

Using the US INTERFACE Navigator on the Macintosh

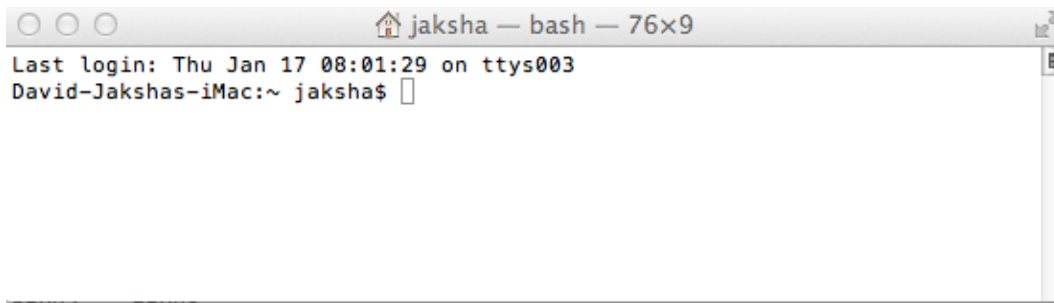
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WSPR and JT65-HF

Here is a procedure for setting up the US Interface Navigator on a Mac, with WSPR and JT65-HF downloaded from subdimensions.com. I am using an iMac running Lion 10.8. These two programs will run on your Mac using the Wine emulator. Because of this, you need to map the I/O ports on the Mac to Com ports that WSPR and JT65-HF expect to see in there setup pages.

I assume that you have installed the Mac software drivers from US INTERFACE, plugged the US Interface Navigator into a USB port, have run the Navigator options program for the Mac and have a green light on the Comm indicator. **It is important that the Navigator be plugged in before you begin software configuration, so that it can establish the ports that will be used by the software.** Also, you have the proper cable harness between the Navigator and your transceiver. The example I give below is for the Elecraft KX3, but your setup should be similar overall.

1) When you installed the Navigator drivers, they setup various I/O ports on the Mac. To find out what these ports are called you must open the Terminal.app (inside “other” in Lanchpad or in Utilities in your Applications directory) The terminal window should be similar to mine, shown below.

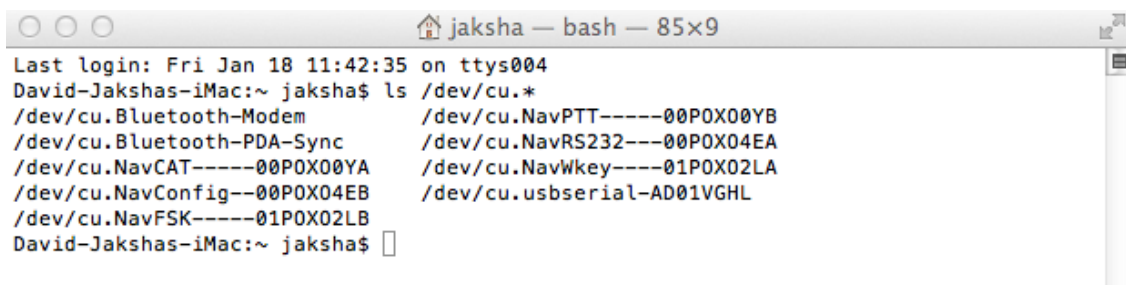


```
jaksha — bash — 76x9
Last login: Thu Jan 17 08:01:29 on ttys003
David-Jakshas-iMac:~ jaksha$
```

2) After you open the Terminal window, at the prompt, type:

ls /dev/cu.* and press enter.

In the terminal window, you should see something similar to what is shown below from my system;



```
jaksha — bash — 85x9
Last login: Fri Jan 18 11:42:35 on ttys004
David-Jakshas-iMac:~ jaksha$ ls /dev/cu.*
/dev/cu.Bluetooth-Modem          /dev/cu.NavPTT-----00POX00YB
/dev/cu.Bluetooth-PDA-Sync      /dev/cu.NavRS232---00POX04EA
/dev/cu.NavCAT-----00POX00YA  /dev/cu.NavWkey----01POX02LA
/dev/cu.NavConfig--00POX04EB    /dev/cu.usbserial-AD01VGHL
/dev/cu.NavFSK-----01POX02LB
David-Jakshas-iMac:~ jaksha$
```

You may see more entries, but the ones we are interested in are the **/dev/cu.Navxxx--xxx** entries. For example the Navigator entry for CAT control is:

/dev/cu.NavCAT-----00POX00YA

If you are going to control the radio with CAT commands, then you want the NavCAT entry. For PTT you would use the NavPTT entry.

