Narrow Band Emergency Messaging System

Installation and Setup Guide

The first thing to do is to install the NBEMS programs. You can find a link to them on the SHARP web site. First go to www.sacsharp.org and click the Member's Area link at the bottom of the first page. Then enter the SHARP member username and password. You'll then get the basic home screen for members. Click the NBEMS link on the menu to get to the NBEMS page.

To get to the NBEMS download page, go to http://www.w1hkj.com/download.html

After you click the link shown above, you'll get the web page shown below. Locate your operating system (Linux, Windows, OS X) and then go down the column and download the programs you need.

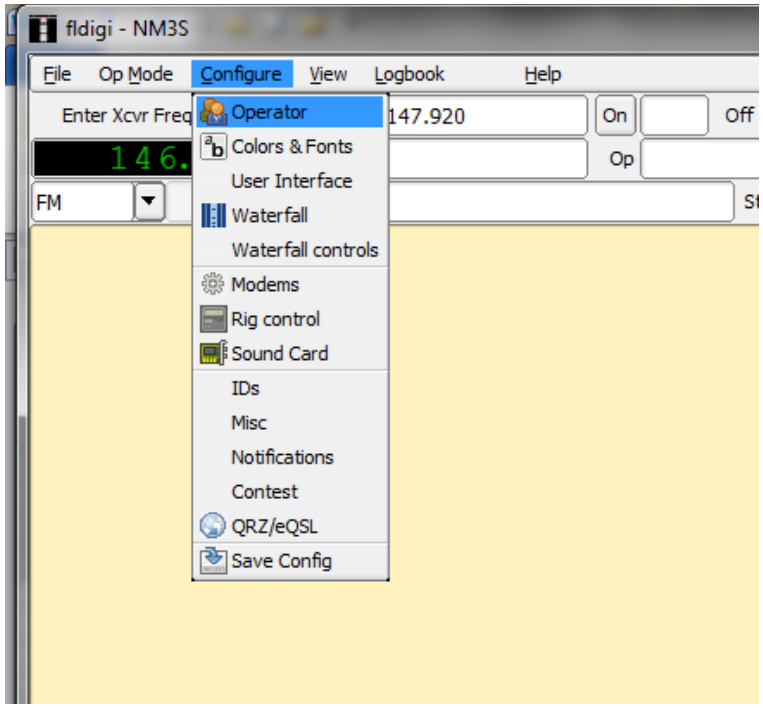
Download page: updated 11 July 2014

	Linux Binary	Windows Setup	OS X dmg	Puppy Pet (1)	Source	Help	Release Info
fldigi / flarq:	fldigi-3.21.83.bin	fldigi-3.21.83 setup	fldigi-3.21.83 i386 dmg fldigi-3.21.83 ppc dm	fldigi-3.21	fldigi-3.21.83	fldigi-Help	Maint'
	README	Setup.exe SHA256 checksums					
		required for all fl___ applications on Puppy O					
RigCat Xmls	xml archives						
flamp:	flamp-2.1.02.bin	flamp-2.1.02 setup	flamp-2.1.02 i386 dm flamp-2.1.02 ppc dm				
flwrap:	flwrap-1.3.4.bin	flwrap-1.3.4 setup	flwrap-1.3.4 i386 dmg flwrap-1.3.4 ppc dmg	flwrap	flwrap-1.3.4	flwrap-Help flwrap Help PDF	Maint'
flmsg:	flmsg-2.0.4.bin	flmsg-2.0.4 setup	flmsg-2.0.4 i386 dmg flmsg-2.0.4 ppc dmg	flmsg	flmsg-2.0.4	flmsg-Help flmsg-Help-PDF	Maint'
flwkey:	flwkey-1.1.6.bin	flwkey-1.1.6 setup	flwkey-1.1.6 i386 dmg flwkey-1.1.6 ppc dmg	flwkey	flwkey-1.1.6	flwkey-Help flwkey Help PDF	Maint'
flrig:	flrig-1.3.16.bin	flrig-1.3.16 setup	flrig-1.3.16 i386 dmg flrig-1.3.16 ppc dmg	flrig	flrig-1.3.16	flrig-help flrig Help PDF	Maint'
fllog:	fllog-1.1.8.bin	fllog-1.1.8 setup	fllog-1.1.8 i386 dmg fllog-1.1.8 ppc dmg	fllog	fllog-1.1.8	fllog-help fllog Help PDF	Maint'
flnet	flnet-7.2.1 bin	flnet-7.2.1 setup	flnet-7.2.1 i386 dmg		flnet-7.2.1	flnet help	

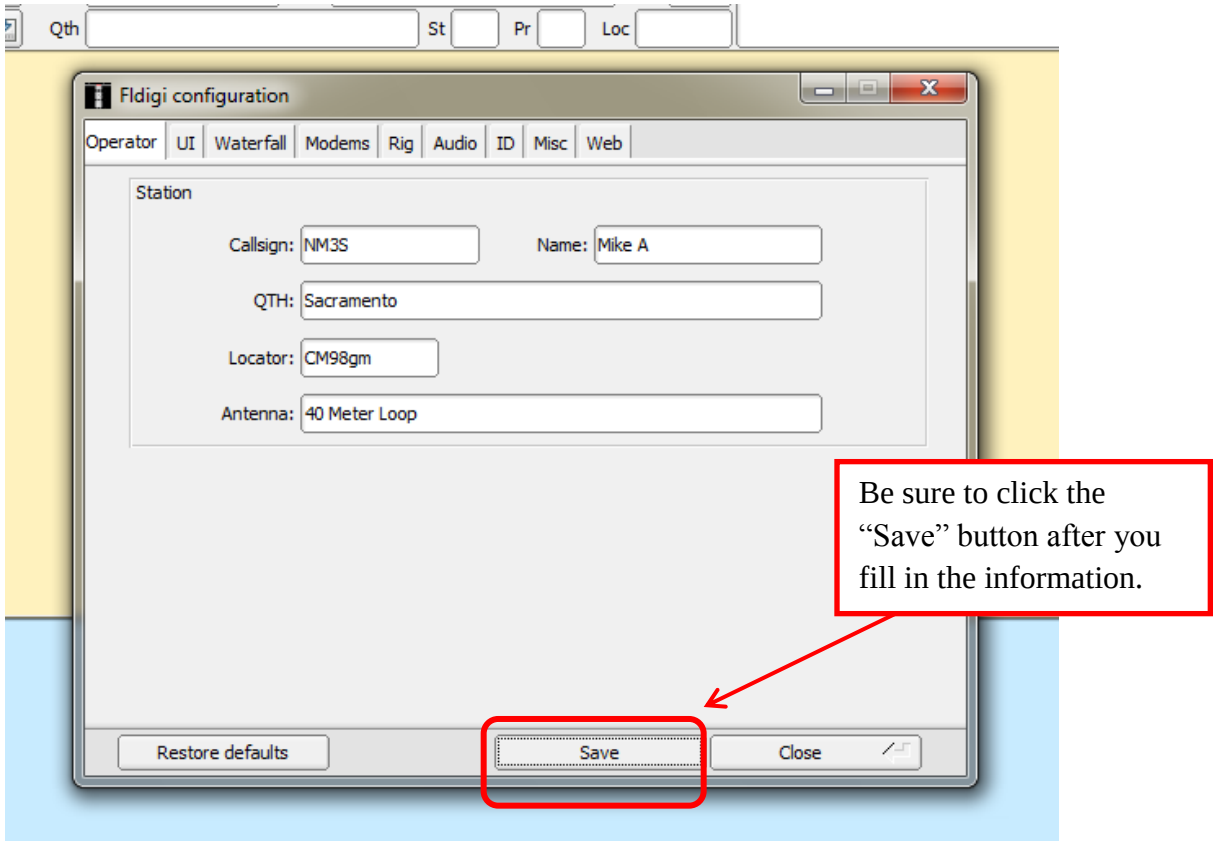
Locate your operating system at the top and then the files for the programs (shown in red). The blue circles show the choices for a computer with MS Windows. Use the appropriate files for your computer's operating system.

Installing these programs on your computer is just like installing any other program you've downloaded for installation. Download and install the correct version of Fldigi / Flarq, Flwarp and Flmsg for your computer's operating system.

