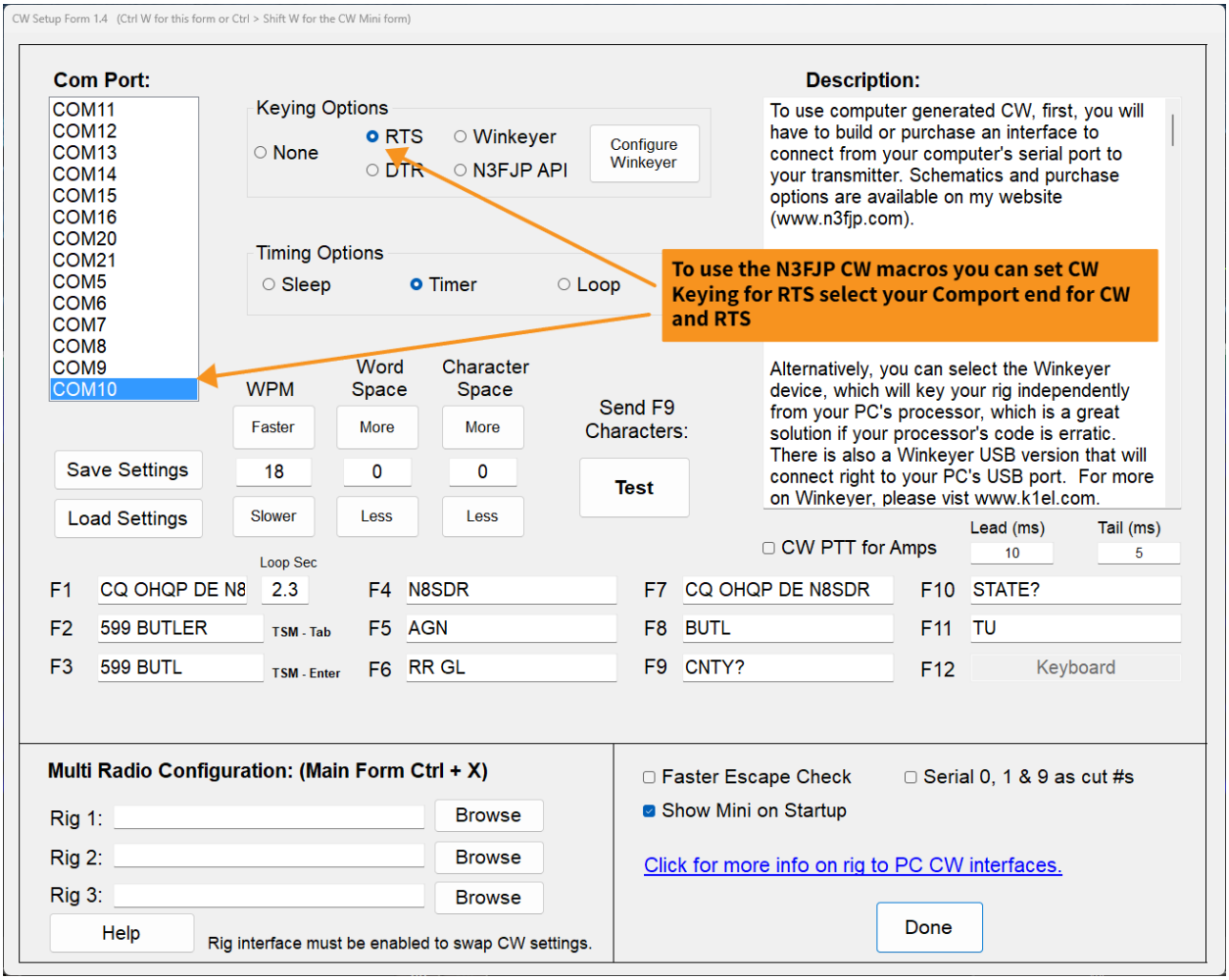

Setup
General
Audio
Display
DSP
Transmit
PA Settings
Appearance
Keyboard
Serial/Network/Midi CAT
Tests
Options
CW
AGC/ALC
AM/SAM
FM
Audio
EER
NR/ANF
MNF
NB/SNB
VOX/DE
CFC
CW Pitch (Hz)
Freq: 650
Connections
Primary: Radio
Secondary: COM9
PTT Line: None
Key Line: RTS
Options
Iambic
Sidetone
Reverse Paddles
Mode B
Auto Mode Swch
Strict Char Space
Weight: 50
CW Break-In
SEMI
Delay (ms): 306
Disable UI MOX Changes
CW Keying comport options.
Reset Database
Import Database...
Export Database...
OK
Cancel
Apply

N3FJP settings:

Settings Rig Interface as below: Note I used 115200 baud for my settings you can add that by clicking “Other” then manually enter 115200- If you’re using an older PC or one that is being Taxed with resources from applications, you should use a slower baud rate to avoid hiccups.



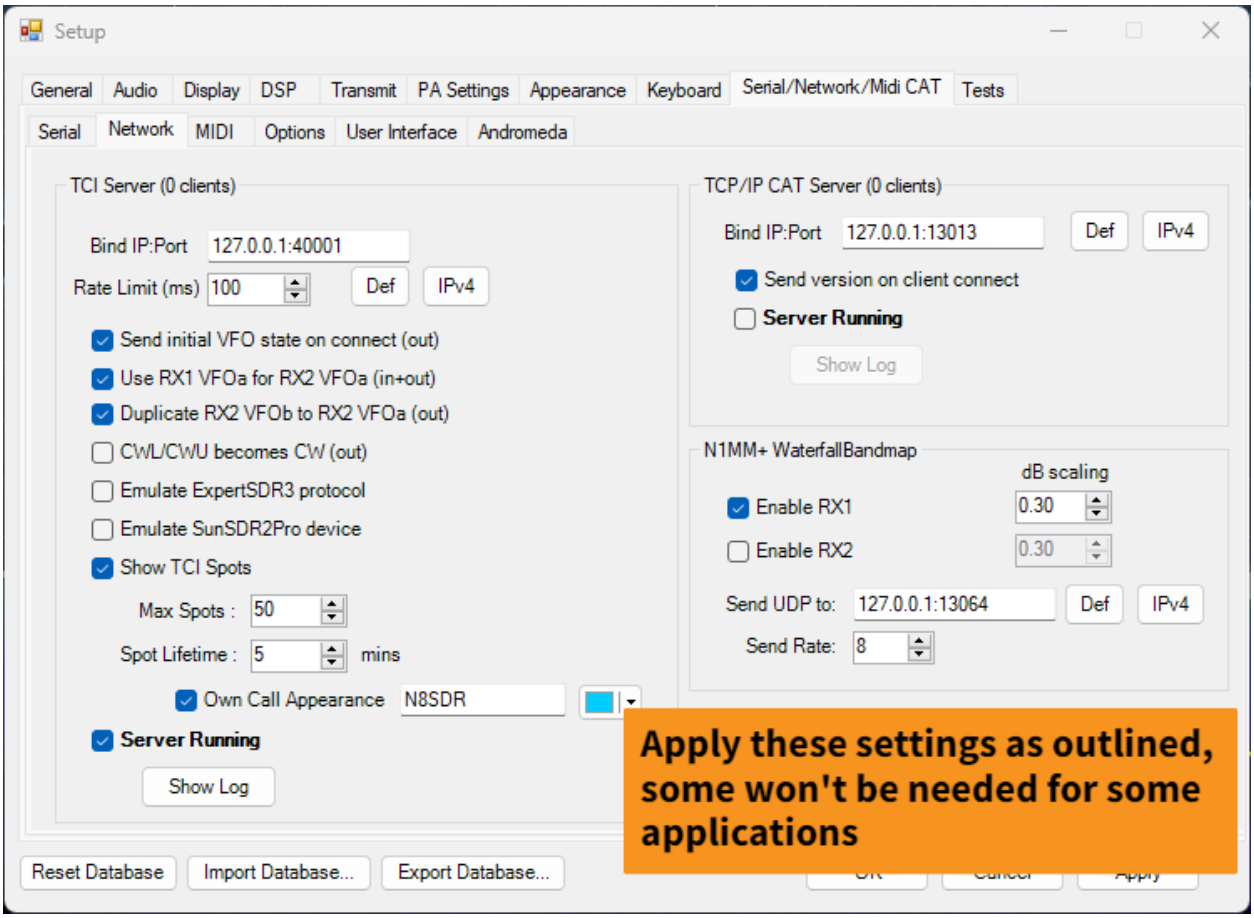
And if you wish to use N3FJP CW macros: Select Settings -Transmit- CW Setup and as outlined below.



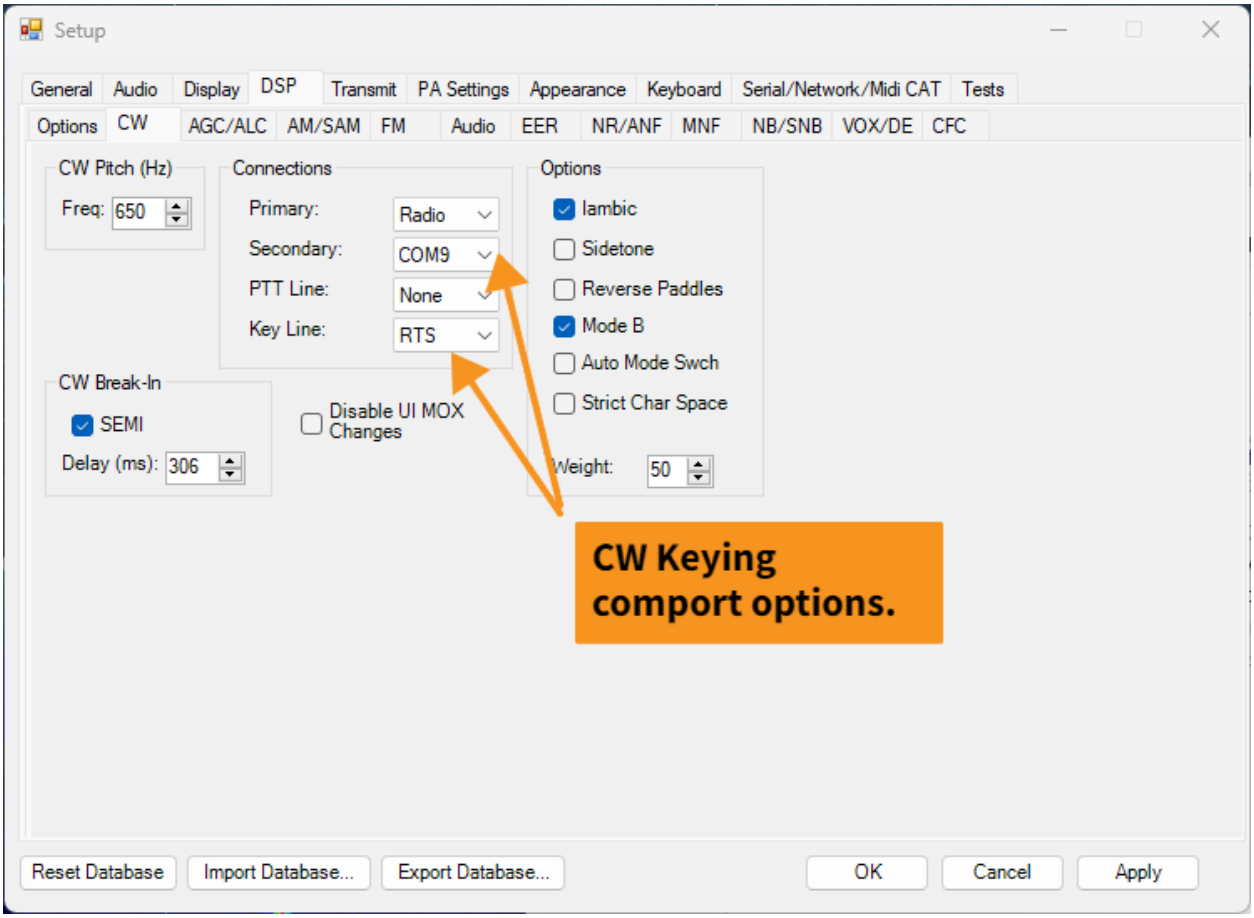
LogHX

I use LogHX it supports TCI so here is a quick setup for LogHX or loggers which support TCI (Aka Log4OM) as another TCI supported Logger. Setup works the same as outlined here for LogHX

