Super Fox Mode – WSJT-X

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What is SuperFox mode in WSJT-X?

- SuperFox mode allows an expedition to make digital QSOs at rates higher than possible with previous versions of WSJT-X. In previous versions the Fox would transmit up to 5 streams, with each stream being 50 Hz wide.
- The SuperFox transmits a full power constant-envelope waveform 1512 Hz wide. The SuperFox may send reports or RR73s to as many as nine SuperHounds simultaneously. Importantly there is no reduction in received signal strength to do so. A SuperHound will experience the same received signal strength regardless of the number of Hounds being contacted by the SuperFox.
- In addition, the SuperFox transmits a digital signature of authenticity. This signature allows the SuperHound to verify the legitimacy of the expedition, thereby reducing or eliminating piracy. This is covered in more detail soon

More info…

- ***Do I need special software?***

Yes, both the SuperFox and SuperHound need to run WSJT-X version 2.7.0-RC5 or newer.

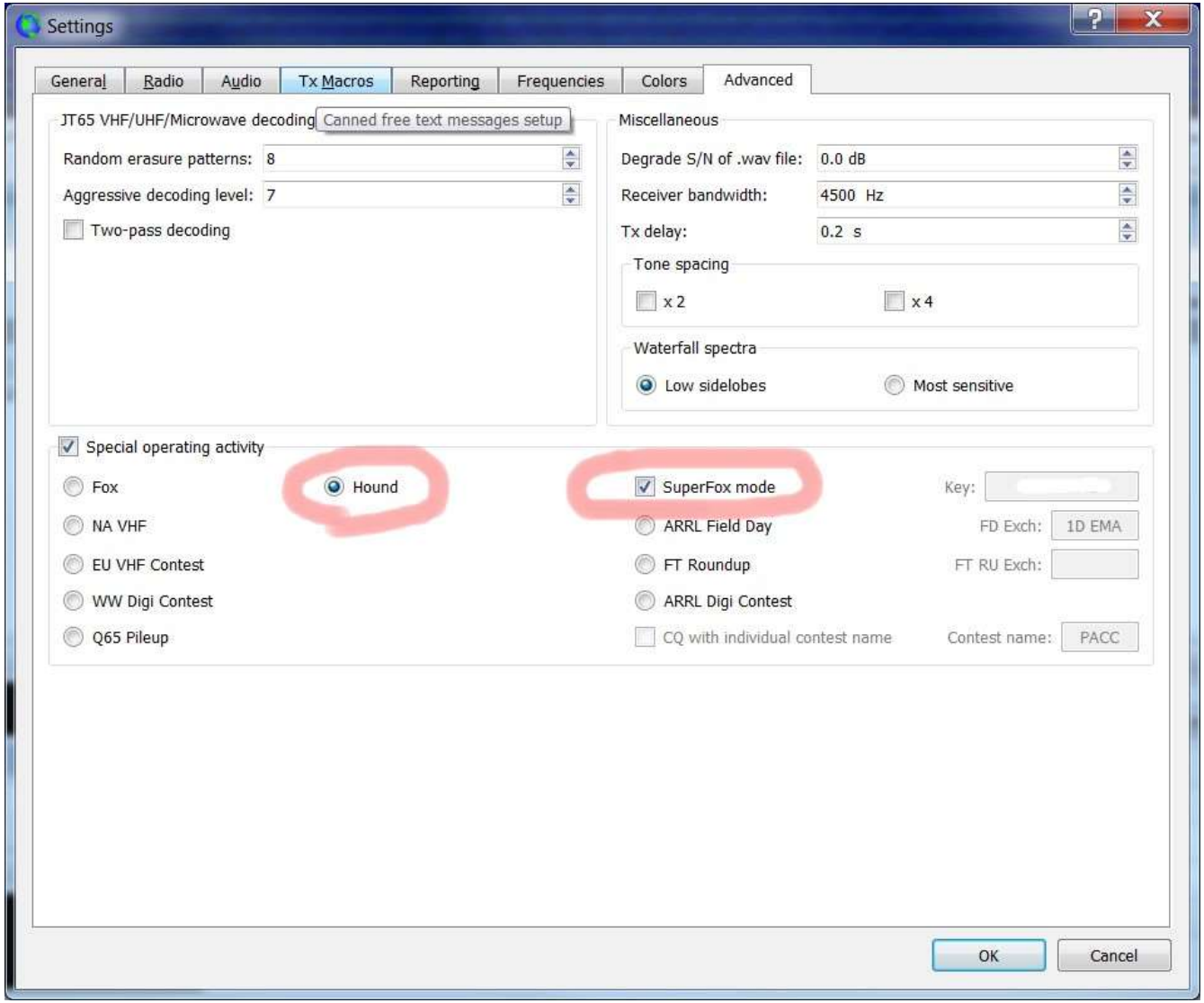
- ***Do I need to set my receiver or transmitter to a certain bandwidth for SuperFox decoding?***