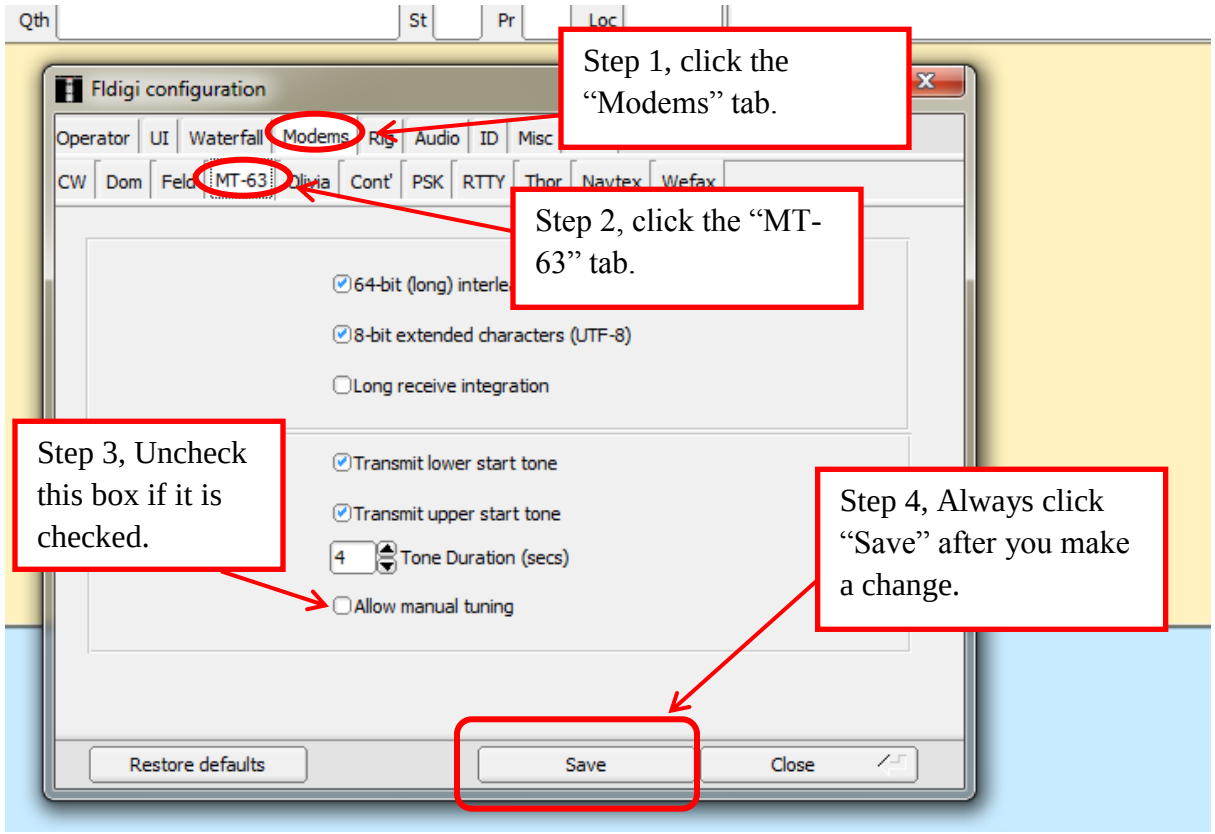
Once fldigi is installed, we need to set it up! First thing to do is configure the operator settings. Select "Configure" and then "Operator." **I suggest you use this technique to get into configuring anything in fldigi, because it's really the simplest way to get to the configuration settings.**



Configure your operator information. Fill in the boxes with your information. Don't know your "Locator" (aka Maidenhead Grid Square)? You can leave it blank for now or find it here. Fill in the boxes and BE SURE TO CLICK "Save" when you're done.



Next, click MODEMS, then click MT-63 and UNCHECK the “Allow manual tuning” box. This avoids tuning errors on MT-63. As always, when you change a configuration page, click the “Save” button!



Next, configure the input. THIS IS CRITICAL SO BE CAREFUL!

To get started, first, if you are going to be using any kind of cable or hardware interface, CONNECT THE CABLES up to everything and turn it all on. This is necessary so the computer can "see" any device you are using. (Of course, you do NOT have to have any hardware interface between your radio and computer at all, but it is easier if you have one. I suggest you at least hook a patch cable between the radio's external speaker jack and the computer's line in or microphone jack, although, again, it is NOT absolutely required.)

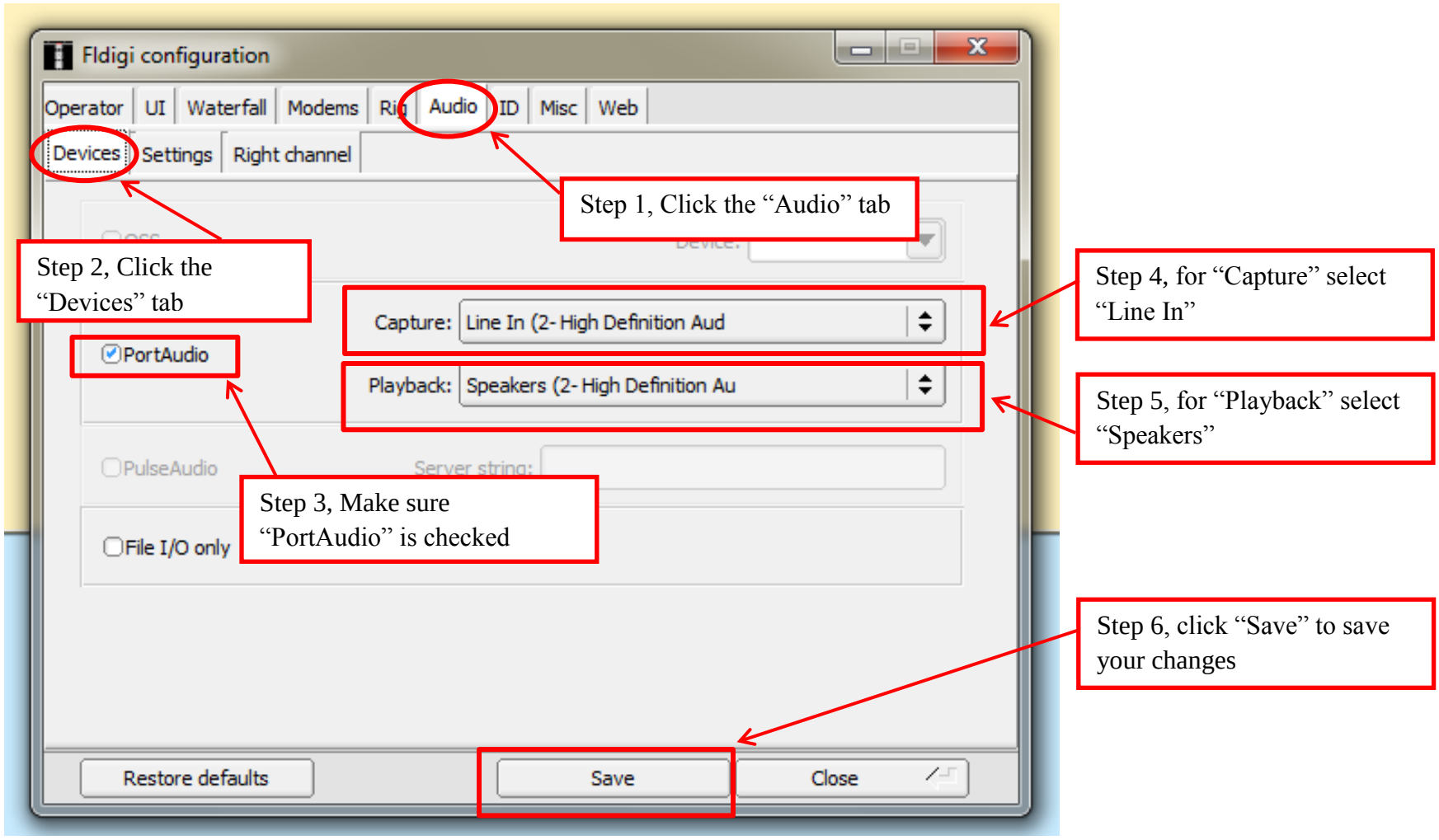
Once you've got everything hooked up, click the Audio tab, and then click the Devices tab. We will be setting the devices to be used for "Capture" (which is the audio from the radio to the computer) and for "Playback" (which is the audio from the computer to the radio). Which set of choices below will you want to use? It depends on the hookup between your radio and computer. There are three different kinds of hookups covered here:

1) Rigblaster interface OR single patch cord between radio's external speaker jack to computer microphone or line in jack (you will hold the radio's mic by the computer's speaker for transmit).
2) No wires at all between computer and radio
3) SignaLink interface