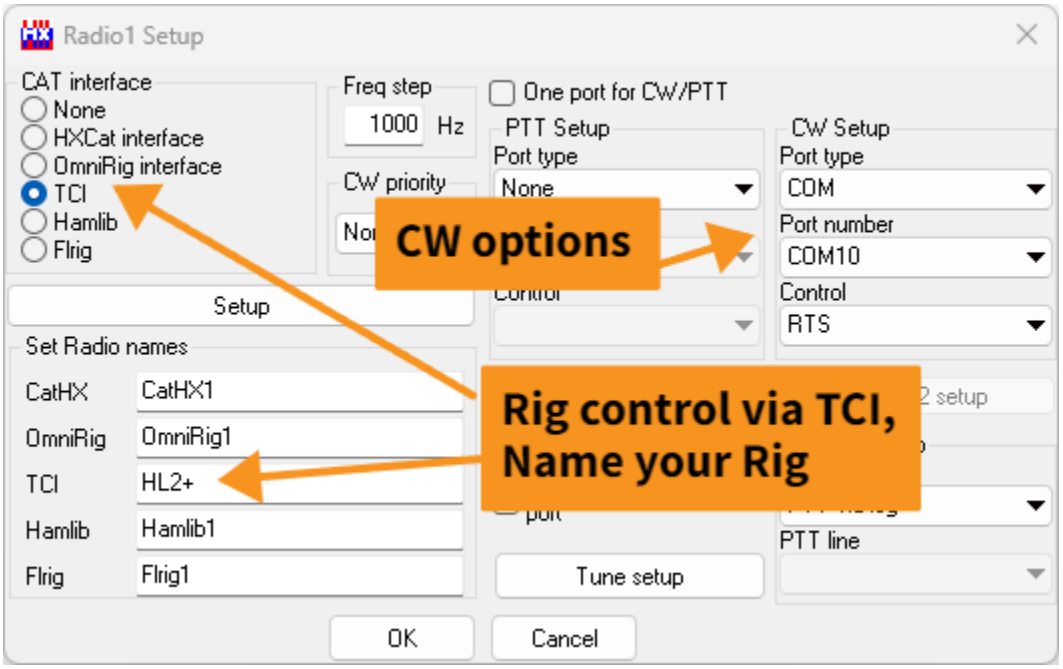
Again, refer to the TCI setup in Thetis below:



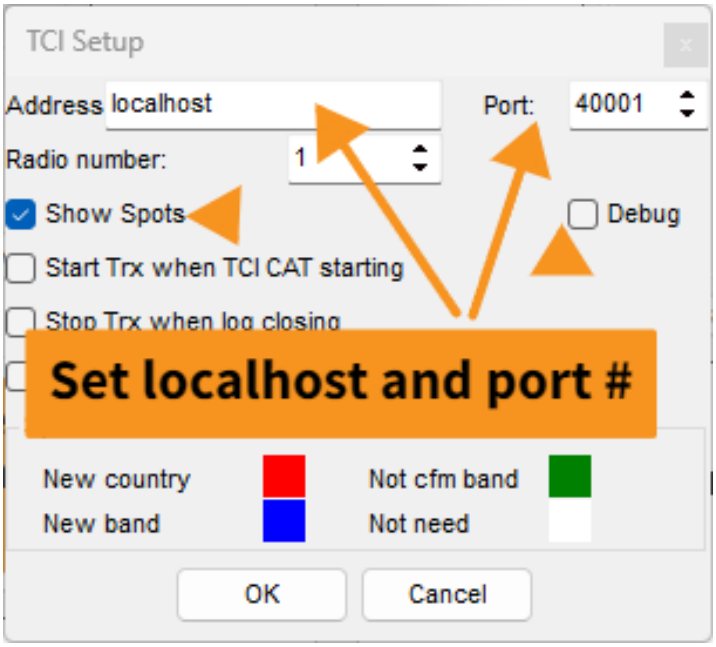
For CW Macros or keyboard CW see example below:



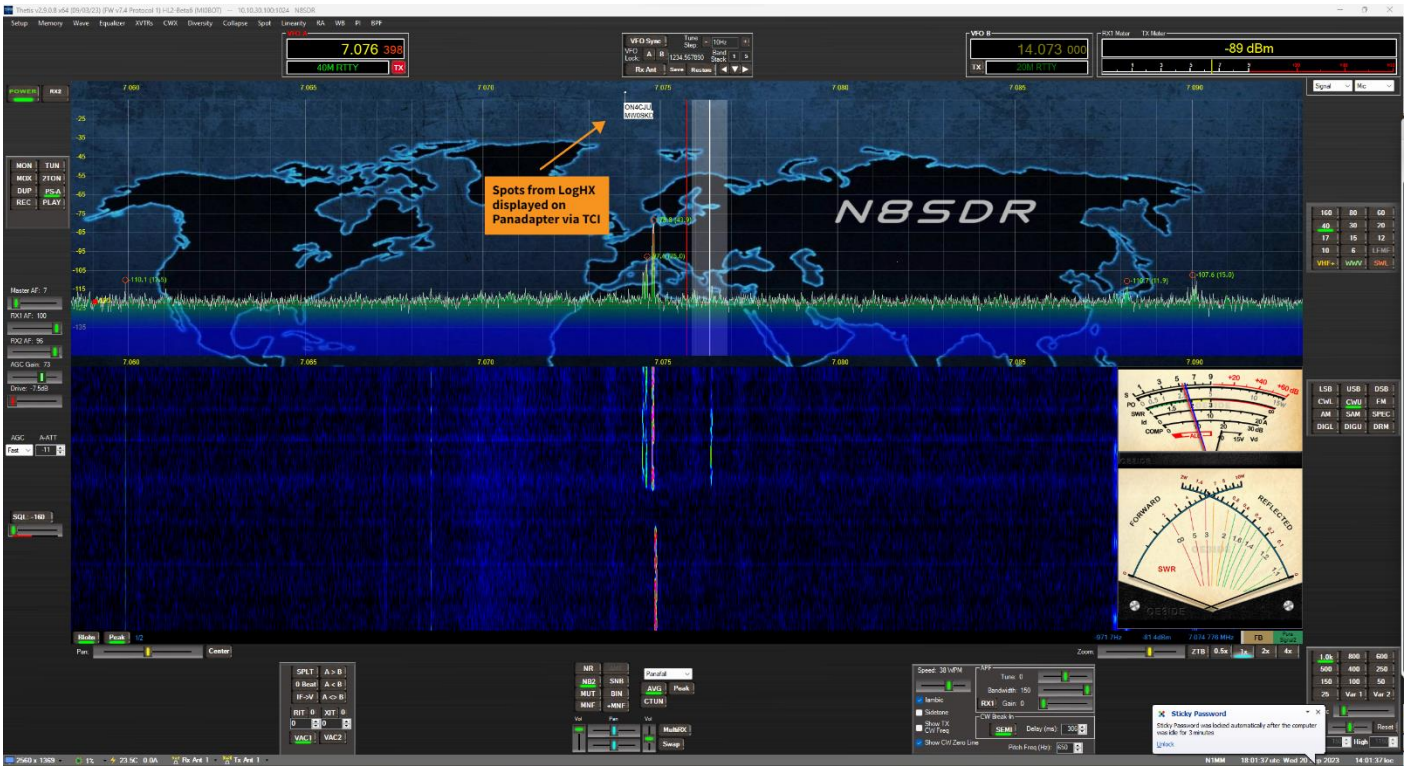
LogHX select – Setup-Radio Setup 1 or 2 then choose TCI and name your Rig example below.



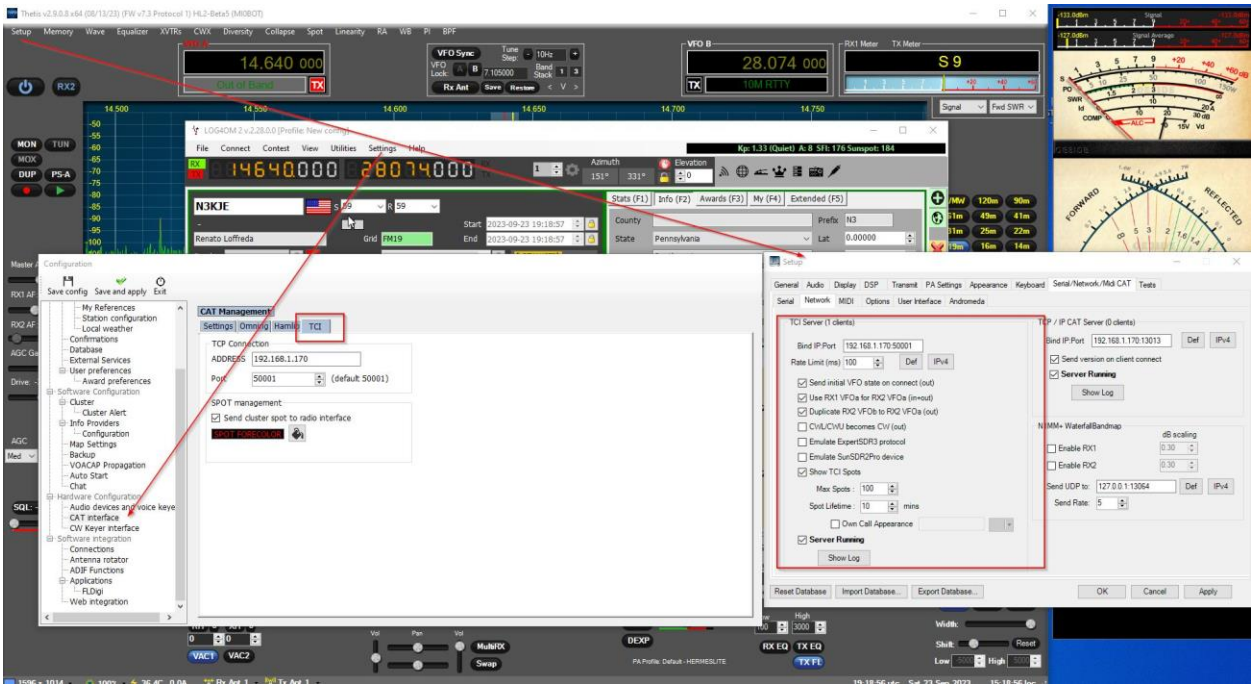
Now click the SETUP button under TCI and configure as shown here:



Enable spots and when you start and use the Spot collector in LogHX the Spots will be displayed on your panadapter in Thetis.



If you're using Log4OM the setup is very similar to that of LogHX see example below (***Thanks David VE3TOS)*** for the screen shot. Log4Om can also send spots via TCI for display on Thetis Panadapter like LogHX and N1MM



