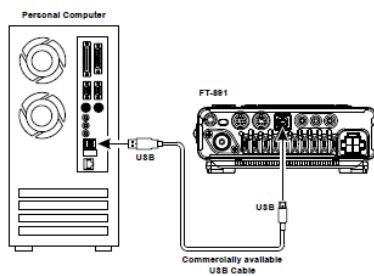


Using the Yaesu SCU-17 usb data interface with Yaesu FT-891 Transceiver

The Yaesu SCU-17 is a robust metal cased usb powered interface for use with AFSK and FSK data modes, providing CAT control, PTT switching, and front panel controls for input/output audio level. Two usb cables and a Yaesu data cable will be required to fully interface with the Yaesu FT-891.

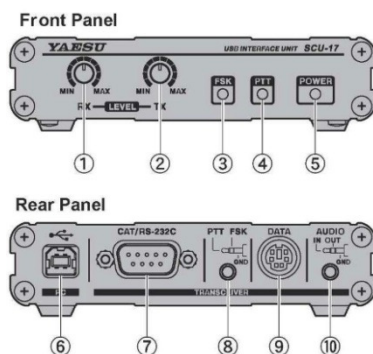


NOTE: The Yaesu-891 handles CAT control through its own usb interface on the rear of the radio not the data port and SCU-17. Plug one of the usb cables into the usb socket on the rear of the Yaesu FT-891 and pc as below to enable CAT control.



Connecting the Yaesu SCU-17 interface

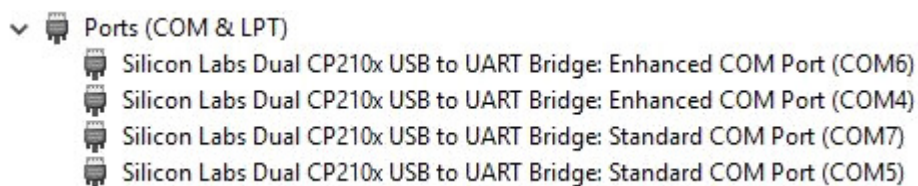
1. Connect the data cable between the Yaesu SCU-17 [label 9 in the picture below] and the Yaesu FT-891 data port.
2. Connect a usb cable between the Yaesu SCU-17 [label 6 in the picture below] and a second usb port on your computer.



If your computer is OFF, power it ON. I would recommend that if any changes are made to port settings for the Yaesu SCU-17 or the Yaesu-891 that you disconnect and reconnect the usb connection to the device.

The ports allocated by Windows can vary depending on what you have connected to the computers usb ports. Below are my settings for the usb COM ports when displayed in Windows Device Manager. If you are unsure how to view Windows Device Manager consult your manual.

Your COM port numbers assigned to the Yaesu SCU-17 and Yaesu FT-891 interfaces may be different to mine due to other devices connected to your PC therefore either adjust the notes accordingly to suit your COM ports or change them in Device Manager to those below by right click each COM port in Device Manager and select "Properties", "Port Settings", "Advanced", and "Port Settings" from the dialog box.



In my setup I will use the following COM port settings:

Yaesu FT-891 USB Port

CAT (for frequency control) via Com 4 - Enhanced COM Port

No Handshake

8 data bits / 2 stop bits

4800 baudrate

Yaesu SCU-17 (FT-891)

PTT (RTS) via Com 7 - Standard Port (SCU-17)

FSK/PTT via Com 7 - FSK (DTR) / PTT (RTS)

AirLink Express <http://www.airlinkexpress.org/>

PSK and true FSK RTTY use.