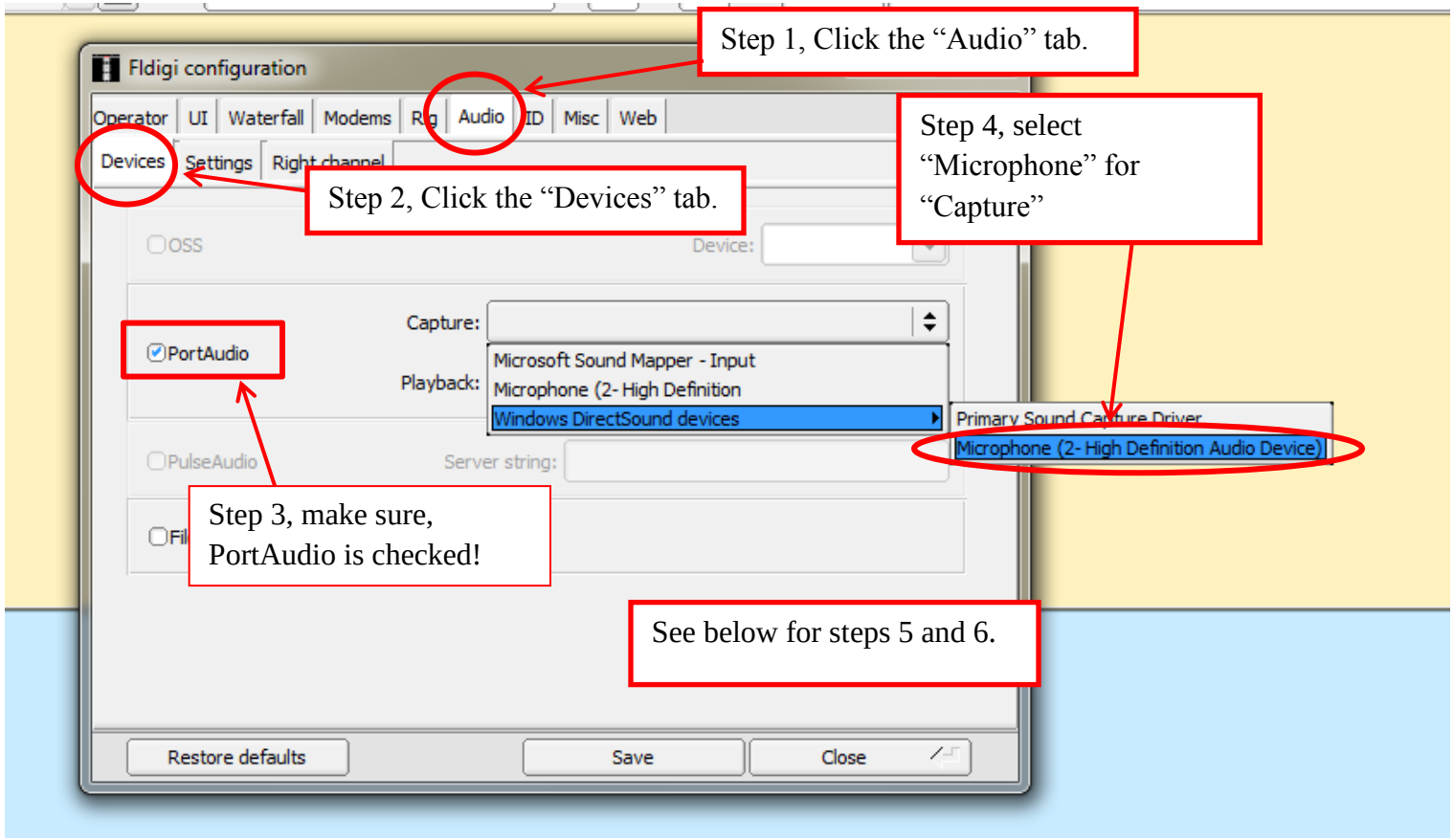
The exact choices that will show up on YOUR computer for "Capture:" and "Playback:" may differ from those shown below. However, you should see options SIMILAR to those shown. You may need to experiment a little to find the option that works for you.

Also, please note that, whatever your setup, the PortAudio box MUST always be checked!

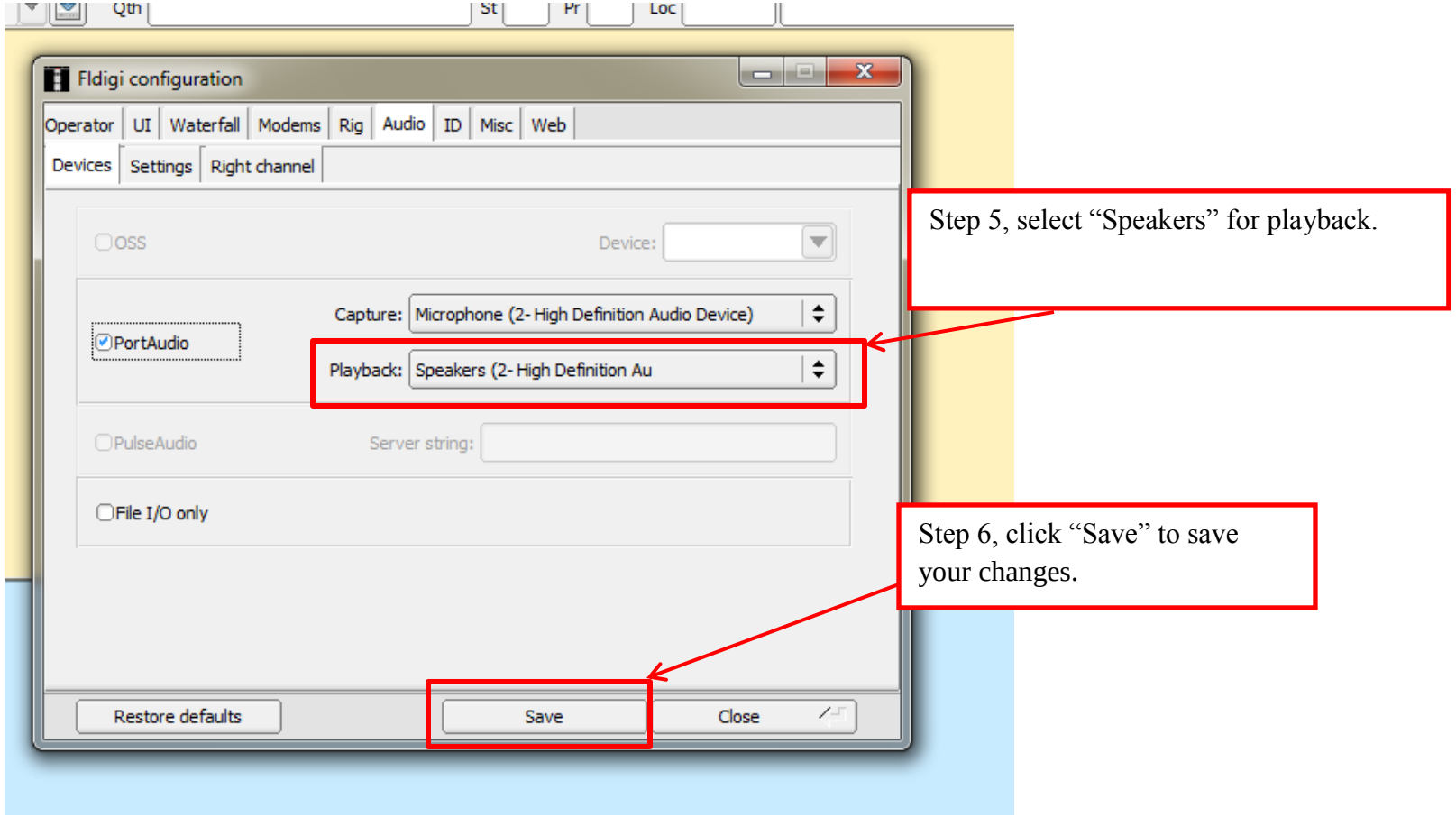
Option 1, Rigblaster OR using a single wire between the radio and computer for the radio's audio. The setup shown directly below should work for you. "Capture" should be Line In and "Playback" should be Speakers.


Fldigi configuration
Operator
UI
Waterfall
Modems
Rig
Audio
ID
Misc
Web
Devices
Settings
Right channel
Step 1, Click the "Audio" tab
Step 2, Click the "Devices" tab
Capture:
Line In (2- High Definition Aud
PortAudio
Playback:
Speakers (2- High Definition Au
Step 4, for "Capture" select "Line In"
Step 5, for "Playback" select "Speakers"
PulseAudio
Server string:
Step 3, Make sure "PortAudio" is checked
File I/O only
Step 6, click "Save" to save your changes
Restore defaults
Save
Close

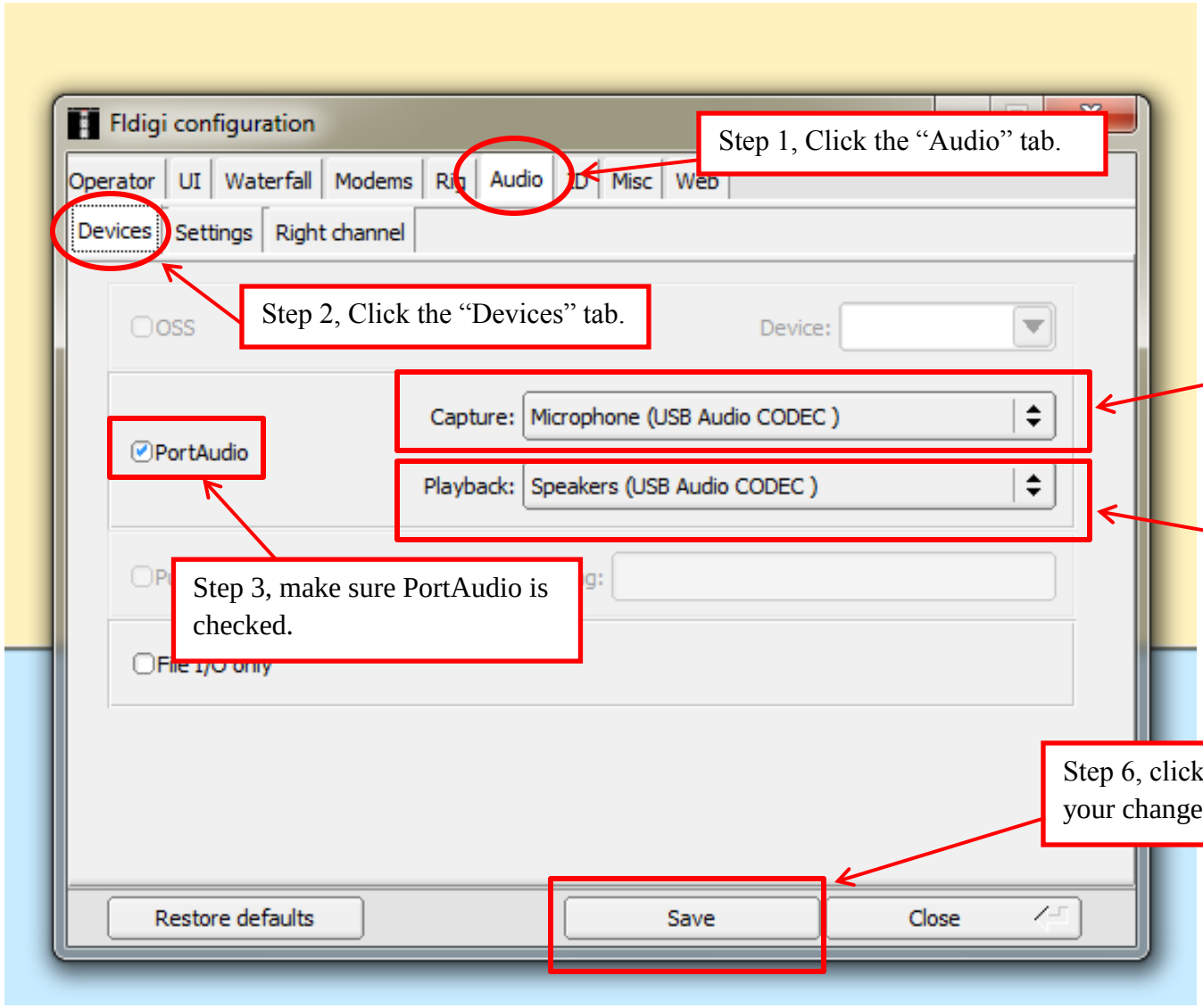
Option 2, not using any wires at all, you would use the setup shown below. Note that the exact language and setup of the drop down lists may vary depending on your computer and devices attached to it. But here for "Capture", we are selecting Microphone as shown below.



