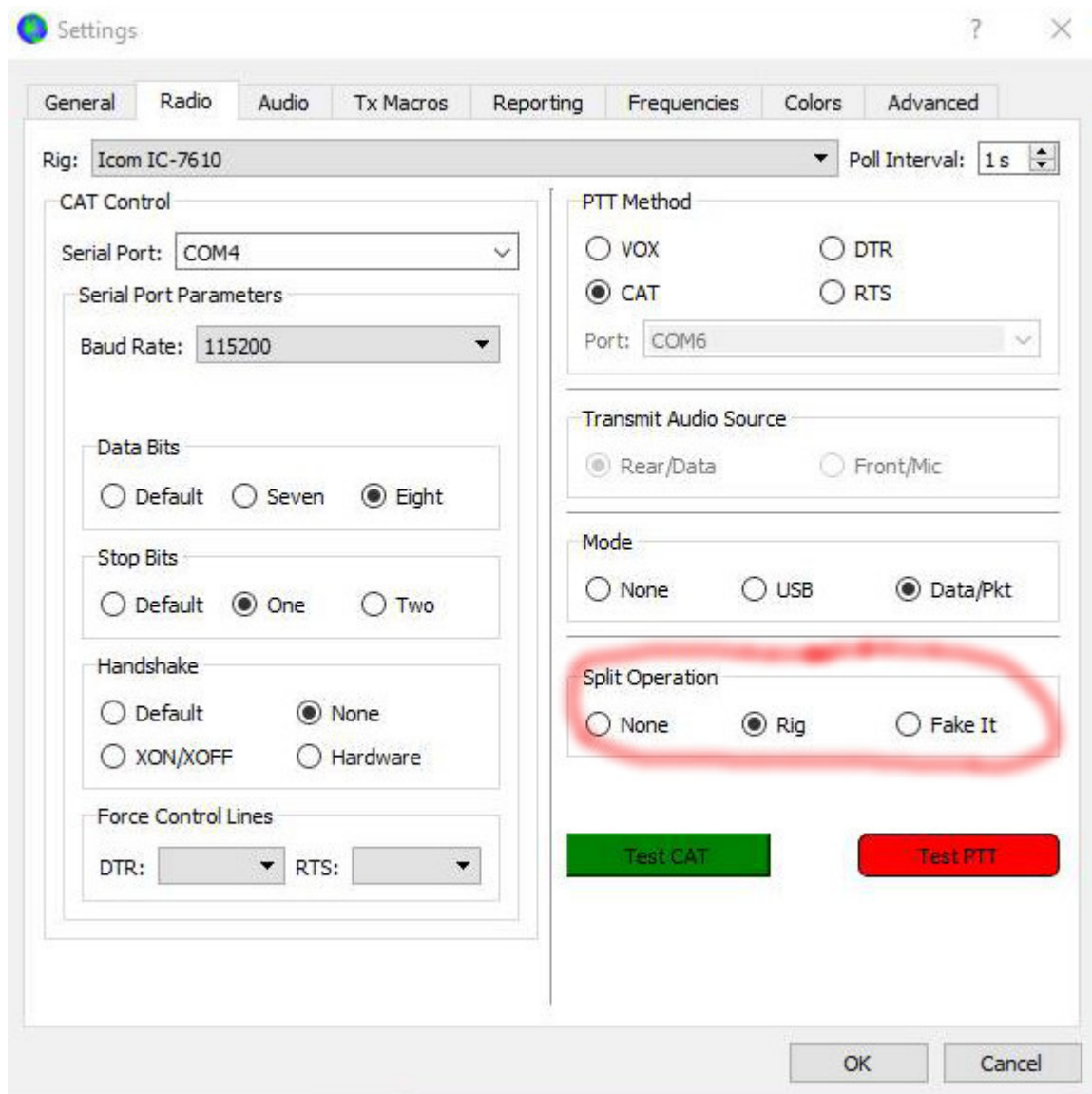


# WSJT-X Split Operation and Why Use It

I'm going to make the case for using Split Operation in the WSJT-X program. Recently I took a poll on the WSJT-X Facebook page and got some interesting results. Almost twice as many Hams use "Fake It" than "Rig" for Split Operation. There are still many that use "None".

