NEWSLETTER

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C.D.A.R.S.

FEBRUARY 2023

CHESHAM & DISTRICT AMATEUR RADIO SOCIETY MONTHLY NEWSLETTER

Welcome to the new edition of our monthly newsletter

We meet the 2nd and 4th Wednesdays of the month at the Ashley Green Village Hall, Ashley Green, HP5 3PP

QRM Eliminator Revisited

An improved version of the cheap Chinese offering.

After having sold the one I built, I found I was in need of some severe QRM removal, here's what I bought, and why.

N1MM LOGGER+

Want to get WSJT-X working with N1MM?

It's explained over 21 pages with pictures and instructions on how it's done...

New Members

Welcome, Marke Lane and Railton Frith, both studying for their Foundation Licence.

Congratulations

To Ant (M0UBT) and partner on the arrival of their son on the 21st of January (see A.O.B).

Interested in learning Morse?
Then look no further than page 2 for for a list of websites.

SPOTLIGHT
This month we look at Christchurch, New Zealand, courtesy Adam (M7SMI)

Want to write something for the newsletter? Then you can contact me on bryanpage1@btinternet.com

If you have anything for sale, why not drop me an email and I'll put it in the 'For sale' page.

Morse links

If you're interested in Morse code, here are a few useful links:

FISTS CW Club

Promoting Morse Code for 36 years 1987-2023

https://fists.co.uk

Wikihow

How to learn Morse Code

https://www.wikihow.com/Learn-Morse-Code

The Ham Whisperer

Morse Code Course

http://www.hamwhisperer.com/p/morse-code-course.html

LEARN MORSE CODE

LEARN MORSE CODE in one minute !

http://www.learnmorsecode.com/

Welcome to LCWO.net

Learn Morse Code (CW) Online!

https://lcwo.net/

Tools for learning Morse Code

https://www.aa9pw.com/morsecode/

Celebrating the unique art form of Morse Code

https://cwops.org/

Morse Code by Ray Burlingame-Goff (SK - 29th July 2021)

http://www.g4fon.net/

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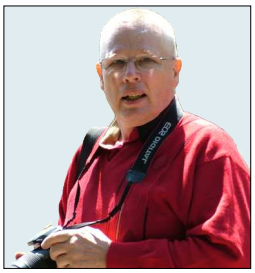


M0IHY

If things don't change, they stay the same, so I thought it was time to make the newsletter a little different, I hope you like the changes. I've borrowed some of the styling from Practical Wireless (yes, the front page looks like Practical Wireless!) and a little from RadCom.

Our club meeting of the 11th of January saw 2 new members joining in, Marke Lane and Railton Frith, both studying for the Foundation licence, welcome.

Congratulations to Marke Lane, he's passed his Foundation exam and has the callsign of M7EFR, he's waiting on a Watt meter and an A.T.U. before getting on air, hopefully it won't be too long.

With the weather conditions being totally 'non-seasonal', it's difficult to know what to set up as a project, do we stay indoors, or do we go outside?

I'm sorting out Morse code at my QTH and have been successful in erecting a 6m halo 9m a.g.l. on the back of the house, now it's a case of testing it.

The 'Editors Muse' is now incorporated into this 'Welcome' page, it makes more sense to do it that way rather than have it on separate pages.

You'll also notice Amateur Radio related pages that are not directly related to the club, it's just a pointer if you're interested in the subject, for example, if you want to know about Morse code training, page 2 is a good start, personally, I've just started using G4FON and although he is now a Silent Key, his software looks good, why not give it a try? If there's anything you'd like to see in the newsletter please let me know.

While the first meeting of the month is informal the object of this meeting was to get Roger (M7RMF) up to speed with N1MM+ using the FLDigi waterfall for the RTTY and PSK63 datamodes contest on the 15th of January, this was done with 2 transceivers about 6 feet apart, a dummy load on each and coupling between the dummy loads, a weird setup, but strangely, it worked, Heath Robinson, you have competition!!

Just to remind you all (for the benefit of Marke and Railton), we meet in person on the 2nd and 4th Wednesdays of the month and have a net on the 1st, 3rd and 5th (if there is one) Wednesday of the month at 20:00.

A quick explanation of what I use to create the newsletter, and more importantly why.

The operating system (OS) is Risc OS 5.29 (my favourite 'go-to' OS), the desktop publisher is Ovation Pro (it's also available for free for Windows), printer driver is Postscript 3 and finally the PDF is created by !PrintPDF.

The OS is nothing like Windows, not as accomplished as Windows but is very user friendly.

Using Risc OS to create a PDF file generates a much smaller file than the Windows equivalent, which makes it ideal for emailing out.

Bryan M0IHY

Chairmans Ramble

Dave (G8FMC) is the new chairman, however, to lead him into the role Malcolm (G3ZNU) is writing this months ramble.

G3ZNU

At our AGM this year we elected a new Chairman – thanks to Dave G8FMC for taking on this role, I know the expanded committee will continue to work as a team to support you.

The first task for the new committee is to set a programme of meetings for the coming year – or as much of it as we can manage in one go. We want to have one full meeting a month, either a formal talk or a workshop, of interest to many members. There are so many aspects of the hobby and it would be great to organise meetings with as wide an appeal as we can. So do please have a think about what you'd like to learn more about and circulate those thoughts on the email group. And if you have a skill or knowledge that you think others would be interested in hearing about, let us know.

Looking forward this year we're planning to be active for the Mills on the Air weekend (13 / 14 May), VHF Field Day (1 / 2 July) and SSB Field Day (2 / 3 September). We're also hoping to be active for the Ashley Green Village Fair (3 June) after dipping our toe in the water last year. One of our members has also offered his QTH to hold a "Day in a Field" – an opportunity to experiment with antennas with no pressure from an impending contest! So plenty to get involved with, let's hope for a good year.

Malcolm G3ZNU

Ed: Thanks for stepping in Malcolm, it gives Dave a whole month to get something together for the next edition of the newsletter.

QRM Eliminator revisited

Having successfully built one of the Chinese QRM Eliminators I sold it to Chris (M0IEA), little did I know that I'd need another one!

After discovering the QRM from my neighbours LED fish tank lights and building a filter to remove the QRM, I noted 160m was virtually clean after applying the filter, 80m was a little better, although I still have S9 noise, but worst hit are 40m and 20m for which the filter really doesn't do much, if anything at all, with a QRM Eliminator I am able to reduce the noise a 'little', which is better than nothing, time to look at what's available...

Checking the Internet out I found a unit sold by Brian Price (GW4DVB), its price was £60 Inc P&P and it was posted 'same day', payment was via PayPal (Friends and Family). The price of £60 Inc P&P is by far cheaper than most on eBay, it comes with a small telescopic antenna, power lead, PTT phono lead, instruction manual, and adaptors (I received 2 packs of 3 PL259 to SMA connectors), I also received 2 QSO cards.

Although most modern rigs have a dedicated PTT (RCA - phono) socket on the back, depending on the transceiver you are connecting to you may require a bespoke PTT lead. For rigs without a dedicated PTT socket on the back, these are available for around £15 from eBay, this I purchased with a phono on one end and the appropriate plug for my rig on the other (check which lead you need for your rig).

Brian ends up by saying "The units that I sell are UK stock - so no long delivery delays or extra customs to pay", something that I took into account.

You also get an A4 sheet with instructions on how to get the best out of your QRM Eliminator, all professionally printed. It was packed extremely well.

After having had poor results with Chinese purchases in general I found it refreshing to purchase a unit that worked out of the box, it had been assembled and tested, and if anything was wrong I could contact the UK seller. Does it work? ***Yes***, it does.

If you're interested, go to his website at: https://www.g4dvb.co.uk/x-phase

QRM Eliminator X-Phase - New II

Bryan M0IHY

Operating WW Digi with N1MM+

Credit: Don Hill, AA5AU

(NOTE: this tutorial can also be used for the FT Roundup and ARRL RTTY Roundup by selecting ARRLRTTY as the "Log Type" in Step 2. The rules for the FT Roundup are basically the same as the ARRL RTTY Roundup. In WSJT-X, you will need to setup the contest mode as shown here.)

- Resources
- Requirements
- Things to Know Before You Start
- Configuring N1MM+
- Starting "WSJT-X – ForEW1" For The First Time
- Setting Up "WSJT-X – ForEW1" From Scratch
- Copy Settings from Everyday WSJT-X
- Putting "WSJT-X – ForEW1" in Contest Mode

Resources

Official instructions for using the WSJT Decode List with N1MM+ (read that document before following the instructions here) are located at https://n1mmwp.hamdocs.com/manual-windows/wsjt-x-decode-list-window/. In addition, more information can be found in the file "N1MMWSJTInstructions.pdf"located on the Additional Support Files page at https://n1mmwp.hamdocs.com/downloads/additional-support-files/#elf_l1_Lw. (N1MMWSJTInstructions.pdf was written for an earlier version of N1MM+ but still gives valuable information.)

Requirements

You should have the latest versions of N1MM+ and WSJT-X installed on your PC.

You must have a radio connected and configured in N1MM+.

You must know the path to the location of WSJT-X on your hard drive.

Some basic knowledge of N1MM+ and WSJT-X is necessary. You should be able to use both programs independently before trying to link them together.

Things to Know Before You Start

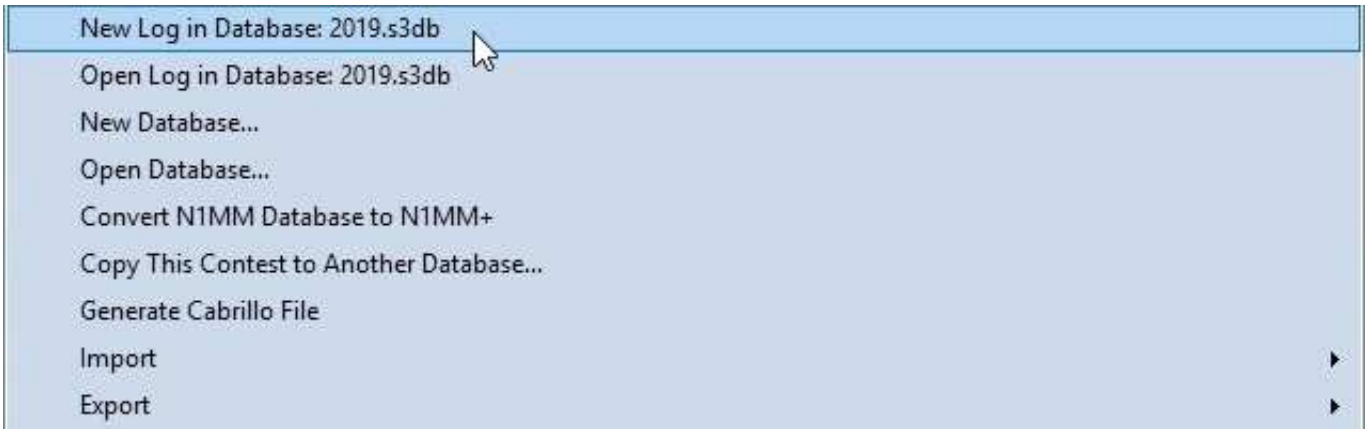
Know that when you interface N1MM+ to WSJT-X, a new instance of WSJT-X is created that is completely separate from your working "everyday" copy.

This new instance of WSJT-X is called "WSJT-X – ForEW1" and comes with all settings defaulted. To save the pain of re-configuring the new instance of WSJT-X, it's possible to copy all the settings of your "working instance" to the new instance. Instructions on how to do that are included in the Copy Settings from Everyday WSJT-X section.

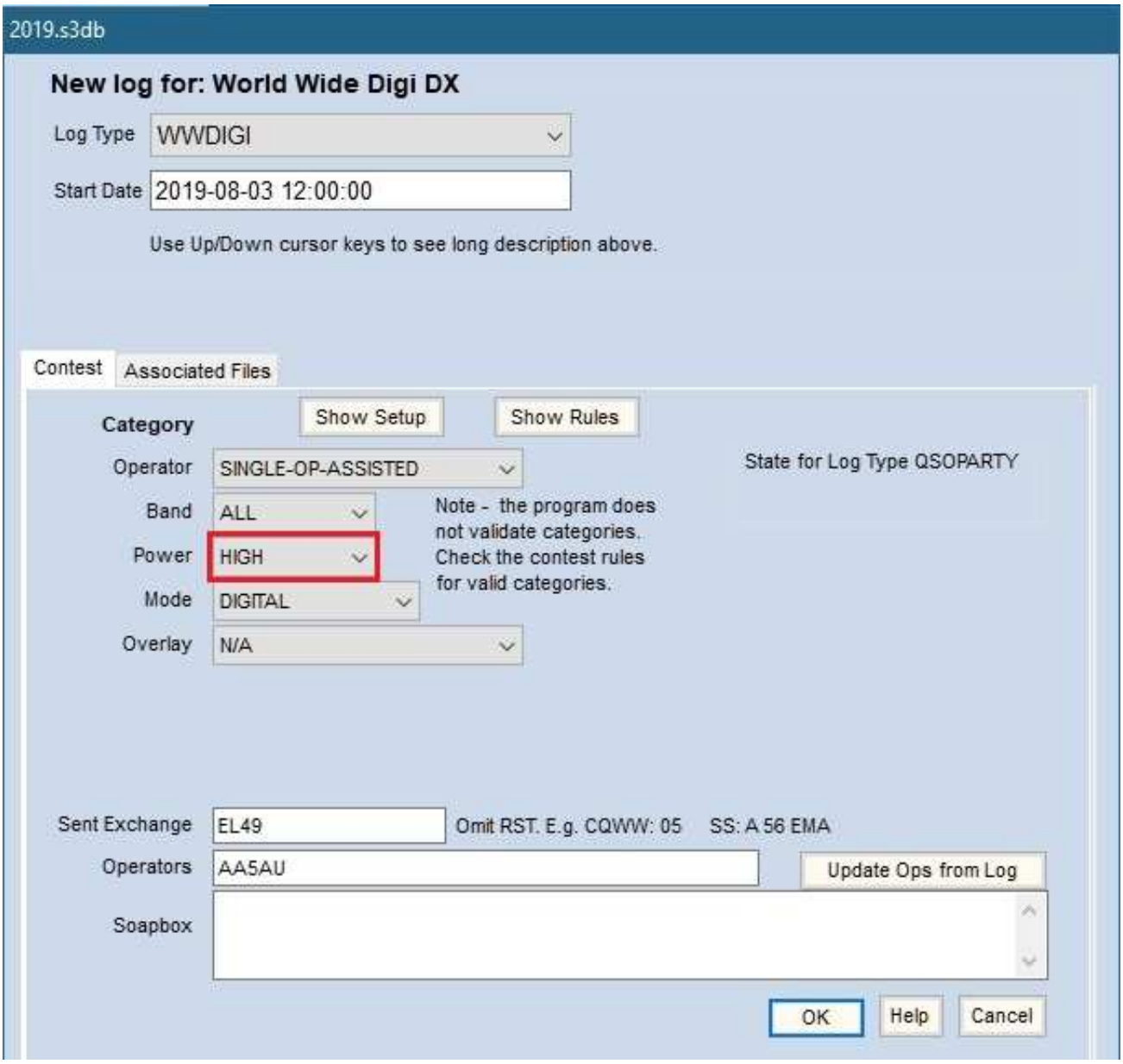
"WSJT-X – ForEW1" uses the setting "DXLab Suite Commander" to interface Radio Control from N1MM+. This is only a setting and Commander DOES NOT need to be installed on your PC. If you normally use Commander for WSJT-X, the Commander program should not be running when using "WSJT-X – ForEW1" and N1MM+ together.