Fldigi <https://sourceforge.net/projects/fldigi/files/fldigi/>

Various AFSK data modes

WSJT-X <https://physics.princeton.edu/pulsar/k1jt/wsjt.html>

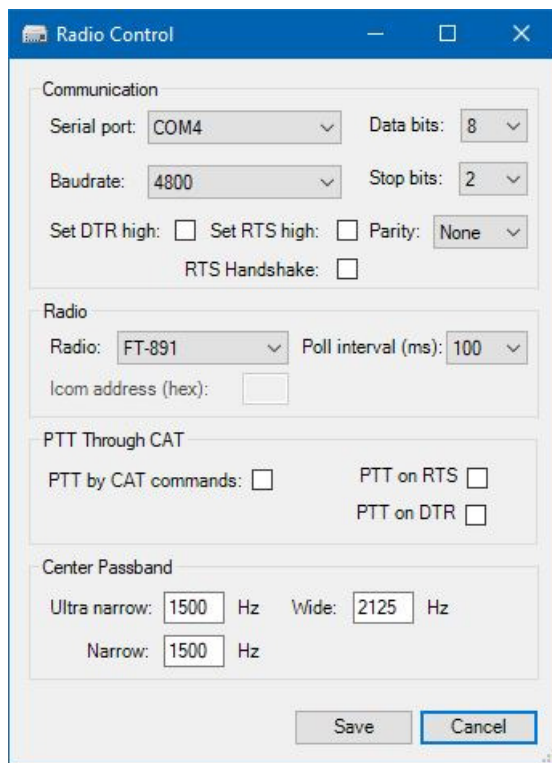
Various weak signal modes

JS8Call <http://js8call.com/downloads/>

Weak signal data communication

Below are screenshots of the Radio and Audio configuration settings of the software named above.

Airlink Express configuration (page 1 of 2)



The Radio Control window is divided into four sections: Communication, Radio, PTT Through CAT, and Center Passband. The Communication section includes fields for Serial port (COM4), Data bits (8), Baudrate (4800), Stop bits (2), Parity (None), and checkboxes for Set DTR high, Set RTS high, and RTS Handshake. The Radio section includes Radio (FT-891), Poll interval (ms) (100), and Icom address (hex). The PTT Through CAT section includes checkboxes for PTT by CAT commands, PTT on RTS, and PTT on DTR. The Center Passband section includes Ultra narrow (1500 Hz), Wide (2125 Hz), and Narrow (1500 Hz) settings. Save and Cancel buttons are at the bottom.

Radio Control

Communication

Serial port: COM4 Data bits: 8

Baudrate: 4800 Stop bits: 2

Set DTR high: Set RTS high: Parity: None

RTS Handshake:

Radio

Radio: FT-891 Poll interval (ms): 100

Icom address (hex):

PTT Through CAT

PTT by CAT commands: PTT on RTS

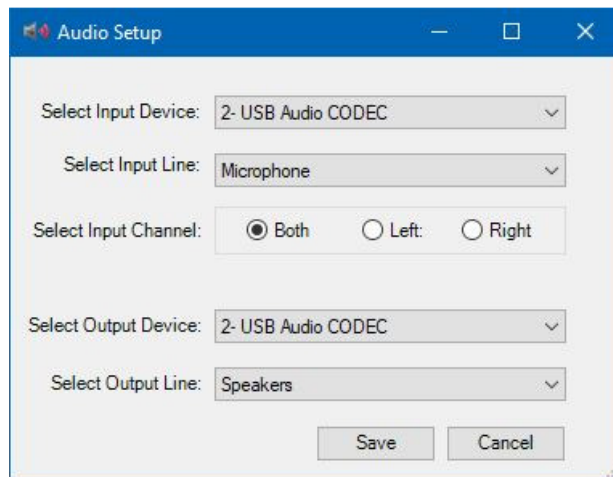
PTT on DTR

Center Passband

Ultra narrow: 1500 Hz Wide: 2125 Hz

Narrow: 1500 Hz

Save Cancel



The Audio Setup window contains five main sections: Select Input Device, Select Input Line, Select Input Channel, Select Output Device, and Select Output Line. Each section has a dropdown menu. The Select Input Channel section has three radio buttons: Both (selected), Left, and Right. Save and Cancel buttons are at the bottom.