Modern HF transceivers are capable of using "Rig" for Split Operation, however most Hams end up using "Fake It" because of either radio problems, timing issues or just plain simplicity. I have been using "Fake it" for a long time and just recently revisited using "Rig". Both work very well. Note: If you are using the Icom 7300 or 7610 and Ham Radio Deluxe for the Rig in WSJT-X, you will have to use "Fake It" for Split Operation.



## Split Operation Explained

The Split Operation that I am talking about here is the setting on the Radio tab in WSJT-X. For split we have three choices, Fake It, Rig or None.

*There is another split method that we can use when trying to make contacts and that involves using the option in WSJT-X to "Hold TX Frequency". More on that later.*

What is Split Operation and why is it useful?

*Significant advantages result from using Split mode (separate VFOs for Rx and Tx) if your radio supports it. If it does not, WSJT-X can emulate such behavior. Either method will*

*result in a cleaner transmitted signal, by keeping the Tx audio always in the range 1500 to 2000 Hz so that audio harmonics cannot pass through the Tx sideband filter. Select Rig to use the radio's Split mode, or Fake It to have WSJT-X adjust the VFO frequency as needed, when T/R switching occurs. Choose None if you do not wish to use split operation. – WSJT-X Manual*

## **The Case For Using Split Operation**

I think it's important to use Split Operation in the WSJT-X settings and here's why.

Let me show you what I found out from operating PSK31.

If you ever operated PSK31 you may have noticed when moving too far off center that the power output level will go down. To compensate for this, some software (WinWarbler) offers the option to optimize or set the transceiver frequency to achieve optimal offset. It will shift your frequency for you.

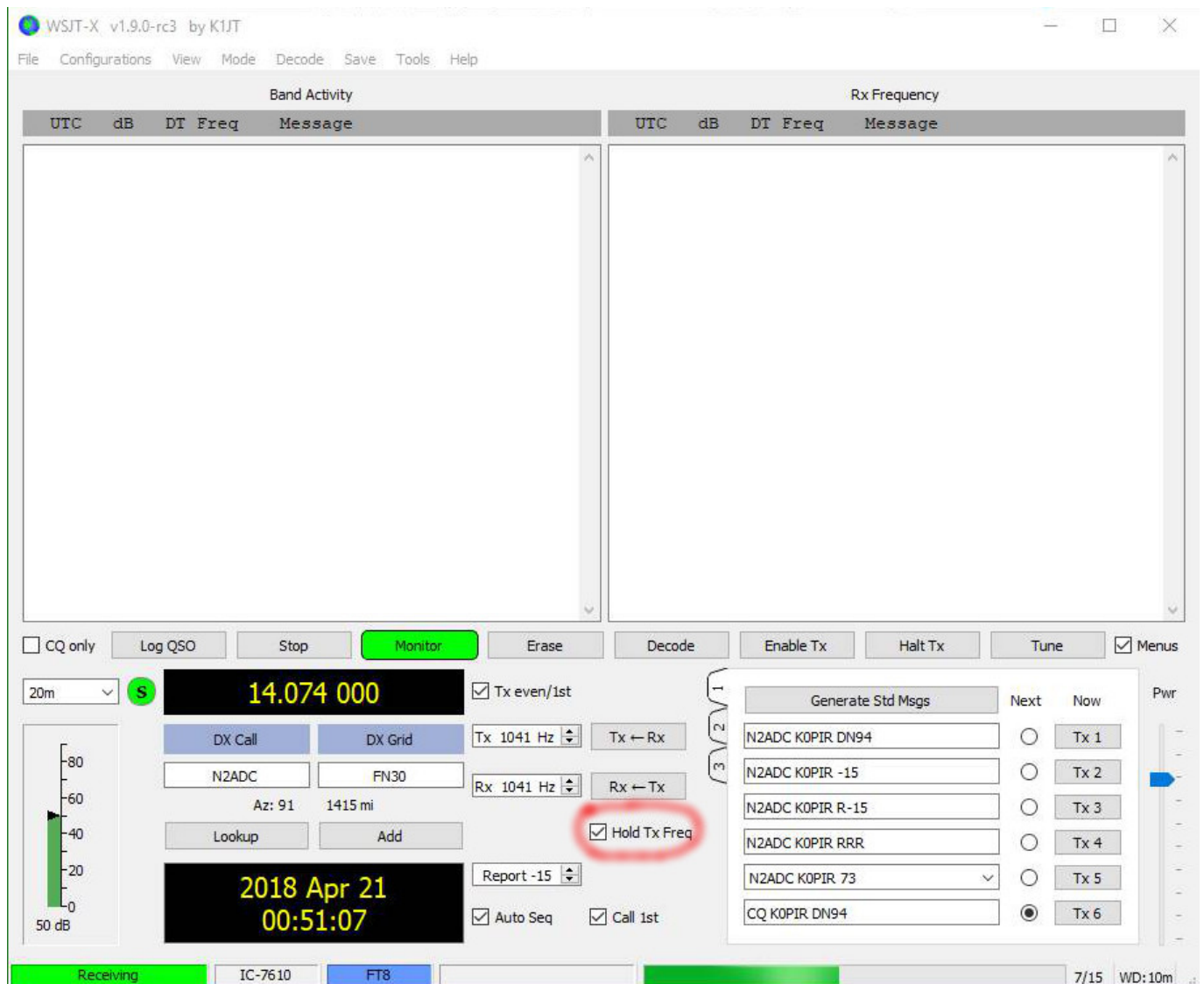
This is basically what the Split Operation will do in WSJT-X, but WSJT-X does it on the fly. It uses the optimal offset and puts your TX audio in the range of 1500 to 2000 Hz automatically for you and leaves the RX frequency alone. Nice!