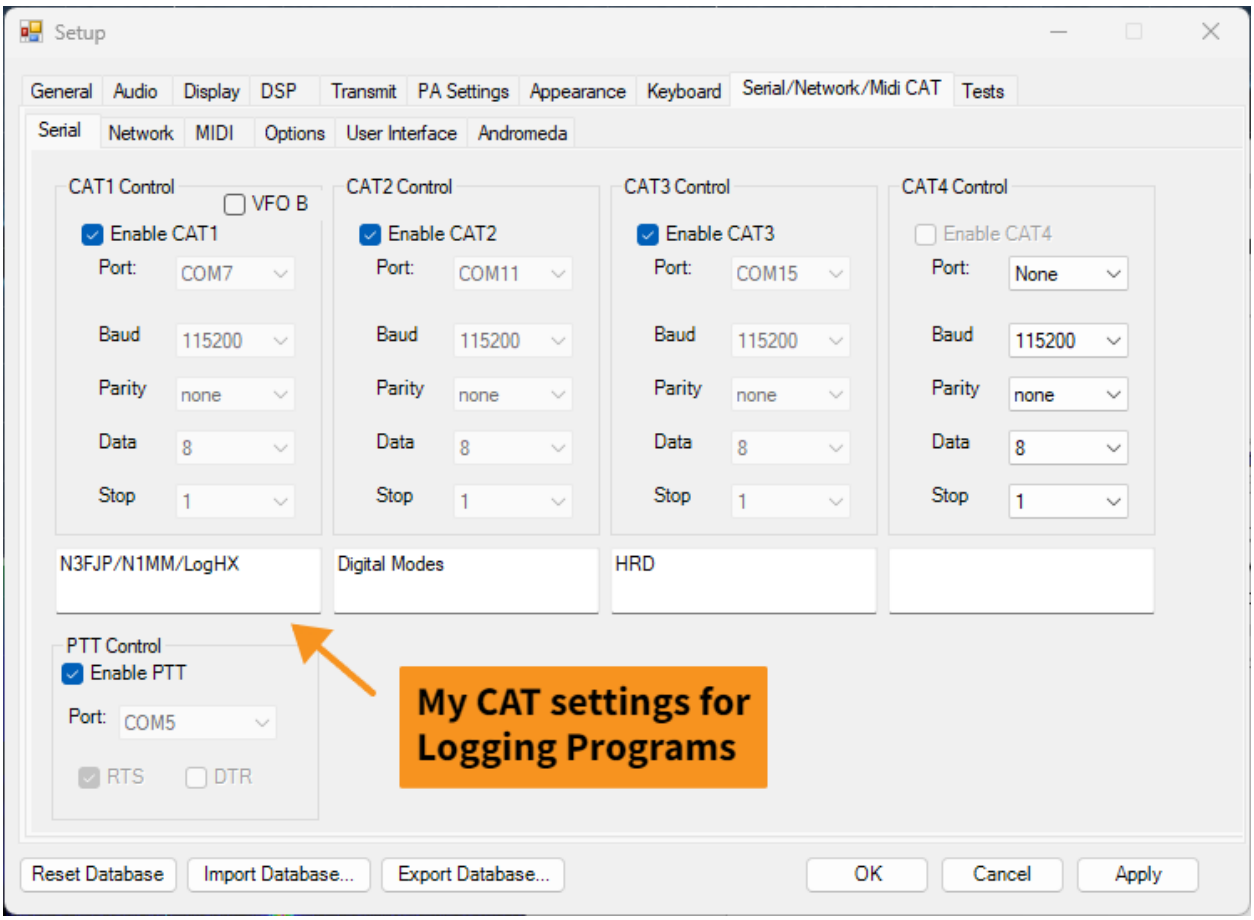
N1MM

A popular logger for contests and general logging with many options esp. for contest.

Here I'll show how I setup N1MM for the Hermes Lite and Thetis, using Cat control for the Rig, CW Keying and TCI for displaying the spots captured in N1MM to be displayed on the panadapter in Thetis.

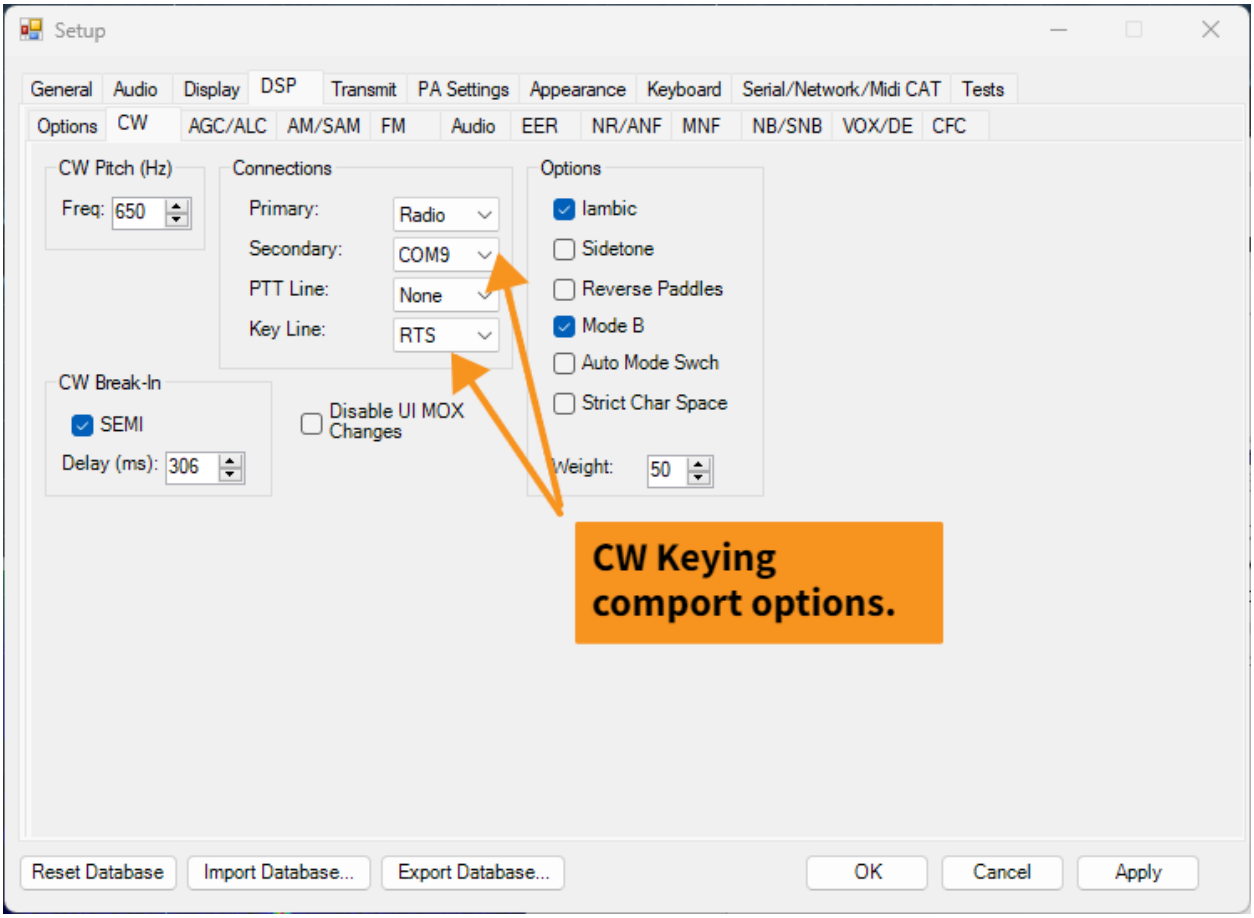
Sounds confusing? Nah simple. Again, my Comport pairings may differ from yours so just substitute the pairing where needed with those you have created.

First let's look at the various settings used in Thetis for CAT control, CW Keying and then TCI for Spot displaying.

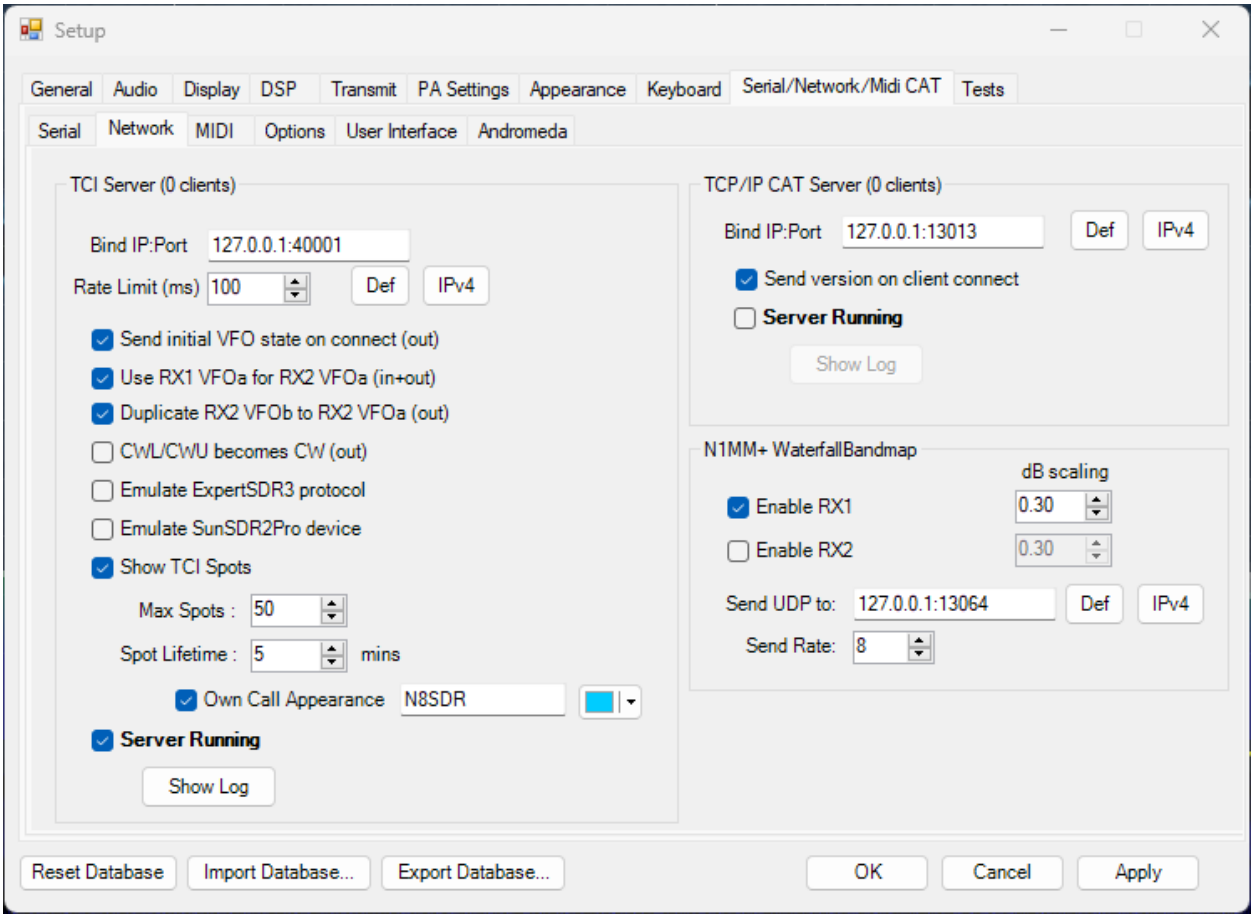


Here again I have used Comport pairs 7&8 for Rig control.

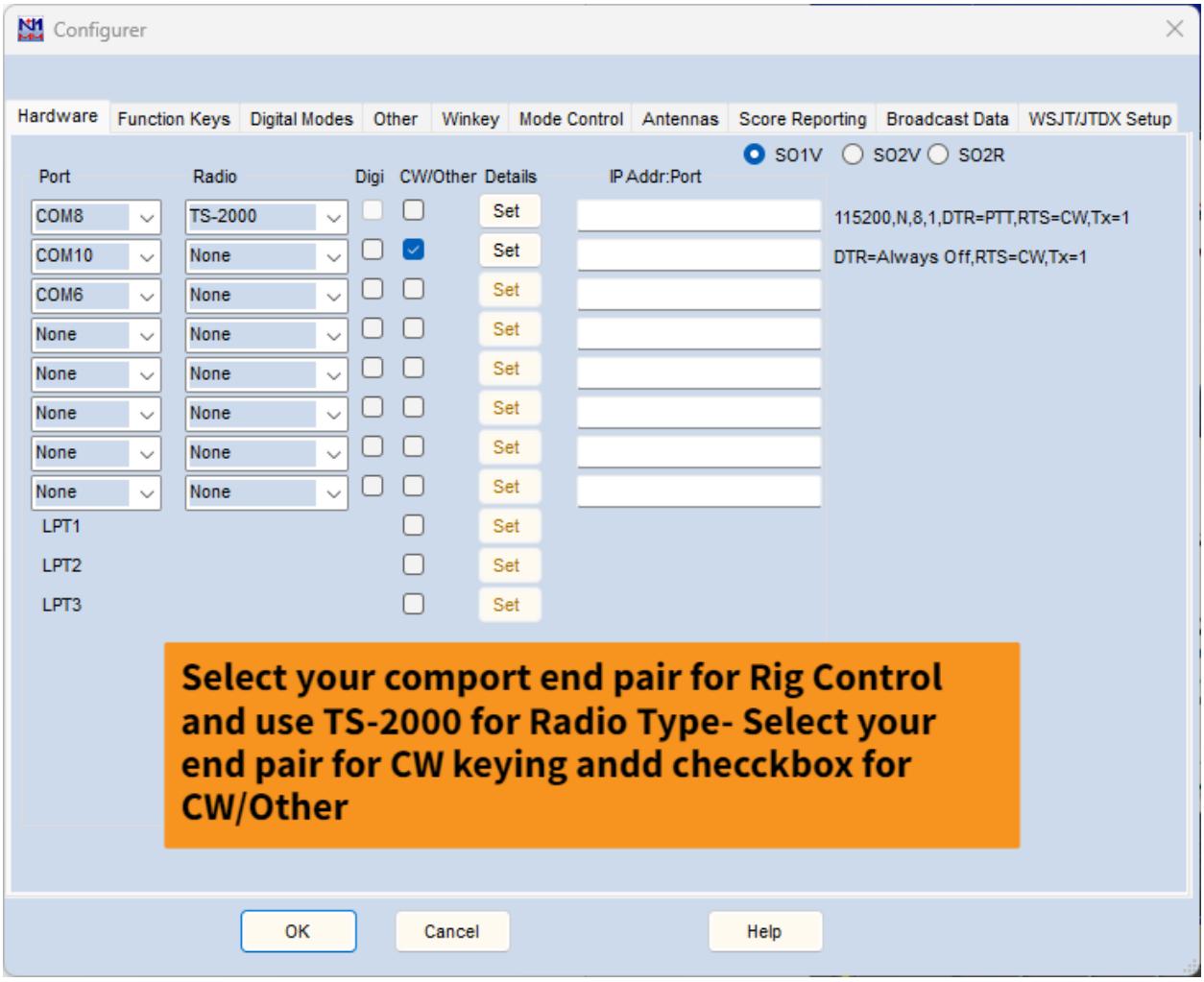
And pairs 9&10 for CW Keying



And again, Hers is a look at TCI settings in Thetis (this is where we will gather the spots in N1MM clusters) and display them on the panadapter in Thetis. TCI will also be used if you wish to display the Panadapter in N1MM as well.