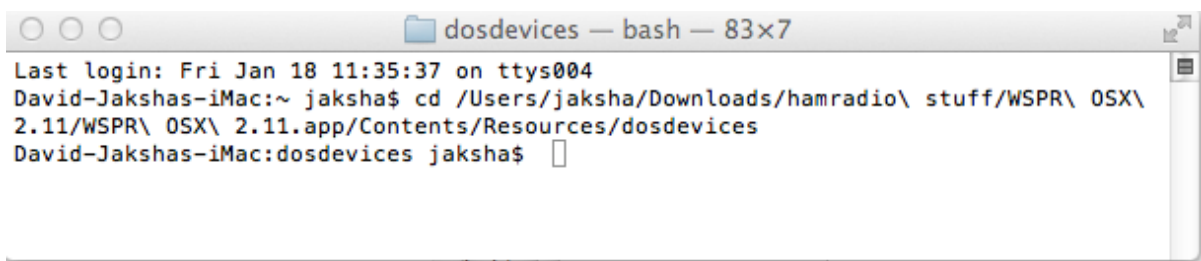
So, lets setup WSPR using PTT. I assume you know how to run WSPR and setup its station parameters. If not, go to physics.princeton.edu/pulsar/K1JT/ and read the operations manual.

Open a Finder window and go to the WSPR application. Right click on it, and choose “show package contents”. This will open up several directories. Follow this path: /Contents/Resources/dosdevices

3) Now go back to the Terminal window. At the prompt type:

cd and then a space...but don't hit enter.

4) Go back to the finder window, click and hold on the dosdevices directory and drag it into the terminal window. When you do this, it will display the complete path from the root directory to dosdevices. Hit enter and you should see something similar to the print below. The path may be different, but you should now be in the dosdevice directory.



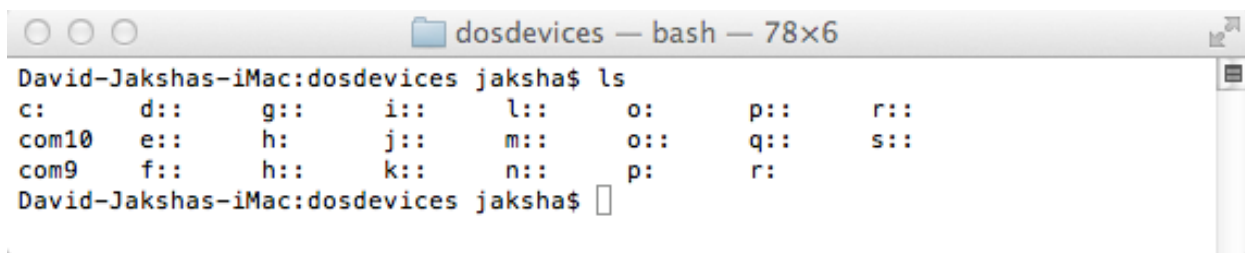
5) Now we are ready to set up the link to the com port. In the terminal window type the following substituting the /dev/xxxxx port path that you discovered above when you typed `ls /dev/cu.*` and press enter.