With WSJT-X and using "None" you may not see the loss of power if transmitting out of 1500 to 2000 Hz like when in PSK31 mode, but there is the risk of creating IM within the TX passband.

If I look at it in terms of my experience with PSK31, I'm going to naturally want to use Split Operation in WSJT-X. I'll have a cleaner signal and I think it increases my chances of making the contact. Also, a cleaner signal makes everyone around me happy.

# Holding the TX Frequency

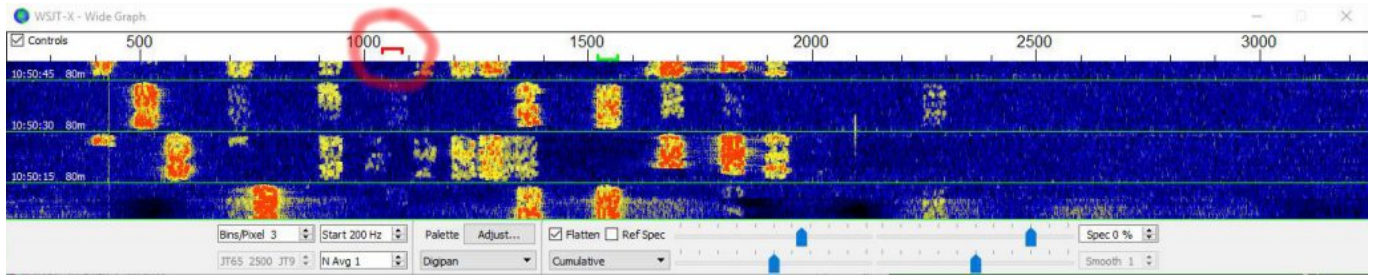
The other split reference we here about is using the option, “Hold TX Frequency”.



I always use “Hold TX Frequency” when calling CQ, because I don’t want to lose my TX frequency.

Some experienced users exclaim, “Don’t call me on my transmit frequency”. It’s not a hard and fast rule, but makes sense, especially in a DX pileup situation.

If you select the option “Hold TX Frequency” in WSJT-X to hold the TX frequency and then place your red TX indicator in a clear spot on the waterfall (wide graph) it may help you get the DX station that everyone is calling.



The reasoning behind this: Others will be calling the DX station on the DX stations TX frequency (simplex). So instead of getting caught up in the pileup, try this split method.

I know many Hams use this method, because when I call CQ others respond off of my TX frequency.

I have to admit though, to this date, I've been disappointed. I don't know why, but I have better success using simplex and calling a station on it's TX frequency. I still think split is worth trying when calling a DX station and I'll continue to try it for North American stations too. Just my 2 cents on that subject.

## Conclusion

I encourage everyone to try using Split Operation, either "Rig" or "Fake It". It may take a little getting used too. If it doesn't work for you then use "None". It's not the worst thing, especially if you don't use excessive power. You could also try to stay in the 1500 to 2000 Hz range too.

