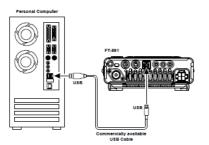
## Using the Yaesu SCU-17 usb data interface with Yaesu FT-891 Transceiver

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.

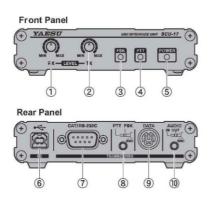


NOTE: The Yaesu-891 handles CAT control through its own usb interface on the rear of the radio not the data port and SCU-17. Plug one of the usb cables into the usb socket on the rear of the Yaesu FT-891 and pc as below to enable CAT control.



#### 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.

#### ✓ ₩ Ports (COM & LPT)

Silicon Labs Dual CP210x USB to UART Bridge: Enhanced COM Port (COM6)

Silicon Labs Dual CP210x USB to UART Bridge: Enhanced COM Port (COM4)

Silicon Labs Dual CP210x USB to UART Bridge: Standard COM Port (COM7)

Silicon Labs Dual CP210x USB to UART Bridge: Standard COM Port (COM5)

#### 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 <u>http://www.airlinkexpress.org/</u> PSK and true FSK RTTY use.

**Fldigi** <u>https://sourceforge.net/projects/fldigi/files/fldigi/</u> Various AFSK data modes

**WSJT-X** <u>https://physics.princeton.edu/pulsar/k1jt/wsjtx.html</u> 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)

Radio Control			<u> </u>		×
Communication					
Serial port: CON	14	~	Data b	oits: 8	~
Baudrate: 4800	)	~	Stop b	its: 2	~
Set DTR high:	] Set RTS RTS Handsh			None	~
Radio					
Radio: FT-891 Icom address (he	×):	Poll in	terval (n	ns): 100	~
PTT Through CAT PTT by CAT com	mands: 🗌				
Center Passband Ultra narrow: 15 Narrow: 15		Wide:	2125	Hz	
		Sa	ve	Cano	cel
🌢 Audio Setup				( <u> </u> )	
Select Input Devic	e: 2-USB	Audio CO	DEC		

📢 Audio Setup			-	>		
Select Input Device:	2- USB Audio CODEC					
Select Input Line:	Microphone			$\sim$		
Select Input Channel:	Both	O Left:	◯ Right			
Select Output Device:	2- USB Audio C	CODEC		~		
Select Output Line:	Speakers			$\sim$		
		Save	Cancel	1		

Airlink Express configuration (page 2 of 2)

Use RTS for PT
Use DTR for PT
Use TXD as PTT
ave Cancel
1

: pelow) below) T signal on: TxD	nd DTR)
below) below) T signal on:	nd DTR)
below) T signal on:	
T signal on:	
TxD	
RTS	
DTR	
ert PTT	
Low	
к	
	TT

### Fldigi configuration

Fldigi configuration				_	o x
Operator UI Waterfall	Modems Rig Audio II	Misc Web Auto	start IO PSM		
flrig RigCAT Hamlib XN	ML-RPC Hardware PTT	GPIO			
	Ø	Use RigCAT			
Rig description FT-891.xml	file: Open	De	vice: COM4		-
Retries 2	Retry inter 500	rval (ms)	Baud rate: 48	DO	-
Write delay 5	(ms) Init delay ( 0	(ms)	Stopbits 🚺	2	
⊖Com	mands are echoed	✓CAT com	mand for PTT		
	gle RTS for PTT	🗆 Toggle D'	TR for PTT		
	+12 v	ODTR +12	v		
✓RTS/	CTS flow control	⊖VSP Enab		1.	_
∕⊘Rest	ore UART Settings on Clo	se		Initialize	
Restore defaults			Save	] a	lose 🗸
Fldigi configuration			_ 0	x I	
Operator UI Waterfall Mode	ems Rig Audio ID Misc	Web Autostart IO I	PSM		
Devices Settings Right chan	nel Wav Alerts				
Ooss		Device:			
✓PortAudio	Capture: Microphone	(3- USB Audio CODEC )	+	)	
	Playback: Speakers (3	3- USB Audio CODEC )	\$	J	
□PulseAudio	Server string				
□File I/O only					
Device supports	full duplex				
Restore defaults		Save	Close		
Fldigi configuration				×	
Operator UI Waterfall Mode	······	Web Autostart IO I	PSM		
Devices Settings Right chan	nel Wav Alerts				
Transmic osage	OModem signal on left and i	right channels			
	☑Reverse Left/Right chann	els			
	OPTT tone on right audio ch	nannel			
	□CW Q5K signal on right ch	iannel			
	Pseudo-FSK on right audio				
	 These controls ar They are replicated h You may change the sta	e on other tabs. ere for convenience. ate from either location.			
Receive Usage					
Restore defaults		Save	Close	< <u></u>	

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/pr ojects/fldigi/files/xmls/yae su/