ln -s /dev/cu.NavPTT-----00POXO0YB com10

6) Type the following and press enter

ls

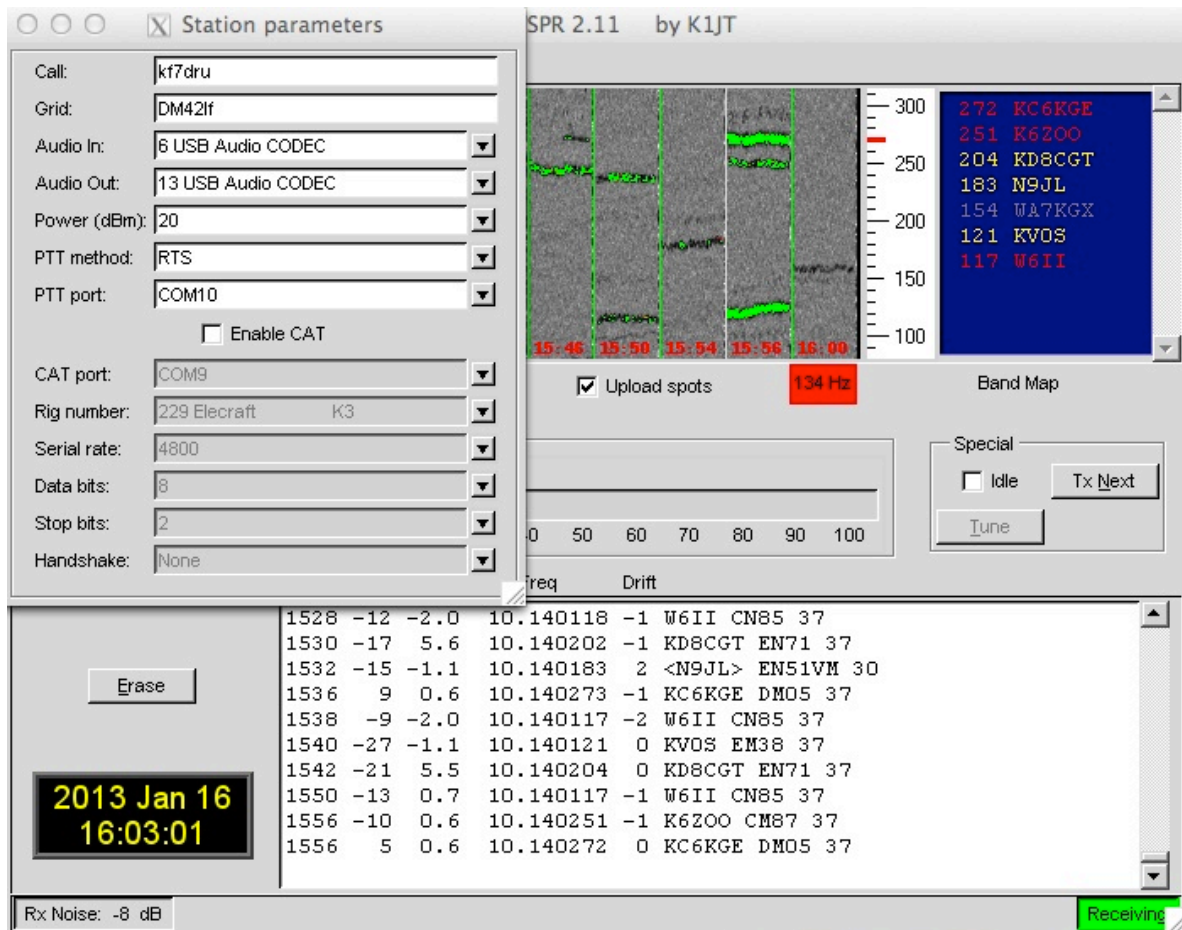
And you should see something similar to this:



The important thing you are looking for is the com10 entry. This is the link between the Wine COM port and the Mac port assigned by the Navigator drivers.

Note: You can probably use any com port above com3. Wine uses some of the lower com ports for other purposes, so the high port numbers are safer, to avoid conflicts.

Ok, below is a screen grab of my setup parameters for WSPR PTT. Set up your call, grid, etc. Audio in and Audio out are the description of the Navigator USB connection. The number preceding USB Audio CODEC may be different. PTT method is RTS, and COM10 is the link we created above.