Audio Setup

Select Input Device: 2- USB Audio CODEC

Select Input Line: Microphone

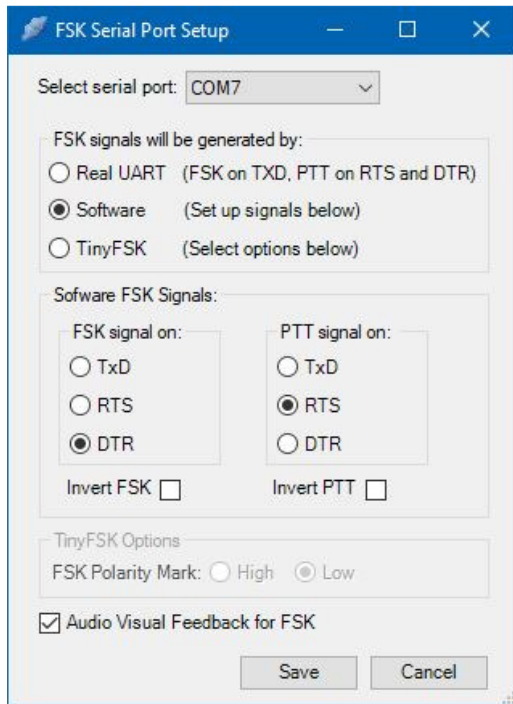
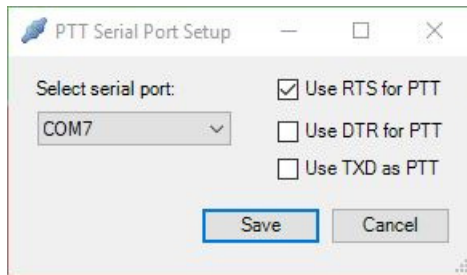
Select Input Channel: Both Left Right

