

QS1RServer/SDRMAXII Notes

Date: 11/24/2008

Applies to: version numbers: 1.0.0.39/1.0.1.4

1. Using the on board DAC output instead of the PC sound card.

QS1RServer uses the on board DAC output (J11) on QS1R instead of the PC sound card by default in this version. If you would like to enable sound card output along with the DAC output, you must edit the QS1RServerConfig.xml file located in the ServerFiles folder in the SDRMAXII installation folder (typically c:\Program Files\SDRMAXII\).

Look for the entry: `<EnableLocalAudio>>false</EnableLocalAudio>`

Changing the setting to true will enable the sound card output. Setting it to false will disable the sound card output. You must restart the server for this setting to take effect.

If you have the sound card output disabled you will need to connect headphones or an amplified speaker to J11 DAC output, or connect the DAC output to the line in of your PC soundcard.

2. External mute input with QS1R.

QS1R has a provision to allow an external muting circuit for use with a transmitter/transceiver. To enable external muting you must edit the QS1RServerConfig.xml file. By default, external muting is disabled. To enable external muting edit the QS1RServerConfig.xml file as follows:

change:

```
<AllowExternalMute>>false</AllowExternalMute>
```

to:

```
<AllowExternalMute>>true</AllowExternalMute>
```

You must restart the server for this setting to take effect.

A recommended input circuit for external muting is available at:
http://www.philcovington.com/qs1r_latest/Misc/External_Muting/

3. Enabling the dither function on QS1R.

To enable the dither function of the QS1R's LTC2208 ADC (for testing purposes) you can enter the following command in the QS1RServer window:

To turn on dither: `>w:dither[1]`

To turn off dither: `>w:dither[0]`

Dither is turned off by default and it should only be changed for testing purposes.

Changes

11.24.2008: Fixed popping at high gain settings in DSB mode. Rearranged AGC and post filter sections in radio chain. –N8VB

11.14.2008: Changed AGC position within receive chain depending on demodulation mode and whether post filter is used. The previous release had audio distortion caused by overload in the DSB mode when post filter was activated. –N8VB

11.12.2008: Added post filtering in the QS1RServer after the demodulator to clean up high frequency noise in AM mode. This filter is always active in any mode to clean up possible artifacts after noise filtering, automatic notch filtering, and AGC action. This change is most noticeable in AM mode where the receiver sounds much cleaner for audio output. –N8VB

10.21.2008: Fixed cordic step size in qs1r_2ch.rbf file. The smallest reported step was ~ 59 Hz, this was due to a 21 bit register size in the new cordic module. The register was expanded in size to 31 bits and now the steps are ~ 0.1 Hz. – N8VB