A simplified Guide to the FT8 Dxpedition mode

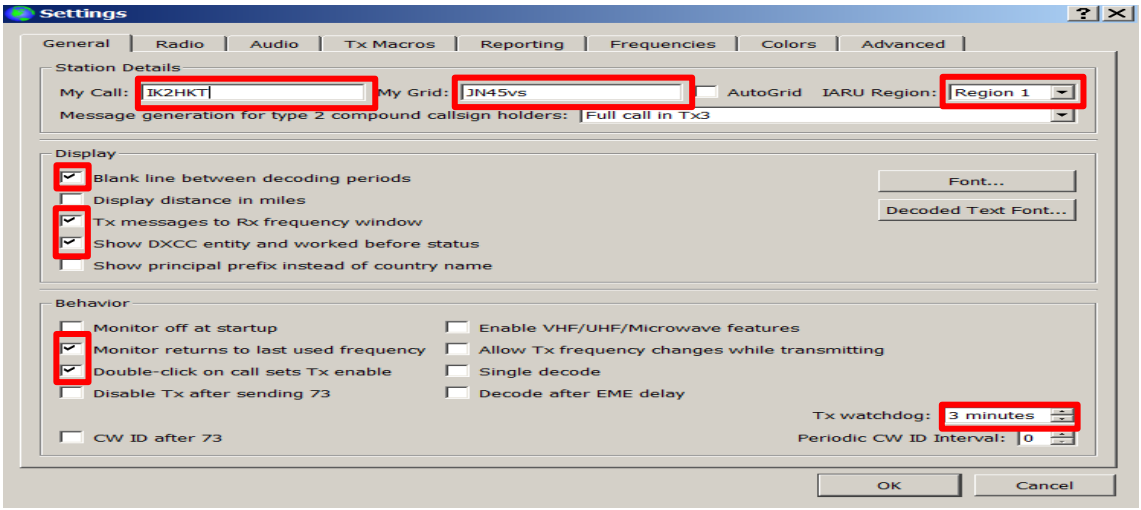
By Stefano IK2HKT – Versione 1.10 Giugno 2018

1 Download and configuration

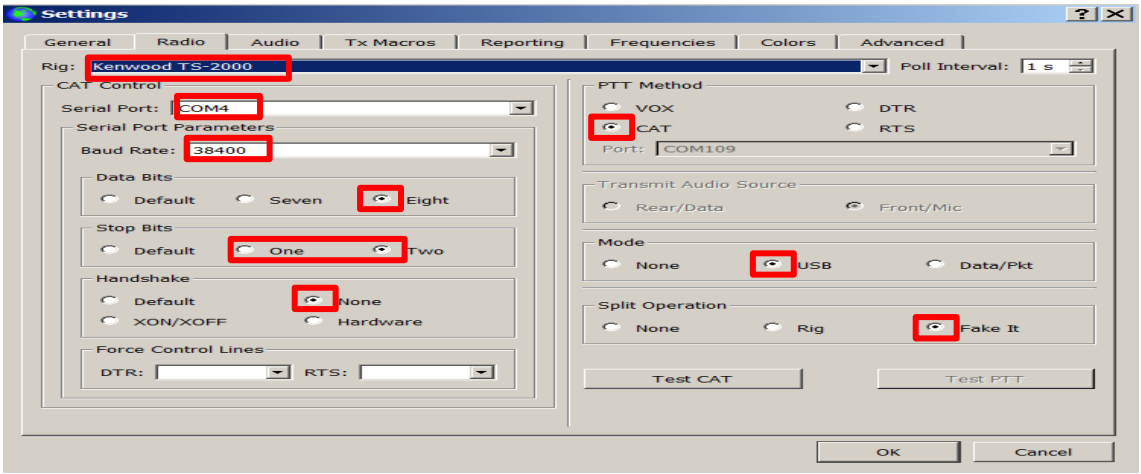
1.1 Download and install WSJT-X (release 1.9.0 or higher) from:
https://physics.princeton.edu/pulsar/k1jt/wsjtx.html