Configuring N1MM+

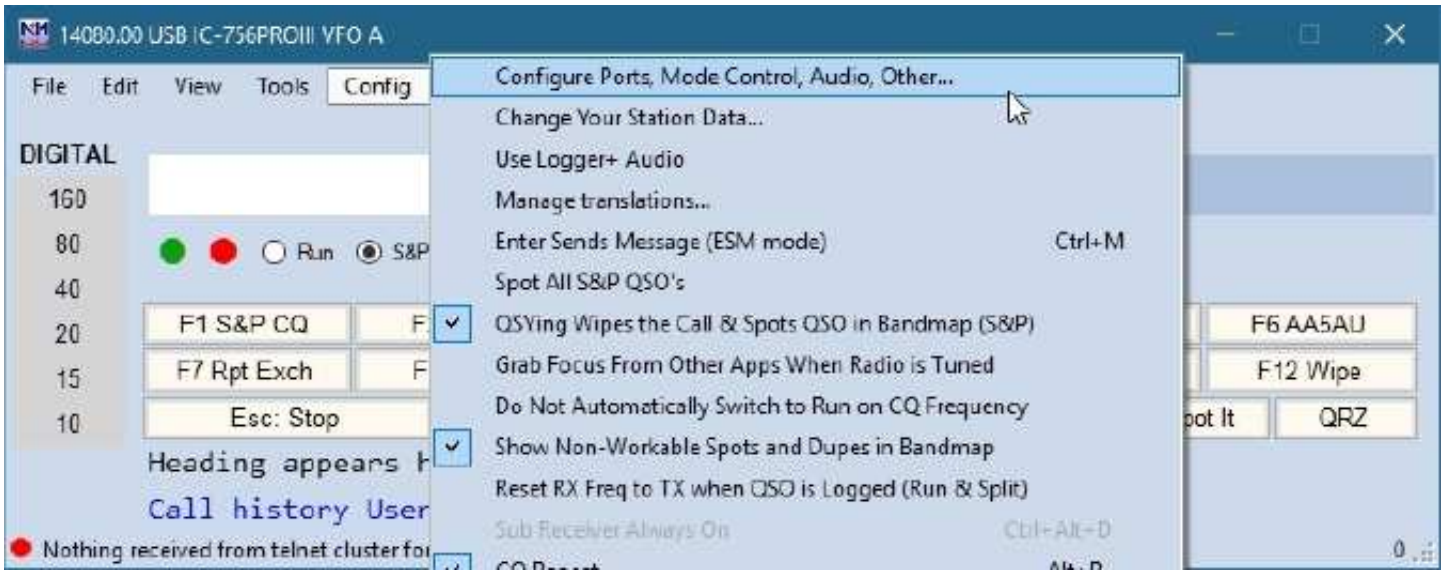
1. Start N1MM+. From the File menu, select “New Log in Database:”



2. Select WWDIGI as the Log Type. Fill in the all the other information. You can leave the Start Date as is. Remember that N1MM+ defaults Power to HIGH. If you are entering the contest as Low Power or QRP, be sure to change it. When finished, click OK.

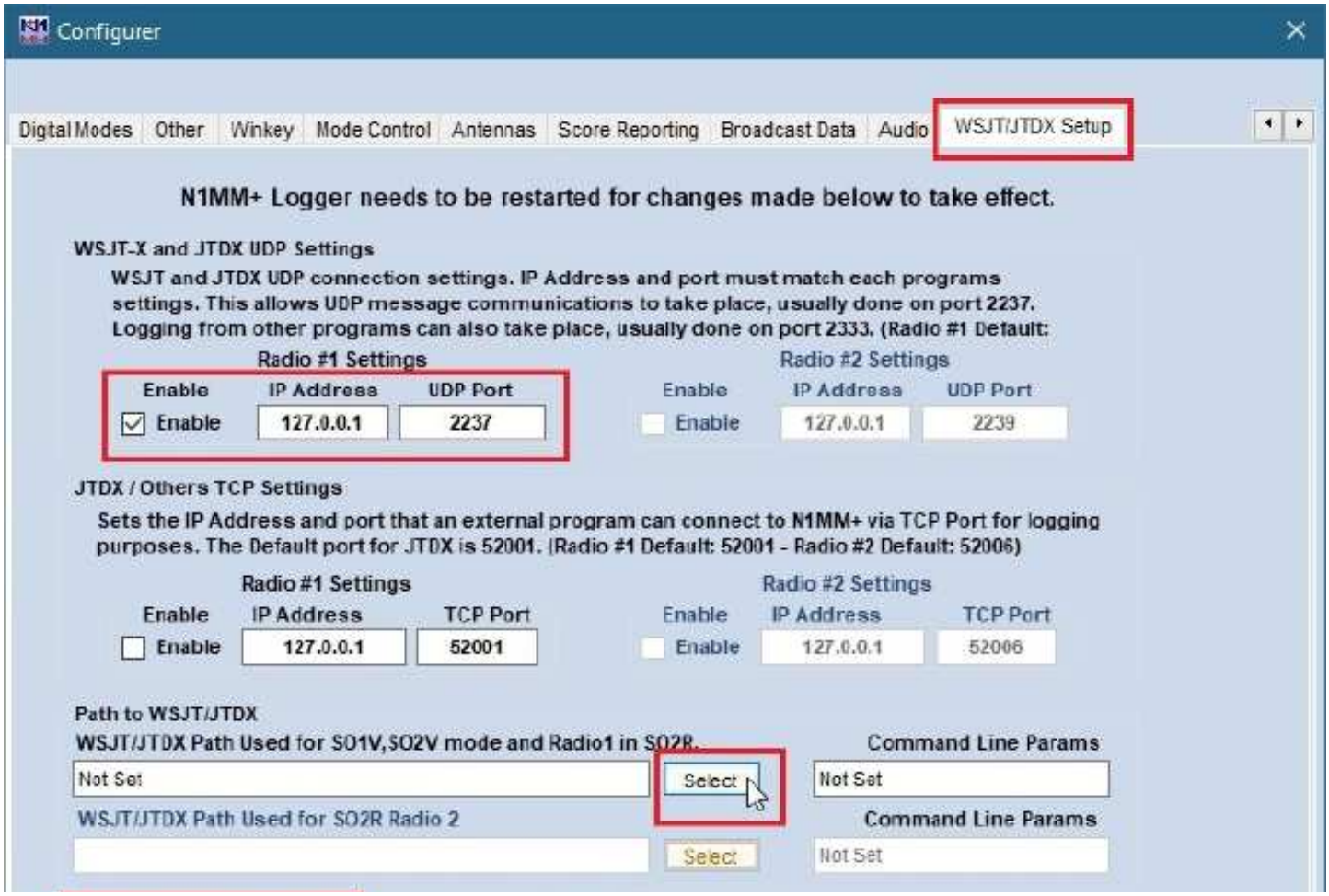


3. From the Config menu, select “Configure Ports, Mode Control, Audio, Other…” (This is also referred to as the Configurer.

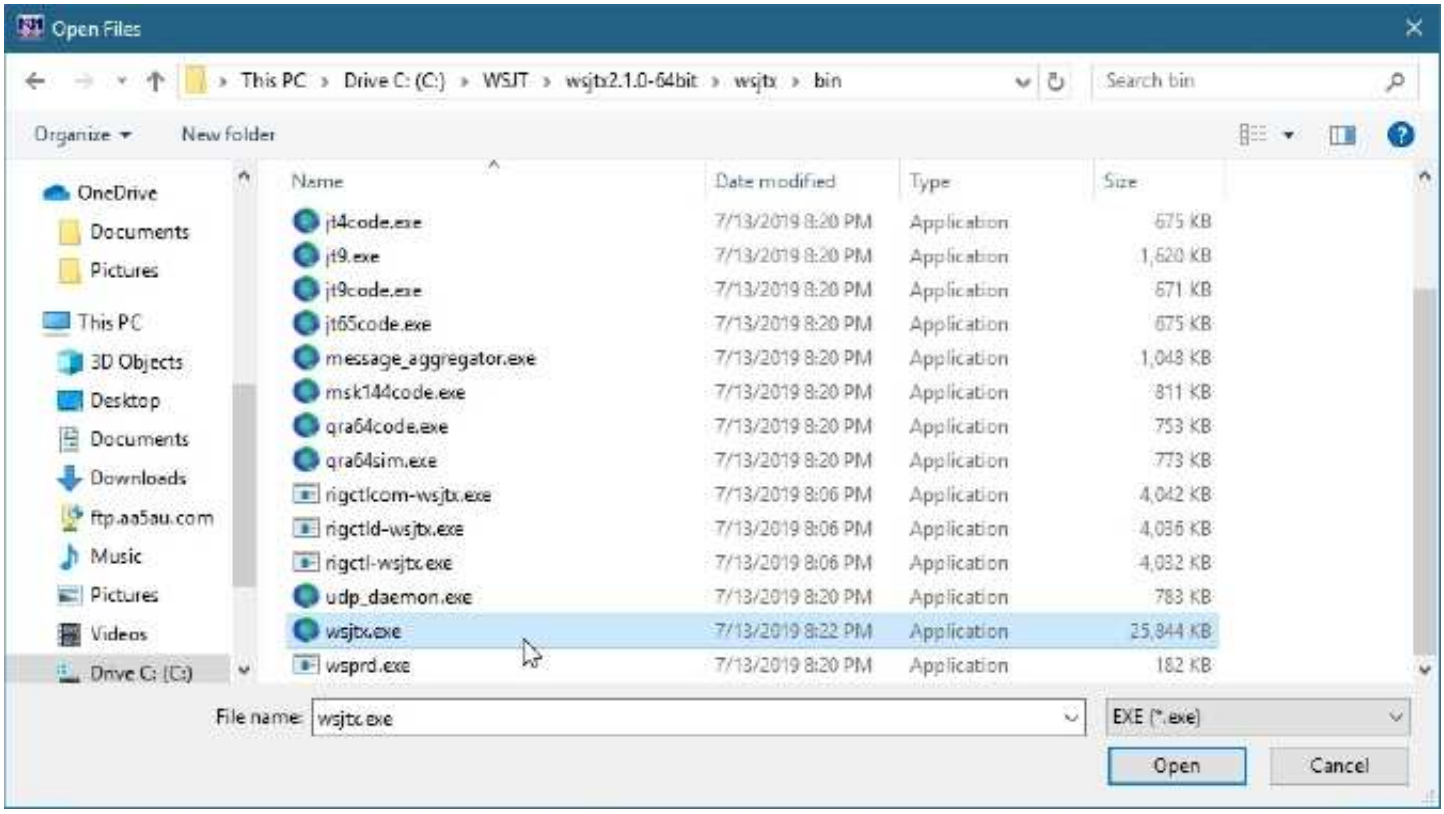


4. Go to the WSJT/JTDX Setup tab screen of Configurer and enable “Radio #1 Settings” with the IP Address 127.0.0.1 and UDP port 2237 as shown. Also enable “Auto Load the WSJT Decode List window when WSJT-X/JTDX Loads”. In the “Path to WSJT/JTDX”, click on the Select button to navigate to the location of WSJT-X (wsjtx.exe).

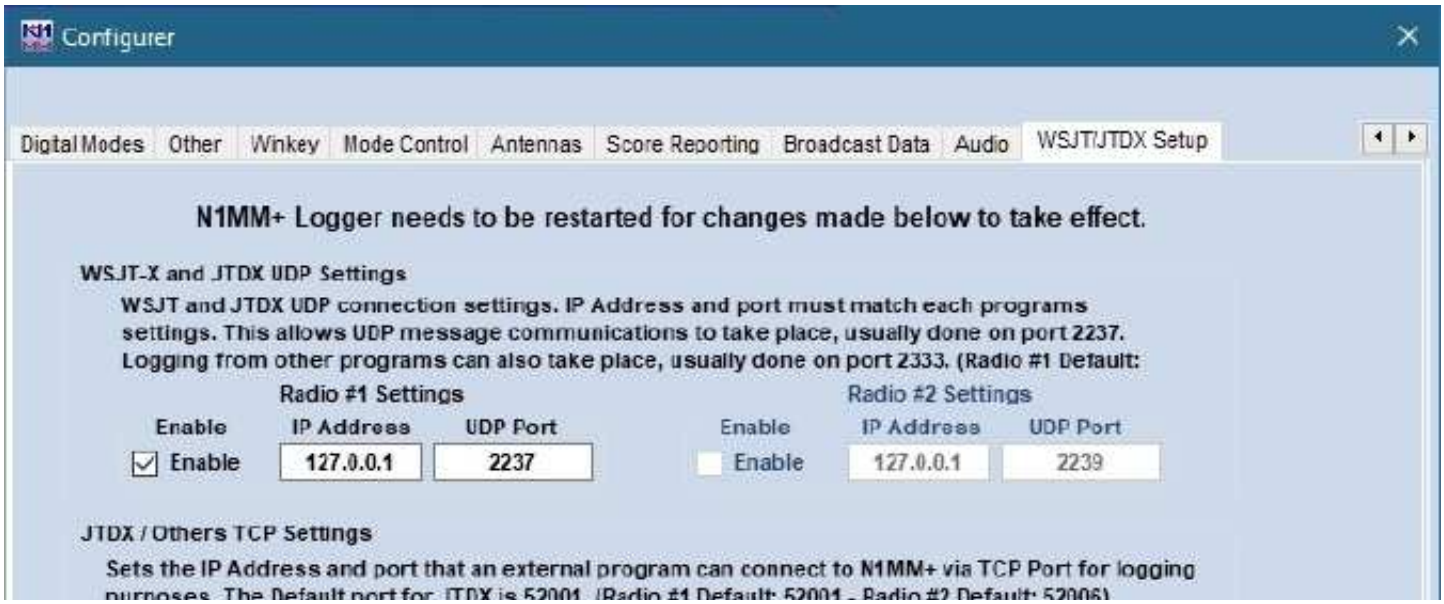
   The default location for the WSJT-X program is C:\WSJT\wsjtx\bin\. However, since WSJT-X can be installed anywhere, <u>you must navigate to the folder where you installed it</u>.

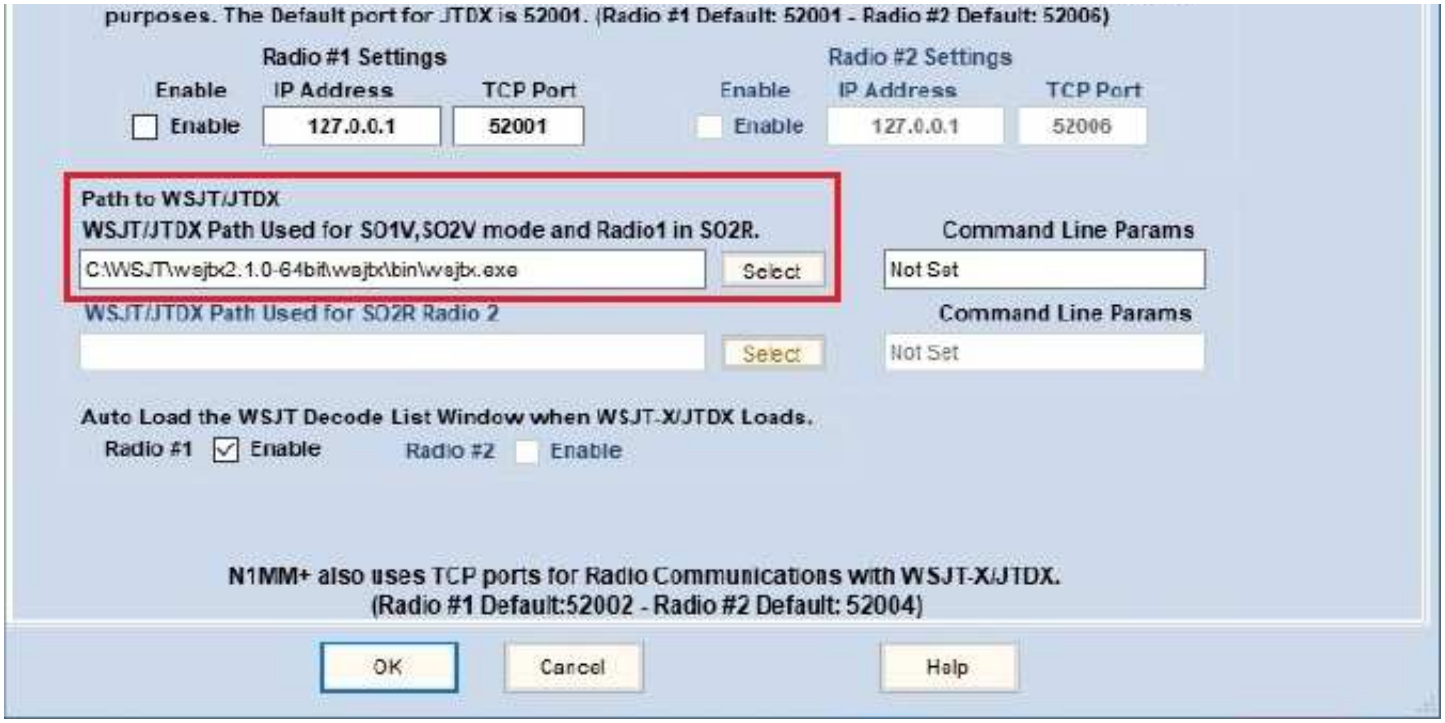


When you have navigated to the correct location of wsjtx.exe, select it and click Open or simply double-click wsjtx.exe to populate the path in WSJT/JTDX Setup. (NOTE: In the example given, WSJT-X is NOT installed in the default location.)