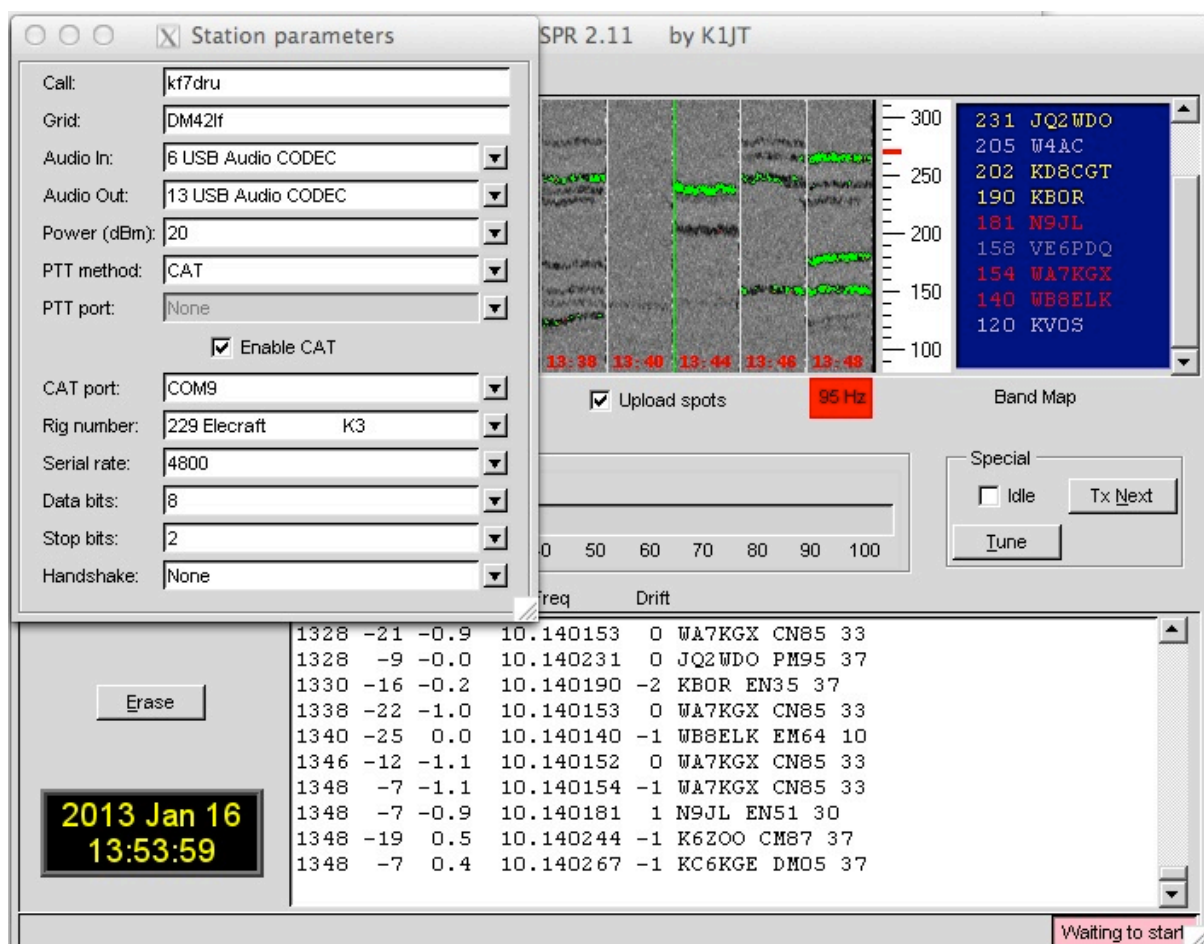


Close the station parameters window, and set the transmit percent for, say, 3 and hit the Tune button. Your transceiver should key up, and the PTT light should come on, on the Navigator. Enjoy!

If you want to use CAT to control your transceiver, you need to set up another link using a different com port. For example, again using my data,