1.2 Lunch the program, then press F2

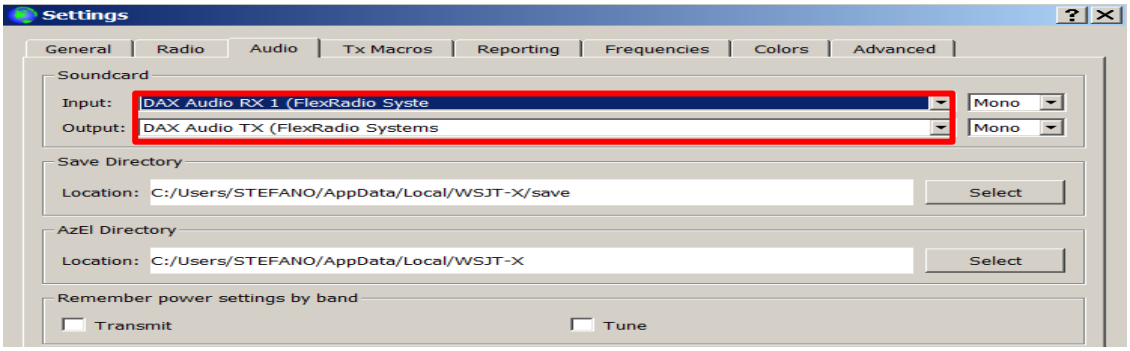
1.3 Click on “General”, enter your data and check appropriate entries (see image below)



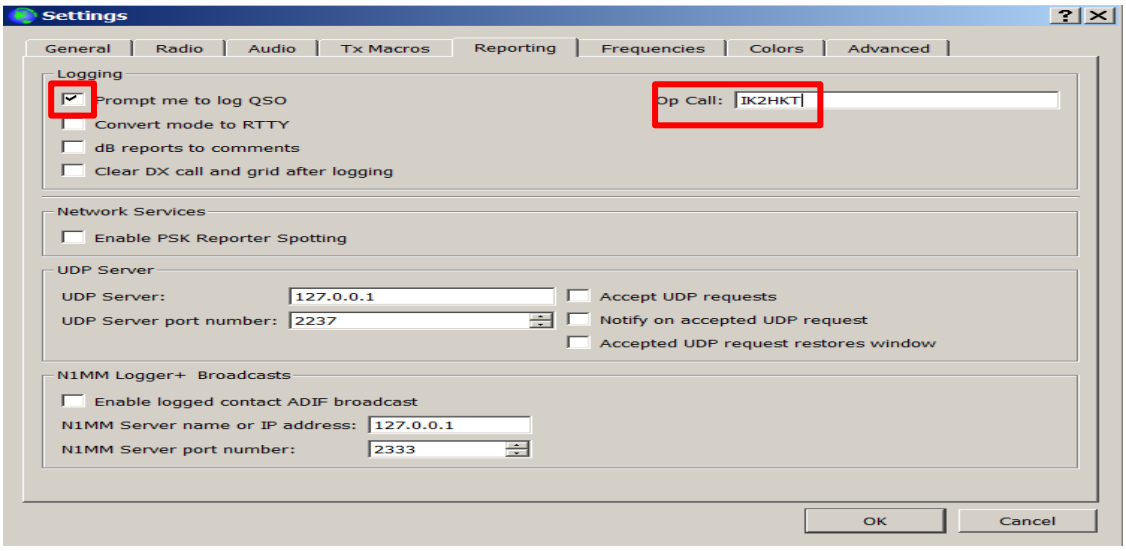
1.4 Click on “Radio”, enter your radio type and settings of the CAT port.
Check entries as on the image below (Stop bits: One or Two, according to radio type)



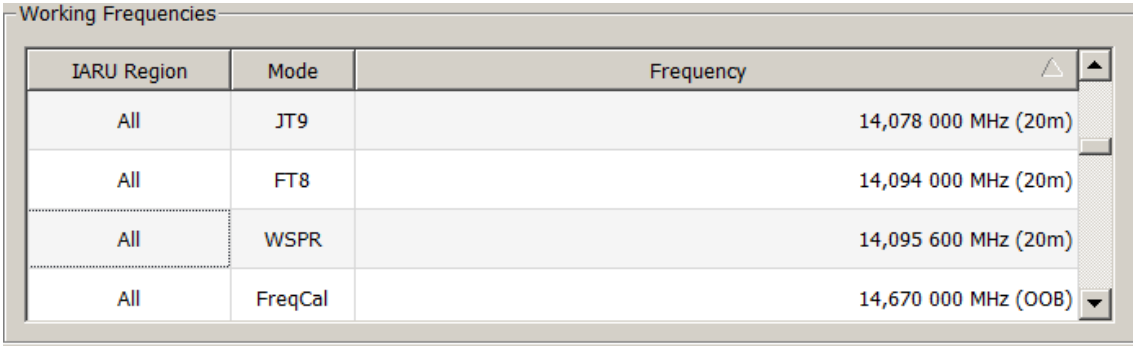
1.5 Click on “Audio” and select the Sound Card used for RX and TX