5. The path to wsjtx.exe is now populated. At this point, close N1MM+ and restart it for changes to take effect. Once N1MM+ is restarted, go back to the Configurer.





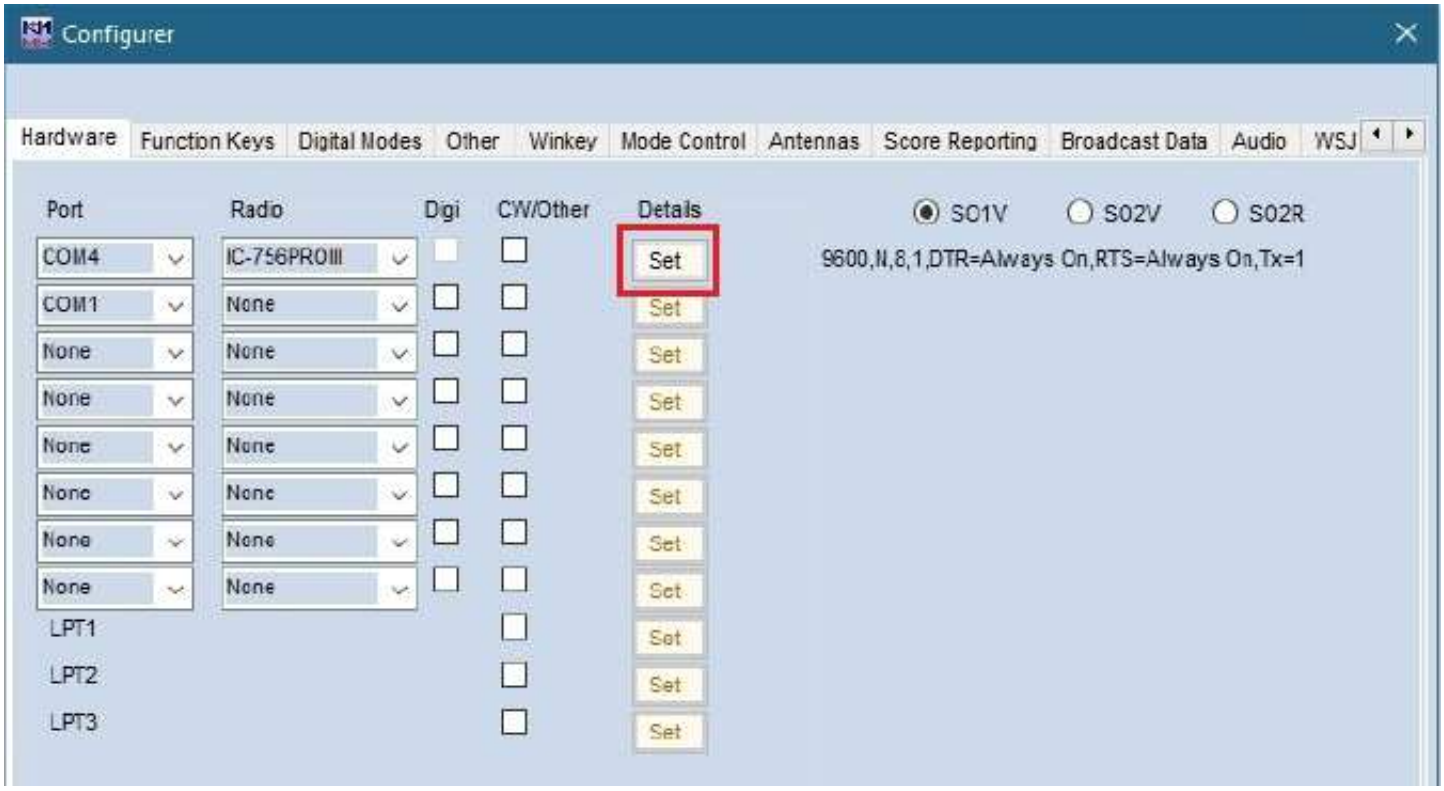
6. Go to the Mode Control tab screen of the Configurer and select what mode will be sent to the radio when using digital modes other than RTTY. In our example, the radio mode for FT4 & FT8 is USB (upper sideband). In N1MM+ the setting is labeled “PSK”. NOTE:For some radios, such as the Icom IC-7300, that use USB-D, the setting in the Mode Control screen for PSK will be “AFSK-R”. There is a chart here that shows modes for some of the popular radios and what mode the N1MM+ Logger will set the radio to when using the PSK.

   If you are going to use Radio Command for PTT (this is the easiest method), then all you have to do is enable PTT via Radio Command in N1MM+. If you are going to use a COM port connected to a hardware

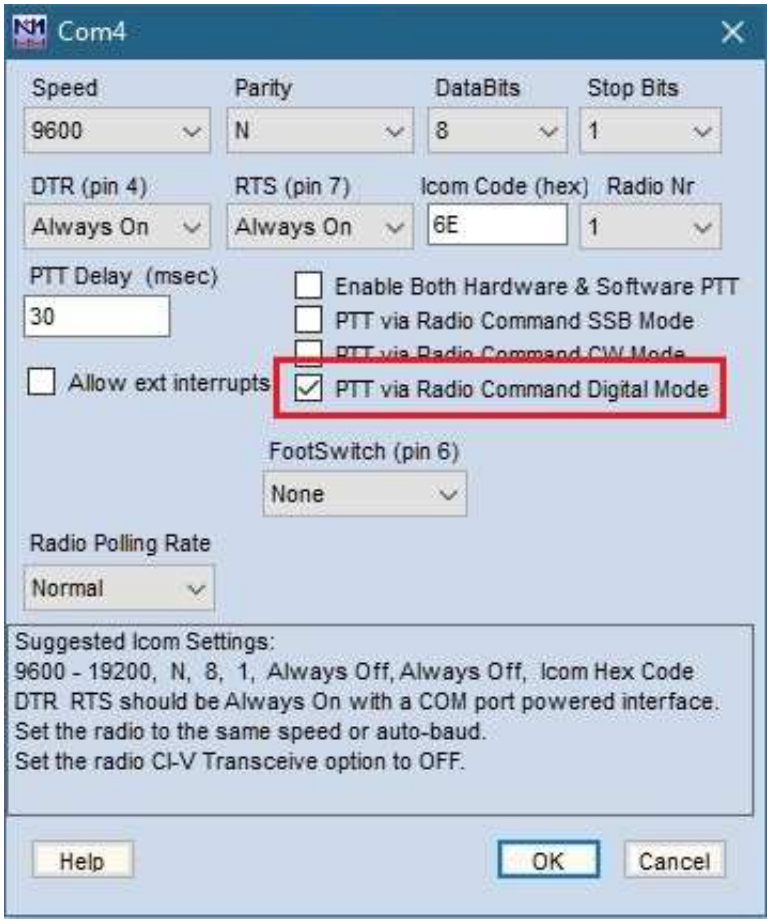
   device, such as a homebrew transistor keying circuit or a commercial interface, then you cannot set that up in N1MM+ because if you do, the “Tune” button on the front panel of “WSJT-X – ForEW1” will not work. Therefore, when using hardware PTT, it must be configured in “WSJT-X – ForEW1”. This will be done in a later step. Here are instructions for using Radio Control (CAT) for PTT.

7. Using Radio Control (CAT) for PTT – If you are using Radio Control (CAT) for PTT, you will need to check it

under the COM port for your Radio. To do this, go to the Hardware tab screen of Configurer and click on Set to view the settings for your radio.

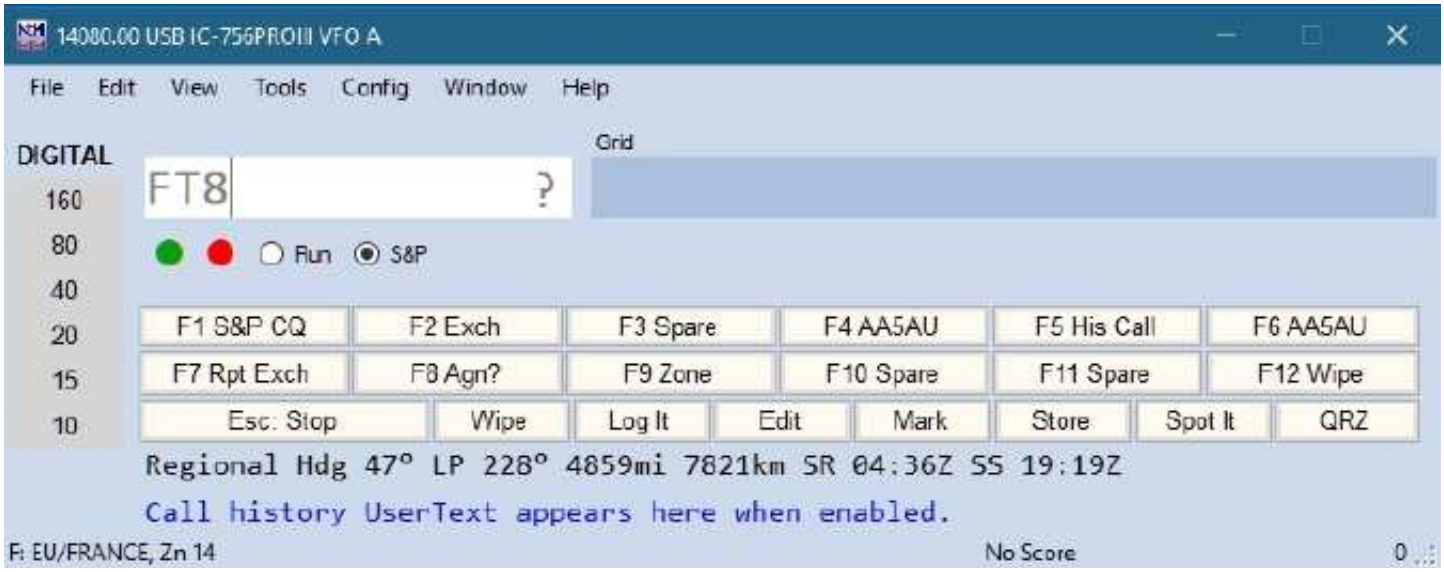


When the COM window opens, be sure “PTT via Radio Command Digital Mode” is enabled. Click OK, then OK again to close the Configurer. (NOTE: If you are going to use hardware PTT, then “PTT via Radio Command Digital Mode” should be disabled.)

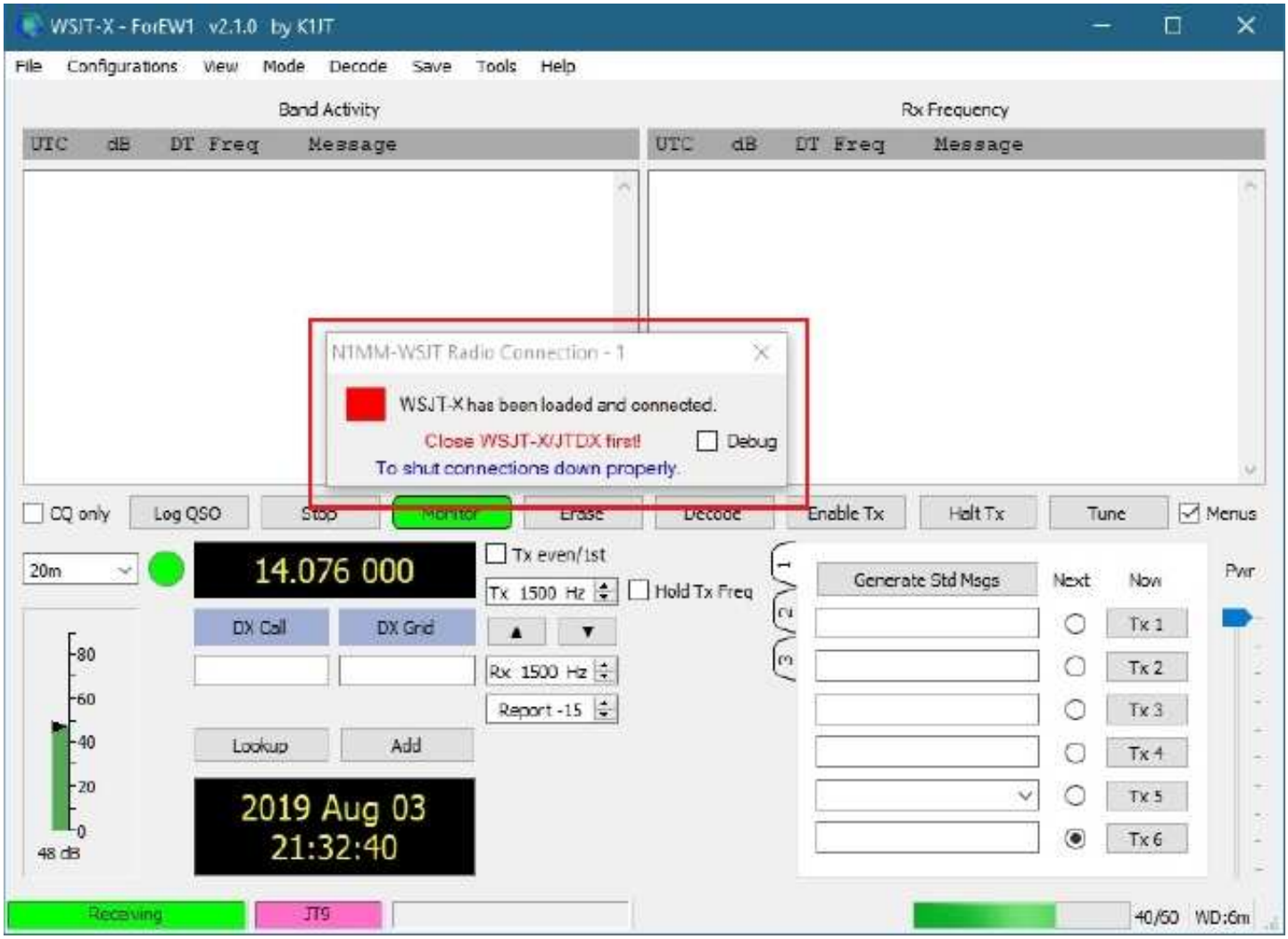


Starting WSJT-X – ForEW1 For The First Time

1. It is now time to enable WSJT-X from N1MM+ for the first time. Type either FT4 or FT8 into the N1MM+ entry window as shown below and hit Enter.



2. "WSJT-X – ForEW1" will start and it will look like the screenshot below. (If some of the N1MM windows cover up the "WSJT-X – ForEW1" window, move them away.)



Notice the "N1MM-WSJT Radio Connection – 1" window in the middle of the screen. The red square means there is no radio connection. This is normal because all "WSJT-X – ForEW1 settings" are defaulted and

there is no radio connection yet. Once a radio connection is established, the red will turn to green.