No, as the SuperFox transmits a signal 1512 Hz wide, using the same settings you use now with WSJT-X will work fine.

- ***What software settings do I need to be a SuperFox or SuperHound?***

For the SuperFox: In the Settings—Advanced tab of WSJT-X, select the Fox radio button, and check the SuperFox mode box. You also need to obtain a Key and fill in the Key field. (More detail on the Key field is below).

For the SuperHound: In the Settings—Advanced tab of WSJT-X, select the Hound radio button, and check the SuperFox mode box. No Key setting is needed.


Settings
General
Radio
Audio
Tx Macros
Reporting
Frequencies
Colors
Advanced
JT65 VHF/UHF/Microwave decoding
Canned free text messages setup
Random erasure patterns: 8
Aggressive decoding level: 7
Two-pass decoding
Miscellaneous
Degrade S/N of .wav file: 0.0 dB
Receiver bandwidth: 4500 Hz
Tx delay: 0.2 s
Tone spacing
x 2
x 4
Waterfall spectra
Low sidelobes
Most sensitive
Special operating activity
Fox
Hound
NA VHF
EU VHF Contest
WW Digi Contest
Q65 Pileup
SuperFox mode
ARRL Field Day
FT Roundup
ARRL Digi Contest
CQ with individual contest name
Key:
FD Exch: 1D EMA
FT RU Exch:
Contest name: PACC
OK
Cancel

Some more info…

- ***Where will the SuperFox transmit?***

Using a 1512 Hz bandwidth, the SuperFox will start at 750 Hz and go up to 2262 Hz.

- ***Where should the SuperHound transmit?***

The previous limitation of Hounds sending above 1000 Hz has been removed. A SuperHound may transmit anywhere from 200 Hz and up. Unlike the old-style Fox and Hound operation, the SuperHound's frequency is not shifted down after being called.

- ***Do I need to change the rig Split operation settings for SuperFox or SuperHound modes?***

No, you can use the same Split settings as before. For Fox you may also use None, as no VFO shifting will be done.

- ***Are there special SuperFox frequencies on each band?***

This is up to each DXpedition to define. Expeditions should post their desired frequencies on web sites or live via a DX spotting network. SuperFox stations should never transmit on standard FT8 frequencies.

- ***How will I know the SuperFox is not a pirate?***

The SuperFox will transmit a digital signature which will be verified by the SuperHound when received. A displayed message will state the SuperFox's callsign has been verified. If no such message appears, the transmission is not verified.

Even more info…

- ***Do I need special equipment to work a SuperFox?***

No, your hardware will remain identical to your current usage. As stated in question #2, only your WSJT-X software needs to be upgraded.

- ***How to I know the QSO is complete?***

An RR73 message will be received as in previous versions of WSJT-X. If you did not receive RR73 after repeatedly sending your R+report, you can wait a few minutes and call again.

