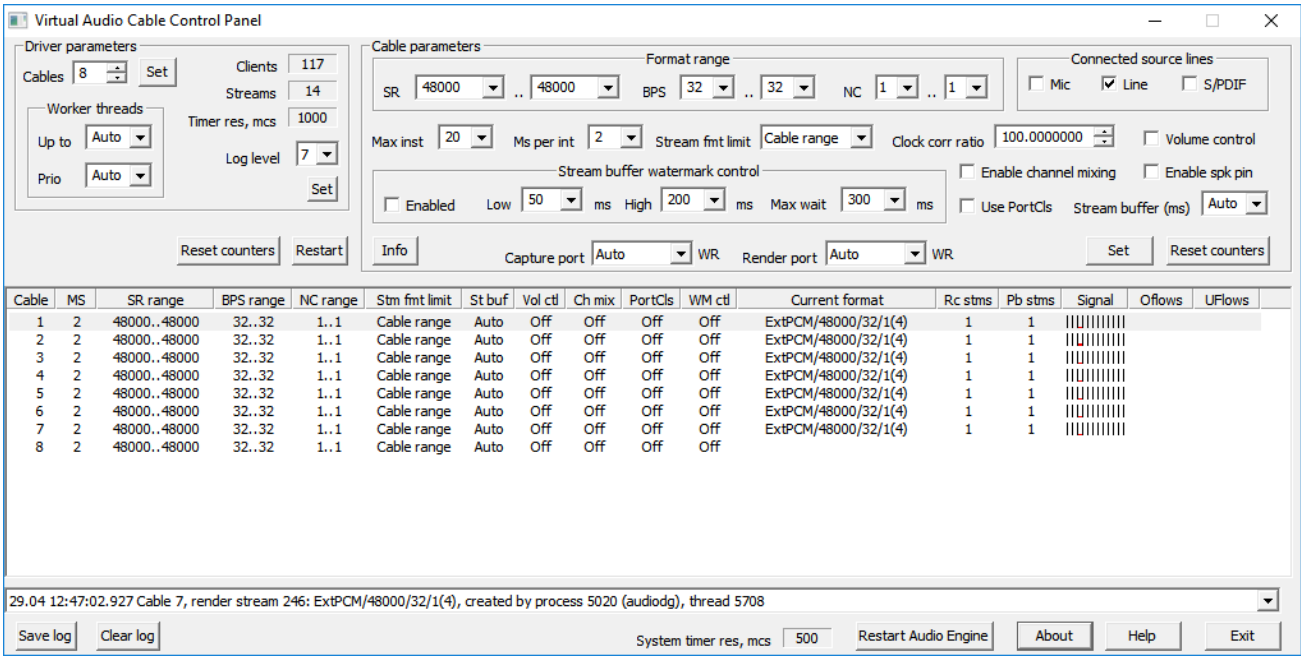
Using FT8StartUp v 2.1
Dick Williams, W3OA
February 20, 2019

The purpose of FT8StartUp is to expedite setting up multiple instances of WSJT-X in order to send FT8 spots to Aggregator and ultimately the Reverse Beacon Network.

Preliminaries:

1. Set up Skimmer Server to run with CWSL_Tee and cover your chosen bands, up to eight if your SDR supports that many. Wes, WZ7I, describes how to do this in a blog post at http://reversebeacon.blogspot.com/2013/03/magic-with-qs1r-two-apps-at-once.html
2. Install WSJT-X v2.0.0. If an instance of WSJT-X is not running on the same computer as Aggregator you will need to change the IP address in WSJT-X's File/Settings/UDP Server/UDP Server: box to either a broadcast address (ending in .255) or the address of the Aggregator computer.
3. Install virtual audio cables, at least one for each band you want to cover. The program I used for virtual audio cables came from http://software.muzychenko.net/eng/vac.htm. The screen shot below shows the settings I use for Virtual Audio Cables on a Windows 10 computer. Pay particular attention to the SR and BPS ranges. For Windows 7 you should set the BPS range to 24 .. 24.



