

Blue Ridge Amateur Radio Society

May 2, 2015

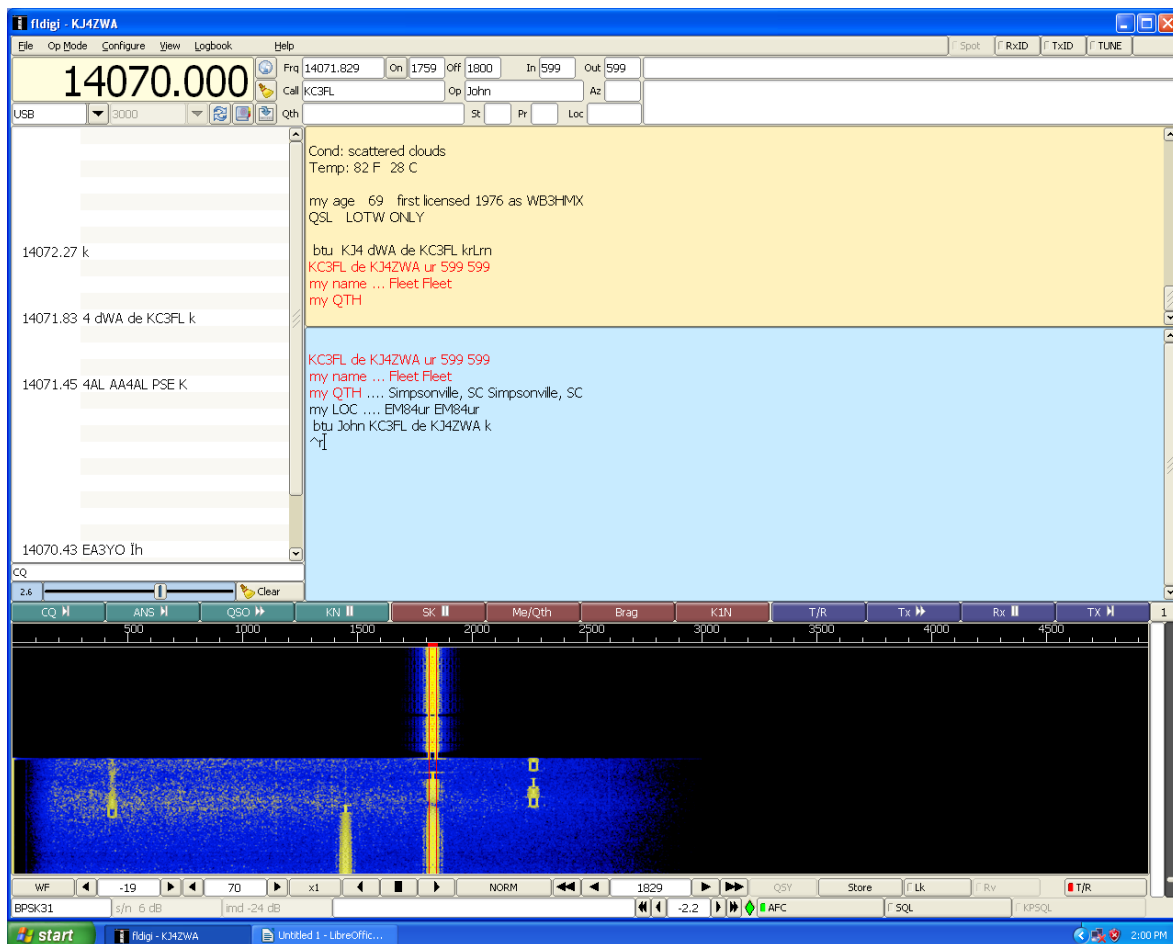
Getting Started In Fldigi

Fldigi is a popular program for HF Digital. It runs on Windows, Linux, Mac, and OS X. It doesn't require much system resources to run. I have used it on a computer running with: Windows XP, a sound chipset, a 1.2 Ghz processor, and 512 MB of RAM.

Fldigi is very easy to set up and use, but it is also highly customizable. You can just use the bare minimum of functions, or you can highly customize it. You get out of it what you put into it.

Fldigi uses many modes, including BPSK, QPSK, Olivia, RTTY, Hellschreiber, DominoEX, MT63, Thor, Throb, MFSK, Contestia, CW, and it can receive WEFAX.

This is what Fldigi normally looks like during a PSK31 QSO.