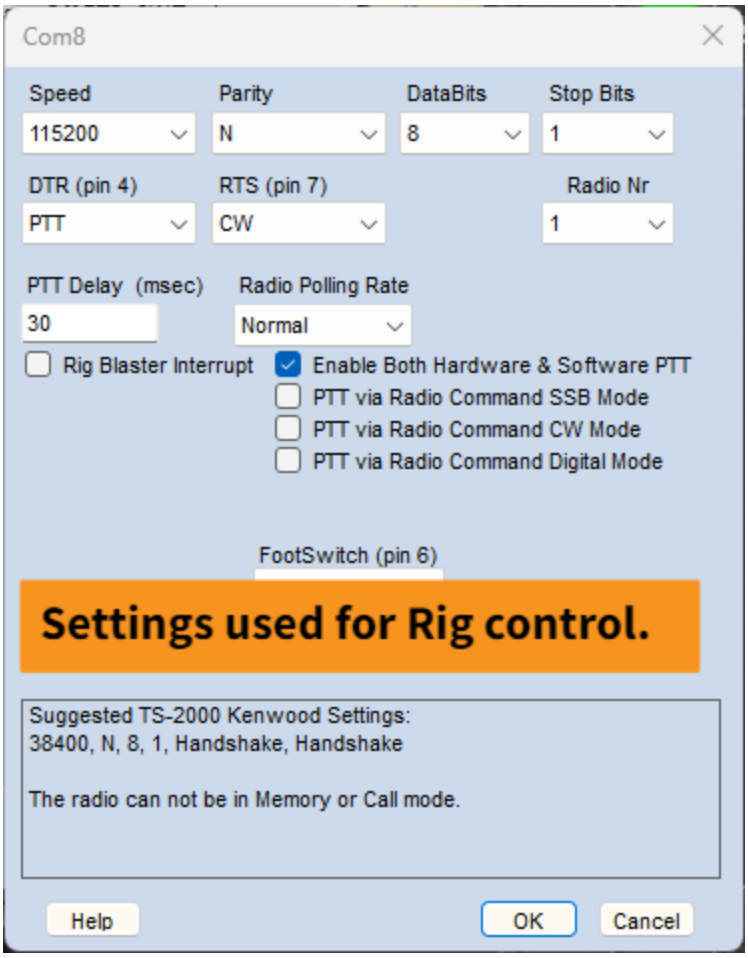


In N1MM for Rig control refer to the following for my example

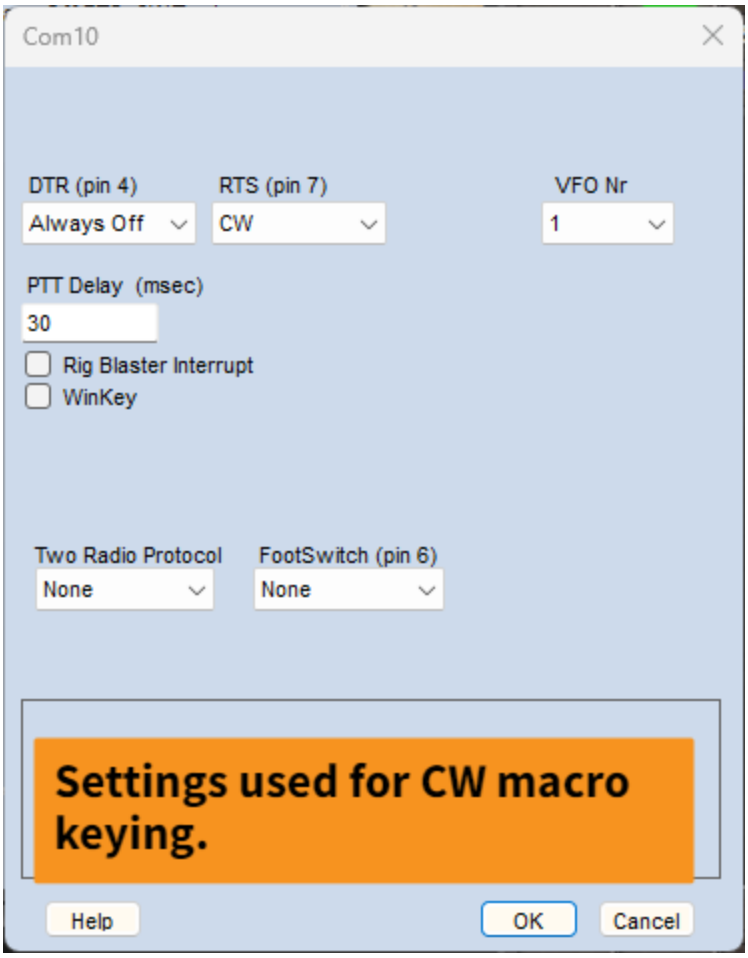


Now click **SET** next to each of the above and refer to below.

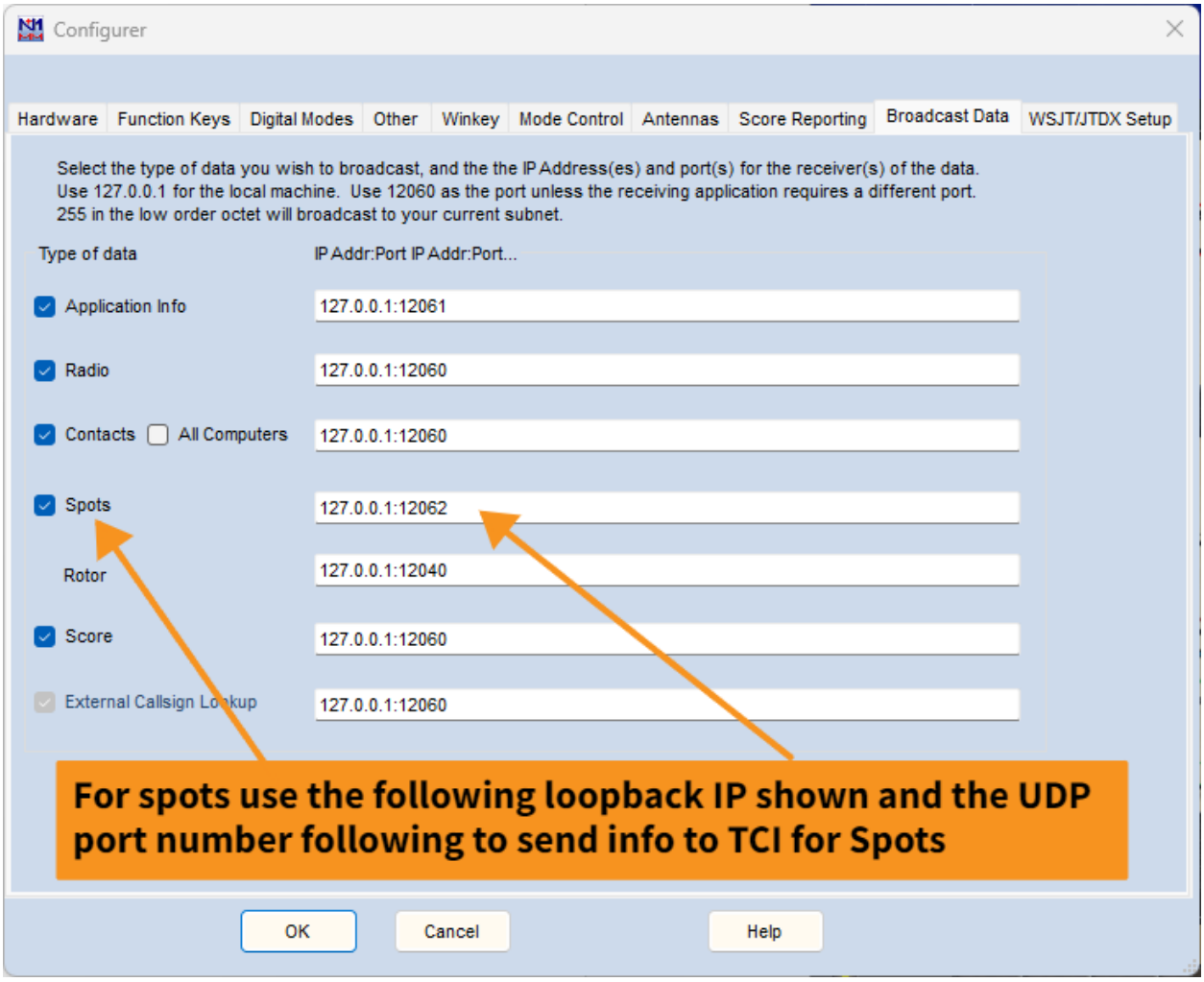
Rig Control set options.



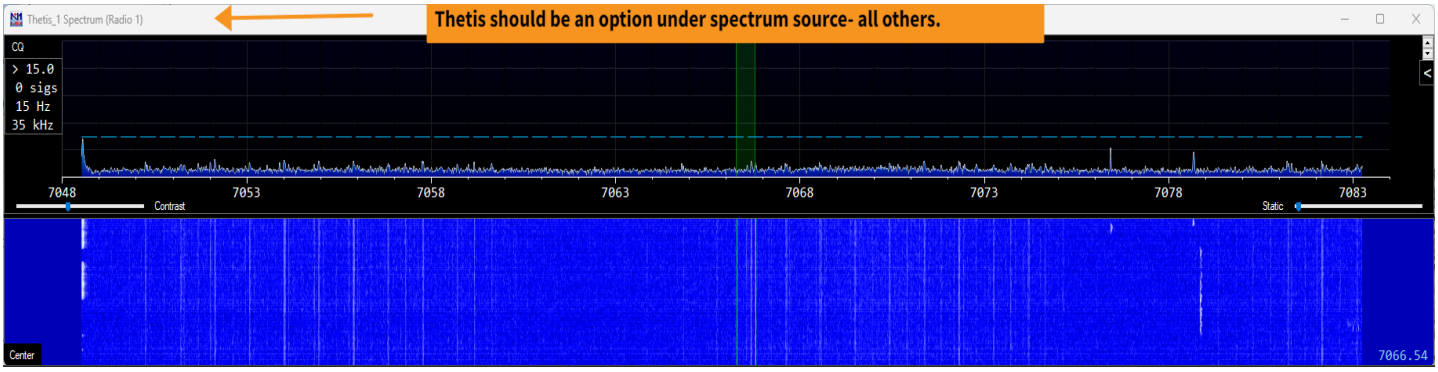
CW Set options.



For TCI spots in N1MM select Config- Then configure ports-Etc. then select Broadcast Data sell settings below.



If you enable the waterfall option in N1MM for your Spectrum Source, select for all other radios then Thetis-1 should appear.