ln -s /dev/cu.NavCAT-----00POXO0YA com9

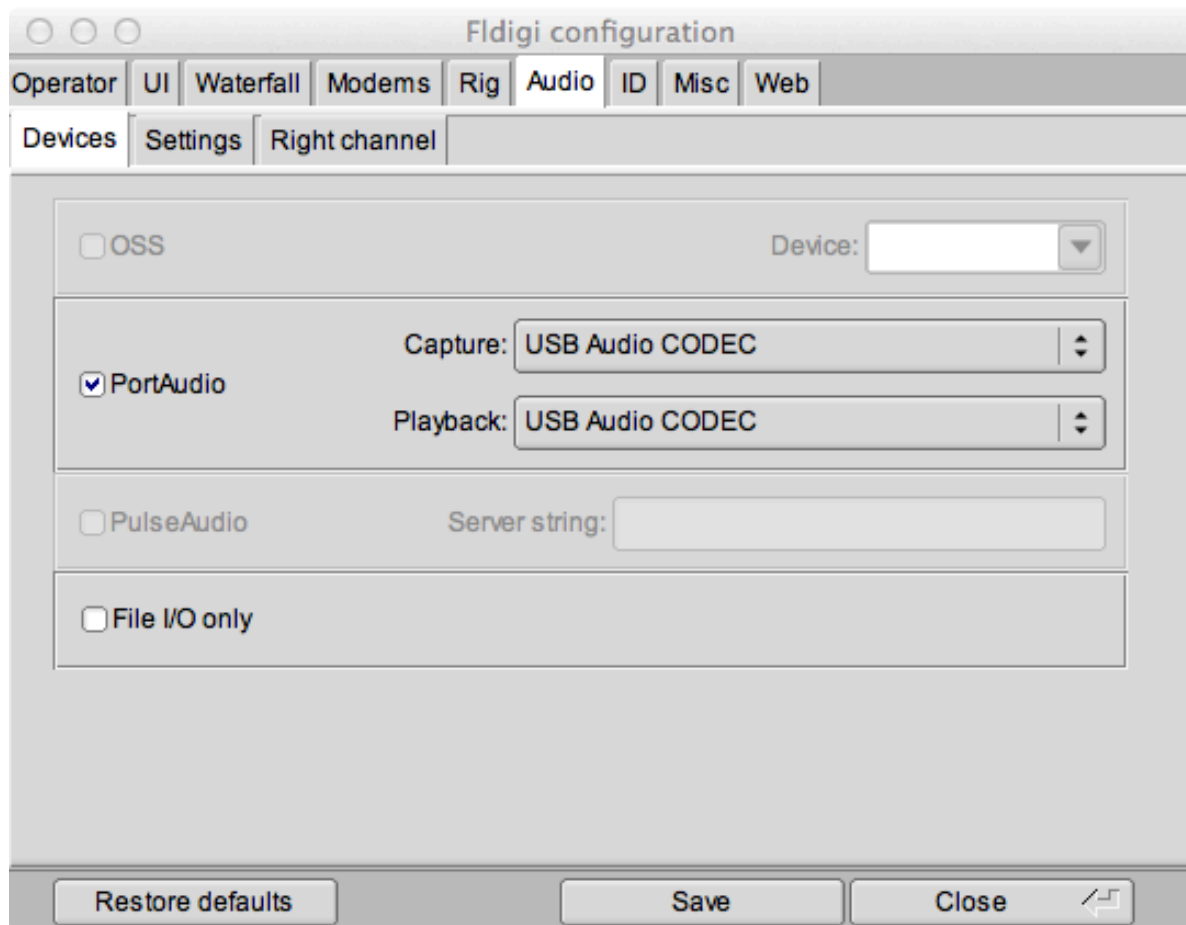
Now look at a screen grab of WSPR using CAT. Your setup will be similar, but make sure to check the serial rate info for your transceiver.