The Fldigi website is: <http://www.w1hkj.com/>

You can download the program and help files from: <http://www.w1hkj.com/download.html>

Download page: updated 30 January 2015

All setup.exe files updated and tested on XP with Avast 2014.9.0.201 / 140924.0

Updated sha256 checksum file

	Windows Setup	OS X dmg	Puppy Pet (1)	Source	Help	Release Info
fldigi / flarq:	fldigi-3.22.05 setup	fldigi-3.22.05 i386 dmg fldigi-3.22.05 ppc dmg	fldigi-3.22 flarq-4.3	fldigi-3.22.05	fldigi-Help flarq-Help	Maint'
	Setup.exe SHA256 checksums		How-To-Install		fldigi-Help PDF	
RigCat Xmls						xml archives
Download	flamp-2.2.00 setup	flamp-2.2.00 i386 dmg flamp-2.2.00 ppc dmg	flamp	flamp-2.2.00	flamp-Help(html) flamp-Help-PDF flamp-protocol PDF	
Manual	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-2.0.8 setup	flmsg-2.0.8 i386 dmg flmsg-2.0.8 ppc dmg	flmsg-2.0.8	flmsg-2.0.8	flmsg-Help flmsg-Help-PDF	Maint'
	flwkey-1.1.7 setup	flwkey-1.1.7 i386 dmg flwkey-1.1.7 ppc dmg	flwkey	flwkey-1.1.7	flwkey-Help flwkey Help PDF	Maint'
	flrig-1.3.19 setup	flrig-1.3.19 i386 dmg flrig-1.3.19 ppc dmg	flrig-1.3.19	flrig-1.3.19	flrig-help flrig Help PDF	Maint'
	fllog-1.1.8 setup	fllog-1.1.8 i386 dmg	fllog	fllog-1.1.8	fllog-help	Maint'

In the screenshot above, I have the files that you need to download marked.

What do I need to run digital?

There are three main components to a digital station:

- Transceiver
- Interface
- Computer

WHY AN INTERFACE?

An interface is required between the radio and computer, to make it possible to use them together, and provide audio isolation. If you just plugged cables between your rig and computer, you could damage your radio or computer, or have a bad hum because of a ground loop.

Some interfaces have just the capability to switch your radio from receive to transmit, others are very complex, and have built in sound cards, and ports for multiple radios. What one you get depends on your personal preference, and your budget.

If you are an avid DIYer, you can find schematics and information on how to build one online, and in the *ARRL Handbook*.

Here is a partial list of interface manufacturers:

- **Donner**-\$45
http://www.donnerstore.org//index.php?main_page=index&cPath=94_99&zenid=1738r1garrp5pap872lp051mb7
- **microHAM**-\$160 and up <http://www.microham-usa.com/>
- **MFJ**-\$60 and up <http://www.mfjenterprises.com/Categories.php?sub=0&ref=47>
- **Tigertronics**-\$120 http://shop.tigertronics.com/Signalink-USB_c2.htm
- **West Mountain Radio**-\$55 and up <http://www.westmountainradio.com/rigblaster.php>
- **RigExpert**-\$100 and up http://www.rigexpert.net/main_a.html

An audio link is another option, just hold your computer microphone to the radio's speaker, and hold the radio's microphone by the computer's speaker. This isn't optimal, and will NOT work in a noisy room, but will be a quick fix in an emergency.

Besides being used on HF, Fldigi and the digital modes can be used on VHF/UHF FM as well. With most mobile radios, you will have to use an audio link for an interface, although some manufacturers have optional cables for interfacing your radio to your computer.

Connections

Connect audio out, Audio in, and PTT on the radio side of the interface. On the computer side, plug into the line out and line in jacks. Also plug in either the RS-232 port, or the USB connector. You want the audio coming from the radio, going into the computer, and the audio from the computer, going to the radio.

When you first start the program after installing it, it will ask for some basic information, such as your callsign, grid, state, country, etc. Go ahead and fill in this information now, it will make it much easier to work with the macros if you already have the information plugged in.

To set the program to recognize the PTT part of the interface, click on the **CONFIGURE** menu, and select **RIG CONTROL**. This will open a dialogue box, Check the boxes labeled **RTS** and **DTR**. Select a **COM** port from the drop down box (should be something like COM 1), then click **INITIALIZE**. If the radio doesn't click into transmit, and quickly back to receive, then you have the wrong COM port. When the radio does do the TX/RX switch, click **SAVE**, and then click **CLOSE**.

Make sure that the radio is in the USB mode. Digital is done on USB, regardless of what band you are transmitting on. Turn all filters and processors off. Turn the power down to 50 watts or less, if you use too much power, you will block out all of the signals on the band for everyone

else. I typically run close to 35 or 40 watts. Less power is better, especially if you are using a beam for your antenna.

THE CONTACT

We will use BPSK31 for our example mode in Fldigi. BPSK31 is commonly referred to as PSK31, and is the most common freehand mode used on HF.