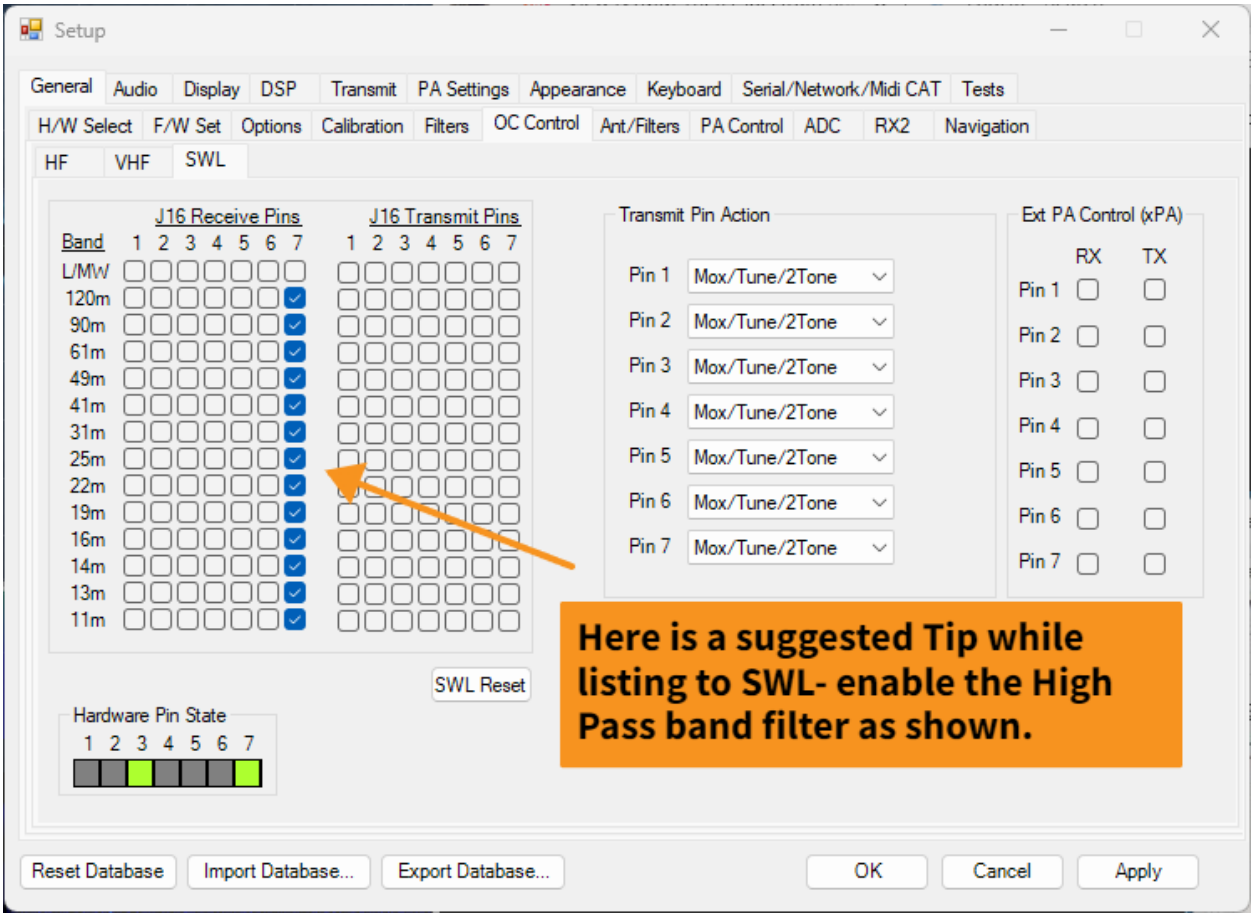


Loggers- There are many loggers available. Hopefully the examples shown here using Cat control and or TCI will help you with other various logger setups. Once you set up a couple, you'll soon get the hang of how many of them are configured. Happy Logging!

Hermes Lite 2 Thetis Tips and Suggestions

For General SWL listening it maybe helpful to enable the High Pass filtering

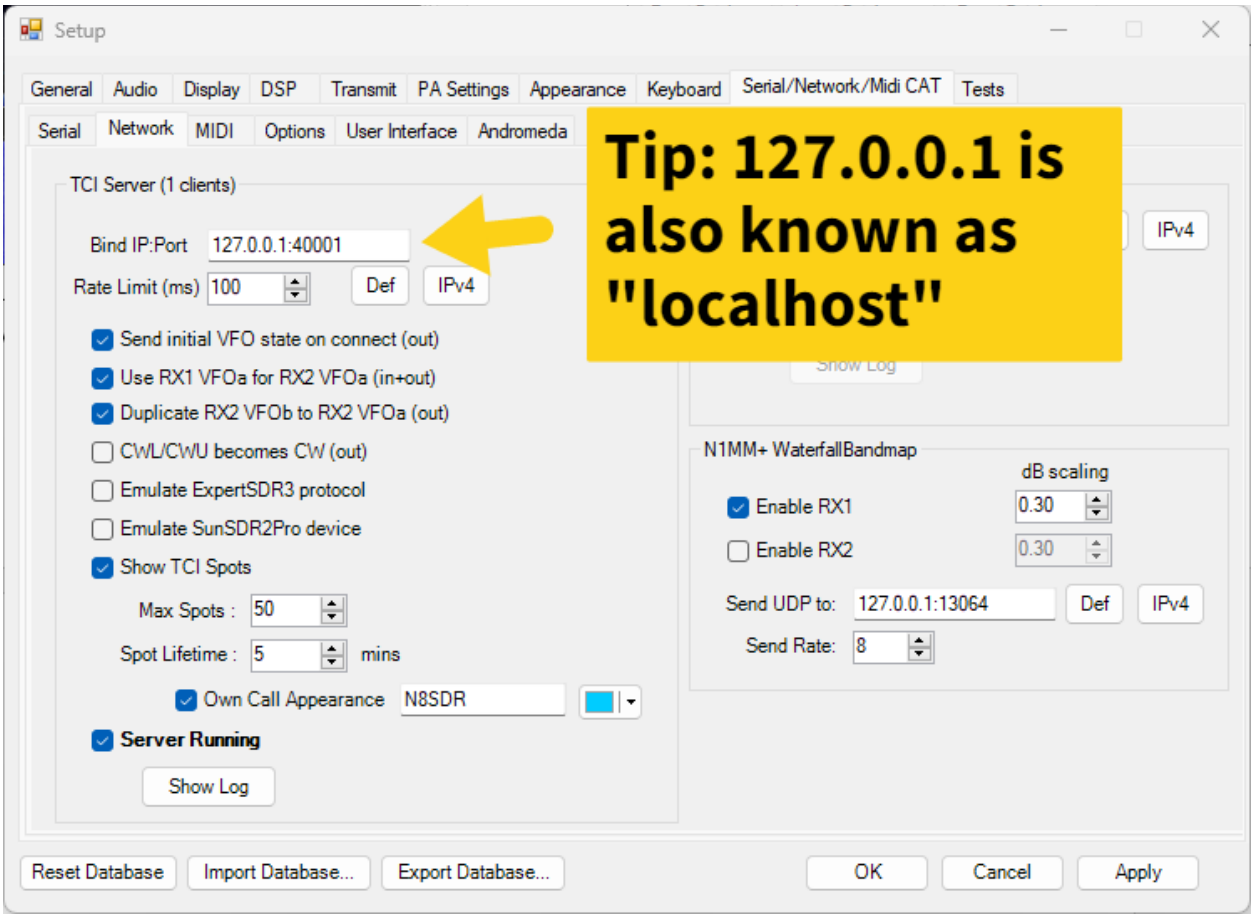
Select Setup-General-OC Control then the SWL tab and enable as shown below.



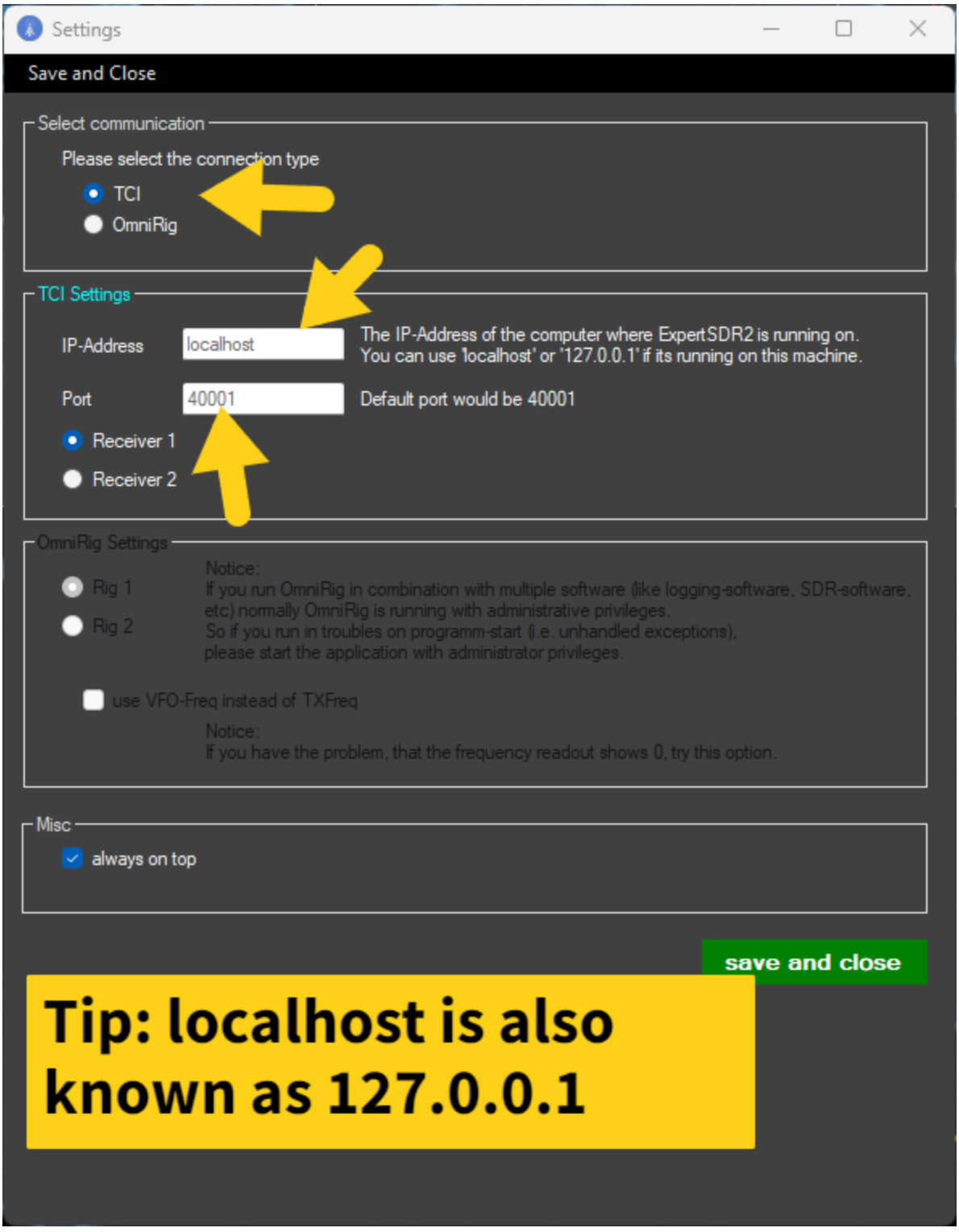
Using a manual tuner or perhaps a manual amplifier?

Do you have an excel file or perhaps a paper sheet containing your presets for frequencies and bands so you can quickly re-tune for changes? Here is a great utility I have used since Ernst OE3IDE introduced it called Tuner Reminder.