I hope you find this information useful. Thank you for coming by and I hope to hear YOU, on the air!

So how do you use the "Hold TX Frequency" option?

If you have any questions or comments, please post them below. Your experience will help someone else. I'll do my best to answer questions and reply.

73,

Rich, K0PIR

Sources:

[FT8 Hinson Tips for HF DXers](#)

[WSJT-X](#)

[Frode, LA6V0 in QRZ.com Forum](#)

*UPDATE: Very informative comments below. I just want to clarify using Split Operation as mentioned first. If using Rig or Fake It, it just shifts your TX frequency to put your TX in the sweet spot of 1500 to 2000 Hz. When using it, if your TX and RX indicators are lined up on the same frequency in the wide graph, you will still not be running the traditional split mode, it is simplex, ie. calling on the TX frequency of the other station. Thanks so much for the very informative comments.*

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## **WSJT-X FT8 and the Icom 7300 the Easy Way!**

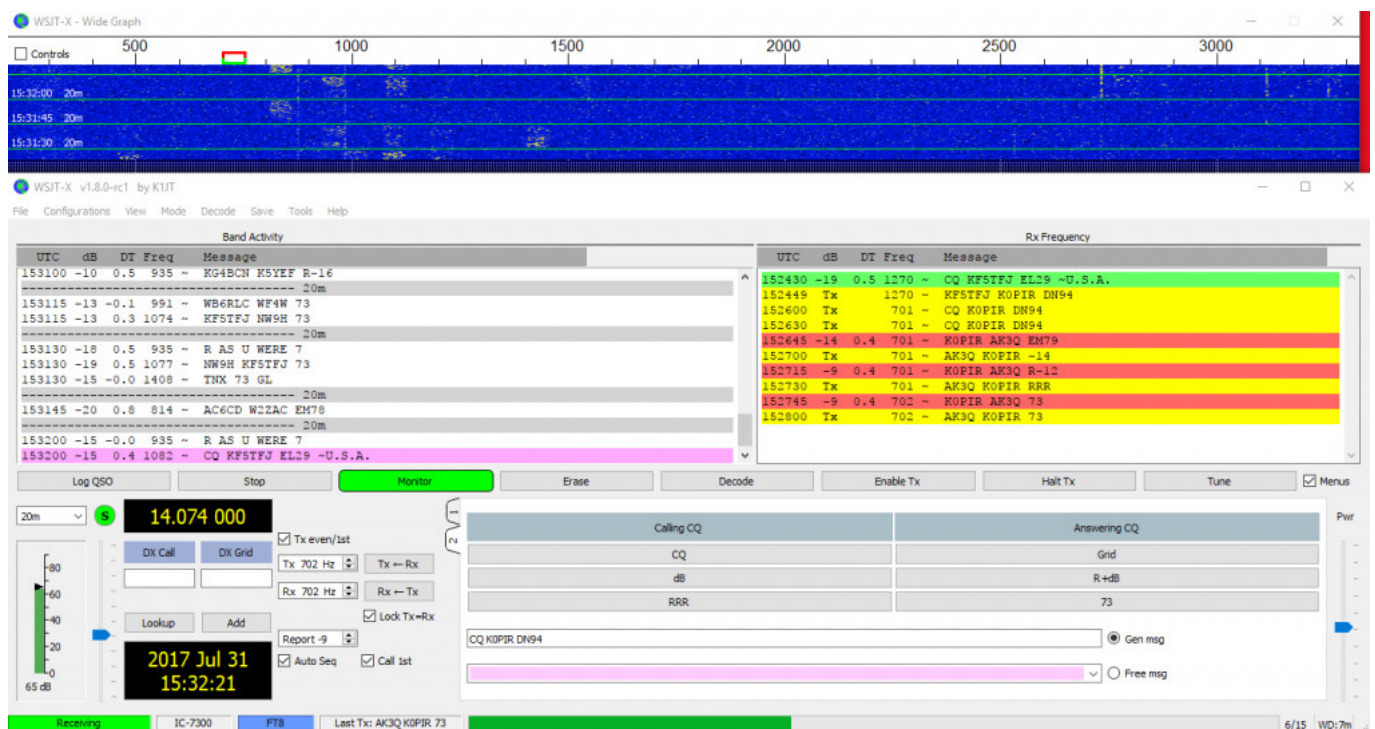
Are you looking for an easy way to try out the new WSJT-X FT8 mode? If you have the Icom 7300 I assure you this cannot get any easier or better. There's no need for an external sound card (Signalink) or any other hardware. The Icom 7300 suffices. The only thing needed is a USB cable (install the driver from Icom before connecting a USB cable) and WSJT-X.