Where is PSK found?

160 METERS	1.838-1.840 MHz	17 METERS	18.100 MHz
80 METERS	3.580 MHz	15 METERS	21.070 MHz
40 METERS	7.035, 7.070 MHz	12 METERS	24.920 MHz
30 METERS	10.140 MHz	10 METERS	28.120 MHz
20 METERS	14.070 MHz		

Even if you don't have a General or Extra class license, you can still do HF digital on 10 Meters. With the right solar conditions, you can have worldwide contacts on 28.120 MHz

Macros:

To execute any macro, left click on it. If you want to edit the macro, right click on it.

- **CQ** This macro has the command to switch the radio into transmit, and transmit something like:
CQ CQ CQ de mycall mycall mycall
CQ CQ CQ de mycall mycall mycall pse K
it will then put the radio into receive, and listen for a response.
- **QSO** This macro will put the radio into transmit and send
Their call de mycall
- **INFO** This macro will normally send a signal report, your name, and your city/state/and grid.
- **KN** This macro is for ending a transmission. After you have sent all of your macros/freehand text that you want to, this macro will send:
Their call de my call kn
It will then put the radio back into receive.
- **BRAG** This macro will usually contain information about your radio, antenna, computer, when you got your license etc. That is why it is labeled BRAG. A good brag macro can get some interesting conversations started.
- **ANS** This macro is for when you are answering someone else's CQ. It will put your radio into transmit, and send:

Their call de my call my call my call kn

It will then put the radio back into receive.

- **73** The macro for ending a conversation will typically include QSL information, as well as a polite 73. After it sends the QSL information and the call signs, it will transmit SK, and put the radio back into receive. End of contact!

While macros do not need to take over a real ragchew, they do provide a framework for exchanging repetitive information. They eliminate a lot of extra typing!

Ready to give it a try?

- Look for someone calling CQ. The signal browser (see tips and tricks) is very helpful for this. When you find someone calling CQ, click on their call sign, then click on the **ANS** macro.
- If they answer you, then click on the **QSO** macro, then the **INFO** macro, and then the **KN** macro.
- After the other station sends you their info, you can click the macros **QSO**, **BRAG**, **KN**. Or, you can type freehand text. Or do both.
- After you have done your basic macro contact or ragchew, you can click the **73** macro to finish the contact.
- Either during the contact, or at the end you can fill in the log fields at the top of the screen. Make sure that the frequency counter is set for the frequency on your VFO, and then click the save contact button, and the clear log fields button.
- To export your log, click **LOGBOOK**, then **ADIF**, **EXPORT**. This will bring up a pop up window. Select the QSOs that you want to export. Click on what fields you want to export for those contacts, or click **CHECK ALL FIELDS**. Then click **OK**. This will bring up another window. Type in a filename, select a location to save it, and then click **SAVE**.

Tips and Tricks

In using Fldigi, as in any program, there are various things that I wish that I had known when starting to use it. There are many, but here are my top five:

- **What is that signal?** A helpful resource for finding out what you are seeing on the waterfall is: <http://www.w1hkj.com/FldigiHelp-3.21/Modes/> There are other resources online as well, for finding out what those weird sounds are.
- **What is RSID?** RSID stands for Reed Solomon ID. It is a signal that is transmitted at the beginning of each transmission, if you click on the option to. It enables other people on the frequency to be able to know what mode you are using, and where you are transmitting. If you enable the receiver option, you will have a box pop up when you receive a signal that has the RSID as part of its transmission, and the box will ask you if you want to go to that frequency and mode. RSID is very useful when you are using a mode different than PSK, especially when calling CQ.

- **Signal browser:** The signal browser makes it very easy to find a CQ, or a certain callsign or prefix. It displays every conversation in the bandwidth of audio that comes from your radio. You can access it by going to the top of the screen, clicking on VIEW, and then clicking on VIEW/HIDE CHANNELS
- **PSKreporter:** PSKreporter.info/pskmap.html is a good resource. It enables you to not only see where there are openings on the HF bands worldwide, it also shows where your signal has been heard. It is a good tool for evaluating how good your station is performing.
- **Contest sequential numbers:** This will fill in the automatically generated sequential numbers when you are contesting. Go to CONFIGURE, click on the tab labeled CONTEST, go to SERIAL NUMBER, click RESET, and click OK. This will enable the counter, and restart it from 000.

Online resources:

- PSKreporter.info/pskmap.html
- ARRL.org
- <http://www.w1hkj.com/download.html>
- <http://www.w1hkj.com/FldigiHelp-3.21/Modes/>

Books:

- *Get on the Air with HF Digital*, by Steve Ford WB8IMY
- *ARRL Operating Manual*