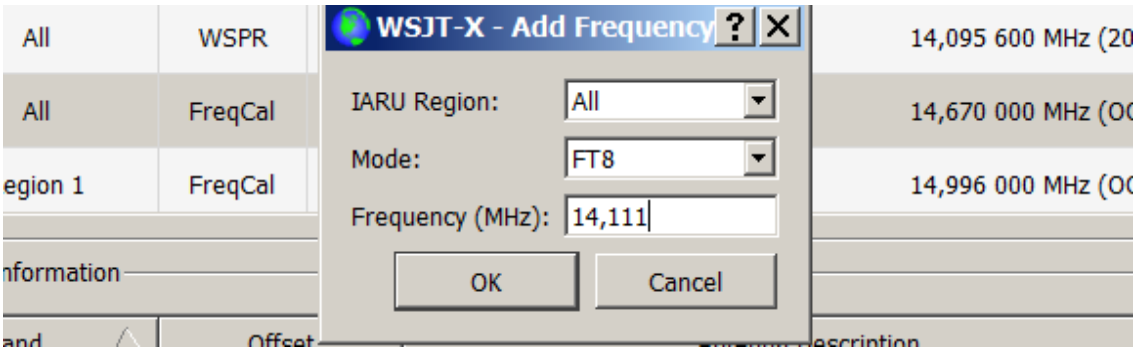
1.6 Click on “Reporting” and check the box. Enter your Call sign



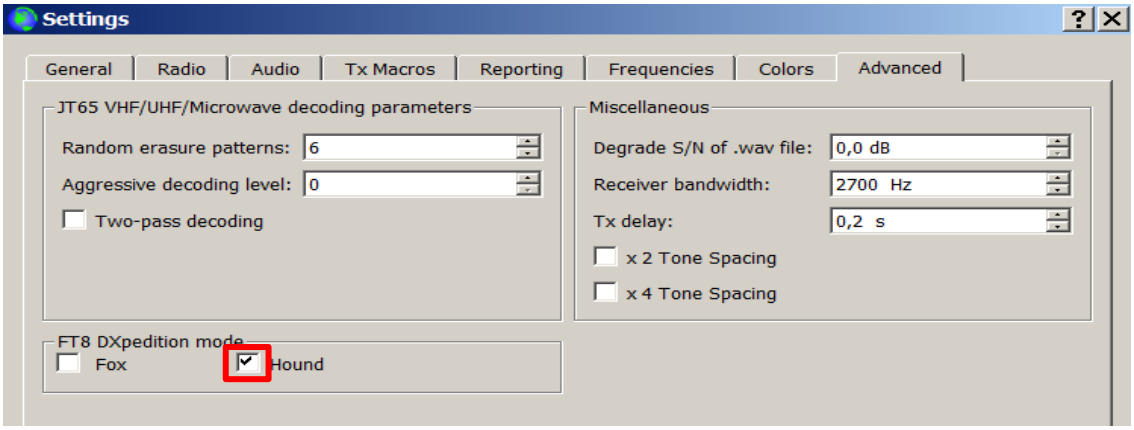
1.7 Click on “Frequencies” and scan the frequency list (see image below)



1.8 Right-click the last line (14,670 MHz) and select “Insert”. Select “Mode=FT8” and enter in “Frequency” the Dxpedition frequency (in the example 14,111 MHz).
Click OK