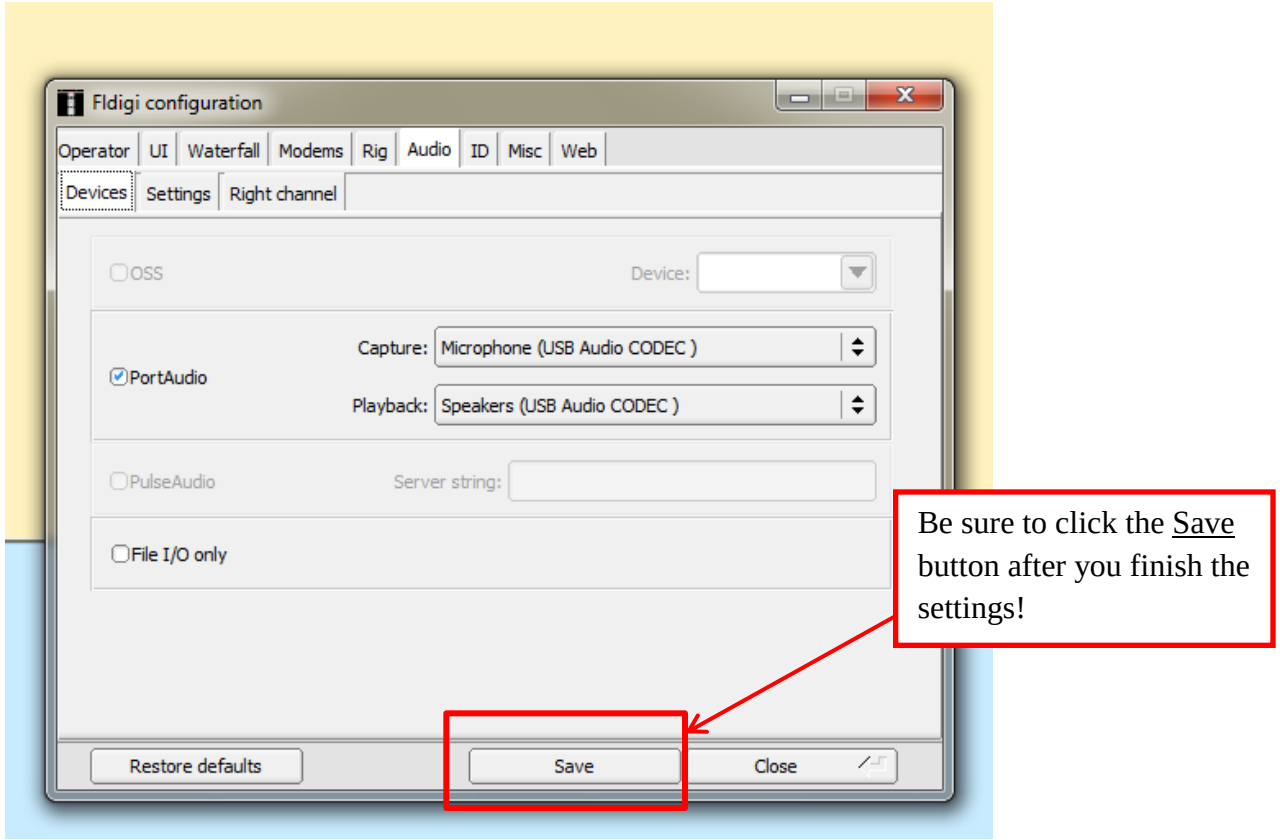
For PLAYBACK we select SPEAKERS. Below is how it looks after you're all done.



Option 3, using a SignaLink device. You will want to select “Microphone (USB Audio CODEC)” for Capture and “Speakers (USB Audio CODEC)” for Playback.

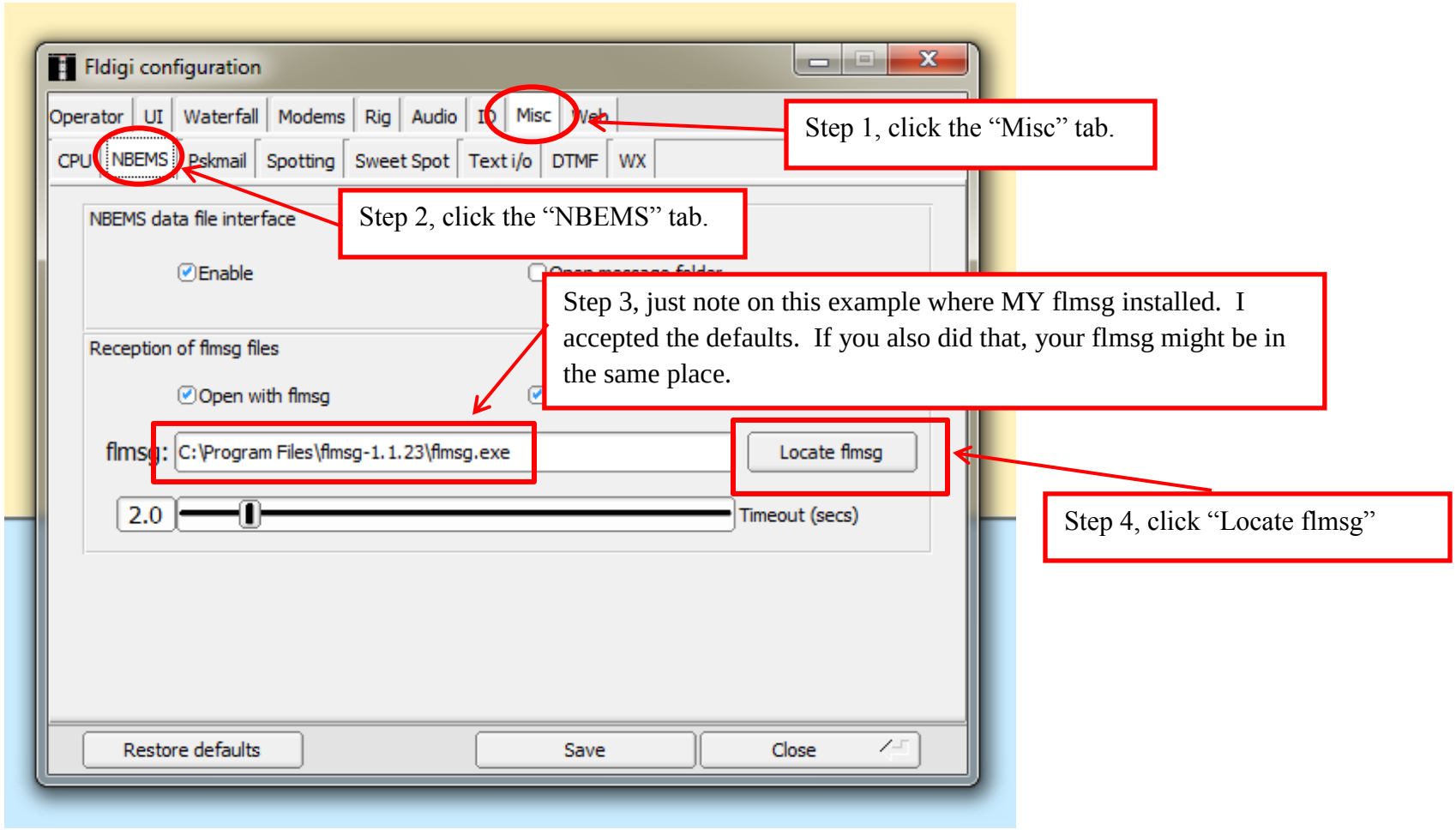

Fldigi configuration
Operator
UI
Waterfall
Modems
Rig
Audio
Misc
Web
Devices
Settings
Right channel
OSS
Device:
Capture:
Microphone (USB Audio CODEC)
PortAudio
Playback:
Speakers (USB Audio CODEC)
File I/O only
Restore defaults
Save
Close
Step 1, Click the “Audio” tab.
Step 2, Click the “Devices” tab.
Step 3, make sure PortAudio is checked.
Step 4, Set “Capture” to “Microphone (USB Audio CODEC)”
Step 5, Set “Playback” to “Speakers (USB Audio CODEC)”
Step 6, click “Save” to save your changes.