*"WSJT-X implements communication protocols or "modes" called FT8, JT4, JT9, JT65, QRA64, ISCAT, MSK144, and WSPR, as well as one called Echo for detecting and measuring your own radio signals reflected from the Moon. These modes were all*

designed for making reliable, confirmed QSOs under extreme weak-signal conditions.” – WSJT Home Page

## Stand Alone Preferred by Many

Over the past few weeks I have run across Hams who have been using WSJT-X just like this. No integration with any other programs. There is really no need for JTAlert, QSO Relay or any logbook. This is the preferred way to operate for many Hams.



## Super Simple Installation

I'll put the download link below. This is a safe, small and easy program to get running on your computer. Windows, Linux and Macintosh are supported. Go to the link below, click on it and download the file to your computer. From there it will vary, depending on computer OS, but in Windows just double-click the downloaded file and go through the installation prompts. It is super simple!

**Important:** Use something for time sync. I use [NetTime](#).

## Configuration/Settings

In WSJT-X there are just a few configuration settings to get the Icom 7300 on the air with FT8.

- In the software, under File and Settings, on the General Tab enter your callsign and grid square.
- On the Radio tab select the Icom 7300 for the Rig. You'll need to know your COM port number.
- On the Audio tab tell WSJT-X what your Soundcard Input and Output are. It's going to be the Icom 7300 USB Audio CODEC for both.

The rest is in the video. There are just a few more things to look at and you'll be on the air.

## Icom 7300 Internal Settings

If you haven't already done so, you can have a look at them here: [Icom 7300 Easy Transmitter Settings For Digital Operation.](#)

[Here are screen shots from my Icom 7300.](#)

## WSJT-X The Easy Way!

In this video I cover the download locations for WSJT-X, how to run it and using the built in logging capability. Also included, additional settings, making a contact and finally importing WSJT-X log into HRD logbook.

Once you get it installed I have a few more videos on the Icom 7300 to improve reception, transmit and make the WSJT-X Wide Graph (waterfall) look its best. See below.

Thank you for stopping by and visiting my website. There will be more to come on the IC-7300 and IC-7610.



Have you been on FT8? What do you think about it?

73's,

Rich, K0PIR

## **Sources and Reference**

[WSJT-X download](#)

[Using the Wide Graph](#)

[Icom 7300 Receiver Settings For Digital](#)

[Icom 7300 Easy Transmitter Settings For Digital](#)

## **Icom 7300 settings that work:**

### **Connectors**

DATA OFF MOD = MIC,ACC

DATA MOD = USB

USB Serial Function = CI-V

### **CI-V**

CI-V BAUD Rate = AUTO

CI-V Address = 94h

CI-V Transceive = ON

CI-V USB PORT = UNLINK From REMOTE

CI-V USB BAUD Rate = 115200

CI-V USB Echo Back = ON

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# The Icom 7610 Has Arrived – Ham Radio Deluxe Setup

I still have my Icom 7300 and will continue to write and create videos for it. For now, the long wait is over and the Icom 7610 is in the shack and on the air. I received it Friday, December 8th 2017 and my registration was in January 2017. The price was a little more than I anticipated, but I bit the bullet and went ahead anyway. See my article [Why I Chose The Icom 7610 Over The Flex 6400M](#).



Icom IC-7610 SDR HF/6M Transceiver

First impression: It's a beautiful radio, good size, and has a vastly improved LCD touchscreen. Just like the IC-7300, works right out of the box! See the first video on my Icom 7610: [Icom 7610 First QSO](#).

## Icom 7610 Cables and Software Driver

Even though the IC-7300 and the IC-7610 uses the same [downloaded driver from Icom](#), it is an updated driver with a driver date of 2017/10/05. I decided to download the driver and reinstall it. I suggest doing that first, before connecting the USB cable.

