External Radio

Synchronise an external radio with your SDR

Introduction   Starting   Options
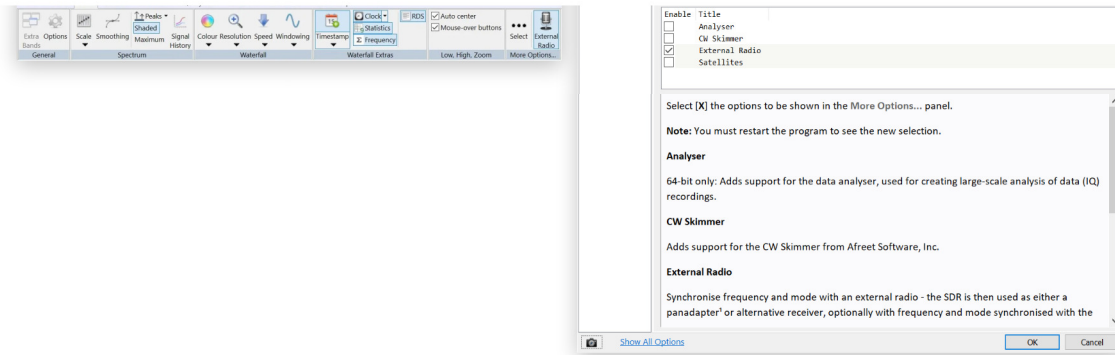
Inverted Spectrum   Omni-Rig

Introduction

The External Radio option provides 'pan-adaptor' support for standard HF / VHF radios such as the Yaesu FTDX-3000. A SDR receiver such as the Airspy HF+ or RSP1A is synchronised with the radio using a serial port interface for frequency/mode control. the SDR uses either the same antenna as the radio or takes a signal from an IF output socket.

Starting

Omni-Rig

This software uses Omni-Rig, a free download from Afreet Software, Inc. Install Omni-Rig before proceeding further, more information is below.

After restarting the console the External Radio display is added to the Receive DSP panel.

Options

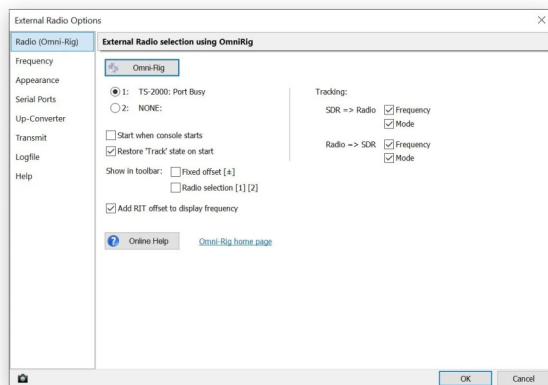Display the options by pressing the ? button in the main display.

Radio (Omni-Rig)

In this window you also add options to the toolbar if required:

- Show +/- offset (RIT).

- Rig selection (1 or 2).

The Fixed Offset option is usually enabled when the SDR signal comes from the IF Output of the radio.
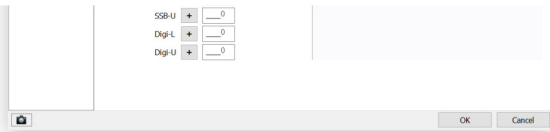

Frequency

The SDR receives the RF signal either:

- Directly from an antenna (can be shared with the external radio), or

- From the IF output of the transceiver.

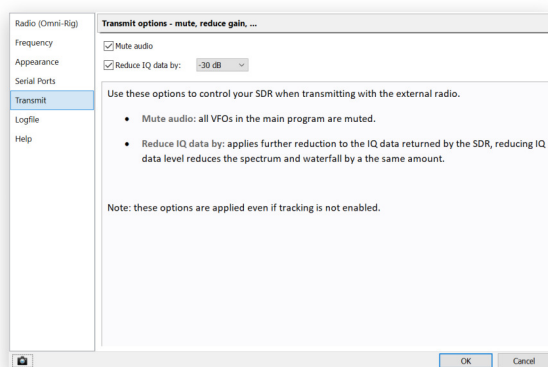When using the IF output from your transceiver you can define a

Transmit

Use these options to control your SDR when transmitting with the external radio.