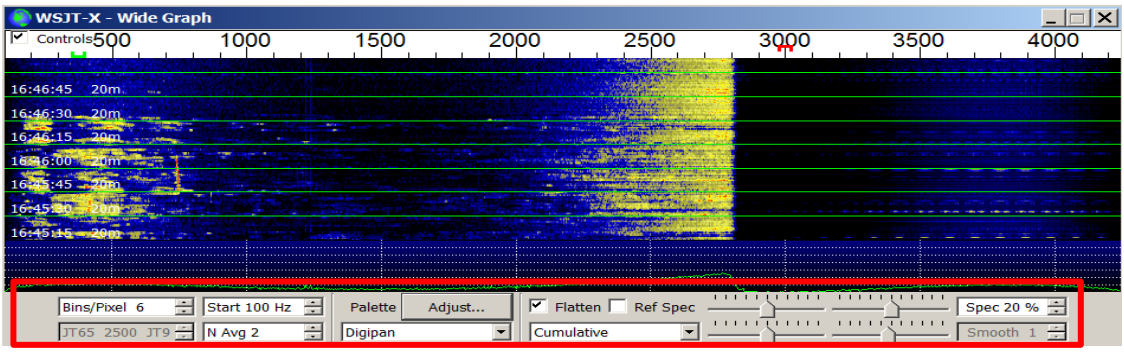


1.9 Click on “Advanced” : check “Hound” (see image) ONLY IF you want to contact a Dxpedition which used this mode.
(NOTE: uncheck the box to return to a “normal” mode).

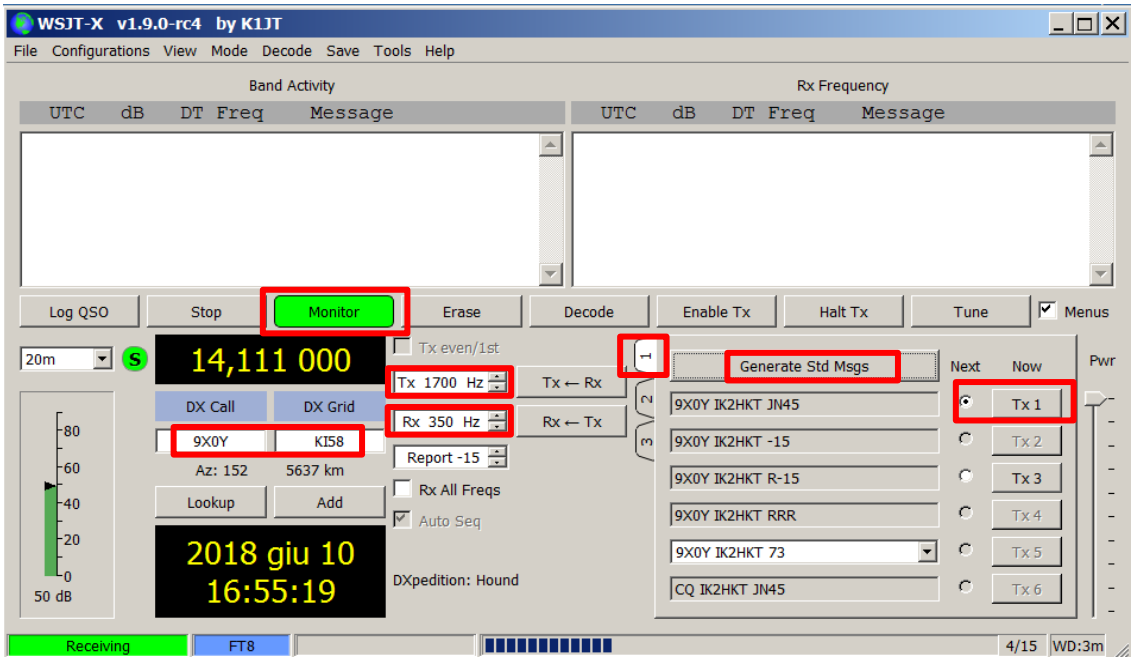


1.10 Click “OK”

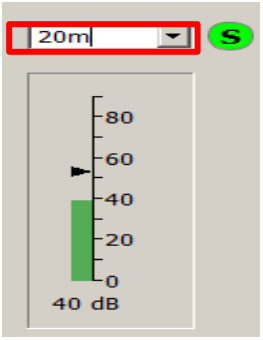
1.11 Arrange the two windows of the program at will.
Configure the WideGraph window as in the image below



1.12 Configure the WSJT-X window as in the image below, inserting the callsign of the Dx station (the locator is not necessary, but it allows to get the beam heading and distance in KM to the Dx station). Enter the TX and RX frequencies shown in this image and then clik on “1”, then click on “Generate Std Msgs”. Click on “Monitor” (it should be filled green) and finally on “TX1”