This time when connecting you'll have two virtual COM ports, A and B. This is different from the IC-7300.

I'm using two cables as with the 7300 while operating, but I'll show using just the USB cable and that works FB as well. **When attaching the USB cable have the software driver installed first. Plug the cable into the USB 2.0 port, not the USB 3.0 (blue) port on the back of the rig.**

## Icom 7610 Menu Settings

The 7610's menu is a little daunting at first, but it is similar to the Icom 7300. There are just more sub menu's than the 7300. Many items in the Connectors menu are similar though. I'll post [some screens shots here](#) because a picture is worth a thousand words. See the video below too.

## Icom 7610 Ham Radio Deluxe Setup

It wasn't hard to configure HRD to work with the IC-7610, even though the rig is not listed in the software. Using the IC-7700 as the rig in HRD's drop down list, works good. I haven't explored it fully, but the rig control is working. *(UPDATE: The IC-7610 is now listed in HRD.)*

When trying to make my first test transmission DM780 alerted me there wasn't a TX button in the DM780 rig control. It was easy to set it up. See screenshot [here](#).

The IC-7610 uses a CI-V address of 98h. In HRD the default of the IC-7700 is 74. There are a couple of ways to fix this, one

is in the radio menu and the other, just enter 98 in HRD when the connect screen comes up. I chose the latter.

Once you have it working, use the HRD Preset to connect. It works every time for me.

## **Icom 7610 COM Port Caveats**

When I connected the Icom 7610 and looked in Windows 10 Device Manger I saw there are two COM ports now, when I expected just one like the Icom 7300.

I assigned port numbers that are familiar to me. This is not necessary, but you'll have to be careful when choosing the COM port in the software. I believe the first one that shows up in the list under Device Manager>Ports (COM & LPT) is the USB A, and the second listed will be USB B. Using the first one listed works as it has to correspond with the USB SEND/Keying in the 7610 menu. See [here](#).

UPDATE : See [Icom 7610 Virtual Serial \(COM\) Ports Explained](#)

## **Icom 7610 HRD DM780 WSJT-X and JT Alert**

Take a look at my video. I go through the Icom 7610 menu and then the HRD connect screen. There is also a quick look at DM780, WSJT-X and JT Alert.

When HRD and the others update with the IC-7610 listed, I'll just select it and not use the 7700 any longer.

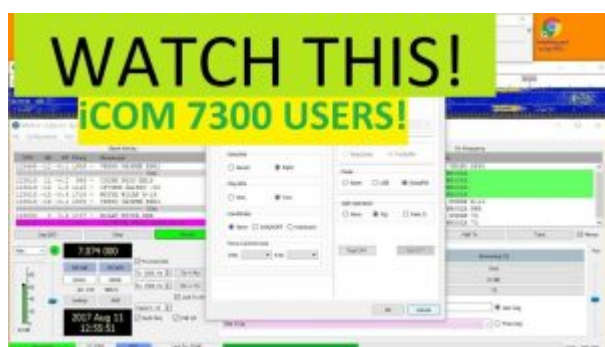
Thank you coming by and watching my video. I hope you find it informative and useful. I'm excited to operate and add more software in the near future. There will be more to come.

73's Rich, K0PIR

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# N3FJP ACLog, WSJT-X, JTAlert A Powerful Combination

N3FJP's Amateur Contact Log (N3FJP ACLog) combined with WSJT-X and JTAlert are a powerful combination for the digital mode operator. I admittedly have favored Ham Radio Deluxe Logbook in the past, but this combination of software works very well together. Also, I don't like the way JTAlert and HRD quit supporting each other. This version of JTAlert (v2.10.1) supports HRD 6 logging and the next version won't.



## ACLog

N3FJP's ACLog has some nice features and I especially like the callbook lookup function with photo. I have used and liked ACLog in the past, but was completely surprised this time around. It is easy to setup, easy to operate and works as advertised. You can try it out for free and if purchasing, I find it very reasonable. N3FJP has other software equally as good. The creator, Scott, is knowledgeable and responsive on the support side also. Here is his [YouTube video list](#).