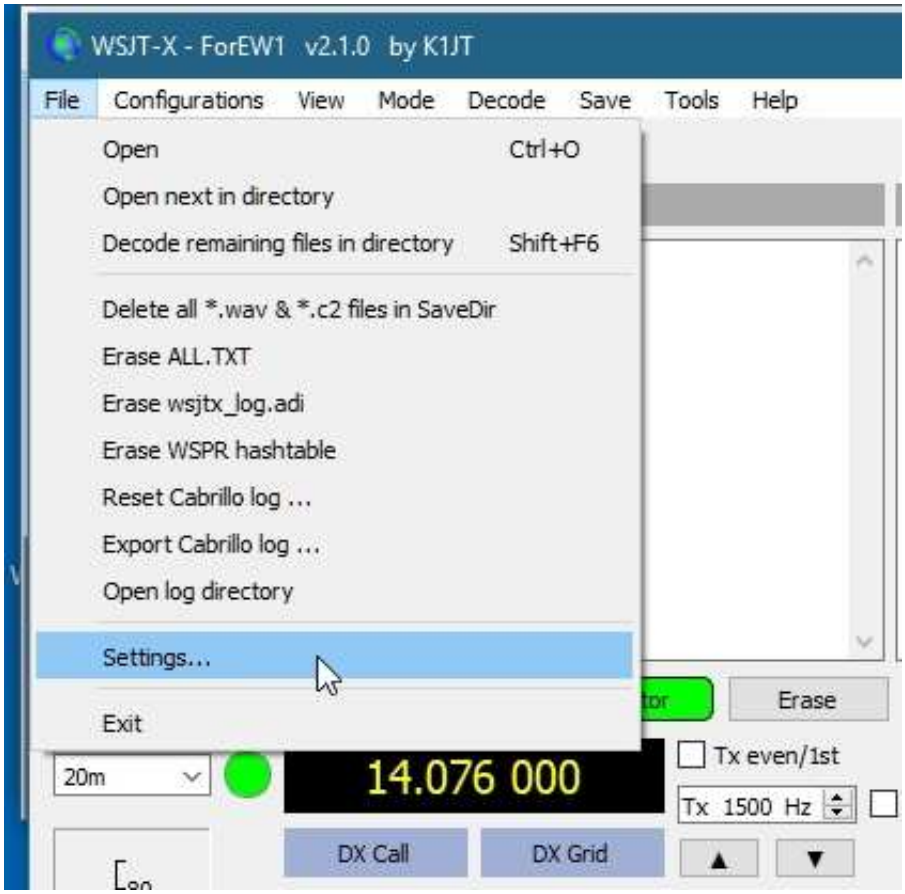
Now you have a choice to make. You can either set up this new “WSJT-X – ForEW1” from scratch with basic setting changes to get it to work or you can copy your settings from your “everyday” working copy of WSJT-X. I decided to set up the basic settings needed to allow WSJT-X to work with N1MM+ first and import my “everyday” settings later. The basic settings that are required in “WSJT-X – ForEW1” are the following:

Settings > General tab screen > **Station Details** (My Call and My Grid)
Settings > Reporting tab screen > **UDP Server** (Enable “Accept UDP requests”)
Settings > Audio tab screen > **Soundcard** (Input & Output)
Settings > Radio tab screen > **Rig, PTT Method & Mode**

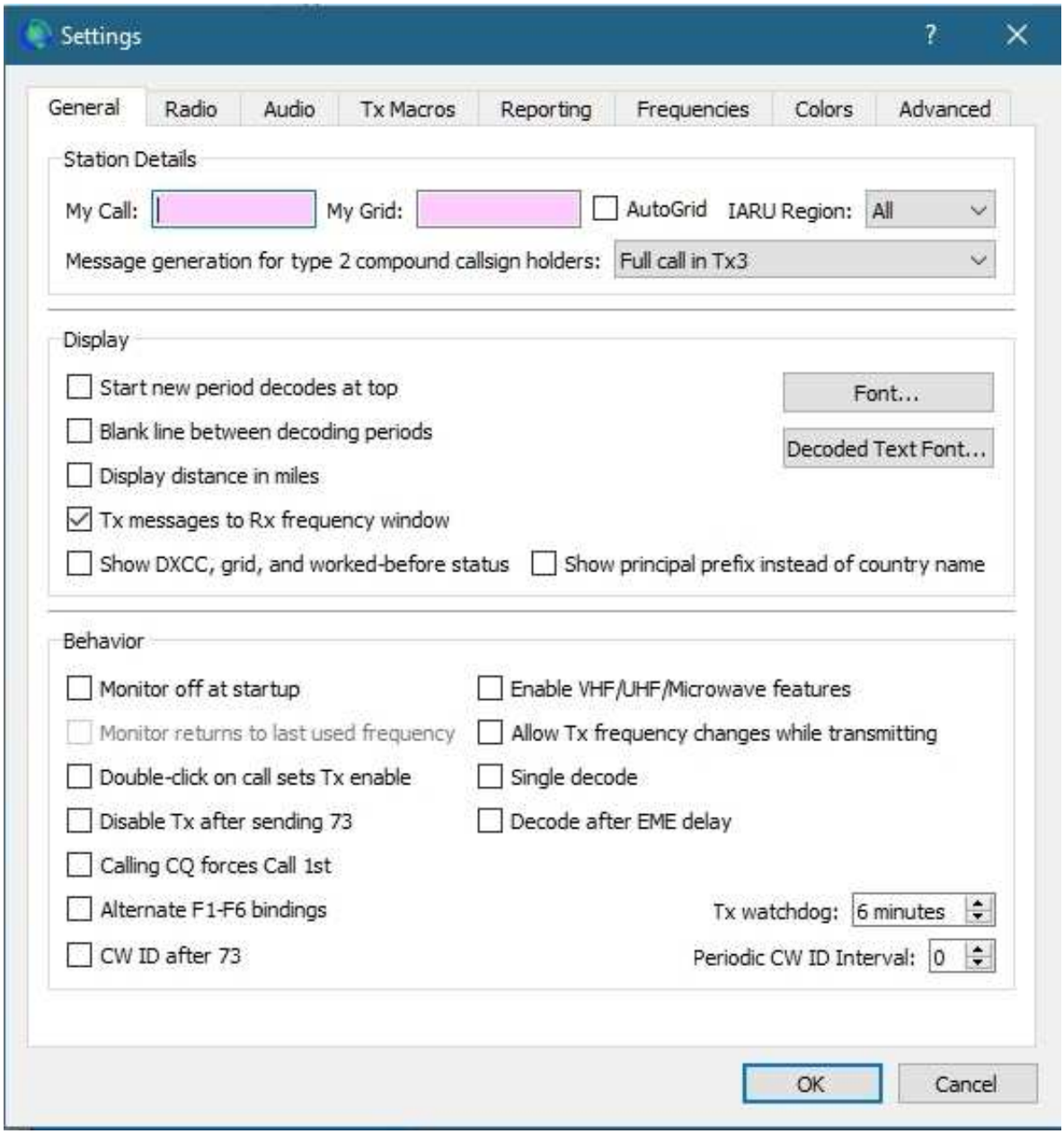
If you prefer to import settings from your every day copy of WSJT-X, go to **Copy Settings from Everyday WSJT-X**. If you want to set up “WSJT-X – ForEW1” from Scratch, continue below.

Setting Up “WSJT-X – ForEW1” From Scratch

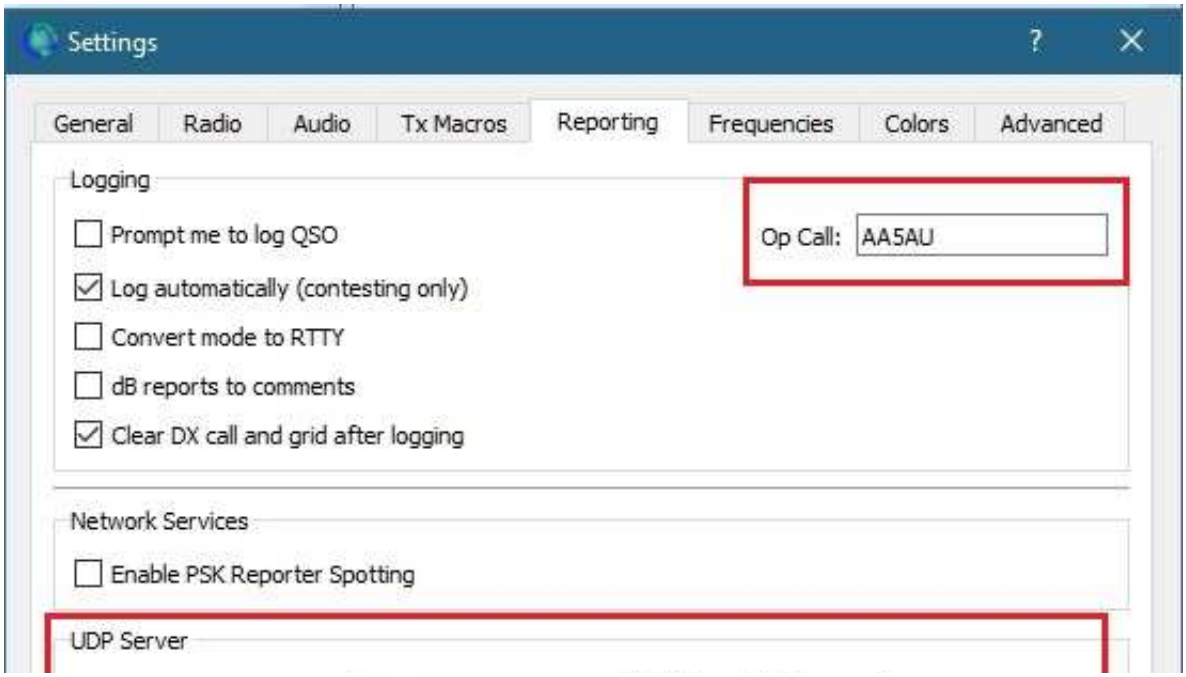
1. With “WSJT-X – ForEW1” opened from within N1MM+, go to Settings from the File menu.

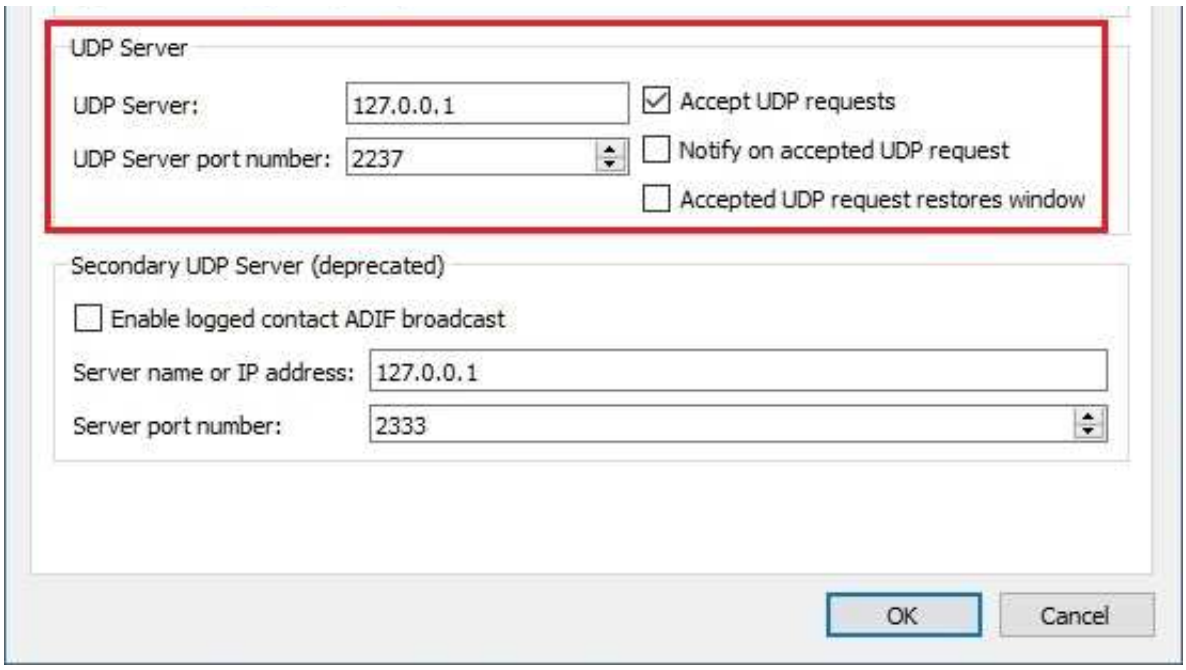


2. Station Details– Go to the General tab screen of Settings. Enter your Call and Grid. Also check “Double-click on call sets TX enable”.

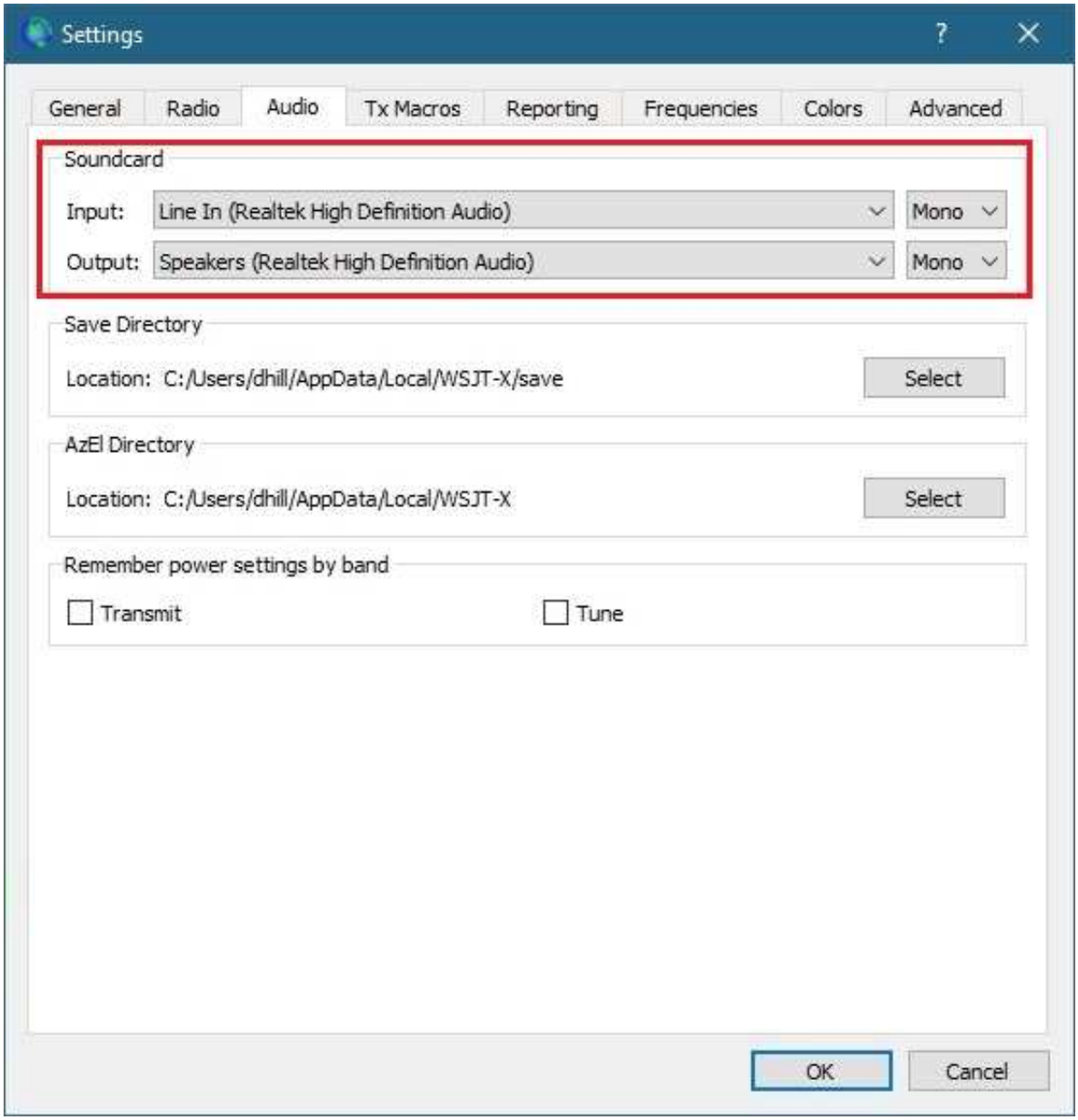


3. UDP Server– Go to the Reporting tab screen, enter your callsign in the Op Call box and check “Accept UDP requests” in the UDP Server section.