Another reminder, regardless of which option you went with above, once you've completed the audio device setup, be sure to click SAVE!

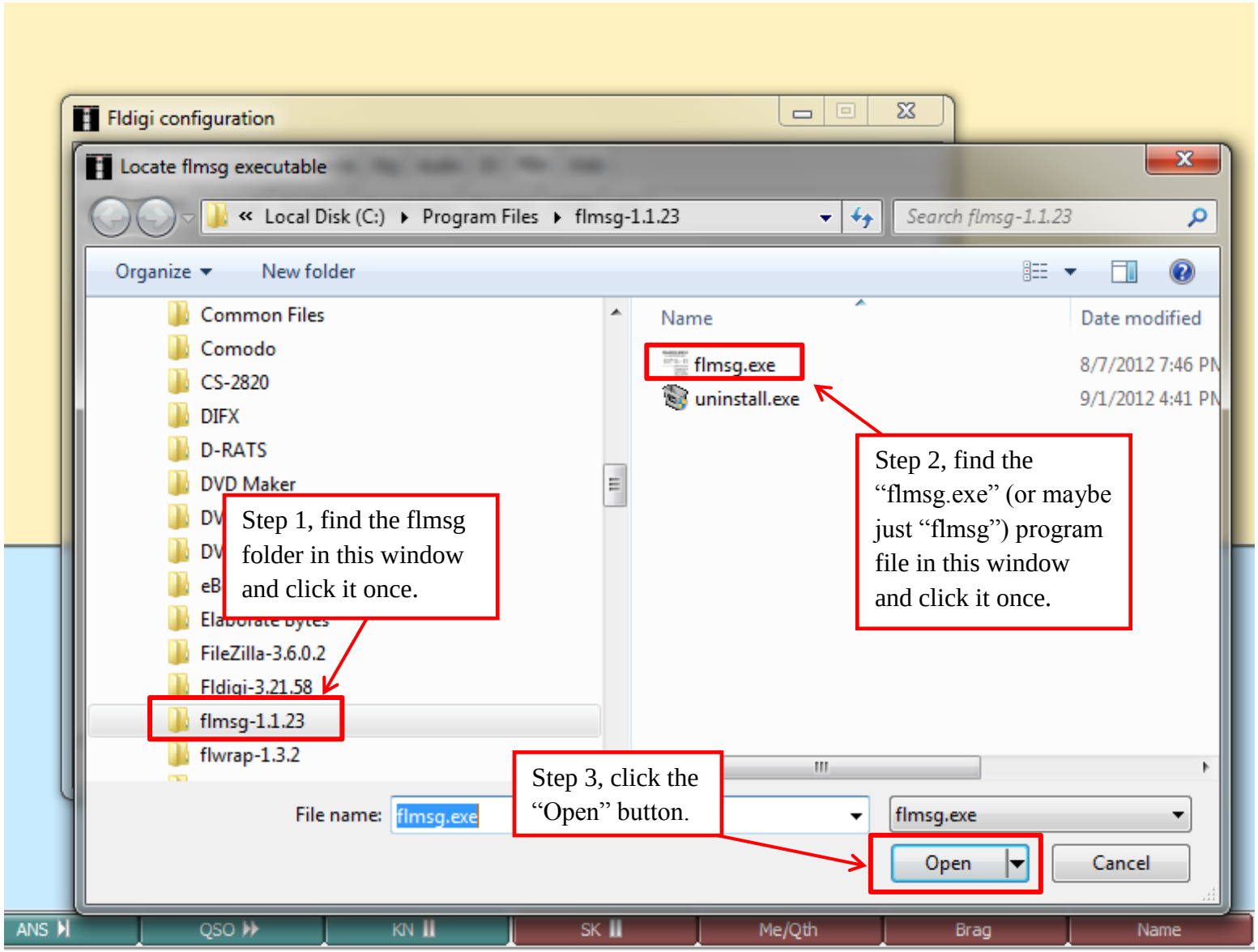


The next task is to set up the NBEMS system to work correctly with flmsg. This is a very cool feature that allows your computer to instantly display to you any message sent you by another ham using flmsg. We mustl tell fldigi where flmsg is installed on the computer. Once we do that, whenever you receive a message from another ham using flmsg, fldigi can open your browser and/or flmsg and display the message to you.

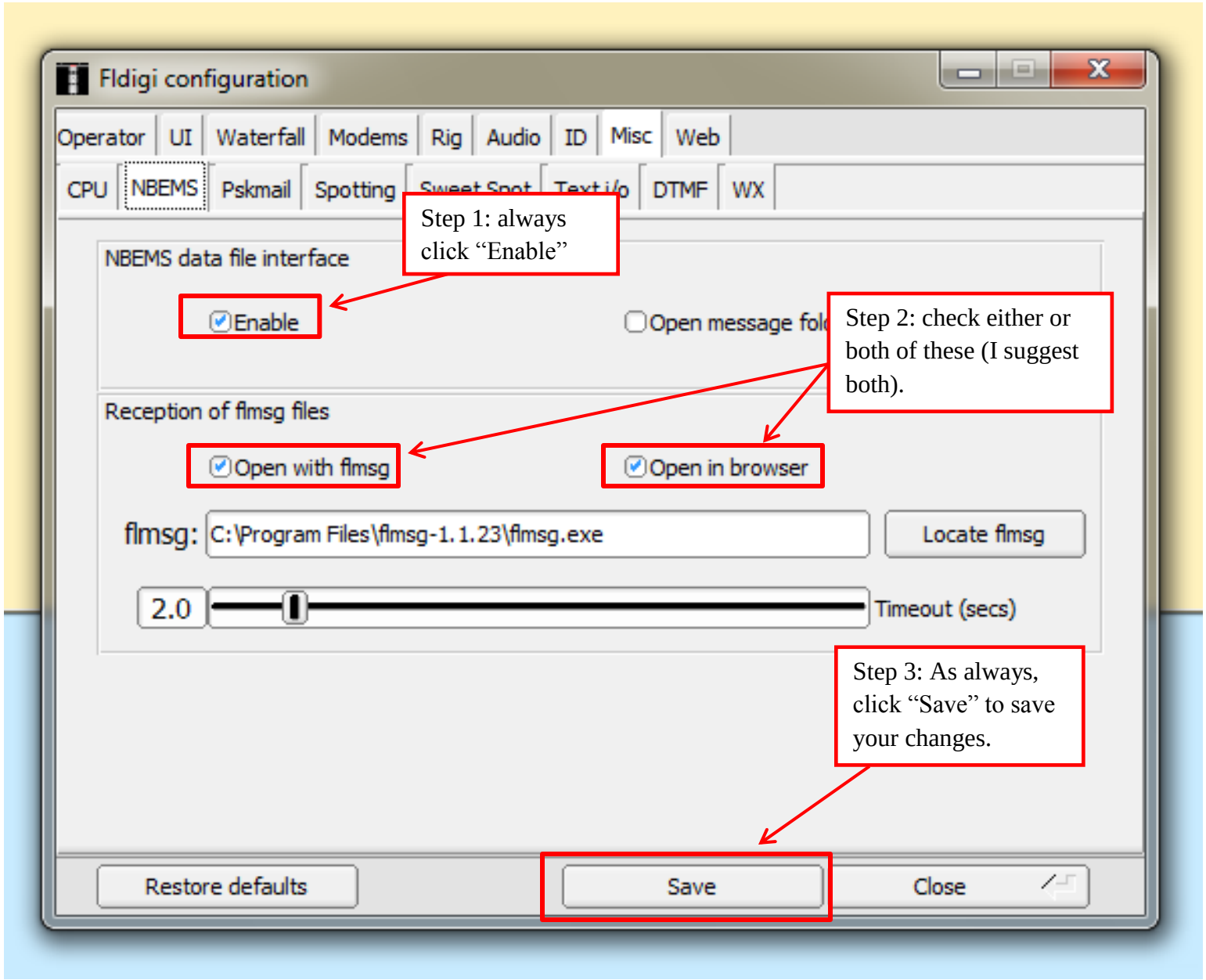
First click the “Misc” tab and then the NBEMS tab. Then click the “Locate flmsg” button.



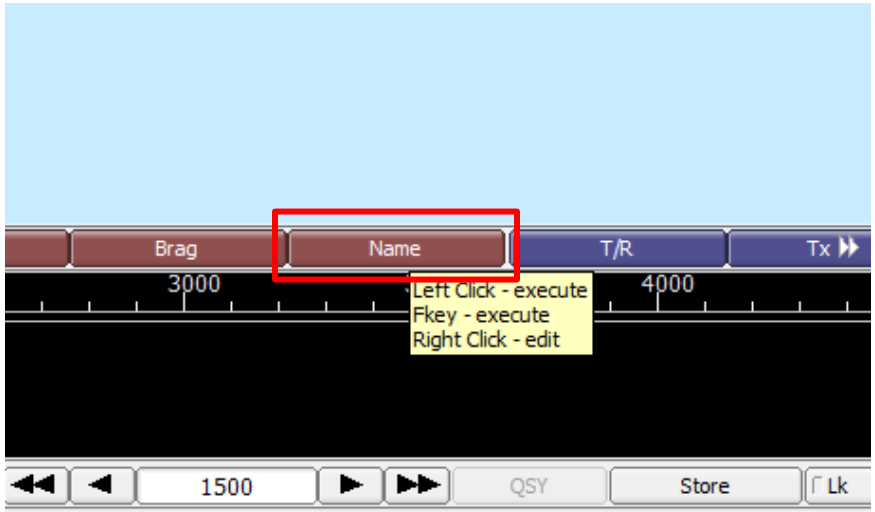
This is the screen that appears when I click “Locate flmsg”. Yours may look different. Note the folder “flmsg…” in the left hand window. Once you find the flmsg folder, click on it. Then the right hand window will show something like what is shown below. You want to locate the program file flmsg.exe. Note that the “exe” may not appear on your computer, depending on your settings and operating system. What I would do here is click on flmsg.exe in the right-hand panel to show fldigi the exact location of the flmsg.exe file. Then click the Open button.