- Mute audio: all VFOs in the main program are muted.
- Reduce IQ data by: applies further reduction to the IQ data returned by the SDR, reducing IQ data level reduces the spectrum and waterfall by the same amount.
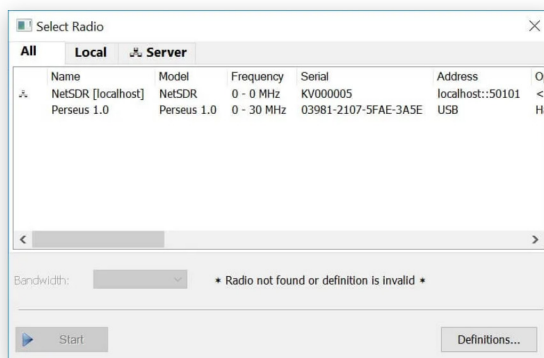
Note: these options are applied even if tracking is not enabled.

1. Open the Select Radio window,

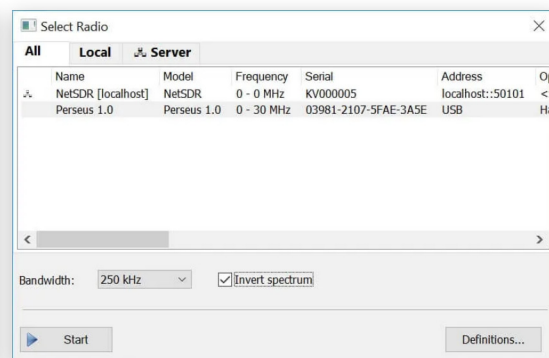2. Click Definitions,

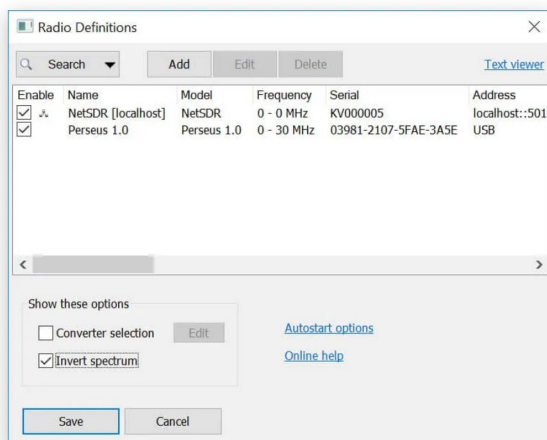3. In the Radio Definitions window check Invert Spectrum,

4. Click Save.

When you select the radio now check Invert Spectrum in the Select Radio window.

(1) Definitions

(3) Invert Spectrum

(2) Radio Definitions

control. OmniRig must be installed before using the external radio display, see below for more information.

The file to download and install is on http://www.dxatlas.com/Download.asp the file is OmniRig http://www.dxatlas.com/OmniRig/Files/OmniRig.zip, this contains radio definition (.ini) files. The very latest .ini files are in http://www.dxatlas.com/OmniRig/Files/RigIni.zip.

To configure Omni-Rig you must open the external radio options, to do this press the ? button in the external radio window.

- Use the Serial Ports page to find the ports on your computer.
- In OmniRig set the Poll Int. ms (polling interval in milliseconds) to 100 (or lower if supported). If you do not set a low

will give a better response but can return erratic values if set too high.

- Check the OmniRig website and support groups for your radio to ensure you have the latest OmniRig support files (.ini).

Diagnostics

In the Logfile pane you can enable [X] Verbose logging when diagnosing problems. When Verbose is selected all entries written to the logfile are also sent to the current debugger, for example DebugView which is downloaded for free from https://technet.microsoft.com/en-us/sysinternals/debugview.

find Omni-Rig is unreliable (the external radio supports stops working correctly) then you can use the Serial Port interface for a logbook.

Please donate

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