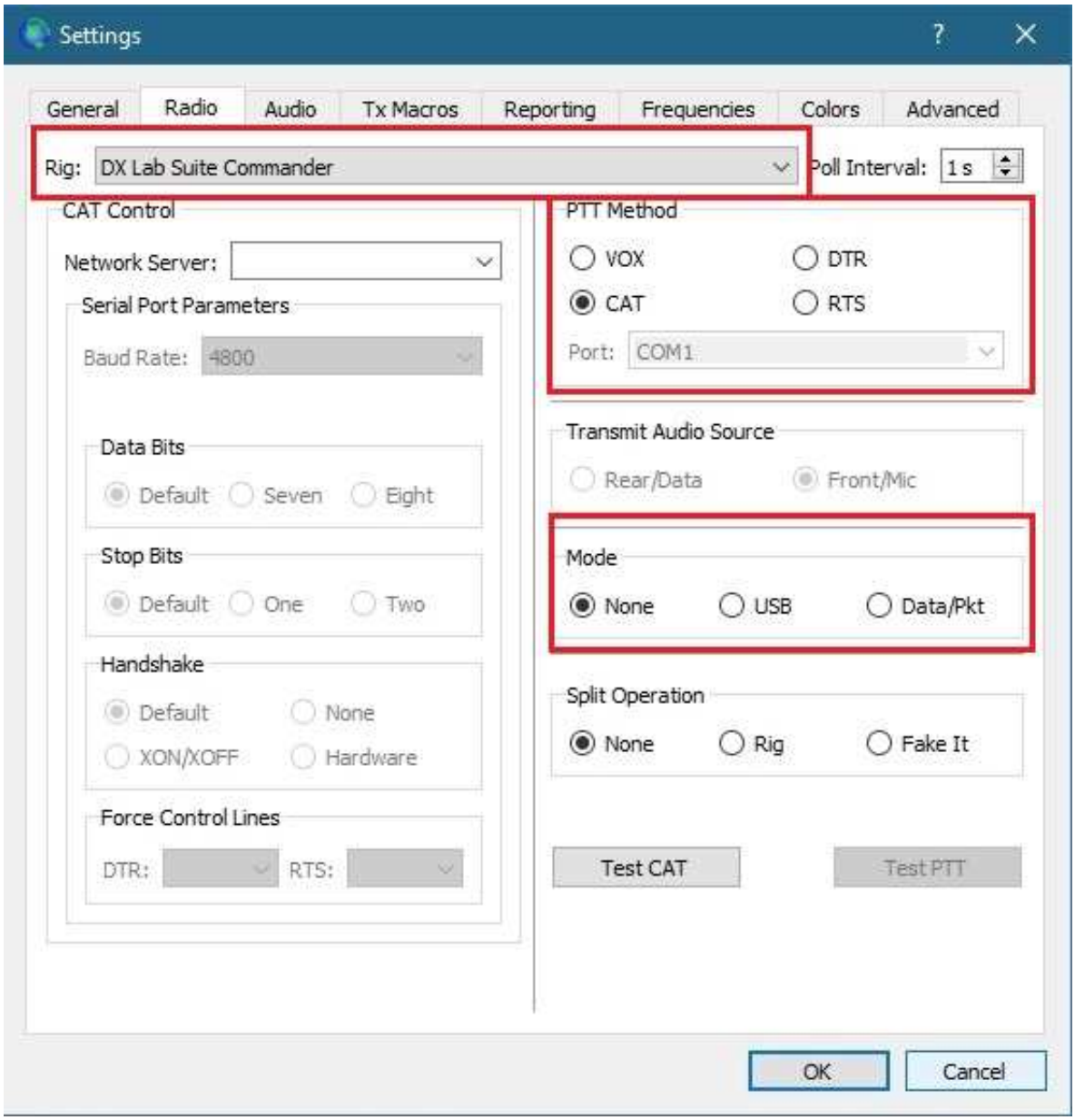




4. Soundcard– Go to the Audio tab screen. Use the pull-down menus in the Soundcard section to select Input and Output devices



5. Rig, PTT Method & Mode– Go to the Radio tab screen. Use the Rig: pull-down menu to select “DX Lab Suite Commander”. (Remember, you are not actually using Commander and should not have Commander running – this is only a setting to allow WSJT-X to use the radio control you have set up working in N1MM+.)



6. Next, select your “PTT Method”. The “PTT Method” requires some thought. The easiest method is to use CAT (radio control), however, other options will work. For example, if you use a separate device for PTT such as a simple transistor interface on its own COM port, you can use DTR or RTS and select the Port. VOX is an option you can try but I could not get it to work. If you try VOX, be sure your radio VOX is turned on.

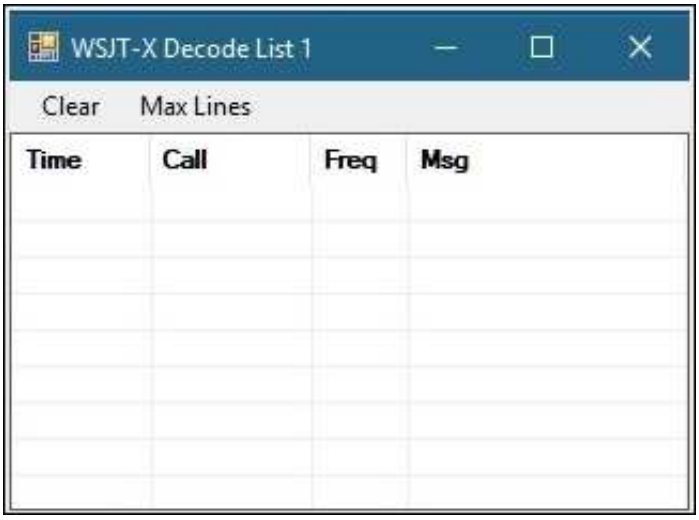
   REMEMBER! If you use CAT as the PTT method, you must have N1MM+ configured for “PTT via Radio Command Digital Mode” (Screenshot 9). And if you use COM port DTR or RTS, then “PTT via Radio Command Digital Mode” in N1MM+ needs to be disabled.
   NOTE: While testing the various PTT Methods available, I found that any time a change is made, the box in the N1MM-WSJT Radio Connection window turned red. In order for changes to take effect, and to restore the radio connection, I had to restart “WSJT-X – ForEW1”.

7. Set the Mode to “None”, “USB” or “Data/Pkt”. With my radio set to USB (upper sideband), the “None” setting worked for me. If your radio needs to be in USB-D, try the “Data/Pkt” setting.

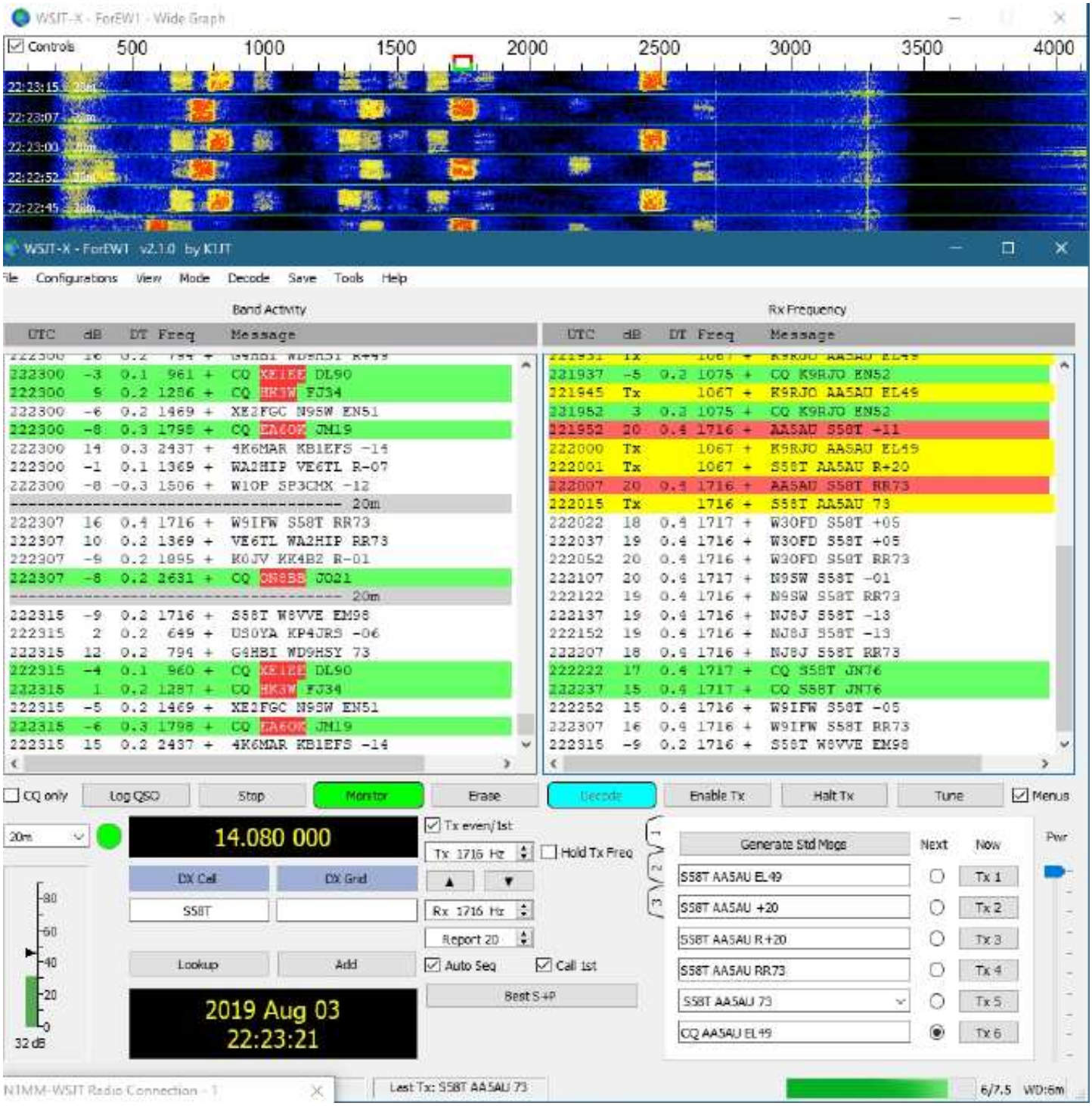
   When finished with the Radio tab screen settings, click OK to close Settings. You can test the PTT function by pressing the Tune button on the “WSJT-X – ForEW1” front panel as shown below. If your radio keys when you press “Tune”, your PTT settings are working.

   You have now configured “WSJT-X – ForEW1” with enough information to work with N1MM+. The Radio Connection should now display a green light to show the radio connection is working. If the Radio Connection is not green, try closing “WSJT-X – forEW1” and restarting before troubleshooting the radio connection.

8. Locate the Decode List on your desktop. If you have not seen the Decode List yet, it’s because “WSJT-X – ForEW1” starts on top of it and covers it up. The Decode List is a function of N1MM+ so if you click inside the N1MM+ entry window, the WSJT Decode List becomes visible. Drag the Decode List away from the “WSJT-X – ForEW1” windows so it is visible at all times.



9. Set “WSJT-X – ForEW1” to either FT8 or FT4 and either 14074 kHz (for FT8) or 14080 (for FT4) and watch “WSJT-X – ForEW1” start to decode stations. As the stations decode in WSJT-X, CQ stations will show in the Decode List (Screenshot 22 - 1st picture page 18).



WSJT-X Decode List 1

Clear Max Lines

Time	Call	Freq	Msg
22:18:30	K9WZB	1793	CQ K9WZB DM24
22:18:37	W6SA	2214	CQ W6SA DM26
22:20:22	KE8M	354	CQ KE8M EN81
22:20:30	SP3CMX	1507	CQ SP3CMX JO72
22:20:45	KB1EFS	2437	CQ KB1EFS FN42
22:21:22	W1OP	564	CQ W1OP FN41
22:21:37	W6ZO	1103	CQ W6ZO CM98
22:21:52	K9RJO	574	CQ K9RJO EN52
22:22:07	WA2HIP	1014	CQ WA2HIP FN54
22:22:15	KP4JRS	649	CQ KP4JRS FK68
22:22:15	YV4BCD	2215	CQ YV4BCD FK60

22:22:22	XE2FGC	1470	CQ XE2FGC DL92
22:22:30	WD4GBW	1937	CQ WD4GBW FM17
22:22:30	KE0EMB	804	CQ KE0EMB EN25
22:22:37	S58T	1717	CQ S58T JN76
22:22:37	G4HBI	794	CQ G4HBI IO83
22:22:37	ON8BB	2632	CQ ON8BB JO21
22:22:45	XE1EE	961	CQ XE1EE DL90
22:22:45	HK3W	1286	CQ HK3W FJ34
22:22:45	HA6NN	1625	CQ NA HA6NN JN98
22:22:45	EA6OK	1797	CQ EA6OK JM19

Notice I was able to work S58T. On subsequent time periods after our QSO, S58T shows in Gray since he is a dupe.

Copy Settings from Everyday WSJT-X

Copying settings from your everyday WSJT-X instance to “WSJT-X – ForEW1” is a fast and simple way to make your “WSJT-X – ForEW1” look and feel like what you are used to.

Whether you set up “WSJT-X – ForEW1” from scratch first or not, you still need to check the four basic settings after the settings are copied to make sure they are correct. Remember, the four basic settings in “WSJT-X – ForEW1” are:

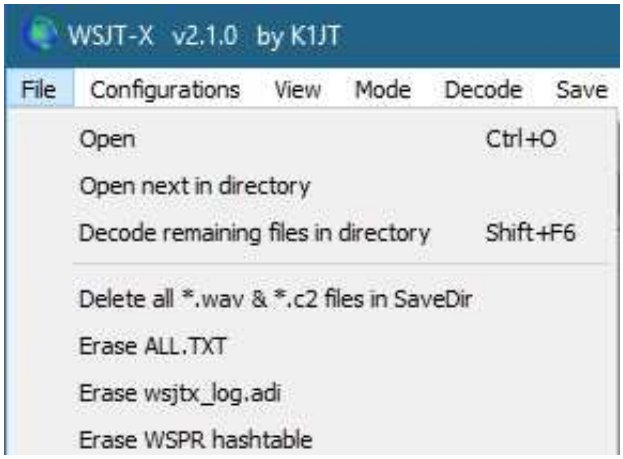
Settings > General tab screen > **Station Details** (My Call and My Grid)
Settings > Reporting tab screen > **UDP Server** (Enable “Accept UDP requests”)
Settings > Audio tab screen > **Soundcard** (Input & Output)
Settings > Radio tab screen > **Rig, PTT Method & Mode**

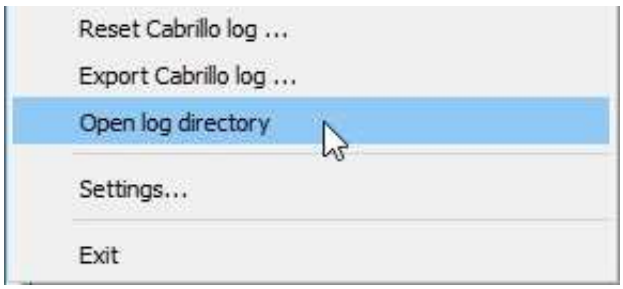
If you set up “WSJT-X – ForEW1” from scratch first, then go in and check these settings and write them down before copying over because they could change.

Settings for WSJT-X are stored in a file named WSJT-X.ini located in a folder named C:\Users\Username\AppData\Local\WSJT (Username is the name of the User Account you are logged into on your PC). Settings for “WSJT-X – ForEW1” are in a file named **WSJT-X – ForEW1.ini** located in a folder named C:\Users\Username\AppData\Local\WSJT-X – ForEW1.