Fldigi on the Mac

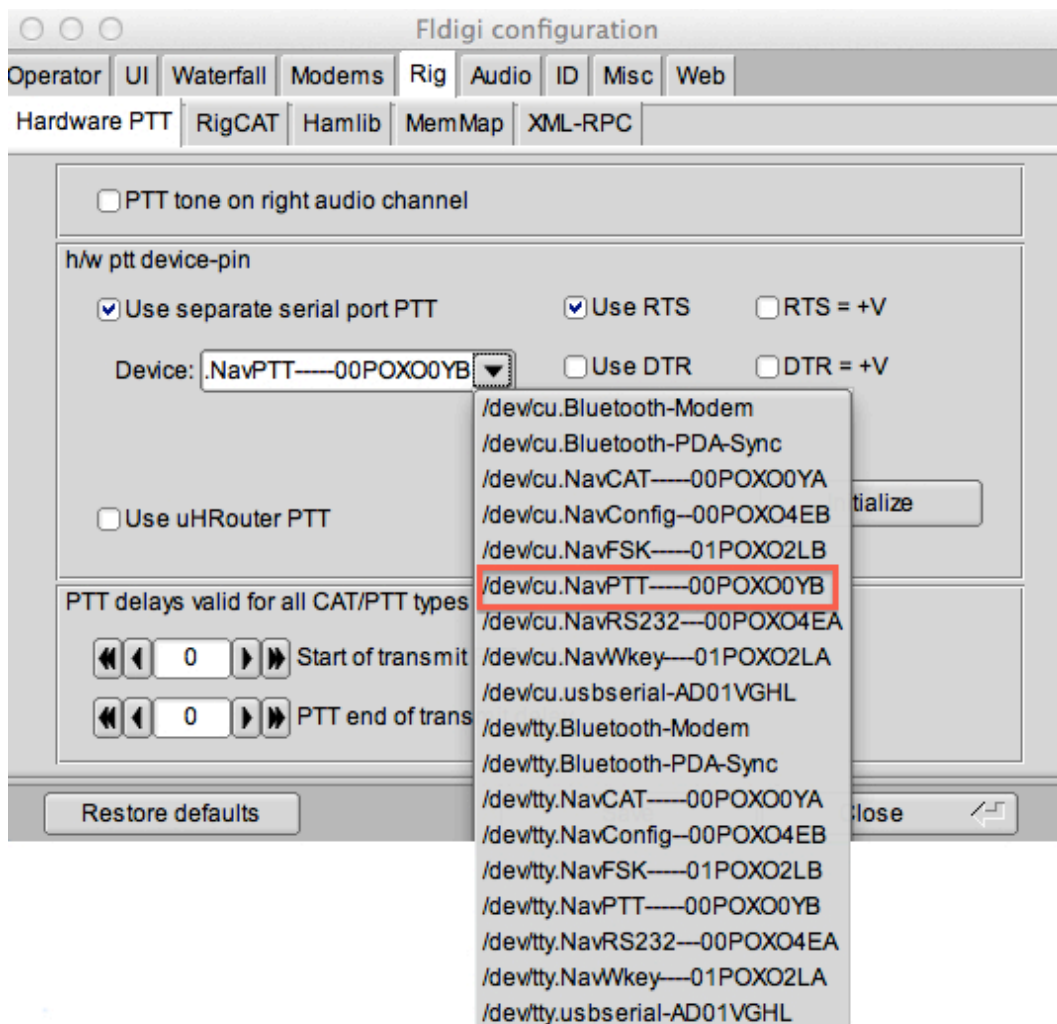
Fldigi is a popular multi-platform program for digital mode operation. Setup of Fldigi using the US INTERFACE Navigator is straight forward, and does not need the port linking procedure outlined above for WSPR and JT65. Fldigi allows you to setup both CAT and PTT. Again, this example is for the Elecraft KX3, the setup for your radio may differ, but this demonstrates the general idea. Also, I assume you have installed the Mac software drivers from US INTERFACE, have plugged the US Interface Navigator into a USB port, have run the Navigator options program for the Mac and have a green light on the Comm indicator. Also, you have the proper cable harness between the Navigator and your transceiver.

There are two tabs that we need to address in the Fldigi Configuration window. **Audio** and **Rig**. In the audio tab, there are three sub-tabs, **Devices**, **Settings**, and **Right channel**. Shown below is the Audio configuration window. I am only showing the Devices tab, the others are straight forward to setup.



- 1) Make sure you have **PortAudio** selected, and **USB Audio CODEC** selected for both Capture and Playback. (Heads up. You may have other usb audio devices plugged in that have the same designation. Make sure you select the CODEC associated with the Navigator)
- 2) Now select the Settings tab, and set both Sample rates at 48000
- 3) Set Converter to Medium Sinc Interpolator. Leave the Corrections at zero.
- 4) Finally, select the Right Channel tab, and check “Modem signals on left and right channels”.
- 5) Click on Save at the bottom of the window.

Now, we are ready to move onto the **Rig** tab. We are going to setup rig control using **RigCAT** and hardware **PTT**. First select the Hardware PTT tab under the Rig tab. The window is shown below. Check “Use separate serial port PTT”, and “Use RTS”. Finally, select the Device pull down, and select the NavPTT port that corresponds to the designation on your machine.



Click on Save at the bottom of the window. Now if you go to the main Fldigi window, you should be able to click on the **TUNE** button in the upper right hand corner, and the rig should key up, and the PTT light on the Navigator should illuminate.

OK, finally we are ready to do the RigCat configuration. You will need the XML file for your particular rig. It can be downloaded from the Fldigi site. In the screen grab below, you can see mine is called K3.XML There is not a specific xml file for the KX3, but the K3 seems to work fine.