Fldigi configuration
Locate flmsg executable
« Local Disk (C:) ▸ Program Files ▸ flmsg-1.1.23
Search flmsg-1.1.23
Organize
New folder
Common Files
Comodo
CS-2820
DIFX
D-RATS
DVD Maker
FileZilla-3.6.0.2
Fldigi-3.21.58
flmsg-1.1.23
flwrap-1.3.2
Name
Date modified
flmsg.exe
8/7/2012 7:46 PM
uninstall.exe
9/1/2012 4:41 PM
Step 1, find the flmsg folder in this window and click it once.
Step 2, find the "flmsg.exe" (or maybe just "flmsg") program file in this window and click it once.
Step 3, click the "Open" button.
File name: flmsg.exe
flmsg.exe
Open
Cancel
ANS
QSO
KN
SK
Me/Qth
Brag
Name

Now that we've located flmsg, we need to tell fldigi what to do when we receive a message. Always click "Enable." Then you can click either or both "Open with flmsg" and "Open in browser." This controls what fldigi will do when it receives a message from another ham using flmsg. It can open flmsg with the fields filled in and/or open your default browser and display the message as an html formatted document. Personally, I suggest you click both of them, because you can always close one of the windows if you don't want it.

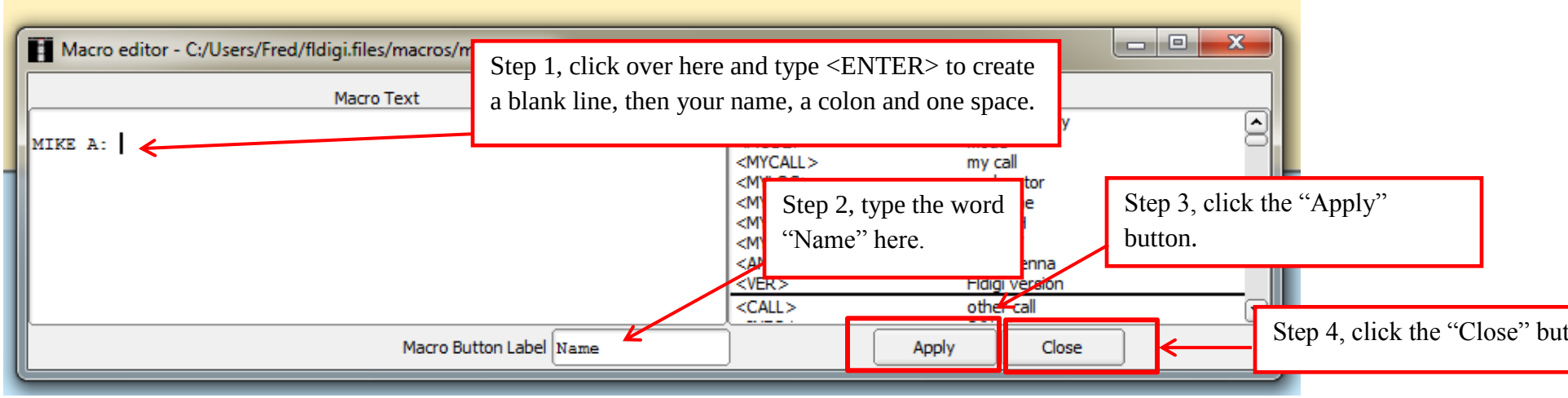

Fldigi configuration
Operator
UI
Waterfall
Modems
Rig
Audio
ID
Misc
Web
CPU
NBEMS
Pskmail
Spotting
DTMF
WX
Step 1: always click "Enable"
NBEMS data file interface
Enable
Open message fol
Step 2: check either or both of these (I suggest both).
Reception of flmsg files
Open with flmsg
Open in browser
flmsg:
C:\Program Files\flmsg-1.1.23\flmsg.exe
Locate flmsg
2.0
Timeout (secs)
Step 3: As always, click "Save" to save your changes.
Restore defaults
Save
Close

Another thing you might want to configure is a button to type your name. This is optional, but I recommend it. Look at the buttons just above the waterfall display. You'll see some of them are brown. Point at the brown button most to the right, directly next to the blue T/R button.



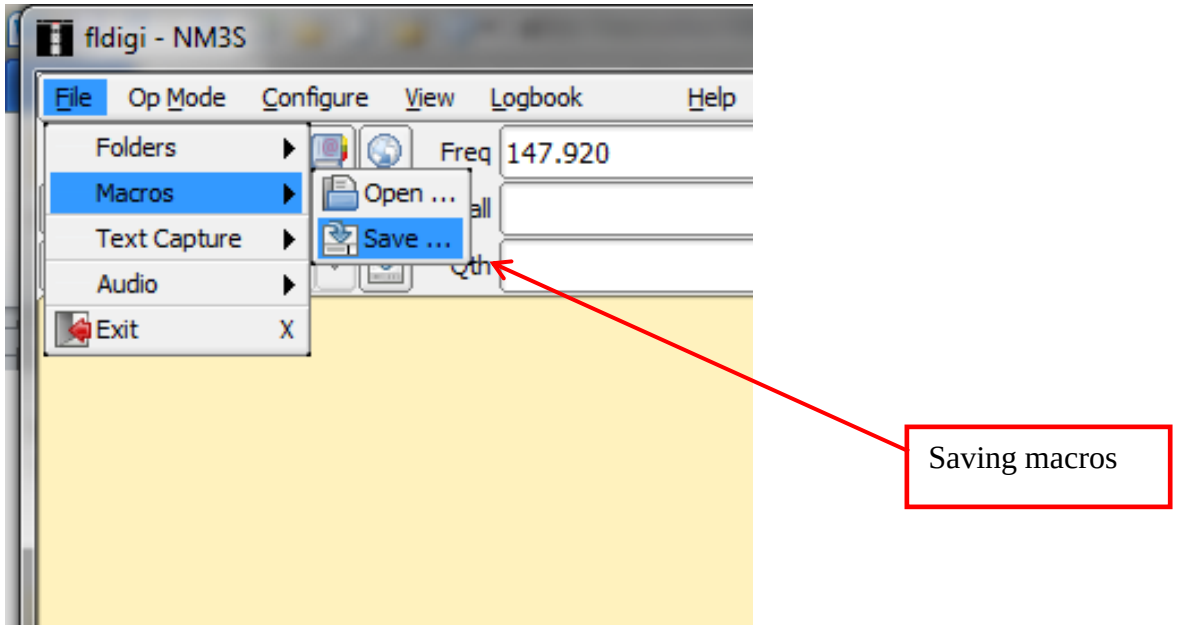
Next, <u>right</u> click the button – be sure to use the RIGHT button on the mouse. You'll see a screen like the one below. Click on the left hand window (labeled "Macro Text"). Press the <ENTER> key to create a blank line. Then type your name, a

colon and ONE SPACE. Then type the word “Name” in the space that says “Macro Button Label.” Then click the “Apply” button, then the “Close” button.



You’ve just created a macro! These can be very useful. The macro you made will create a blank line (not a bad way to start a message – it will separate your message from a previously received message on the recipient’s screen). After it creates a blank line, it will type your name, a colon and then a blank space. This setup makes fldigi messages look a lot like D-RATS messages, which many of us are familiar with. We’ll use this button later when we look at how to send a test message.

Now that we’ve created a macro in fldigi, it would be nice if it would STAY there. However, it will not unless we perform another step that forces fldigi to SAVE THE MACROS. To do this, click “File”, then “Macros”, then “Save” as shown below:



That way, our new macro will show up the next time you open fldigi. (For those interested in advanced features, you can actually have multiple, different sets of macros and load whichever one you like. For example, you might have a set of macros for VHF/UHF and another set for HF, or whatever you like.)

Now, we've completed all the basic configuration stuff that we only have to do once. We're almost ready to actually SEND A MESSGE!