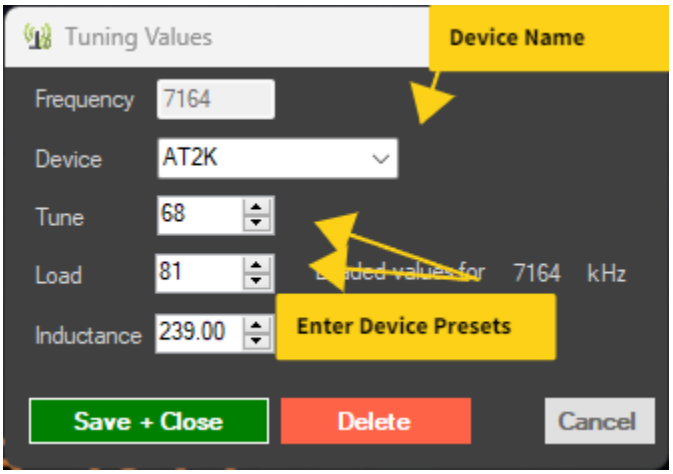
It's a quick setup using TCI from Thetis again recall the example below showing the TCI settings in Thetis under: Setup-"Serial/Network/Midi Cat"- then open the tab for "Network"



Download Tuner Reminder and unzip (copy folder if needed and place in a new directory on your drive) example create c:\TunerReminder and place the files there- The program doesn't create an installation rather it is a self-contained executable you can create a shortcut to Tunereminder.exe and place on your Desktop, Taskbar etc. Once you have that go and have launched the exe click on Settings where you be presented with the following screen regarding communication types: see below for TCI setup.


Settings
Save and Close
Select communication
Please select the connection type
TCI
OmniRig
TCI Settings
IP-Address
localhost
The IP-Address of the computer where ExpertSDR2 is running on.
You can use 'localhost' or '127.0.0.1' if its running on this machine.
Port
40001
Default port would be 40001
Receiver 1
Receiver 2
OmniRig Settings
Rig 1
Rig 2
Notice:
If you run OmniRig in combination with multiple software (like logging-software, SDR-software, etc) normally OmniRig is running with administrative privileges.
So if you run in troubles on programm-start (i.e. unhandled exceptions),
please start the application with administrator privileges.
use VFO-Freq instead of TXFreq
Notice:
If you have the problem, that the frequency readout shows 0, try this option.
Misc
always on top
save and close
Tip: localhost is also known as 127.0.0.1

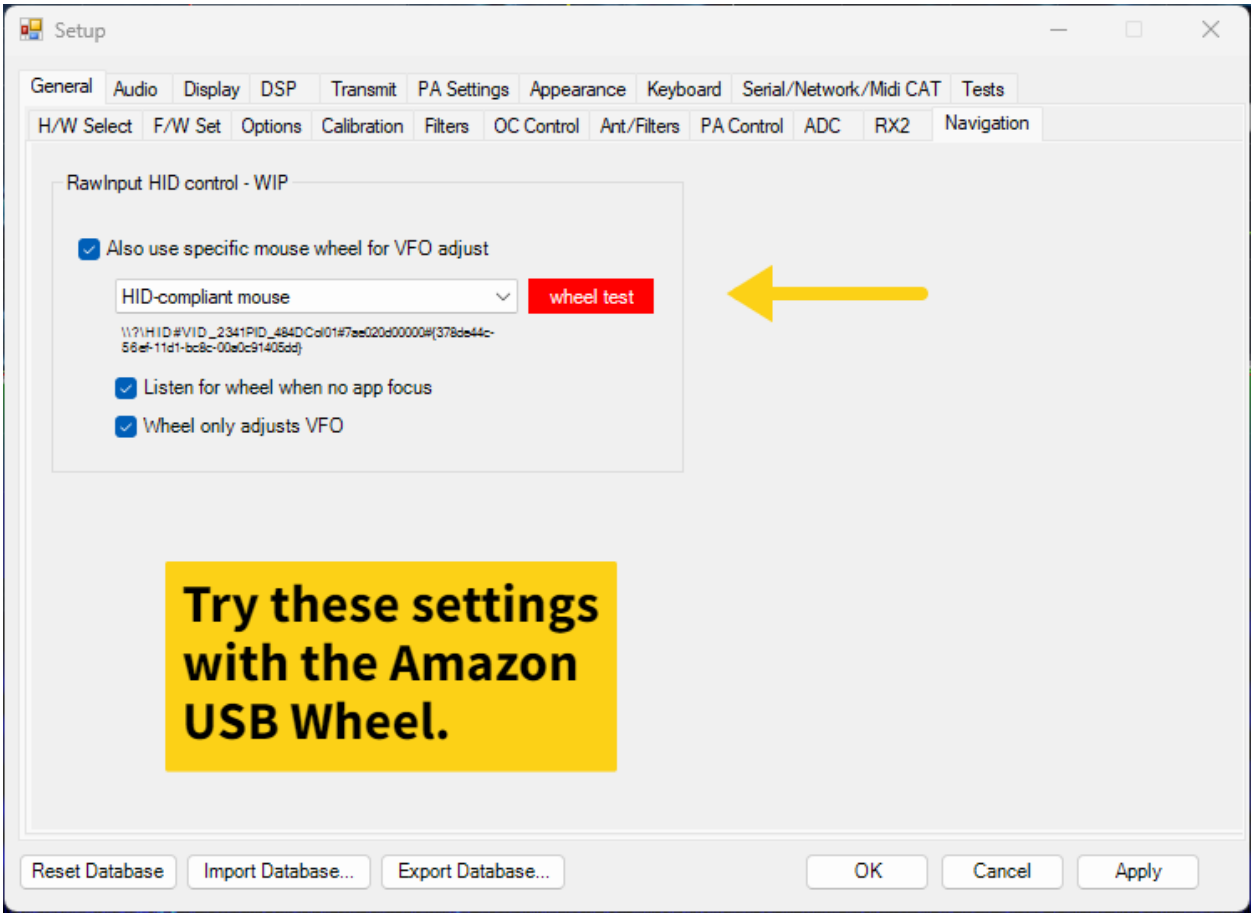
Save and close the screen, next you just need to enter the device names (you can create 2) I chose my manual Tuner a AT2K and then a Acom1000 you will manually enter the names for the devices.



Then you can start adding the presets for those devices and when you tune to those frequencies you be presented with that information going forward. Easier than updating paper listings as it replies with the setting of exact frequencies, or the closest settings entered for a frequency. Easy to use just click ADD change choose the proper device and update or add new presets as you go. Just reminder to Save your updates. You 'll find that the TunerReminder program creates an Excel file of the names and device presets. The program just wraps this up in a very nice easy to use GUI.

The AMAZON USB WHEEL [AIMOS USB Volume programmable wheel]

Using the Amazon USB wheel for your panadapter tuning. Here's a nice feature in Thetis you might want to look at. In Thetis there is an option to have it focus on the panadapter all the time regardless of where your mouse is pointed, also you can set it to only control panadapter and not, other things that the mouse is pointed to, this is very helpful. *Setup-General-Navigation*: in the dropdown one of the HIDs is the USB wheel choose it and see settings in pic below.



Setting this way is great use the mouse for big jumps in tuning and fine tune with the wheel works very well! This also helps when your mouse is focused on say a Logger or digital program!

Radio Reset

If you ever need to REST your HERMES LITew or Hermes Lite 2, this can be done using the KEY jack, to do you will need a TRS (TIP RING SHEILD) 3.5mm plug and short al l3 connections on it, then insert it into the KEY jack, and power on the Hermes Lite wait approximately 40-60 seconds and it should reset. I have experience where I had to do the REST procedure 2 times before it reset (That could have been me being impatient)

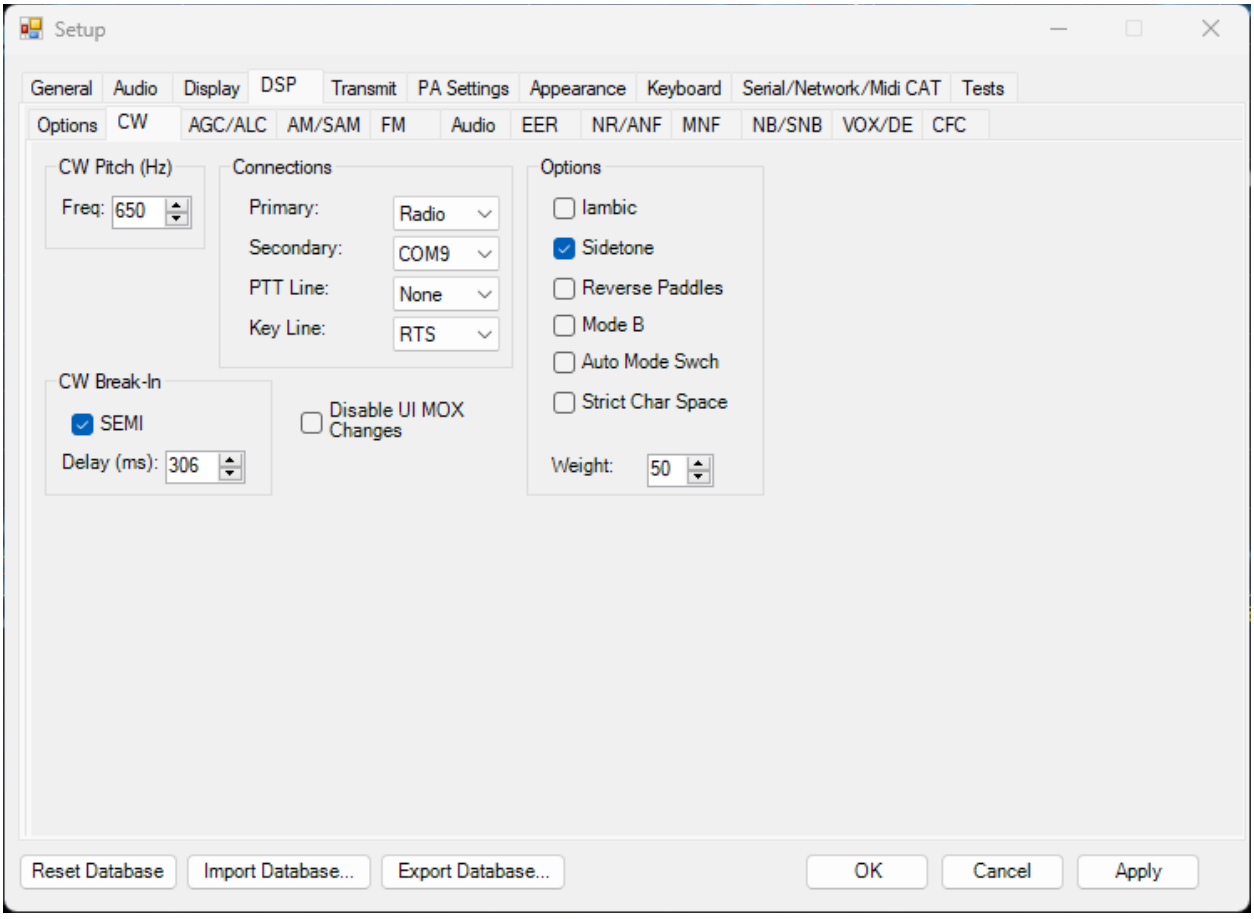
CW KEYER

Note the CW KEY jack is a TRS jack, if you plug a TS plug into it, the radio will go into TX mode.

Please use the correct jack. The tip connector is the key input. Ground it to put the Hermes-Lite into transmit mode and generate a CW signal. The Hermes-Lite does not have an internal keyer or sidetone, so connect your external keyer with sidetone or a straight key to the CN4 tip. Starting with gateware 71p2 you can connect a foot switch to the ring to turn on transmit and then key CW using the tip. Previously the functions were separate.

The ring and tip status are sent to the PC so that your SDR software can react to them. For details see the protocol page. The PC can also set transmit mode and send CW without using CN4. See the documentation for your SDR software.

In normal operation, software will trigger PTT or the CW KEY. Male sure you're in CW mode overwise it might trip the and go to TX mode. I unplug the keyer in Digi or SSB modes, I have had that happen, with my bencher dual paddle I am using.



Actual settings I use once CW is enabled in Thetis.


N8SDR
When I use the dual paddle Bencher, I enable Iambic here along with Sidetone since I use the Companion board

Voice Modes Operation

By default, the Hermes Lite 2 doesn't have a separate MIC input, however you can use a PC microphone plugged into your PC soundcard or a USB style microphone or XLR to USB adapter to pass voice audio through your Hermes Lite, you just need to select it as your input source in Thetis. You can then use the Key jack for PTT using the TIP connector and grounding it for PTT, or keyboard assigned KEY for PTT or MOX.

If you wish you can also use the AK4951 Companion board, this board coverts your Herms Lite 2 to the Hermes Lite 2 Plus. Giving you a Mic TRS 3.5MM connector and another 3.5mm connector for headphones or external amplified speakers. The board also produces CW SIDE TONE as well when using CW and you enable the monitor button in Thetis.