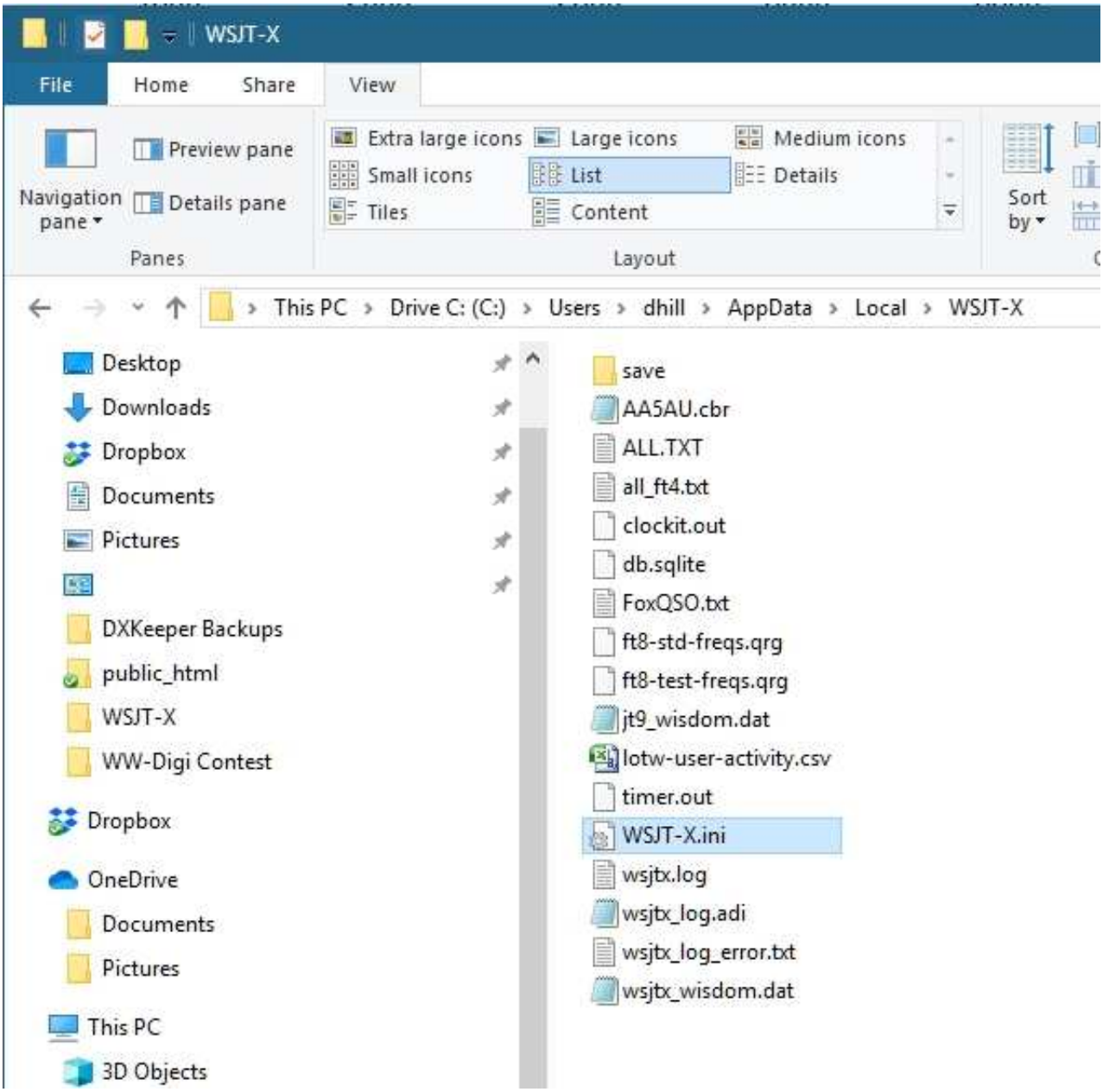
You are going to copy **WSJT-X.ini** from the WSJT-X folder to the “WSJT-X – ForEW1” folder. You will then rename **WSJT-X – ForEW1.ini** to something like **WSJT-X – ForEW1.old** and rename **WSJT-X.ini** to **WSJT-X – ForEW1.ini**.

The easiest way to access **WSJT-X.ini** is via the “Open log directory” entry under the File menu.

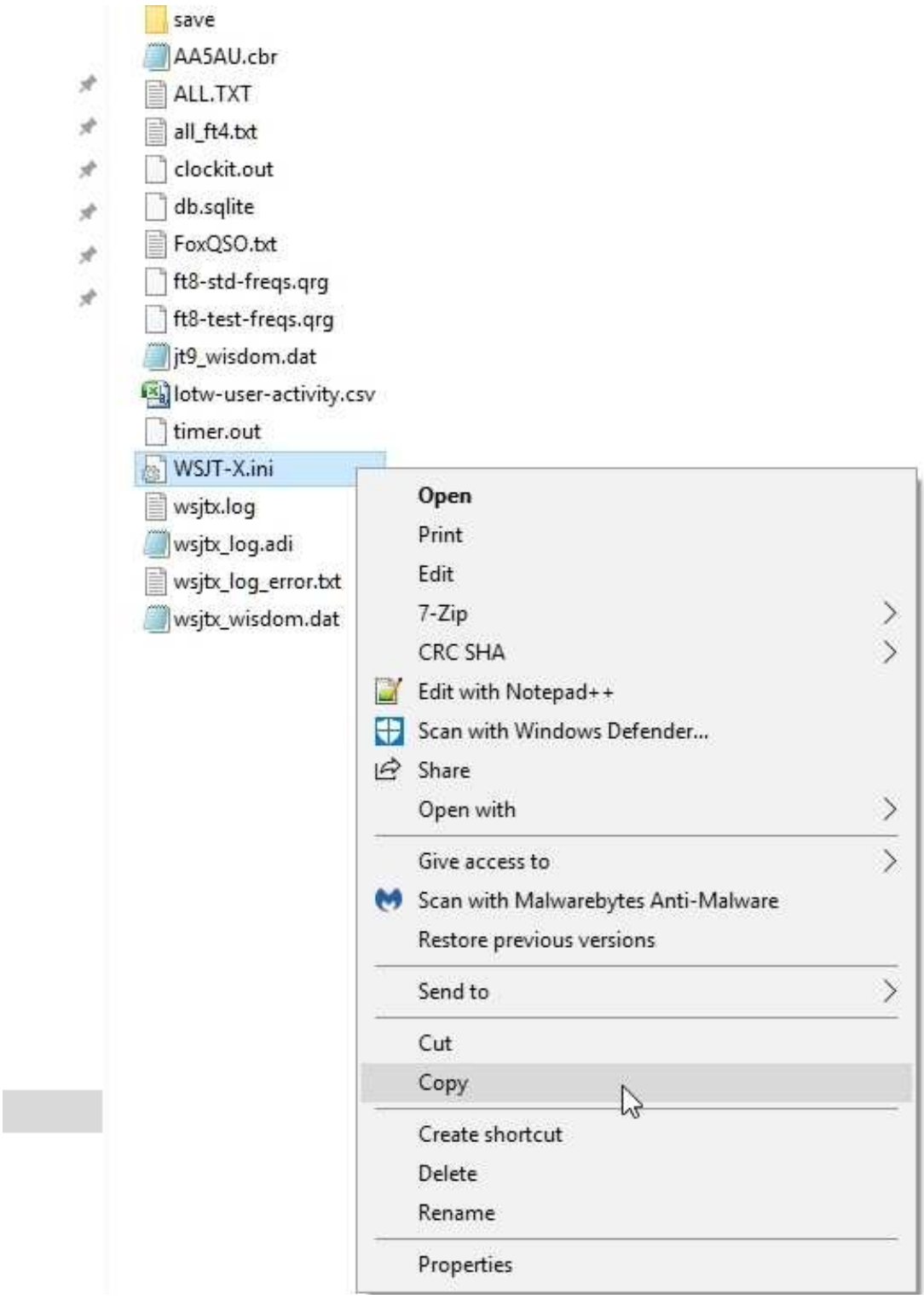




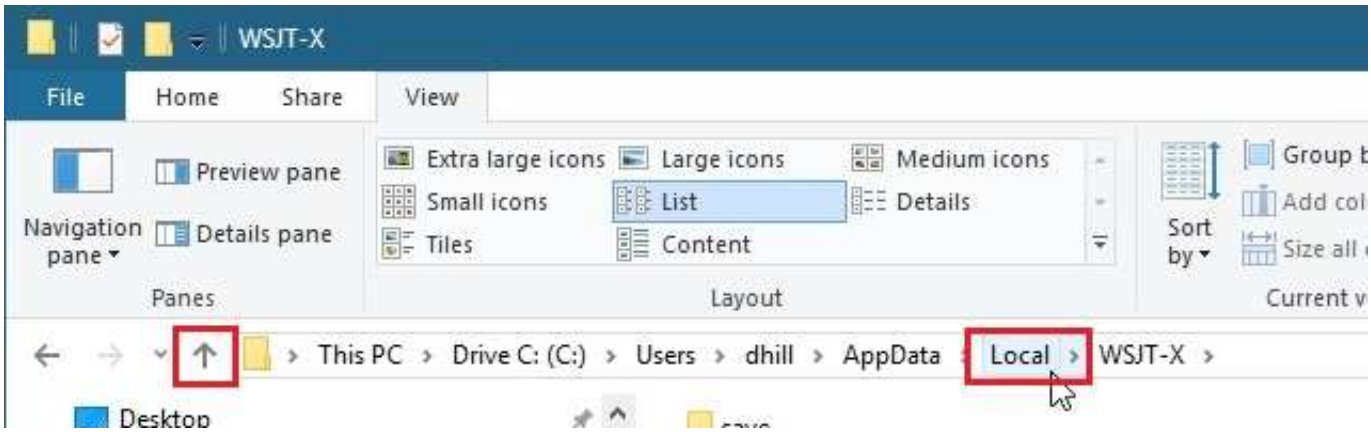
1. Close “WSJT-X – ForEW1” and N1MM+ if they are open. Start your everyday instance of WSJT-X. Select the “Open log directory” option under the File menu. The File Explorer opens to the log directory for WSJT-X. **WSJT-X.ini** is also in that same directory.