1.13 Click on the pointer (triangle) next to the band and select the frequency of the Dxpedition as entered in 1.8 above



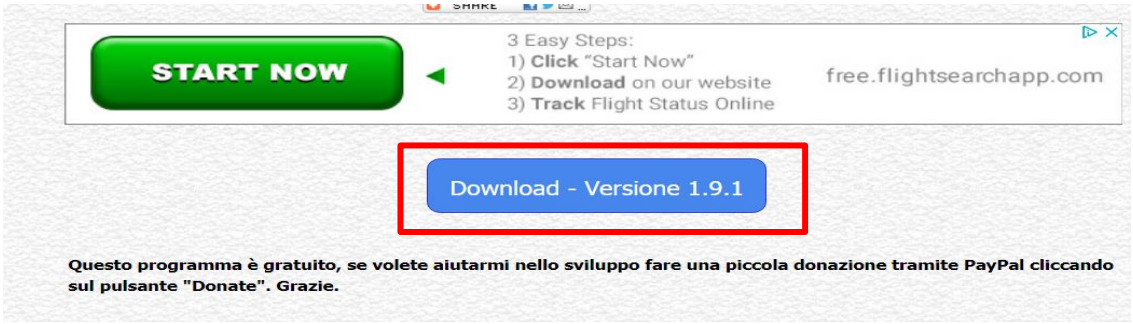
1.14 The configuration for QSOs in DxPedition Mode in completed.
You may close WSJT-X program.

2 Download and configuration for accurate program timing

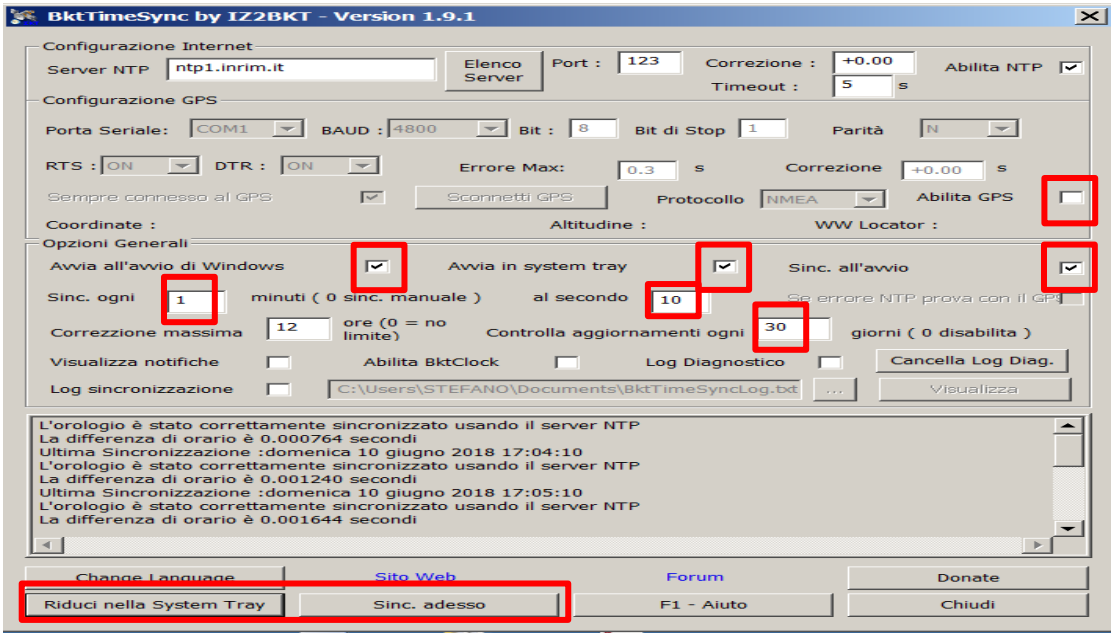
2.1 Go to website http://www.maniaradio.it/en/bkttimesync.html