6) **Make sure to check “Use RigCAT” directly under the tabs.**

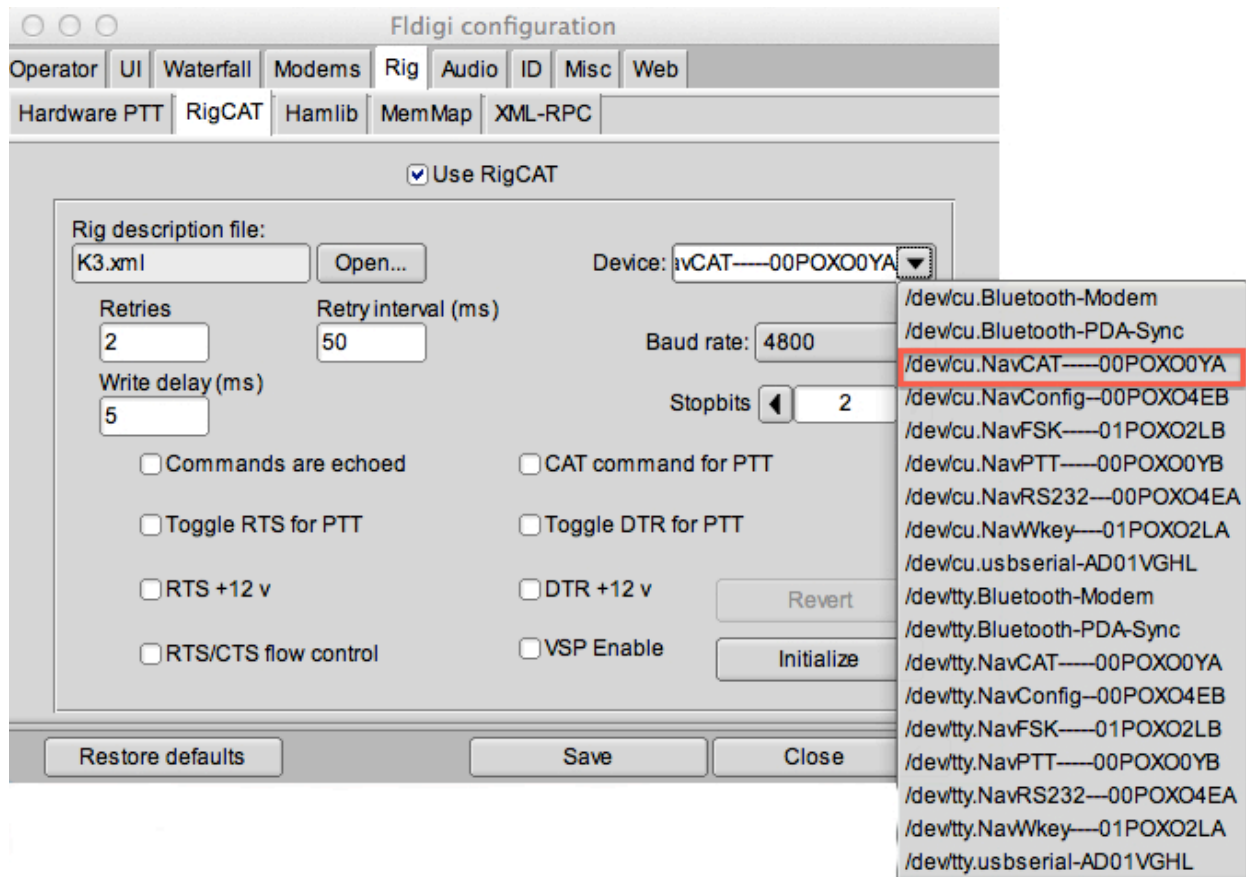
7) Use the Open... button and select the XML file you installed for your rig.

8) Select the Device pull down, and select the NavCAT port that corresponds to the designation on your machine.

9) Set your baudrate, and number of stopbits. Leave the “Cat command for PTT” unchecked. The PTT is taken care of by the previous Hardware PTT we just set up. Normally, after changes have been made in the RigCat configuration the Initialize button will turn red.

10) Click to save your changes.

If for some reason, you can not use the Hardware PTT, you can have RigCAT take care of the PTT, by checking “Cat command for PTT”. However, the PTT light on the Navigator will not illuminate during key down and Cat PTT incurs some delay. Also, be aware that some transceivers only select the MIC as an audio source if you are using Cat PTT.



Hope everything went well with the setup. Drop me a line if there is something I can help you with, clarify, or corrections to the instructions.

73,
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KF7DRU