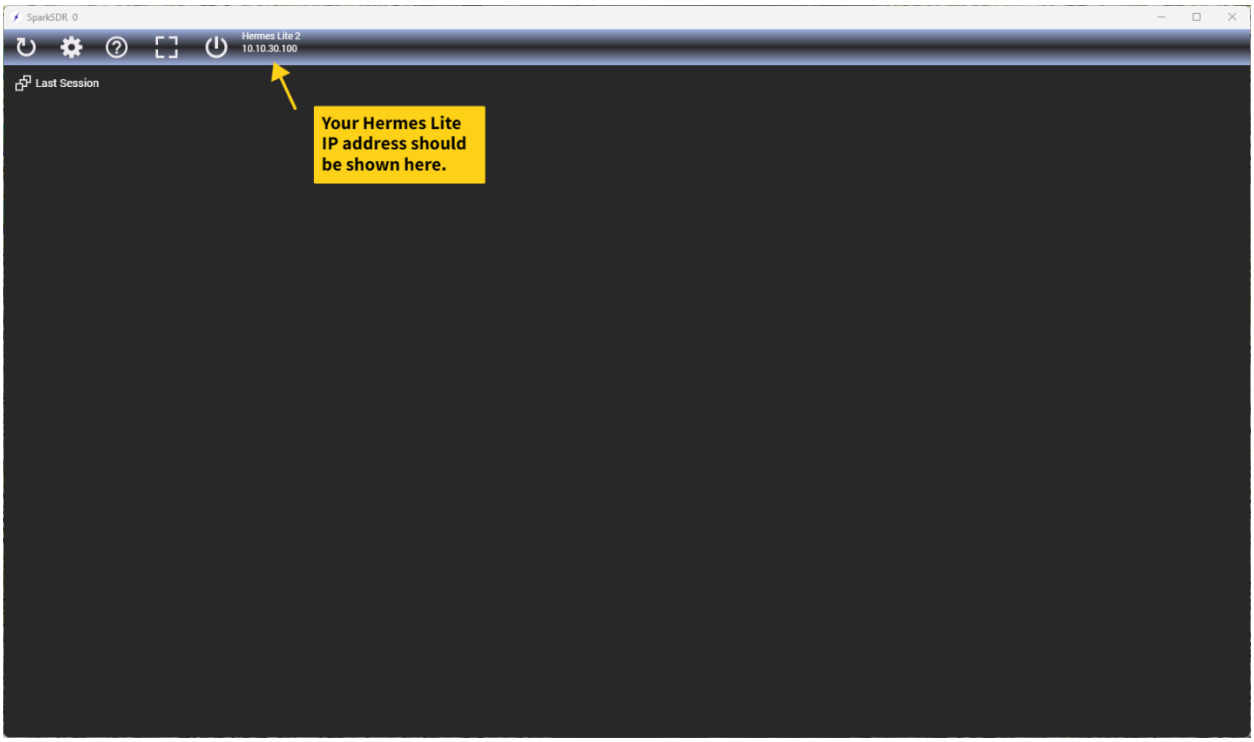
There are Positives and Negatives I suppose to either choice, So I'll leave that for you to explore which is a better option for your operations!

Upgrading Firmware or Gateware Via SparkSDR

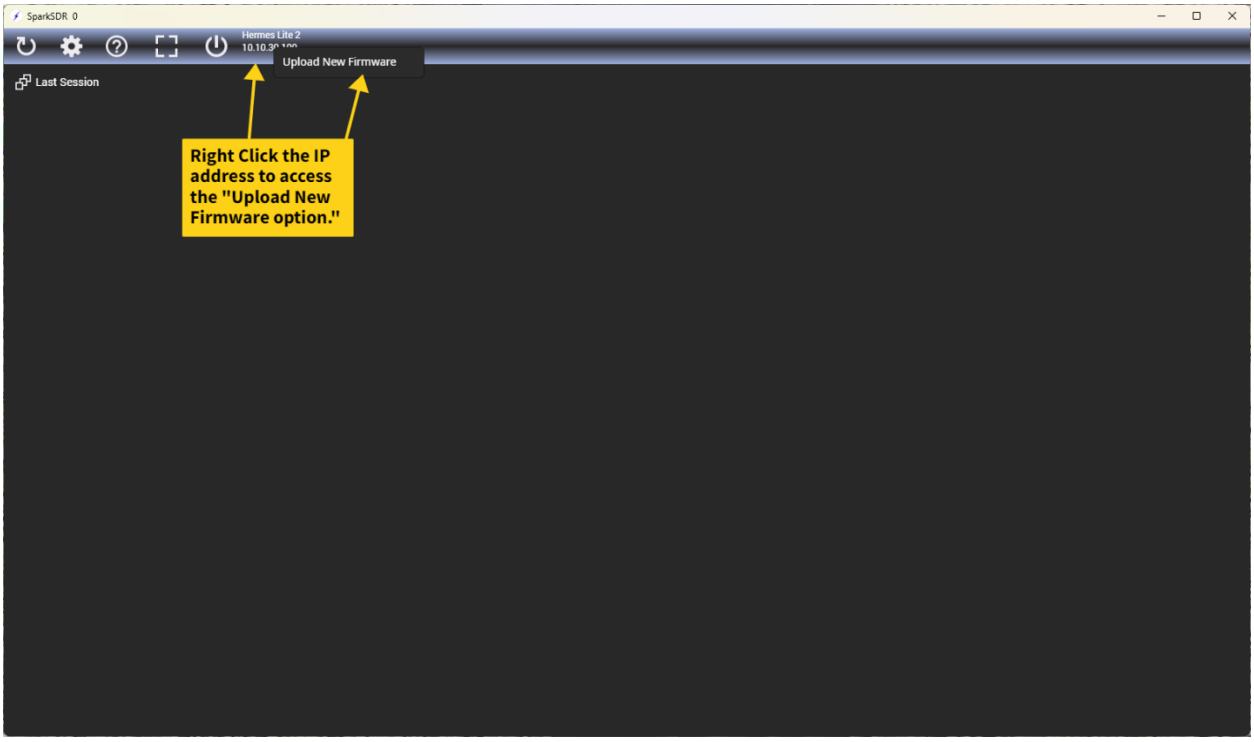
Correction to this section: In some of the example pictures there is mention of *.RBN file that is incorrect the file should be an *.RBF

At times new firmware or gateware versions may be released to correct or add new features for your Hermes Lite 2 or Hermes Lite 2 Plus. Using SparkSDR is probably the easiest way to perform those updates!

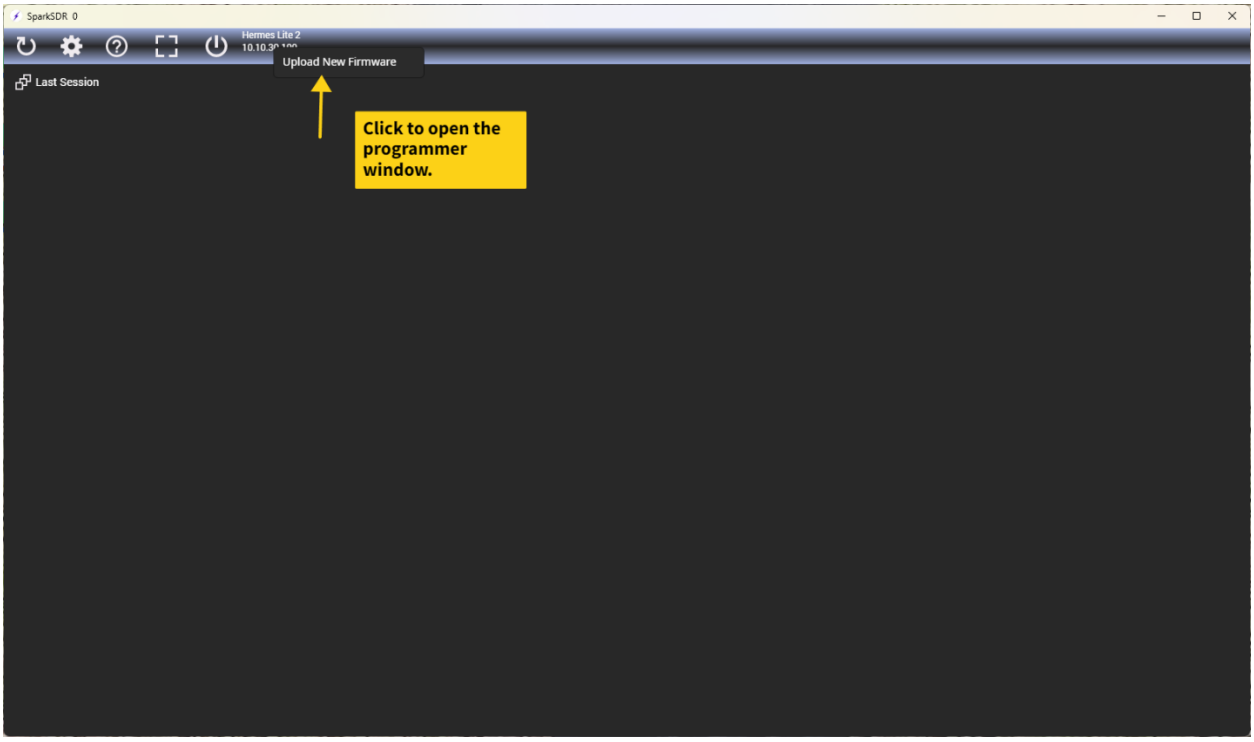
After downloading and installing SparkSDR launch the application, turn on your Hermes Lite 2 or 2+ then in the upper right of the SparkSDR Title bar you should see your Hermes Lites IP address, (***DO NOT CLICK THE POWER ON BUTTON)*** Right Click the Title Bar listing for your Hermes Lites IP address and an option to upload new firmware will appear click the option.



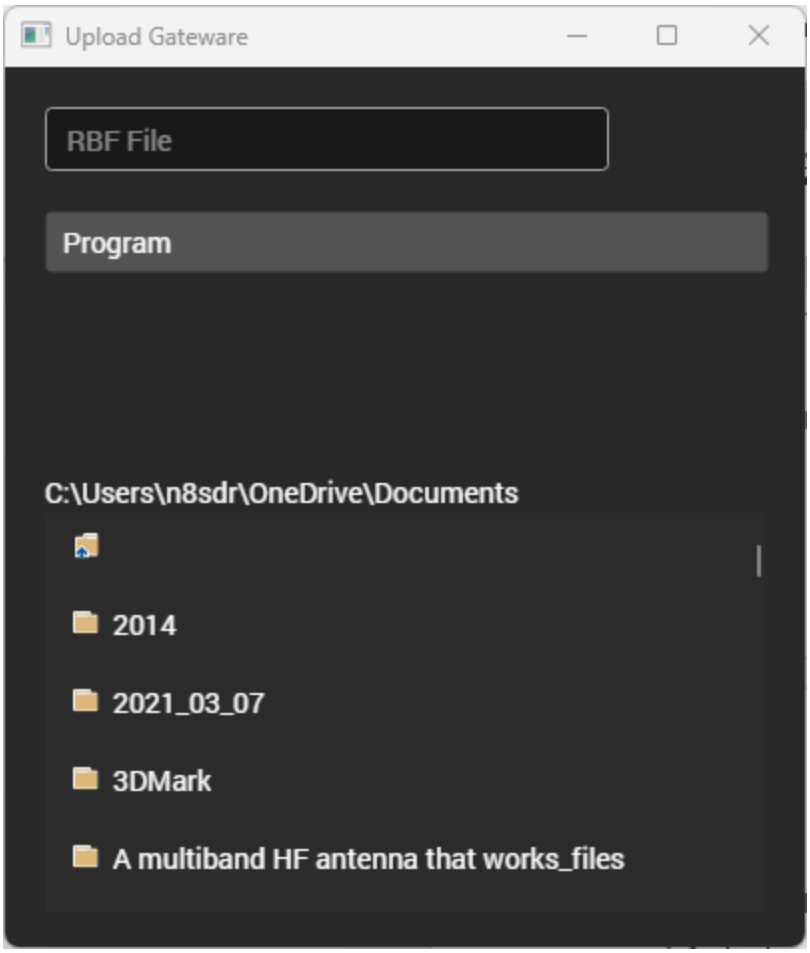
RIGHT Click the IP address to access the “Upload New Firmware” option.