2.2 Select language (in the example : Italian)

2.3 At the bottom of the page click "Download – Versione 1.9.1"

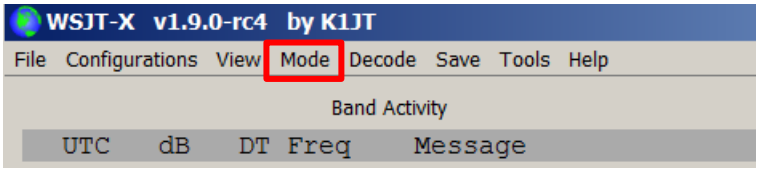


2.4 Install and configure as per image below



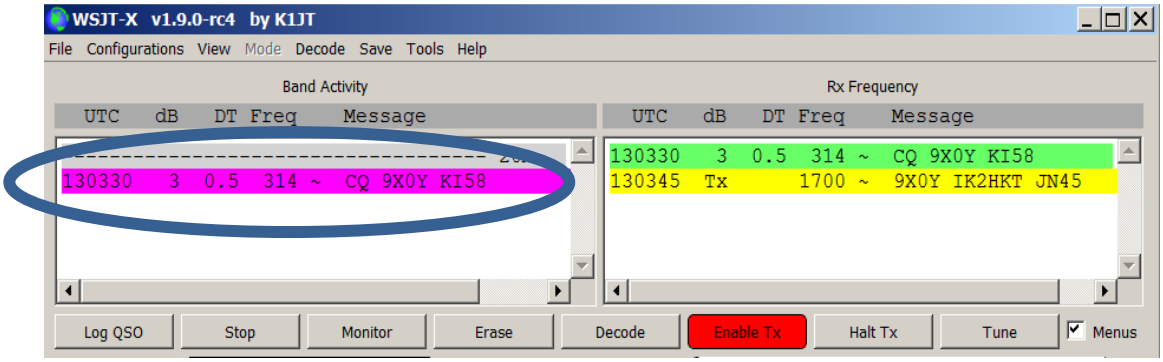
2.5 Click on "Sync. Now" and then on "Shrink to System Tray"

2.6 Click on the WSJT-X icon and re-launch the FT8 program.
Click the "Mode" tab and select FT8 from the pull-down menu.

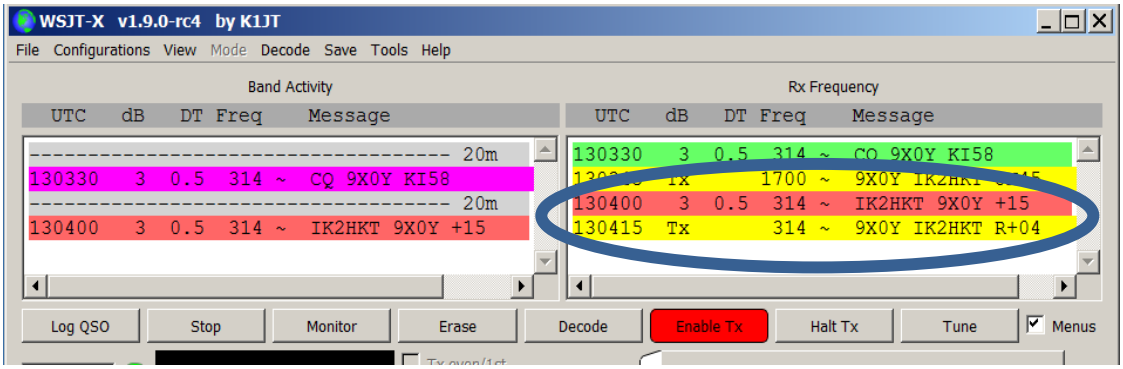


3 Example: a QSO

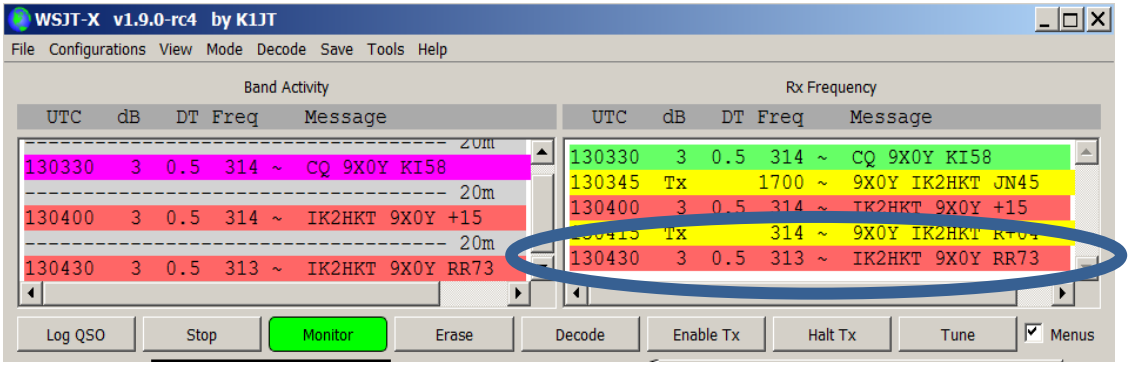
3.1 Wait for the Dx station to call CQ. Click twice on the line displayed in the Band Activity window (purple color). NOTE: DO NOT call until CQ appears in the window: if there are other QSOs ongoing, your message cannot be decoded !