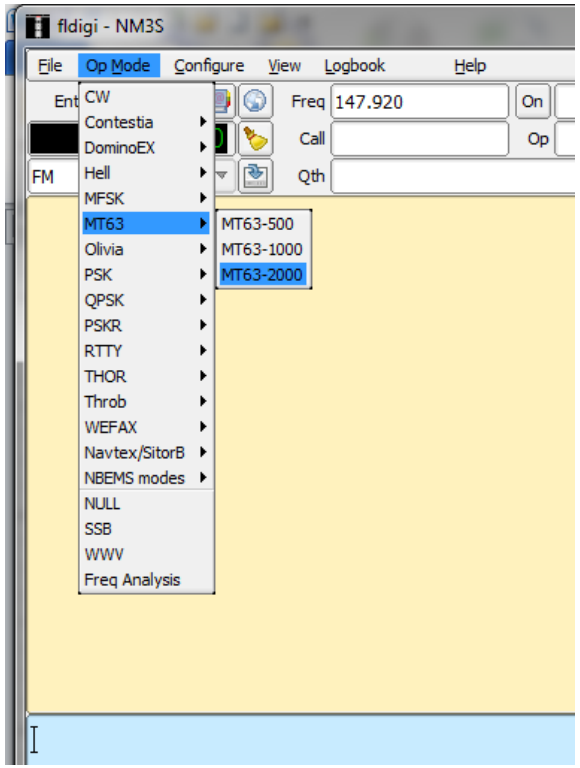
There is one last setting we want to adjust before we actually test transmission, and that is volume on both the radio and computer. On the radio, keep the volume high enough that you could hear it clearly with normal voice transmission but not super loud. We're talking 1/3 to 1/2 full volume generally. That will provide plenty of volume for fldigi to work with. Do

NOT crank the volume! As to the computer volume for the radio, start with the volume adjusted about ½ full. Mine is shown below. By the way, if you're using a SignaLink, you should start with all three knobs at about the 9:00 position.

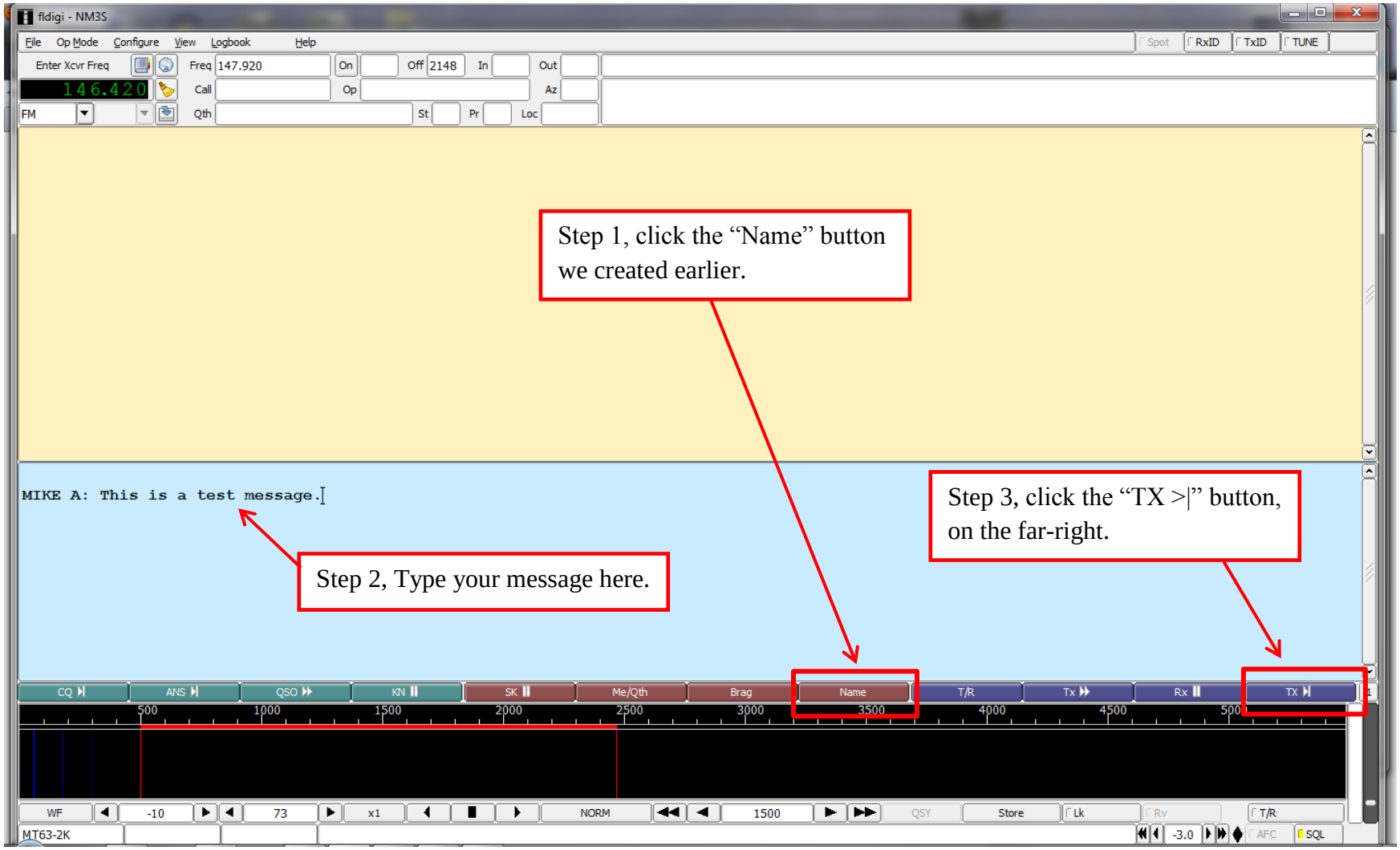
Computer volume set halfway up.

Last thing before we transmit is to select the "op mode", usually just called "mode". This determines the type of encoding, or "language", if you prefer, that fldigi will use. For our "digital tone" net on the SHARP repeater, we'll mostly use the MT63 mode. It's very robust and especially good on FM. You'll note there are three "flavors" of this mode, 500, 1000 and 2000. Those are the bandwidth used in Hz. The larger the number, the more bandwidth used and the faster the data transmission. But there is, of course, a tradeoff, which is if band conditions are not good, 2k won't work. With poor band

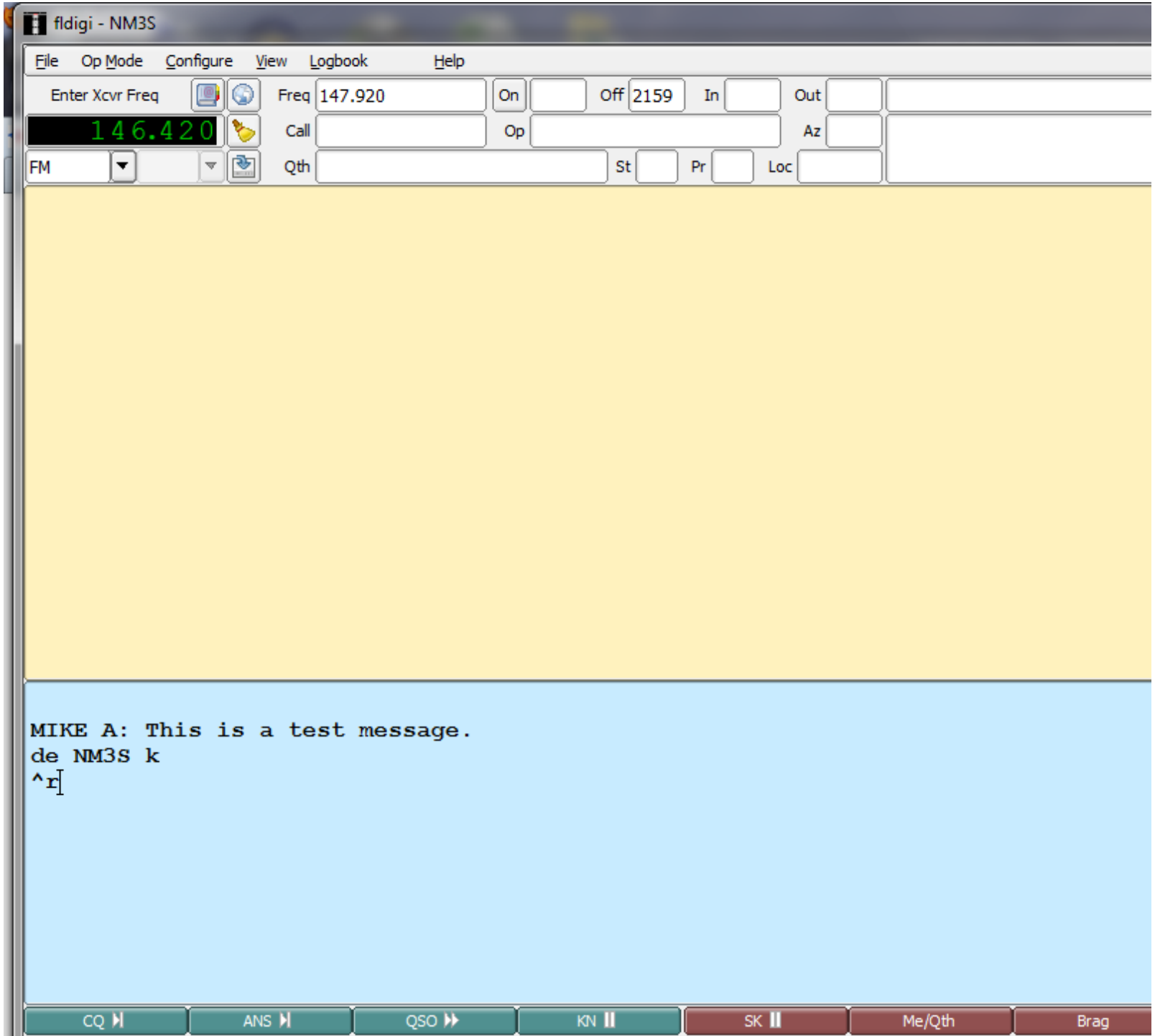
conditions, we will have to use a narrower bandwidth. If the band is especially poor, we may need to use another mode, called Olivia. However, most of the time we will be using MT63-2000.