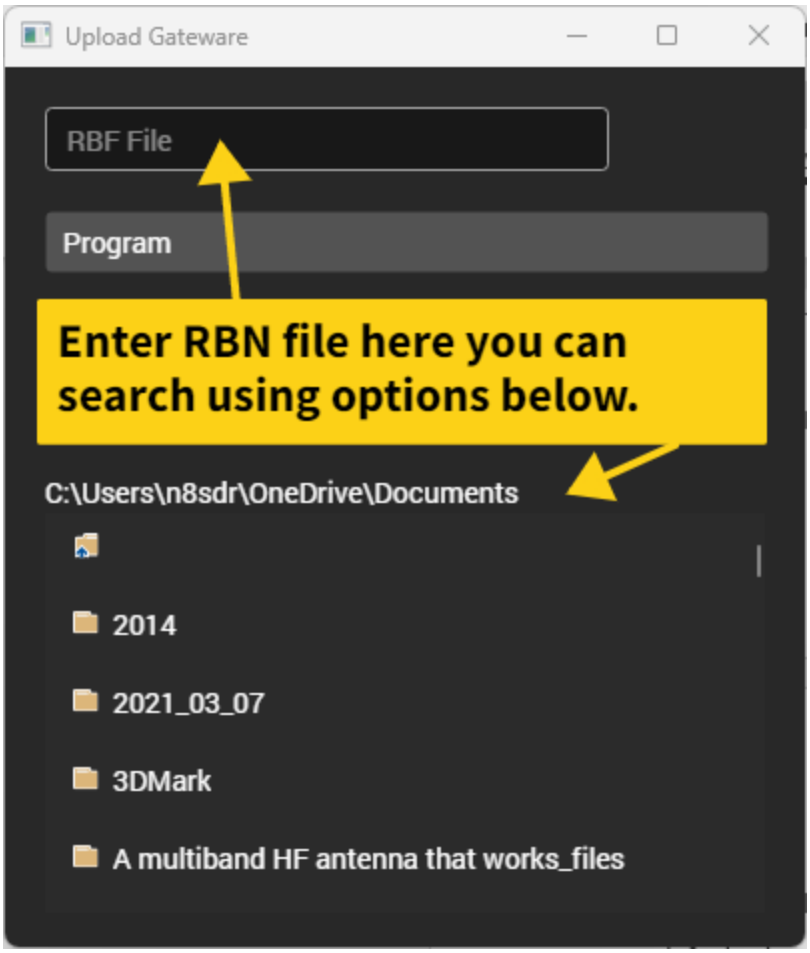
Click on the “Upload New Firmware” text to open the programmer option window.



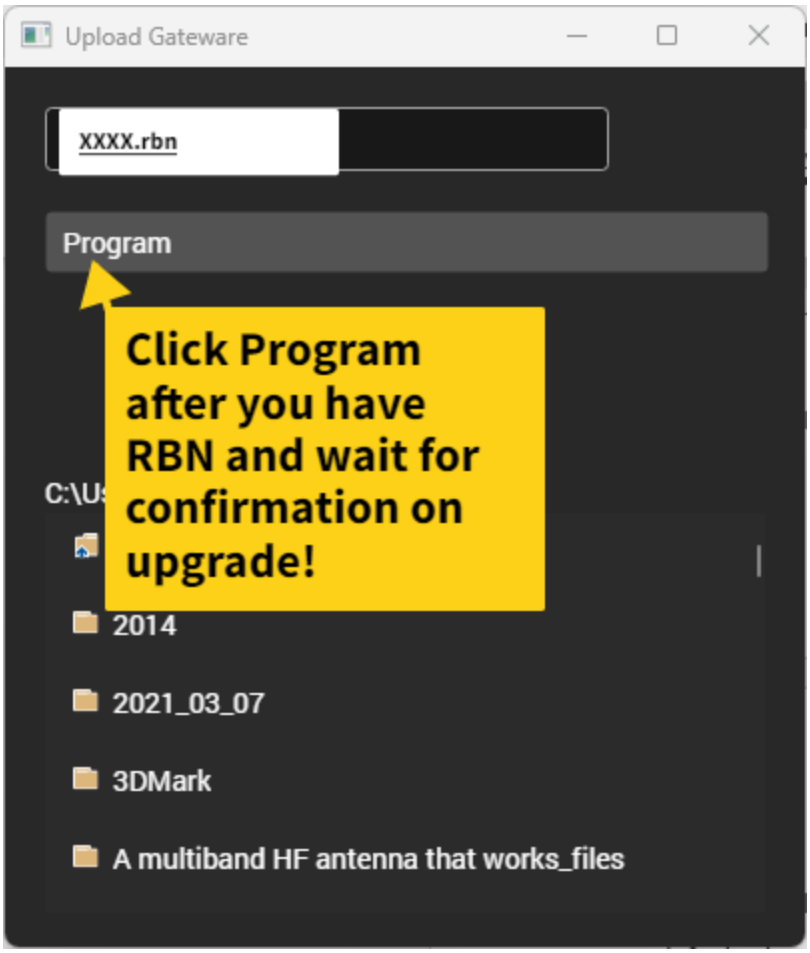
The programmer windows will appear,



Next you need to enter the firmware or gateware ***RBF*** file you have downloaded. You can use the search option to browse to the location you have saved the firmware/gateware ***RBF.***



Once you have that showing in the windows click Program and wait till you get a confirmation on successful update. Then close spark and reset your Hermes Lite 2 or Hermes Lite 2+, you will need to reset the Hermes Device for the new firmware to be active. **(** Correction to screenshot pic should say ENTER RBF file here)**



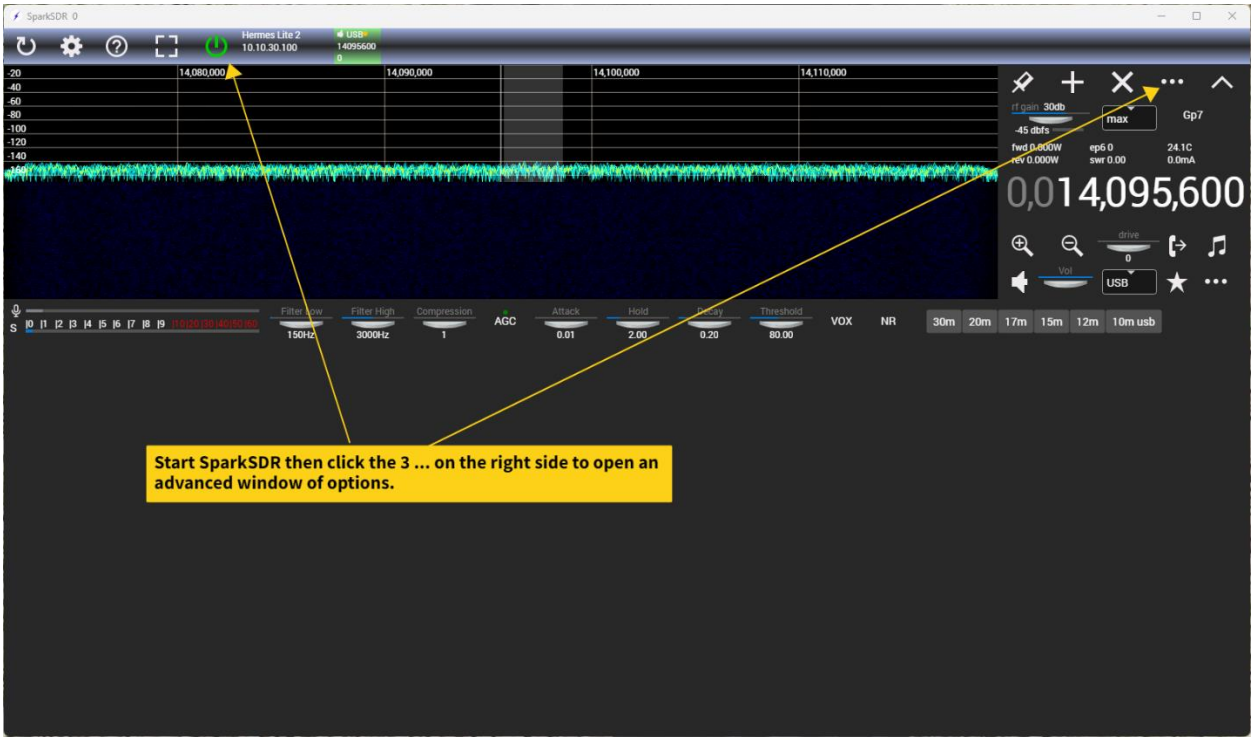
(Correction to example pic should say XXXX.RBF)

Again, wait for confirmation that the Firmware or gateware has upgraded. Then restart your Hermes.

SparkSDR can also be used for IP address and Mac Address settings.

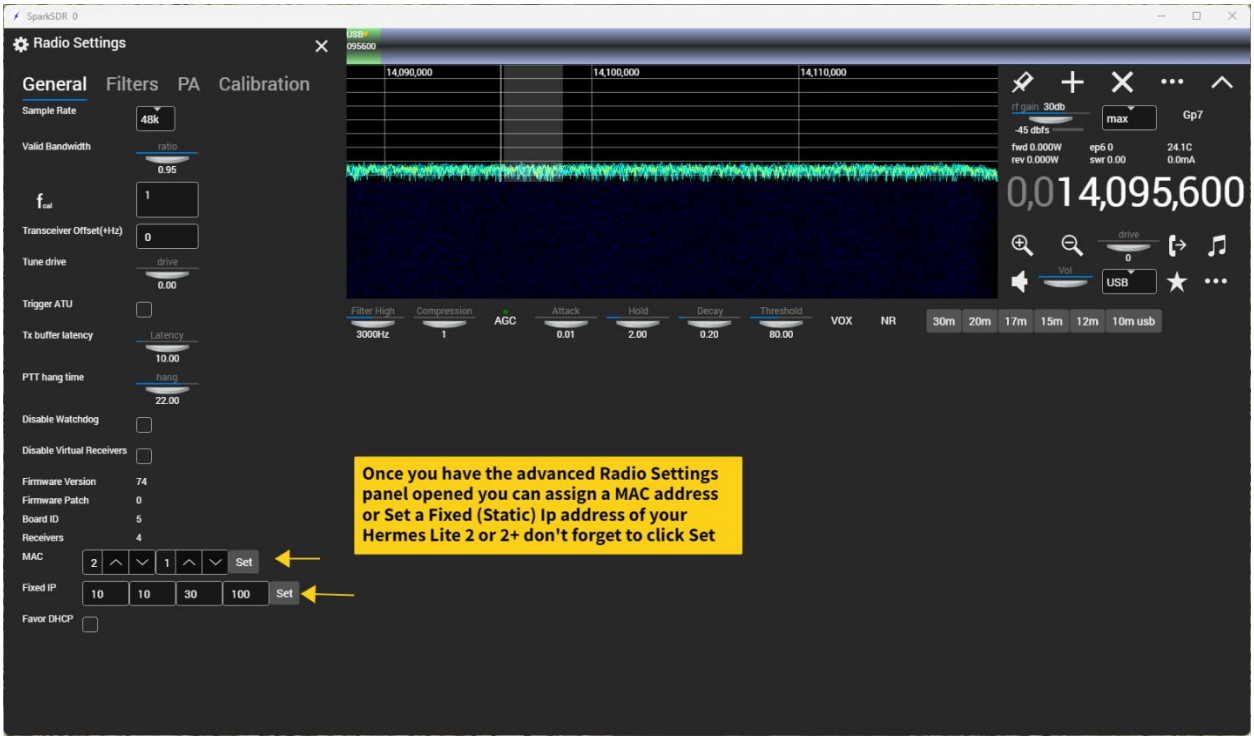
SparkSDr can also be used for setting a ***Static IP*** address of your Hermes Lite 2, You can also set a different MAC address as well, both if these are very useful tools if you're running more than one Hermes Lite on you network or directly connected to a NIC (Network Interface Card)

Start SparkSDR and power on- then follow below screenshots to change MAC or set Static IP addresses.



Power on and click the 3 … on ride side to open Radio Settings panel.

Now you can set a Static IP address or assign a MAC address, don’t forget to click the set option, then power off and back on your Hermes for the changes to take place.



QUISK SDR for setting or adjusting your BIAS:

Version 8 created 5/14/2024 09:51

N8SDR