- ***How do I know that the mode is SuperFox mode vs regular FT8?***

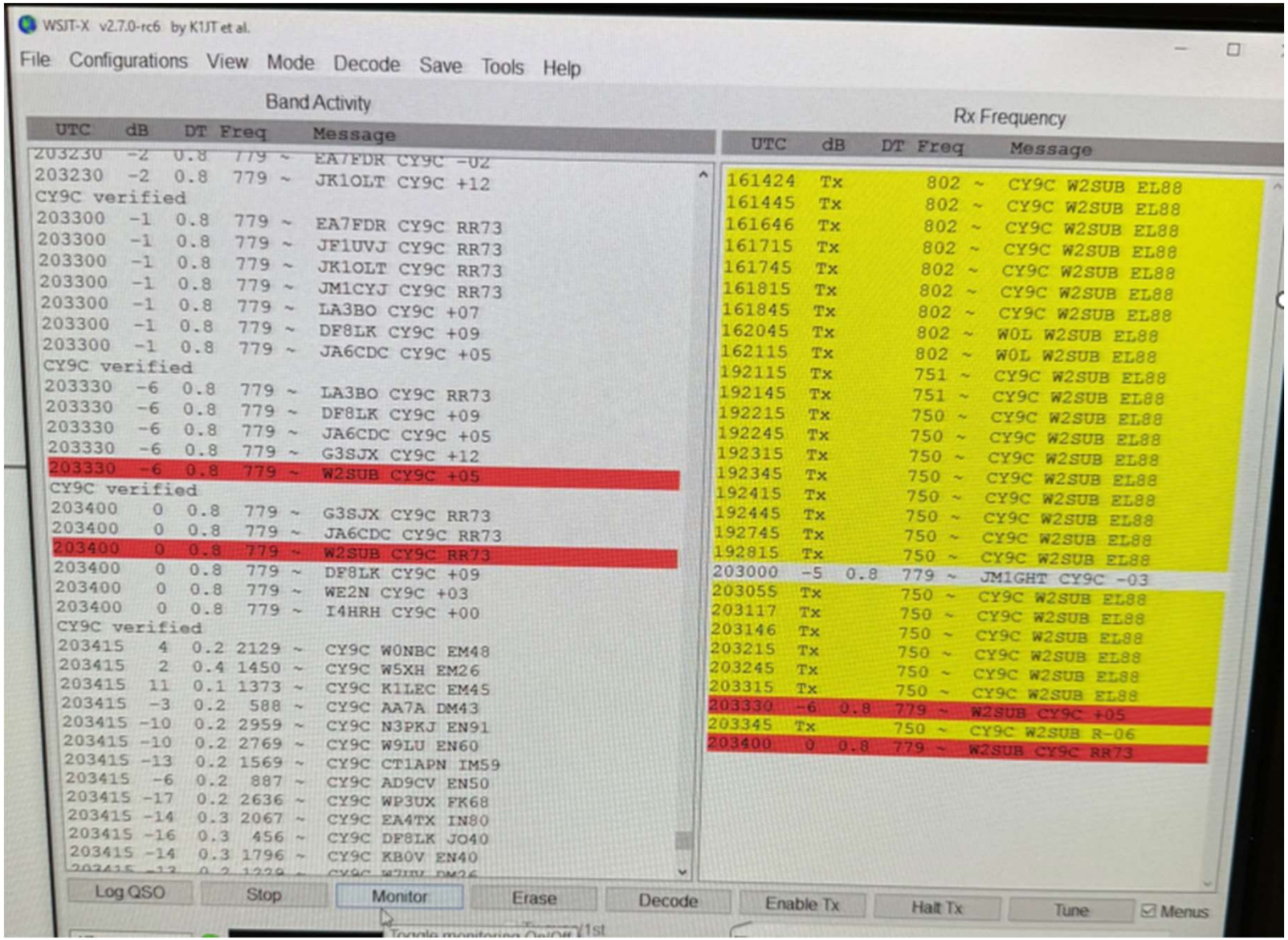
A normal FT8 signal is only 50 Hz wide; the SuperFox signal is 1512 Hz wide. The sequence of tones is markedly different and it is easy to tell that SuperFox is not a normal FT8 signal.

- ***Do I keep calling on every odd cycle until the SuperFox comes back to me?***

This is difficult to answer. A Hound or SuperHound has no way to know where you are in the Queue or if you are in the Queue at all. Generally, it is suggested to continue calling until a reply is received.

- ***Is old-style Fox/Hound Mode still available?***

Yes, there are now three major FT8 sub-modes in WSJT-X:Normal FT8, Fox/Hound and SuperFox/SuperHound.