## Unlink From Remote – Two Cables As Usual

For my operation I am using two cables as usual. The CI-V

cable for rig control and the USB cable for digital modes. The CI-V is used with ACLog and the USB is used with WSJT-X. **Important:** Unlink from [REMOTE] in the Icom 7300 menu. As explained in the manual:

*Unlink from [REMOTE]:*

*The [USB] and [REMOTE] CI-V ports are not internally connected.*

*Each port functions independently.*

*(duplex communication can be made.)*

With the connections unlinked both software programs (WSJT-X and ACLog) have control over the radio. So while operating and watching for a JT65 station if I see a DX spot in ACLog, I can click on it and ACLog will take me to that frequency and mode. After that, I can use WSJT-X and select the band and digital mode I was operating on.

**Note:** There are other uses for “Unlink From [REMOTE]” also. I leave that set in my Icom 7300, because it doesn’t affect my other software programs and operating.

## **N3FJP ACLog Video**

The basics are covered:

1. Icom 7300 menu and settings
2. WSJT-X rig setup
3. N3FJP ACLog rig setup
4. Enabling TCP API in ACLog
5. JTAlert settings to use ACLog
6. Net-Time, time sync application
7. Making an FT8 contact

# CallBook

One thing worth noting is ACLogs Callbook function. Similar to MacloggerDX and RUMLogNG (for the Mac) AClog will bring up callbook data of the station in the "Call" field and a photo. I really like that. When using QRZ.com for the callbook, ACLog will bring up a photo from QRZ.com. You also see the operators name and location among other things. It's just a good way to see the operator you're talking with (See near the end of the video above).

To enable it, in ACLog go to the menu and look for "CallBook". Select it and from the drop down menu you'll have a selection (5 to choose from) of callbooks to use. Pick you're favorite!

I hope you find this useful and informative. If you're looking to try a log, N3FJP ACLog is a fine choice. Thanks for stopping by and if you have comments or questions, please make them below. 73 and good DX – Rich, K0PIR

Download links:

[Amateur Contact Log](#)

[WSJT-X](#)

[JTAlert](#)

[NetTime](#)

The cables I use:

[CI-V cable](#)

[Alternative CI-V cable with FTDI chip](#) (A better, yet more expensive, all around cable)

[USB cable](#)

[USB Device/Hub](#) (If you want to split your USB cable between two computers)