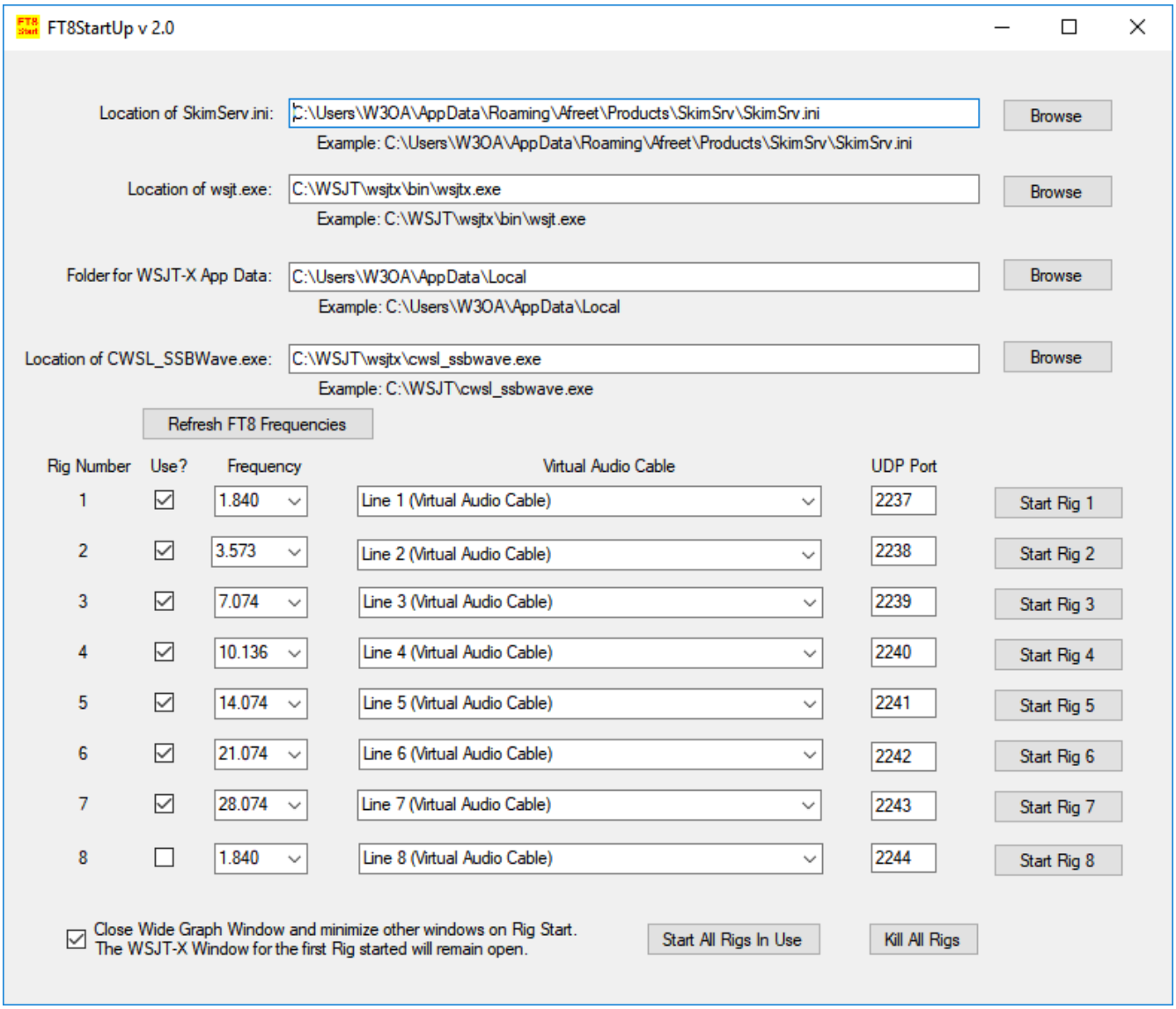
4. Wes also advises that if you are running Windows 7 you need to add an additional step. Go to the Control Panel, Hardware and Sound, Sound, Manage audio devices. Click on the Playback tab, select "Line 1, Virtual Audio Cable". Then Click on Properties, Advanced, and from the pulldown menu select "1 channel, 24

bit, 48000 Hz (Studio Quality)", and then "OK". Repeat this for each VAC. Then repeat this process for the Recording tab of each of the Virtual Audio Cables."

5. Obtain and store CWSL_SSBWave.exe in a known location. I suggest the C:\WSJT folder. Get CWSL-SSBWave.exe from https://github.com/alexranaldi/CWSL/blob/master/bin/CWSL_SSBWave.exe Click the "Download" button to initiate the download.
6. Store FT8StartUp.exe in a location that is not protected by Windows.

Operation:

1. Start FT8StartUp. You should see a window as shown below. The input boxes will be empty.



2. Use the "Browse" buttons in the top four rows to specify the four file locations the program needs to operate. If you installed Skimmer Server and WSJT-X in their

default locations the “Browse” buttons should open their File Dialogue in the correct location. Note that the first, second, and fourth rows ask for the relevant .exe. The third row asks for a folder. See the examples under each row.

3. Each of the rows marked “Rig Number” 1 through 8 will contain the parameters FT8StartUp will use to start an instance of WSJT-X. After specifying the file locations in Step 2 click the “Refresh FT8 Frequencies” button. FT8StartUp will read the SkimServ.ini file you specified to determine which FT8 standard frequencies your SDR is covering and place those frequencies in each of the “Frequency” combo boxes.
4. Fill in the parameters for the “Rig Number 1” line to indicate how you want the first WSJT-X instance to operate. Use the combo boxes to select the frequency and the Virtual Audio Cable. The “UDP Port” specifies the port WSJT-X will use to send messages to Aggregator. Each port number must be unique, not used by any other application on this computer. Enter the same port number on Aggregator's “FT8” tab (see the next page for more information on setting up Aggregator).
5. Now Click the “Start Rig 1” button. FT8StartUp will start an instance of WSJT-X and CWSL_SSBWave. You should see their windows open up and the programs should operate normally.
6. Repeat steps 4 and 5 for any additional rigs you want to set up.
7. Click the “Kill All Rigs” button to kill all the instances FT8StartUp has started.
8. The purpose of the “Start All Rigs In Use” button is to provide a convenient method to start multiple rigs. It will start all the rigs that have a check in the “Use?” check box. Give it a try.
9. There is another check box called “Close Wide Graph and Minimize other windows on Rig Start”. It does what it says and is provided to minimize use of system resources. The first WSJT-X window is left open because my experience led me to believe this improved decoding during long periods of unattended operation.

Automate Start Up. FT8StartUp will accept a command line argument that causes it to simulate a user clicking the “Start All Rigs In Use” button when it starts. I setup a desktop shortcut with a target that looks like C:\WSJT\FT8StartUp.exe -autostart to do this.

Aggregator:
Version 5.0 has a new tab, “FT8”, added specifically to receive FT8 spots via UDP messages. The text in the upper left corner explains how to use this feature. Note that the intent was to add FT8 spots to a node already skimming for CW or RTTY spots. Consequently, a connection using the Primary Skimmer Connection on the “Connections Tab” is still required.