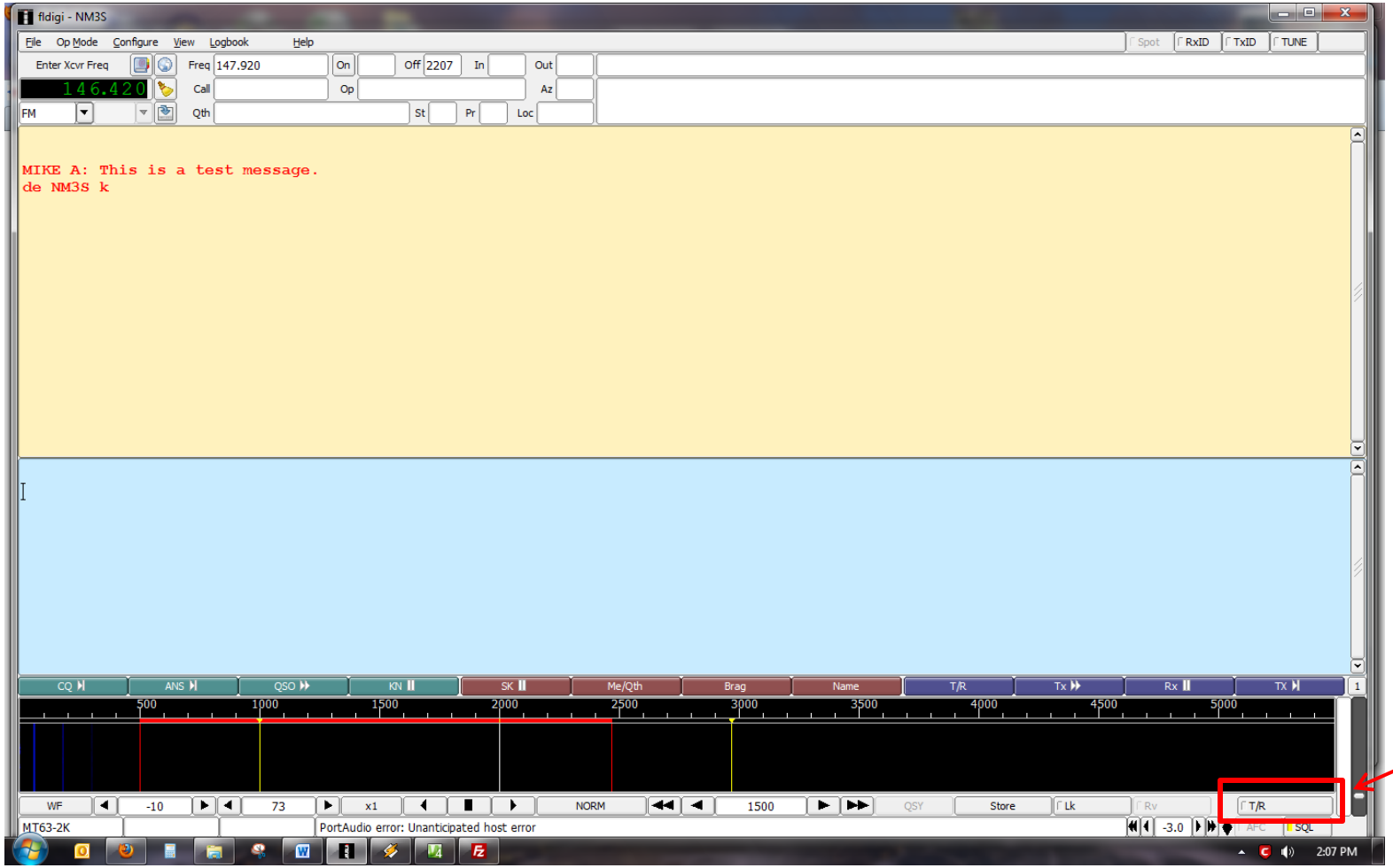
Now you should be ready to send a test message. Turn on your radio and set it to the appropriate frequency. For test messages, I suggest using a simplex frequency and low power. In fldigi, click the “Name” button you created before, then type your message. I typed “This is a test message”. Then, click the FAR RIGHT blue button to send the message. This is the best “send” button to use because it will send the text in the bottom window and then stop.


fldigi - NM3S
File Op Mode Configure View Logbook Help
Spot RxID TxID TUNE
Enter Xcvr Freq
146.420
FM
Freq 147.920
On
Off 2148
In
Out
Call
Op
Az
Qth
St
Pr
Loc
Step 1, click the "Name" button we created earlier.
MIKE A: This is a test message.
Step 2, Type your message here.
Step 3, click the "TX >|" button, on the far-right.
CQ ANS QSO KN SK Me/Qth Brag Name T/R Tx Rx TX
500 1000 1500 2000 2500 3000 3500 4000 4500
WF -10 73 x1 NORM 1500 QSY Store Lk Rv T/R
MT63-2K -3.0 AFC SQL

Note what happens when we hit the transmit button. The first thing it does is to add some stuff. The “de” is digital (and CW) shorthand for “from”, and it adds your call sign automatically, so all messages you send will have your call sign – cool! It then adds a “k” which more shorthand and essentially means “over”. The “^r” won’t transmit and just tells fldigi to switch back to receive mode instead of staying in transmit mode. If that wasn’t there you’d have to stop transmission manually


fldigi - NM3S
File
Op Mode
Configure
View
Logbook
Help
Enter Xcvr Freq
146.420
FM
Freq
147.920
On
Off
2159
In
Out
Call
Op
Az
Qth
St
Pr
Loc
MIKE A: This is a test message.
de NM3S k
^r
CQ
ANS
QSO
KN
SK
Me/Qth
Brag

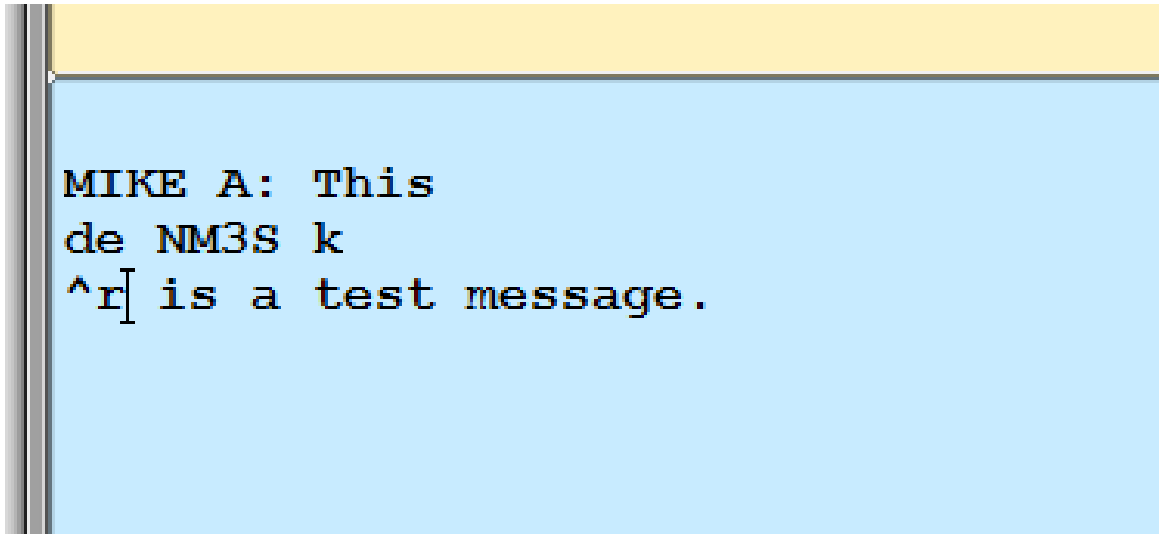
Below is a picture something like the way your screen will appear after the test transmission is sent, if everything went well. Anything you receive will also appear in the top window. (That's why we want to start each message with a <return> key because it will make sure our message appears on a new line on the recipient's screen.) By the way, if things go wonky and you want to STOP TRANSMISSION NOW, you can click the T/R button in the lower right corner. This button has a "red light" icon that appears when it is transmitting. Clicking it will toggle fldigi between transmit and receive mode. That means, if you click it, just click it ONCE. It may take a few seconds to stop transmitting, but it will.



If you want transmiss
STOP NOW, click thi
ONCE.

ONE LAST IMPORTANT NOTE: before you click the “send” button, you MUST be sure the cursor is at the END of your message. This is where it normally will be if you just type the message, so it’s usually no issue. However, if you make an

error and click back at the beginning or middle of your message to fix the problem, when you are finished typing, you MUST click at the end of the message so the “de”, callsign and “k” will appear at the end of the message. If you don’t, you’ll get a mess on the screen like that shown below. And it will stop transmitting after the ^r, so it won’t even send the whole message! Boy will I look dumb! To make this mess, I put the cursor right after the word “this” and clicked the transmit button. Go ahead and try it while you’re testing, and you’ll see what I mean. This is an easy problem to avoid once you’re aware of it, just remember to always click at the END of the message after you do any corrections and BEFORE you hit the transmit button!



Your NBEMS should now be set up and ready to use.