## Basic Icom 7300 settings that work:

### Connectors

DATA OFF MOD = MIC,ACC

DATA MOD = USB

USB Serial Function = CI-V

### CI-V

CI-V BAUD Rate = AUTO

CI-V Address = 94h

CI-V Transceive = ON

CI-V USB PORT = UNLINK From REMOTE

CI-V USB BAUD Rate = 115200

CI-V USB Echo Back = ON

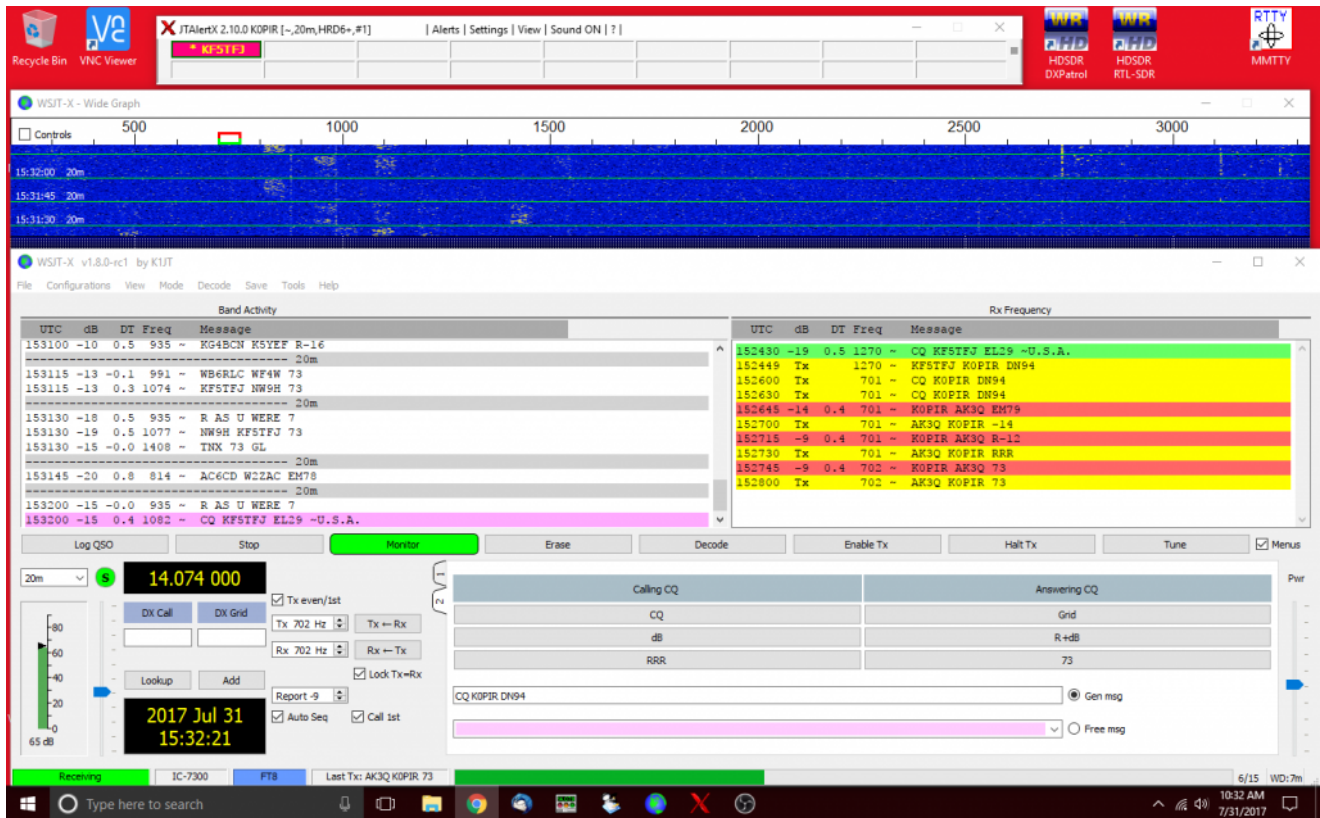
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# **NEW Mode FT8 And HRD V6 Logging Is Again Supported by JTAlert**

YES! There's a new mode, FT8. FT8 is fast and the ability to make contacts quickly is pretty exciting. Also, more good news: Ham Radio Deluxe V6 logging is again supported by JTAlert. In addition to logging my QSO's from WSJT-X in to HRD Logbook, JTAlert notifies me when a needed station is on.



We're back in business!



I know, I know, not a

another digital mode! Well this time it is pretty exciting. The transmission/receive duration on FT8 is only 15 seconds. So the ability to make a lot of contacts, DX contacts too, quickly is pretty exciting to me. It's a little like contesting, but no contest ☐

## Join The FT8 Excitement

WSJT-X makes it easy with auto sequencing. If it wasn't for automatic sequencing, I don't think I would have tried it. It's so fast at first! "Check Auto Seq in WSJT-X software to have the computer make the necessary decisions automatically, based on messages received." – [WSJT-X User Guide](#)

WSJT-X also generates the standard messages for you.

If you already have WSJT-X, just upgrade to the latest and the same goes for JTAAlert, get v2.10 if you want to use logging to HRD v6 or if you want the FT8 mode.

# Icom 7300 Software Tutorials

If you are new to this, I have a article on getting everything installed and working. See [WSJT-X JTAlert Automatically Logs To HRDLog.](#)

Also, have a look at [Icom7300 WSJT-X Combined With HRD and JTAlert.](#)

In the video above: Icom 7300 settings, NR & NB settings, turning AGC off, increasing FIL1 to 3.6k, split mode operation, USB driver date, WSJT-X settings and JTAlert settings.

In this video: Calling CQ and making FT8 contacts. This is using automatic sequencing. WSJT-X does all the work. Using JTAlert, it logs right into HRD logbook v6.4. From there it is uploaded to QRZ.com, HRDLog.net and eQSL.

## Note:

1. Sometimes the other person sends the same transmission over and over. They are either not able to decode my message (poor prop, QRM) or it's user error. They may not be using auto sequencing.

Questions or comments? Please make them below.

Links:

[WSJT-X \( Scroll down to see version 1.8\)](#)

[JT Alert Hamapps official site](#)

[Installing MySQL \(MariaDB\) for your HRD Logbook](#)

*Update: I got a message that HRD v6 support in JTAlert will be discontinued after v2.10.*