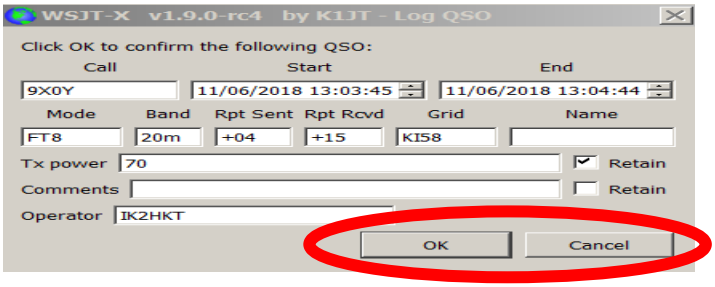
3.2 At this point all happens automatically, no more actions are required. If the Dx station decodes your message, after 15 seconds from its transmission you will see the red strip in the Rx Frequency window with the signal strength received by the Dx. At this point your radio will transmit the signal strength received by you (yellow line)



3.3 To finish the QSO, the Dx station will confirm with RR73 (see last red line) and the QSO is completed



3.4 The log window open automatically and you can choose to save the QSO in the log file of WSJT-X (click “OK”) or discard it (click “Cancel”)



4 Note for newcomers

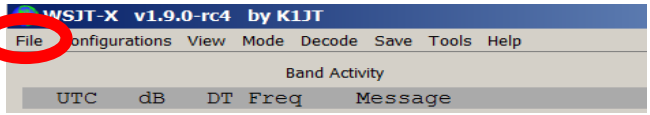
4.1 The QSO timing is referenced to the internal clock of your computer. It is mandatory that it be perfectly synchronized. For this reason it is recommended to install a program handling the whole procedure automatically. Among the different sync programs, the one used in this manual is show in Section 2.

4.2 Before carrying out a QSO, make sure that the level of your audio card are set to reasonable values for RX and TX. Overloading may prevent decoding on both sides (see the online Help of the WSJT-X program).

4.3 The Watchdog (a timer) is set at 3 minutes (see Sect.3). After transmitting for 3 minutes the program switch to StandBy, in which case you have to double-click on the CQ strip of the Dx station to restart the QSO sequence. You may increase/decrease this value a will.

4.4 Using the radio CAT is essential, althought not necessary. You may tray the "manual" mode, but this requires being familiar with the frequency-change procedure during the QSO (see the online Help of the WSJT-X program).

4.5 If the QSO is logged in WSJT-X the corresponding ADIF file can be found by clicking on File → Open log directory → wsjtx_log.adi.

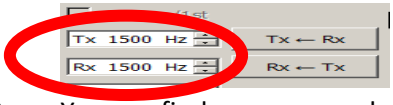


You can then copy and import it into your station log.

4.6 If the Dx station is calling by call areas (e.g. CQ NA for north America, CQ AS for Asia …) DO NOT answer unless you are in the correct call area. Your message will NOT decoded.

4.7 Keep in mind that the Dx station can answer at the same time a miximum of 5 different stations. This has no effect on the procedure and you should do nothing specific. You will observe that your radio might change frequency automatically: no worries, this is correct. Let the QSO complete by itself !

4.8 If you wish to use the software in "normal" mode, you should remove the check mark from the "Hound" box (see Sect. 1.9). Remember to enter new reference frequencies in the main window as image below (see Sect. 1.12).



4.9 You can find many manuals on the web that can help you understand how FT8 work.
Try to read the one from ZL2IFB that you can download from this website:
http://www.g4ifb.com/html/ft8_tips.html

4.10 9X0Y will work with the "NO DUPE" function activated. If you have been logged before, your call will not be acknowledged. Barring problems with the internet connection, the online log will be updated each minute at this link
http://win.i2ysb.com/logonline/default.asp?ID_dxpedition=50
Open the page and enter your call, then click "Search". Verify the last upload time (in the yellow windows), click "Continue" and if your QSO was logged before that time, you will see it confirmed.
At this point enter the QSO time (HHMM) and click on "Next" to proceed requesting your QSL card via OQRS.