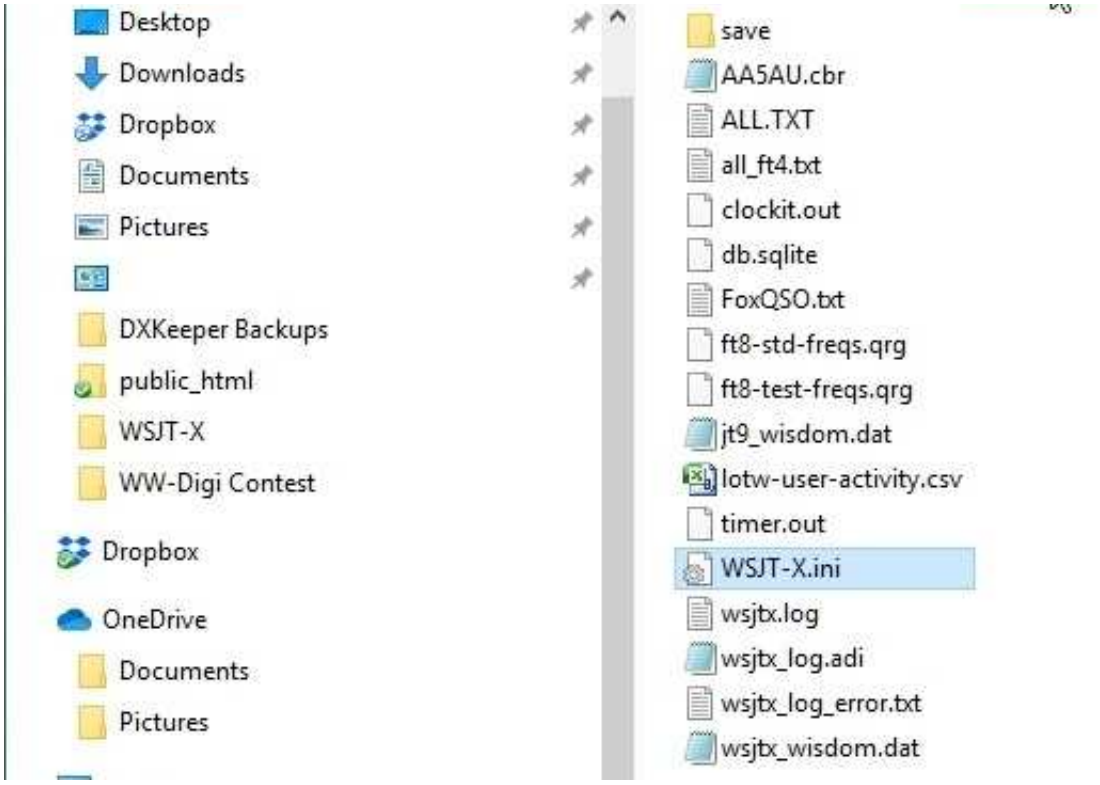


2. Right-click the file **WSJT-X.ini** and select Copy.

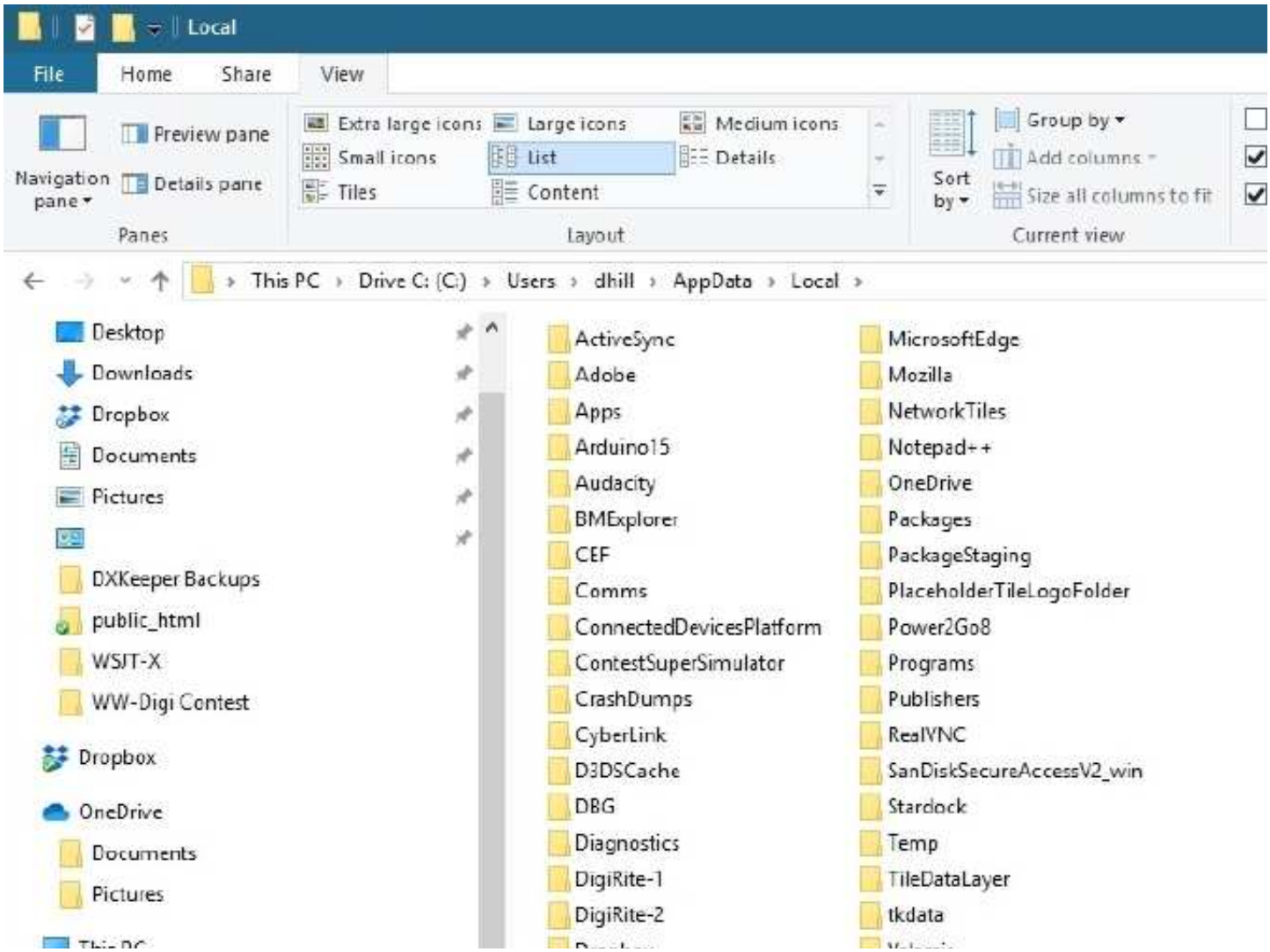


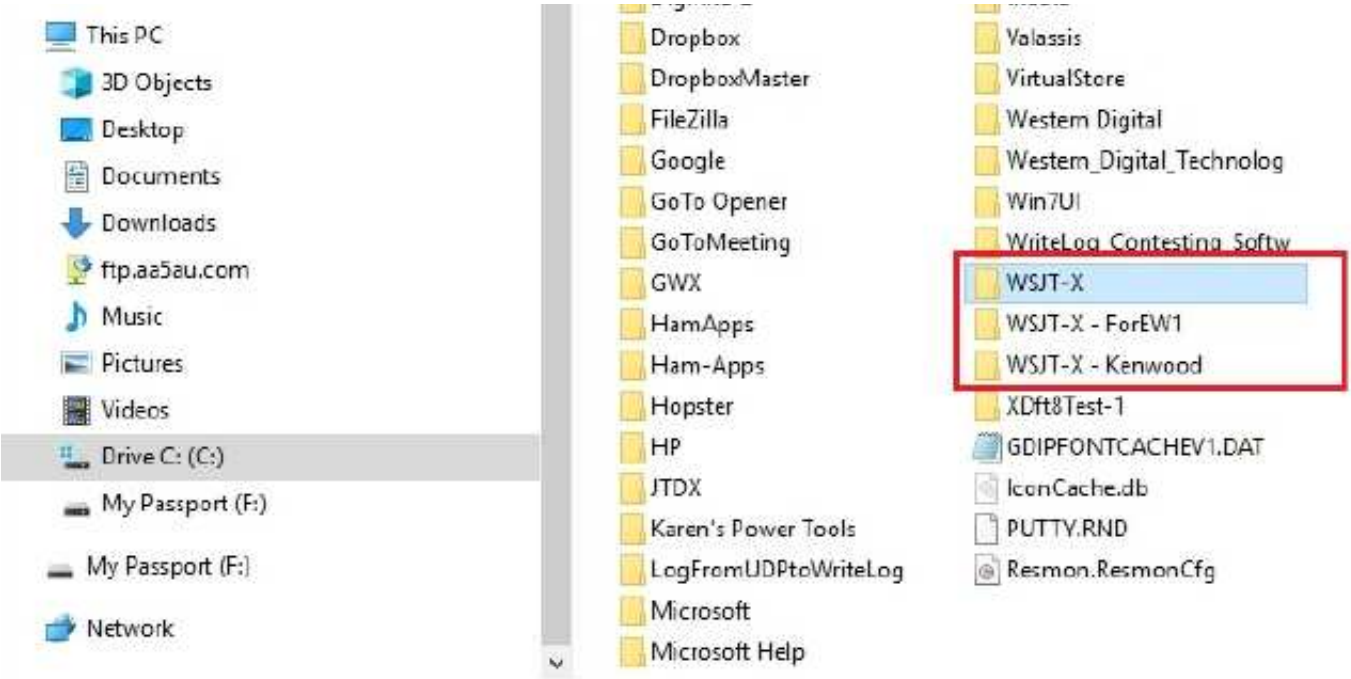
3. In the entry box that shows the path, click either “Local” or the up arrow “^” (either will do the same thing).



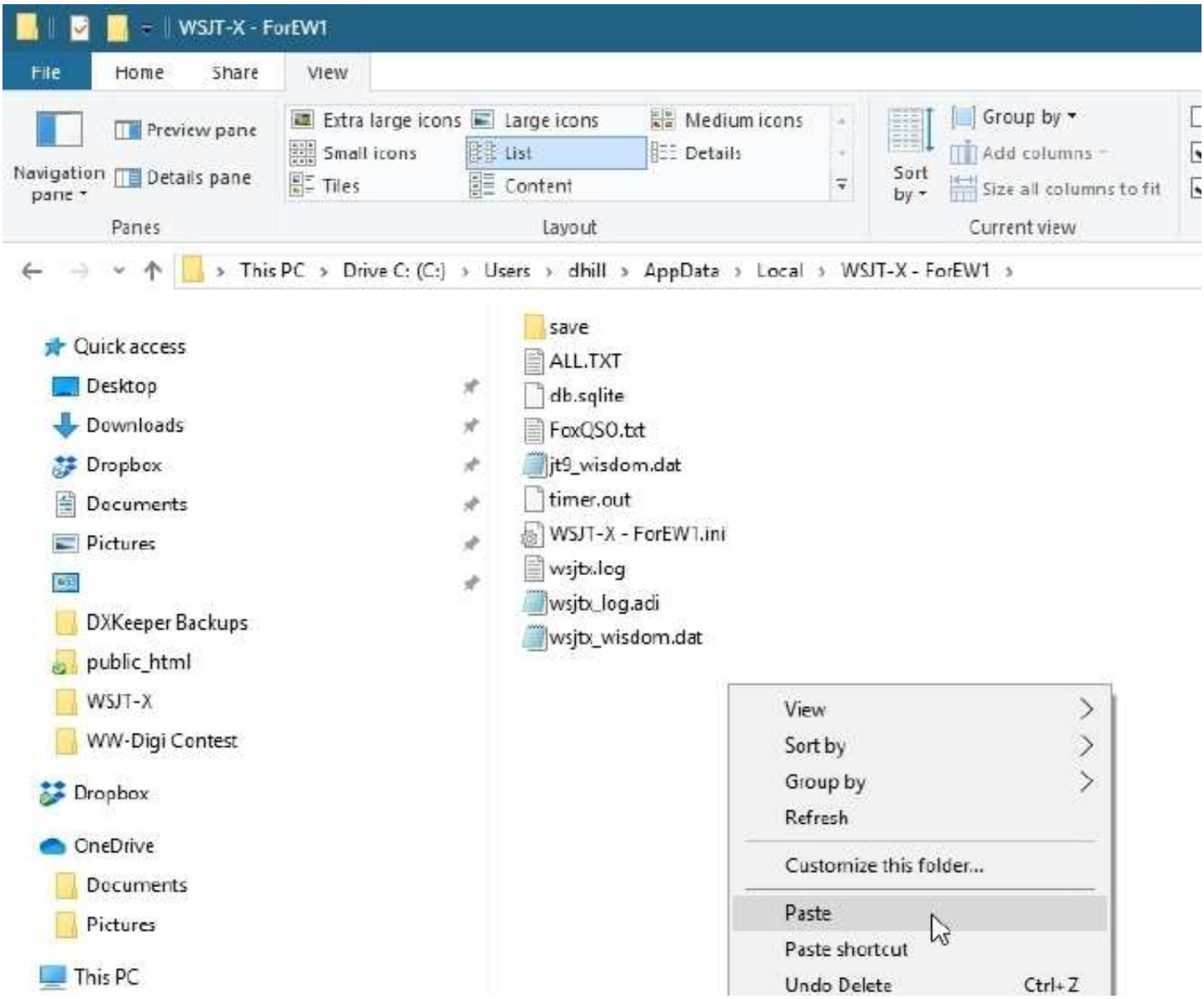


4. This brings you go the \Local folder. In our example you can see there are three folders related to WSJT-X. The WSJT-X folder is my everyday instance of WSJT-X for my Icom IC-756 PRO III. WSJT-X – Kenwood is a second instance that I use with my Kenwood radio when using two radios. The WSJT-X – ForEW1 folder is the log directory for the newly created instance of WSJT-X for N1MM Logger.

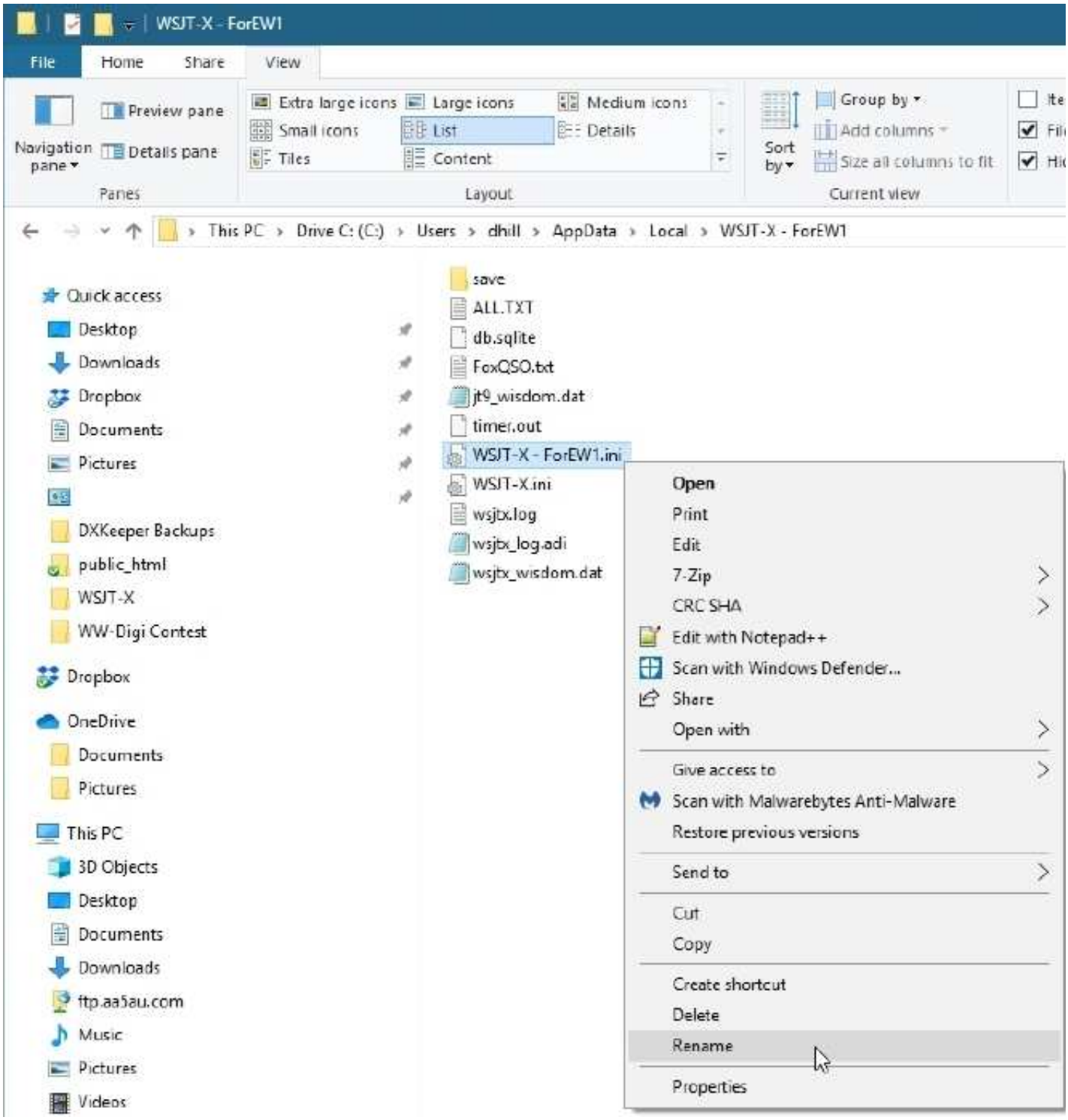




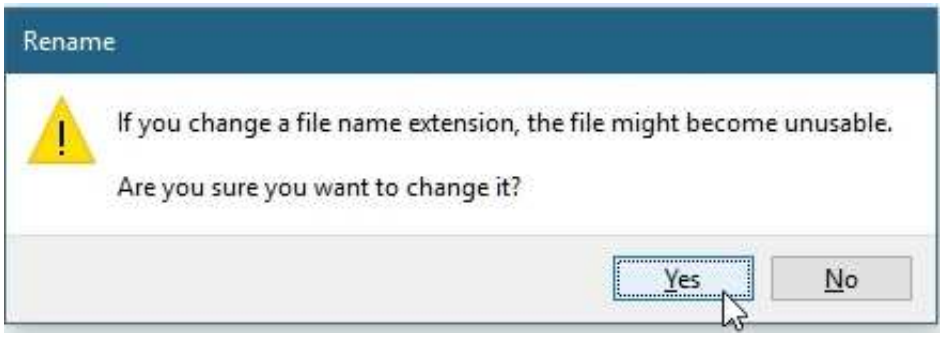
5. Double-click the WSJT-X – ForEW1 folder. When the contents of the WSJT-X – ForEW1 folder are displayed, right-click anywhere under the list of files and select Paste.



6. The file WSJT-X.ini is now in the WSJT-X – ForEW1 folder. Right-click the file WSJT-X – ForEW1.ini and select Rename.



7. Rename **WSJT-X – ForEW1.ini** to **WSJT-X – ForEW1.old**. If you get an error when changing the extension .ini to .old, just click Yes.



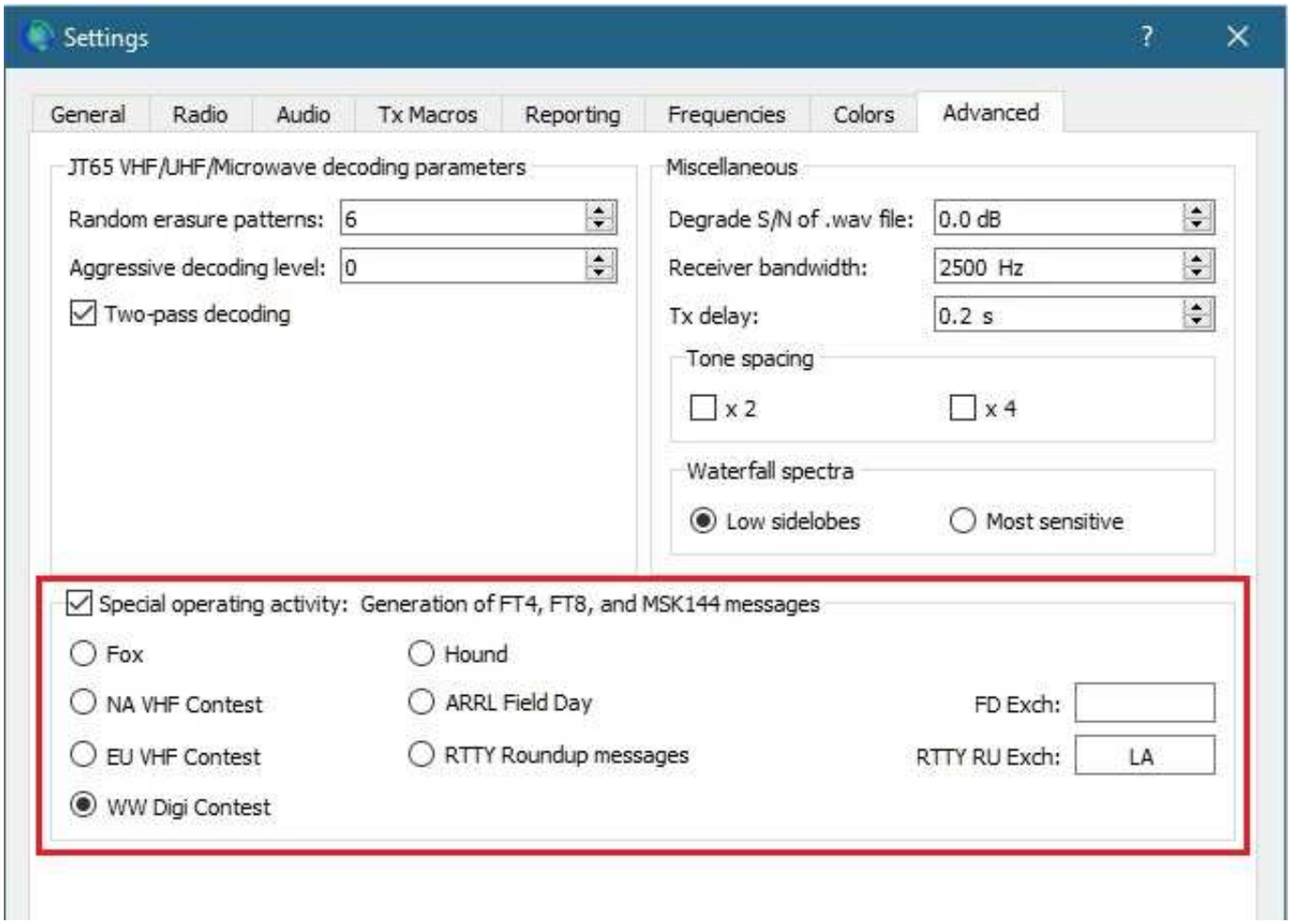
8. Then rename **WSJT-X.ini** to **WSJT-X – ForEW1.ini** and you are finished. Close File Explorer and close your everyday instance of WSJT-X. Open N1MM+ and start "WSJT-X – ForEW1" by entering either FT4 or FT8 in the N1MM+ entry window and hitting Return. Check the four settings in "WSJT-X – ForEW1" to see if they need to be changed.