WSJT-X v2.7.0-rc6 by K1JT et al.
File Configurations View Mode Decode Save Tools Help
Band Activity
UTC dB DT Freq Message
203230 -2 0.8 779 ~ JK1OLT CY9C +12
CY9C verified
203300 -1 0.8 779 ~ EA7FDR CY9C RR73
203300 -1 0.8 779 ~ JF1UVJ CY9C RR73
203300 -1 0.8 779 ~ JK1OLT CY9C RR73
203300 -1 0.8 779 ~ JM1CYJ CY9C RR73
203300 -1 0.8 779 ~ LA3BO CY9C +07
203300 -1 0.8 779 ~ DF8LK CY9C +09
203300 -1 0.8 779 ~ JA6CDC CY9C +05
CY9C verified
203330 -6 0.8 779 ~ LA3BO CY9C RR73
203330 -6 0.8 779 ~ DF8LK CY9C +09
203330 -6 0.8 779 ~ JA6CDC CY9C +05
203330 -6 0.8 779 ~ G3SJX CY9C +12
203330 -6 0.8 779 ~ W2SUB CY9C +05
CY9C verified
203400 0 0.8 779 ~ G3SJX CY9C RR73
203400 0 0.8 779 ~ JA6CDC CY9C RR73
203400 0 0.8 779 ~ W2SUB CY9C RR73
203400 0 0.8 779 ~ DF8LK CY9C +09
203400 0 0.8 779 ~ WE2N CY9C +03
203400 0 0.8 779 ~ I4HRH CY9C +00
CY9C verified
203415 4 0.2 2129 ~ CY9C W0NBC EM48
203415 2 0.4 1450 ~ CY9C W5XH EM26
203415 11 0.1 1373 ~ CY9C K1LEC EM45
203415 -3 0.2 588 ~ CY9C AA7A DM43
203415 -10 0.2 2959 ~ CY9C N3PKJ EN91
203415 -10 0.2 2769 ~ CY9C W9LU EN60
203415 -13 0.2 1569 ~ CY9C CT1APN IM59
203415 -6 0.2 887 ~ CY9C AD9CV EN50
203415 -17 0.2 2636 ~ CY9C WP3UX FK68
203415 -14 0.3 2067 ~ CY9C EA4TX IN80
203415 -16 0.3 456 ~ CY9C DF8LK JO40
203415 -14 0.3 1796 ~ CY9C KB0V EN40
Rx Frequency
UTC dB DT Freq Message
161424 Tx 802 ~ CY9C W2SUB EL88
161445 Tx 802 ~ CY9C W2SUB EL88
161646 Tx 802 ~ CY9C W2SUB EL88
161715 Tx 802 ~ CY9C W2SUB EL88
161745 Tx 802 ~ CY9C W2SUB EL88
161815 Tx 802 ~ CY9C W2SUB EL88
161845 Tx 802 ~ CY9C W2SUB EL88
162045 Tx 802 ~ W0L W2SUB EL88
162115 Tx 802 ~ W0L W2SUB EL88
192115 Tx 751 ~ CY9C W2SUB EL88
192145 Tx 751 ~ CY9C W2SUB EL88
192215 Tx 750 ~ CY9C W2SUB EL88
192245 Tx 750 ~ CY9C W2SUB EL88
192315 Tx 750 ~ CY9C W2SUB EL88
192345 Tx 750 ~ CY9C W2SUB EL88
192415 Tx 750 ~ CY9C W2SUB EL88
192445 Tx 750 ~ CY9C W2SUB EL88
192745 Tx 750 ~ CY9C W2SUB EL88
192815 Tx 750 ~ CY9C W2SUB EL88
203000 -5 0.8 779 ~ JM1GHT CY9C -03
203055 Tx 750 ~ CY9C W2SUB EL88
203117 Tx 750 ~ CY9C W2SUB EL88
203146 Tx 750 ~ CY9C W2SUB EL88
203215 Tx 750 ~ CY9C W2SUB EL88
203245 Tx 750 ~ CY9C W2SUB EL88
203315 Tx 750 ~ CY9C W2SUB EL88
203330 -6 0.8 779 ~ W2SUB CY9C +05
203345 Tx 750 ~ CY9C W2SUB R-06
203400 0 0.8 779 ~ W2SUB CY9C RR73
Log QSO
Stop
Monitor
Erase
Decode
Enable Tx
Halt Tx
Tune
Menus