Select Output Device: 2- USB Audio CODEC

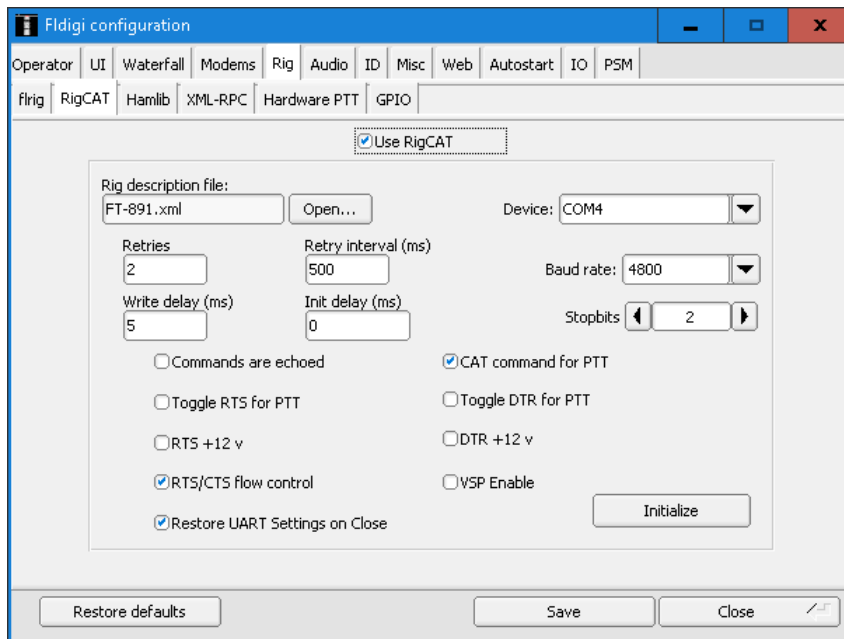
Select Output Line: Speakers

Save Cancel

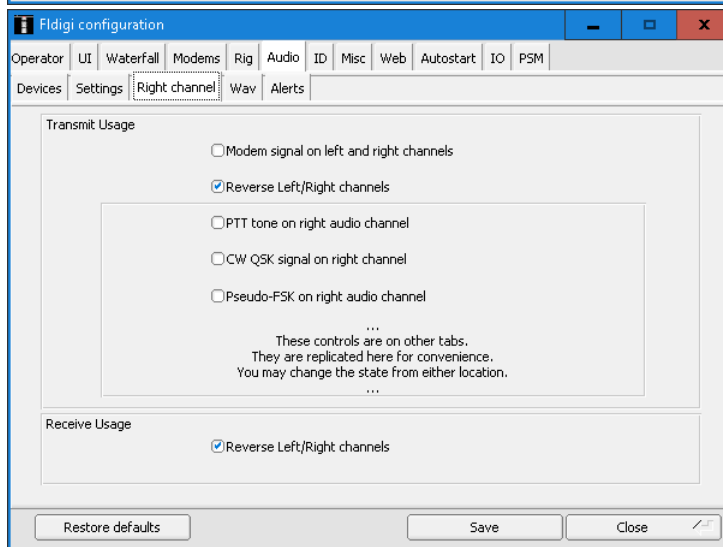
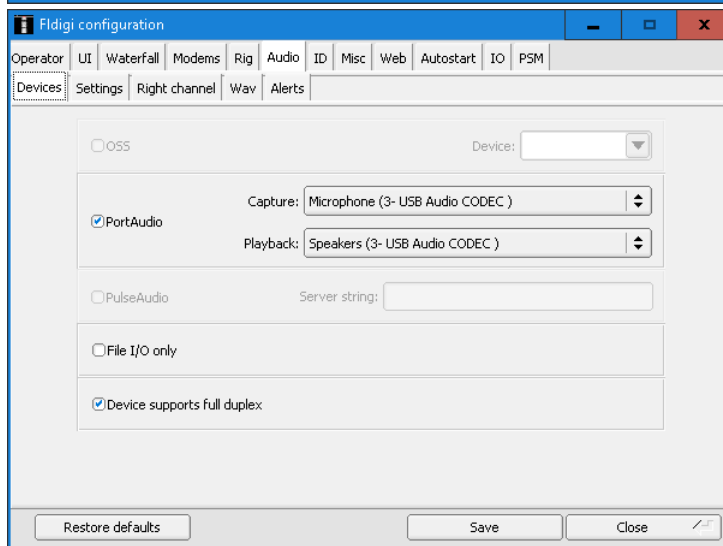
Airlink Express configuration (page 2 of 2)



Fldigi configuration



The FT-891.xml Rig description file is a renamed FT-991.xml file which appears to work for the FT-891. The FT-991.xml can be downloaded from the Fldigi SourceForge site <https://sourceforge.net/projects/fldigi/files/xmls/yae/su/>



WSJT-X configuration

Settings

General Radio Audio Tx Macros Reporting Frequencies Colors Advanced

Rig: Yaesu FT-891 Poll Interval: 1 s

CAT Control

Serial Port: COM4

Serial Port Parameters

Baud Rate: 4800

Data Bits

Seven Eight

Stop Bits

One Two

Handshake

None XON/XOFF Hardware

Force Control Lines

DTR: RTS:

PTT Method

VOX DTR

CAT RTS

Port: COM7

Transmit Audio Source

Rear/Data Front/Mic

Mode

None USB Data/Pkt

Split Operation

None Rig Fake It

Test CAT Test PTT

OK Cancel

Settings

General Radio Audio Tx Macros Reporting Frequencies Colors Advanced

Soundcard

Input: Microphone (2- USB Audio CODEC) Mono

Output: Speakers (2- USB Audio CODEC) Mono

Save Directory

Location: C:/Users/GNT/AppData/Local/WSJT-X/save Select

AzEl Directory

Location: C:/Users/GNT/AppData/Local/WSJT-X Select

Remember power settings by band

Transmit Tune

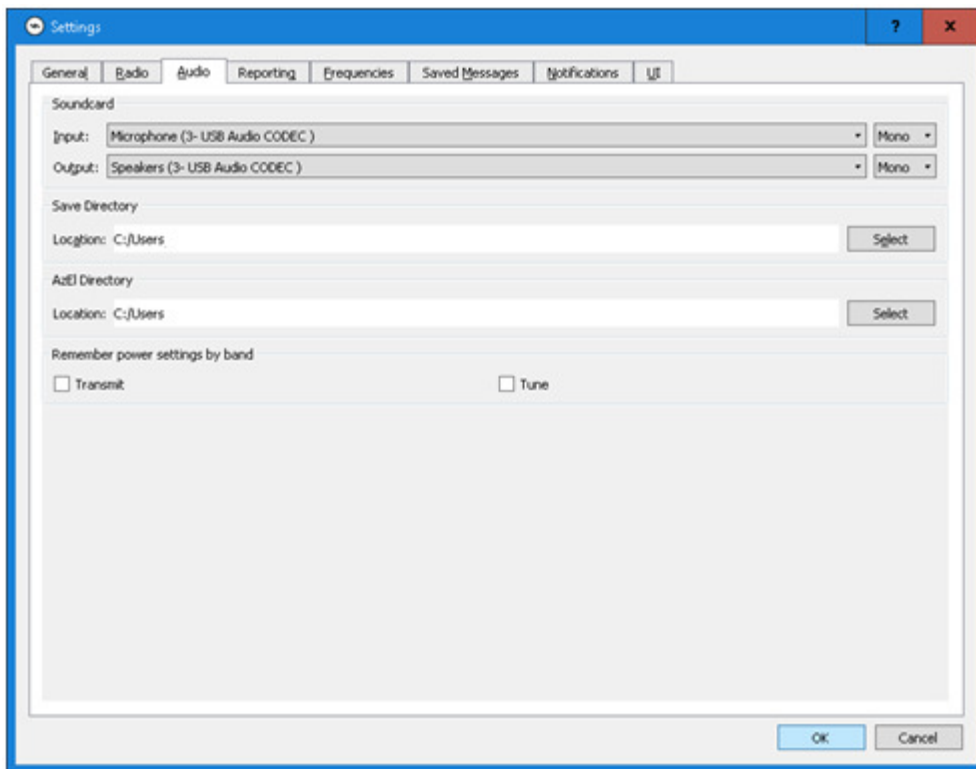
OK Cancel

JS8Call configuration (page 1 of 2)

The screenshot shows the 'Settings' window with the 'CAT Control' tab selected. The 'Rig' is set to 'Yaesu FT-891' and the 'Poll Interval' is '1 s'. Under 'Serial Port', 'COM4' is selected. The 'Parameters' section includes: 'Baud Rate' at 4800; 'Data Bits' with 'Eight' selected; 'Stop Bits' with 'Two' selected; 'Handshake' with 'Default' selected; and 'Force Control Lines' with 'DTR' and 'RTS' dropdown menus. 'Test CAT' and 'Test PTT' buttons are at the bottom, along with 'OK' and 'Cancel' buttons.

The screenshot shows the 'Settings' window with the 'Rig Options' tab selected. The 'Rig' is 'Yaesu FT-891' and 'Poll Interval' is '1 s'. Under 'PTT Method', 'CAT' is selected. 'Port' is 'COM6'. 'Mode' is 'Data/Pkt'. 'Transmit Audio Source' is 'Front/Mic'. 'Split Operation' is 'Fake It'. The 'Advanced' section has 'Tx delay' set to '0.2 s'. 'Test CAT' and 'Test PTT' buttons are at the bottom, along with 'OK' and 'Cancel' buttons.

JS8Call configuration (page 2 of 2)



73

Glen

GOSBN