   Settings > General tab screen > **Station Details** (My Call and My Grid)
   Settings > Reporting tab screen > **UDP Server** (Enable "Accept UDP requests")
   Settings > Audio tab screen > **Soundcard** (Input & Output)
   Settings > Radio tab screen > **Rig, PTT Method & Mode**

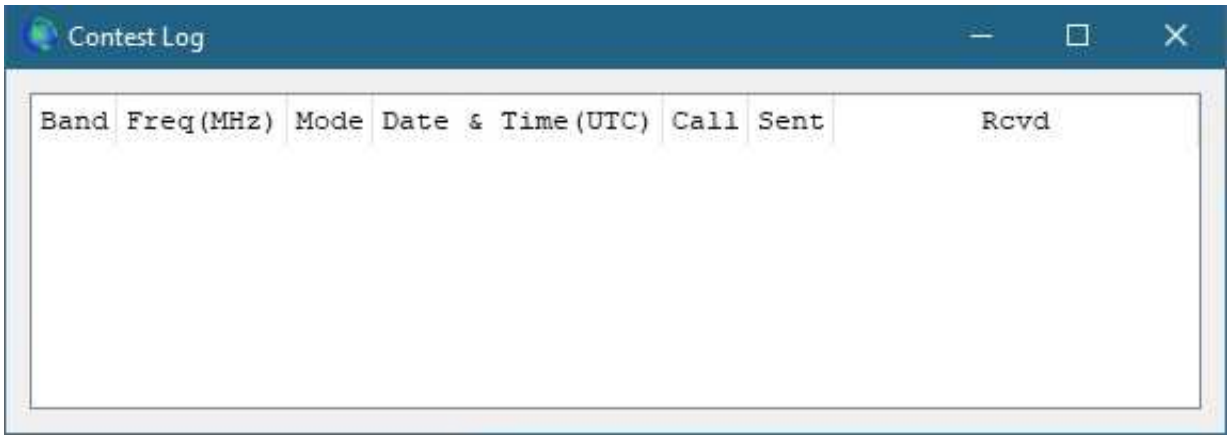
   Once all settings have been checked and "WSJT-X – ForEW1" is working, you need to put "WSJT-X – ForEW1" in Contest Mode.

Putting "WSJT-X – ForEW1" in Contest Mode

1. Open "WSJT-X – ForEW1" Settings via the File menu. Go to the Advanced tab screen. Enable "Special Operating Activity" and "WW Digi Contest" for WSJT-X v2.2.0 or later. If using v2.1.2 or earlier, select "NA VHF Contest".



2. When you close Settings, the Contest Log for WSJT-X will open. Since you are using N1MM+ for logging you don't need the WSJT-X log but don't close it. Instead, minimize it. It can act like a "backup" log. Good to have your contacts in two logs.



Enjoy the contest.

73, Don AA5AU

CW corner

Credit: https://www.history.com/topics/inventions/telegraph

A LITTLE HISTORY

Developed in the 1830s and 1840s by Samuel Morse and other inventors, the telegraph revolutionized long-distance communication. It worked by transmitting electrical signals over a wire laid between stations. In addition to helping invent the telegraph, the Morse code assigned a set of dots and dashes to each letter of the English alphabet and allowed for the simple transmission of complex messages across telegraph lines. In 1844, Morse sent his first telegraph message, from Washington, D.C., to Baltimore, Maryland; by 1866, a telegraph line had been laid across the Atlantic Ocean from the United States to Europe. The telegraph had fallen out of widespread use by the 20th century, replaced by the telephone, fax machine and Internet.

Early Forms of Long-Distance Communication

Before the development of the electric telegraph in the 19th century revolutionized how information was transmitted across long distances, ancient civilizations such as those in China, Egypt and Greece used drumbeats, signal fires or smoke signals to exchange information between far-flung points.

However, such methods were limited by the weather and the need for an uninterrupted line of sight between receptor points. These limitations also lessened the effectiveness of the semaphore, a modern precursor to the electric telegraph. Developed in the early 1790s, the semaphore consisted of a series of hilltop stations that each had large movable arms to signal letters and numbers and two telescopes with which to see the other stations.

Like ancient smoke signals, the semaphore was susceptible to weather and other factors that hindered visibility. A different method of transmitting information was needed to make regular and reliable long-distance communication workable.

Did you know? SOS, the internationally recognized distress signal, does not stand for any particular words. Instead, the letters were chosen because they are easy to transmit in Morse code: "S" is three dots, and "O" is three dashes.

The Electric Telegraph

In the early 19th century, two developments in the field of electricity opened the door to the production of the electric telegraph. First, in 1800, the Italian physicist Alessandro Volta invented the battery, which reliably stored an electric current and allowed the current to be used in a controlled environment.

Second, in 1820, the Danish physicist Hans Christian Oersted demonstrated the connection between electricity and magnetism by deflecting a magnetic needle with an electric current.

Samuel Morse

While scientists and inventors across the world began experimenting with batteries and the principles of electromagnetism to develop some kind of communication system, the credit for inventing the telegraph generally falls to two sets of researchers: William Cooke and Charles Wheatstone in England, and Samuel Morse, Leonard Gale and Alfred Vail in the United States.

In the 1830's, the British team of Cooke and Wheatstone developed a telegraph system with five magnetic needles that could be pointed around a panel of letters and numbers by using an electric current. Their system was soon being used for railroad signalling in Britain.

During this time period, the Massachusetts-born, Yale-educated Morse (who began his career as a painter), worked to develop an electric telegraph of his own. He reportedly had become intrigued with the idea after hearing a conversation about electromagnetism while sailing from Europe to America in the early 1830s, and later learned more about the topic from American physicist Joseph Henry.

In collaboration with Gale and Vail, Morse eventually produced a single-circuit telegraph that worked by

pushing the operator key down to complete the electric circuit of the battery. This action sent the electric signal across a wire to a receiver at the other end. All the system needed was a key, a battery, wire and a receiver.

Morse Code

To transmit messages across telegraph wires, in the 1830s Morse and Vail created what came to be known as Morse code. The code assigned letters in the alphabet and numbers a set of dots (short marks) and dashes (long marks) based on the frequency of use; letters used often (such as “E”) got a simple code, while those used infrequently (such as “Q”) got a longer and more complex code.

Initially, the code, when transmitted over the telegraph system, was rendered as marks on a piece of paper that the telegraph operator would then translate back into English. Rather quickly, however, it became apparent that the operators were able to hear and understand the code just by listening to the clicking of the receiver, so the paper was replaced by a receiver that created more pronounced beeping sounds.

Western Union

In 1843, Morse and Vail received funding from the U.S. Congress to set up and test their telegraph system between Washington, D.C., and Baltimore, Maryland. On May 24, 1844, Morse sent Vail the historic first message: “What hath God wrought!” The telegraph system subsequently spread across America and the world, aided by further innovations.

Among these improvements was the invention of good insulation for telegraph wires. The man behind this innovation was Ezra Cornell, one of the founders of the university in New York that bears his name. Another improvement, by the famed inventor Thomas Edison in 1874, was the Quadruplex system, which allowed for four messages to be transmitted simultaneously using the same wire.

Use of the telegraph was quickly accepted by people eager for a faster and easier way of sending and receiving information. However, widespread and successful use of the device required a unified system of telegraph stations among which information could be transmitted.

The Western Union Telegraphy Company, founded in 1856 in part by Cornell, was at first only one of many such companies that developed around the new medium during the 1850s. By 1861, however, Western Union had laid the first transcontinental telegraph line, making it the first nationwide telegraph company.

Rise and Decline of the Telegraph System

Telegraph systems, a key innovation during the Industrial Revolution, soon spread across the world. Extensive systems appeared across Europe by the later part of the 19th century, and by 1866 the first permanent telegraph cable had been successfully laid across the Atlantic Ocean; there were 40 such telegraph lines across the Atlantic by 1940.

The electric telegraph transformed how wars were fought, how money was sent and how newspapers conducted business. Rather than taking weeks to be delivered by horse-and-carriage mail carts, pieces of news could be exchanged between telegraph stations almost instantly. The telegraph also had a profound economic effect, allowing money to be “wired” across great distances.

Telegrams, often delivered to homes and businesses by delivery boys, were a popular way of communicating during the 1920s and 1930s, when long-distance calls were more expensive than a telegram. Western Union was famous for messages hand-delivered inside its signature yellow envelopes.

By the end of the 19th century, however, new technologies such as the telephone began to emerge. In time, these technologies would overshadow the telegraph, which would fall out of regular widespread usage.

In 2006, Western Union officially ended its telegram service after 150 years. Although the telegraph has since been replaced by the even more convenient telephone, fax machine and Internet, it laid the groundwork for the communications revolution that led to those later innovations.

Bryan M0IHY

Spotlight - Christchurch, New Zealand

QSO with K6SQL, 'Bill'

Band:	7MHz
Mode:	FT8
Date:	4th March 2022
Time:	06:59 GMT
QTH:	Christchurch, New Zealand
Coordinates:	43°31'48"S 172°37'13"E
Time Zone:	UTC +12
Population:	389,300

Flag

Coat of arms

Archaeological evidence found in a cave at Redcliffs in 1876 has indicated that the Christchurch area was first settled by moa-hunting tribes about 1250 AD. These first inhabitants were thought to have been followed by the Waitaha iwi, who are said to have migrated from the East coast of the North Island in the 16th century. Following tribal warfare, the Waitaha (made of three peoples) were dispossessed by the Ngati Mamoe iwi. They were in turn subjugated by the Ngai Tahu iwi, who remained in control until the arrival of European settlers 600 years later.

Markets, Christchurch, New Zealand, 20 May 1871

Christchurch Cathedral (picture in the c. 1880s) was Constructed between 1864 and 1904.

Land covered in matai and totara forest was cleared in what is now the central city, and in 1500 the population increased due to Kati Mamoe and then further Ngai Tahu migration. The largest single settlement was at Kaiapoi's pa, a bustling fortification controlled by the powerful Ngai Tahu hapu Kai Tuahuriri. This pa was founded by the nobleman Turakautahi, and was run by his family and prestigious tohunga in a highly sophisticated social and economic fabric. Turakautahi's hapu, Kai Tuahuriri, was named for his father, the important leader Tuahuriri. Tuahuriri a powerful chief who had influence and control over vast swathes of Christchurch, Nelson and Wellington, before a conflict with his brother-in-law Tutekawa caused him to drown in Te Roto o Wairewa (Lake Forsyth). The settlement remained where it was, controlled by Tuahuriri's descendants, until it was sacked in the 1830s by Te Rauparaha.

On Saturday 4 September 2010, a magnitude 7.1 earthquake struck Christchurch and the central Canterbury region at 4:35 am. With its epicentre near Darfield, west of the city at a depth of 10 kilometres (6.2 mi), it caused widespread damage to the city and minor injuries, but no direct fatalities.

The collapsed Pyne Gould Building. Thirty of the building's two hundred workers were trapped within the building following the February 2011 earthquake.

Nearly six months later on Tuesday 22 February 2011, a second earthquake measuring magnitude 6.3 struck the city at 12:51 pm. Its epicentre was located closer to the city, near Lyttelton at a depth of 5 km (3 mi). Although lower on the moment magnitude scale than the previous earthquake, the intensity and violence of the ground shaking was measured to be IX (Violent), among the strongest ever recorded globally in an urban area and 185 people were killed. People from more than 20 countries were among the victims. The city's ChristChurch Cathedral was severely damaged and lost its spire. The collapse of the CTV Building resulted in the majority of fatalities. Widespread damage across Christchurch resulted in loss of homes, major buildings and infrastructure. Significant liquefaction affected the eastern suburbs, and the total cost to insurers of rebuilding has been estimated at NZ$20–30 billion.

Adam, M7SMI

Contest Corner

February

HF

Day	Date (2023)	Time UTC	Contest Name
Mon	06 Feb	2000-2130	80m CC SSB
Sat	11 Feb	1900-2300	1st 1.8MHz Contest
Wed	15 Feb	2000-2130	80m CC DATA
Thu	23 Feb	2000-2130	80m CC CW
Mon	27 Feb	2000-2130	RSGB FT4 Contest

VHF

Day	Date (2023)	Time UTC	Contest Name
Wed	01 Feb	1900-2100	144MHz FT8 AC
Sun	05 Feb	0900-1300	432MHz AFS
Tue	07 Feb	1900-1955	144MHz FMAC
Tue	07 Feb	2000-2230	144MHz UKAC
Wed	08 Feb	1900-2100	432MHz FT8 AC
Thu	09 Feb	2000-2230	50MHz UKAC
Tue	14 Feb	1900-1955	432MHz FMAC
Tue	14 Feb	2000-2230	432MHz UKAC
Thu	16 Feb	2000-2230	70MHz UKAC
Tue	21 Feb	2000-2230	1.3GNhz UKAC
Sun	26 Feb	1000-1200	70MHz Cumulatives # 1
Tue	28 Feb	1930-2230	SHF UKAC

March

HF

Day	Date (2023)	Time UTC	Contest Name
Mon	06 Mar	2000-2130	80m CC DATA
Sat-Sun	11-12 Mar	1000-1000	Commonwealth Contest
Wed	15 Mar	2000-2130	80m CC CW
Thu	23 Mar	2000-2130	80m CC SSB
Mon	27 Mar	1900-2030	RSGB FT4 Contest

VHF

Day	Date (2023)	Time UTC	Contest Name
Wed	01 Mar	1900-2100	144MHz FT8 AC
Sat-Sun	04-05 Mar	1400-1400	March 144 432MHz
Tue	07 Mar	1900-1955	144MHz FMAC
Tue	07 Mar	2000-2230	144MHz UKAC
Wed	08 Mar	1900-2100	432MHz FT8 AC
Thu	09 Mar	2000-2230	50MHz UKAC
Sun	12 Mar	1000-1200	70MHz Cumulatives # 2
Tue	14 Mar	1900-1955	432MHz FMAC
Tue	14 Mar	2000-2230	432MHz UKAC
Thu	16 Mar	2000-2230	70MHz UKAC
Tue	21 Mar	2000-2230	1.3GHz UKAC
Tue	28 Mar	1830-2130	SHF UKAC

For sale

Title	Pages	Price
The Amateur Radio Operating Manual	240	£2.00
Exam Secrets	104	£1.50
Advance! The Full Licence Manual (old version)		Free to any Intermediate licence
Intermediate Licence Building on the Foundation (old version)		Free to any Foundation licence
Foundation Licence NOW! (old version)		Free to any newcomer
The Rig Guide	94	£1.50
International Antenna Collection	248	£3.00
Understanding Basic Electronics ARRL	370+	£5.00
HF Antennas For All Locations	322	£5.00
An Introduction to Antenna Modelling (with CD)	74	£3.00
Ham Radio for Dummies	359+	£1.50
Backyard Antennas	200	£3.00
SDR Softwarwe Defined Radio	294+	£5.00
Farady, Maxwell and the Electromagenetic Field	320	£3.00
Amateur Radio Essentials	270+	£4.00
Radio Propagation Explained	125+	£3.00
Radio Orienteering The ARDF Handbook	106	£3.00
Raspberry Pi Explained	202	£3.00
Getting Started in Amateur Radio	90	£2.00
MORSE CODE For Radio Amateurs (with CD)	48	£3.00
Amateur Radio Explained	150+	£2.00
DMR for Beginners Using the Tytera MD-380	48	£1.00
The radiotoday guide to the Yaesu FTDX10	208	£8.50

Email: bryanpage1@btinternet.com

Any other business

Congratulations

Go to Ant and his partner on the birth of their son (Ethan, 5lb 9oz) on Saturday 21st January, although a little early to indoctrinate him into Amateur Radio, I have an old version (current - 1) of the Foundation manual which he's more than welcome to have when he's old enough to read!

Below are a few ideas on starting baby off in Amateur radio...

Onesie's

Bibs

1st Birthday cake

1st radio/baby alarm

1st QSO?