Tips for FT8 Fox Operation
by Uwe, DG2YCB

Tips for FT8 Fox Operation

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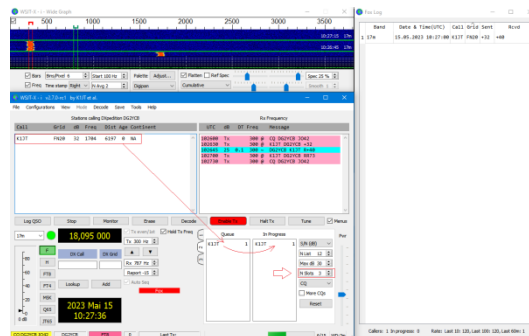
Tips for FT8 Fox Operation

1. Experience!

- If someone has never worked with WSJT-X or similar programs and thinks he can/should become active as a Fox operator, I say: Forget it!

- First gain **at least 3 months of intensive experience with FT8**, etc.

- Check out the WSJT-X User Guide and the various other publications on F/H mode, also check out some of the various "FT8 tutorials" you can find on YouTube, and then just try it out intensively yourself.

- "Learning by doing" is essential here. As I said, in my opinion at least 3 months intensive, better 1-2 years.

- And then ask questions, even to me.

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2. Which Program?

- I recommend WSJT-X or for you specifically the extended wsjt-x_improved_for_Fox_operators variant.

- Why? Because the WSJT-X program family is technically superior to all others.

- Also, the F/H mode is technically better than MSHV Multi-streaming.

- More details are available verbally, it would take us too far here.

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3. Time synchronization of your PCs

- For FT8, etc. a very precise synchronization of the PC time is essential. This must be accurate to +- 0.5 seconds (better -0.1+0.25s)!

- **Windows unfortunately cannot natively ensure such a tight tolerance**.

- Many Fox stations completely underestimate this point!

- We even had a DXpedition that did not notice for days that they were transmitting in the wrong time slot because their PC clock was wrong for more than 15 seconds (!).

- Solutions for this are as follows:

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3. Time synchronization of your PCs , Solutions:

- If you have local internet, use the **Meinberg NTP** program. It keeps your PC clock in sync and you don't need to do anything else. You can check the current time deviation of your PC very quickly via https://time.is/.

- If you don't have an internet connection on site, **use a GPS module** (available from 10 €) **as your first choice**. With it you can easily keep your PC clock synchronized. This works almost anywhere in the world.

- If you don't have a GPS module either, use a pre-set quartz wristwatch plus the program JTsync. JTsync evaluates the time deviation of the incoming FT8 messages, and you can use it to keep your PC clock in the uncritical range even in remote locations.

- The only condition: You must know roughly (i.e. +- 2 to max. 10 s) what the correct time is (for this purpose the said quartz wristwatch).

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4. Fox Operation

- Open WSJT-X oder wsjt-x_improved und switch to the Fox Mode.
- **Fox Operation is not allowed on the stardard FT8 working frequencies, distance at least 3 kHz!**
- The maximum number of slots depends on your transmitting power. At 100 W typically 2 (max. 3), from 500 W max. 5.
- Click on Enable Tx and you will call as Fox CQ.
- Click on the received stations in the left window. This will put them in the Queue and they will be processed automatically as soon as possible (In Progress).
- Done and on to the next F/H QSO!

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5. Logbook

- WSJT-X or wsjt-x_improved has a built-in logbook and also generates a special Fox logbook during Fox operation.

- This should actually already be completely sufficient.

- Of course, everyone is free to use an additional logbook of his choice. These are connected to WSJT-X via UDP and then take over the QSOs fully automatically.

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6. What else?

Anyone who has ever done a DXpedition, fieldday, or general portable operation in remote locations knows that you do well to think about a few essentials beforehand. These include:

- Secure power supply. As PC best a **battery-buffered notebook/laptop**.
- **Protection against RFI (e.g. from the operator next door).** Very easily RF gets into USB cables and the connection between radio and computer then "suddenly" breaks down again and again unexpectedly. Very important this point. Please test intensively before!
- Enough sleep and a good mood, hi!

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6. What else?

My strong recommendation **before** a DXpedition:

- Download and install WSJT-X or wsjt-x_improved.

- Go to a less used frequency and test everything between you "live" on the air before your DXpedition.

- One goes into Fox mode, the others use Hound mode.

- Then switch roles until everyone is really familiar with the F/H functions.

- Gladly then also ask questions in between!

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Good Luck !

In case of questions or technical issues:

https://groups.io/g/wsjtgroup/ or

wsjt-devel@lists.sourceforge.net

73 de Uwe, DG2YCB