### WSJT-X configuration

	Radio	Audio	Tx Macros	Reporting	Frequ	uencies	Colors	Adva
Rig: Yae	su FT-891						oll Interva	al: 1s
CAT Cor	ntrol			1	PTT Meth	od		
Serial Po	ort: COM-	1		~	⊖ vox		O DTR	
	Port Param	192			O CAT			
Baud	Rate: 480	0		•	Port: C	OM7		~
Data	a Bits			-	Transmit	Audio So	urce	
100000	Seven	۲	Eight		O Rear	/Data	From	nt/Mic
		0			Mode			
1000000	o Bits	0				0		Data/Pkt
0	One	۲	Two			00	50	Data/PKt
Han	dshake				Split Oper	ation		
۲	None ()	XON/XOFF	= 🔿 Hardwar	re		6.50	Rig (	Fake It
Ford	ce Control L	.ines			O Hone	0.	ag G	y r dite re
DTR	t:	▼ RTS	S:	•				
		111			Test CA	1		Fest PTT
Settings					- 21	-	к [	?
General	Radio	Audio	Tx Macros	Reporting	g Freq	uencies	Colors	
General Soundca	Radio				g Freq	-		? s Adv
General Soundca Input:	Radio ard Micropho	ne (2- USE	Audio CODEC		g Freq	-		? s Adv Mono ▼
General Soundca Input:	Radio ard Micropho	ne (2- USE			g Freq	-		? s Adv
General Soundca Input:	Radio ard Micropho Speakers	ne (2- USE	Audio CODEC		g Freq	-		? s Adv Mono ▼
General Soundca Input: Output: Save Dir	Radio ard Micropho Speakers rectory	one (2- USE s (2- USB A	Audio CODEC	)	g Freq	-	Colors	? s Adv Mono ▼
General Soundca Input: Output: Save Dir	Radio ard Micropho Speakers rectory n: C:/Users	one (2- USE s (2- USB A	3 Audio CODEC	)	g Freq	-	Colors	? s Adv Mono ▼ Mono ▼
Seneral Soundca Input: Output: Save Dir Location AzEl Dire	Radio ard Micropho Speakers rectory a: C:/Users ectory	one (2- USB A s (2- USB A s/GNT/Appi	3 Audio CODEC	) JT-X/save	g Freq	-	Colors	? s Adv Mono ▼ Mono ▼
General Soundca Input: Output: Save Dir Location AzEl Dire Location	Radio ard Micropho Speakers rectory a: C:/Users a: C:/Users	one (2- USE s (2- USB A s/GNT/App s/GNT/App	3 Audio CODEC ) udio CODEC ) Data/Local/WS Data/Local/WS	) JT-X/save	g Freq	-	Colors	? s Adv Mono V Mono V Select
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General Soundca Input: Output: Save Dir Locatior AzEl Dire Locatior Rememb	Radio ard Micropho Speakers rectory n: C:/Users ectory n: C:/Users per power s	one (2- USE s (2- USB A s/GNT/App s/GNT/App	3 Audio CODEC ) udio CODEC ) Data/Local/WS Data/Local/WS	) JT-X/save JT-X		-	Colors	? s Adv Mono V Mono V Select
General Soundca Input: Output: Save Dir Locatior AzEl Dire Locatior Rememb	Radio ard Micropho Speakers rectory n: C:/Users ectory n: C:/Users per power s	one (2- USE s (2- USB A s/GNT/App s/GNT/App	3 Audio CODEC ) udio CODEC ) Data/Local/WS Data/Local/WS	) JT-X/save JT-X		-	Colors	? s Adv Mono V Mono V Select
General Soundca Input: Output: Save Dir Locatior AzEl Dire Locatior Rememb	Radio ard Micropho Speakers rectory n: C:/Users ectory n: C:/Users per power s	one (2- USE s (2- USB A s/GNT/App s/GNT/App	3 Audio CODEC ) udio CODEC ) Data/Local/WS Data/Local/WS	) JT-X/save JT-X		-	Colors	? s Adv Mono V Mono V Select
General Soundca Input: Output: Save Dir Locatior AzEl Dire Locatior Rememb	Radio ard Micropho Speakers rectory n: C:/Users ectory n: C:/Users per power s	one (2- USE s (2- USB A s/GNT/App s/GNT/App	3 Audio CODEC ) udio CODEC ) Data/Local/WS Data/Local/WS	) JT-X/save JT-X		-	Colors	? s Adv Mono V Mono V Select
General Soundca Input: Output: Save Dir Locatior AzEl Dire Locatior Rememb	Radio ard Micropho Speakers rectory n: C:/Users ectory n: C:/Users per power s	one (2- USE s (2- USB A s/GNT/App s/GNT/App	3 Audio CODEC ) udio CODEC ) Data/Local/WS Data/Local/WS	) JT-X/save JT-X		-	Colors	? s Adv Mono V Mono V Select

### JS8Call configuration (page 1 of 2)

Settings ? X
General Radio Audio Reporting Frequencies Saved Messages Notifications UI
Rig: Vaesu FT-891   Poll Interval: 1 s 🗘
CAT Control Rig Options
Serial Port: COM4 V
Parameters
Baud Rate: 4800 ·
Data Bits
O befault O Seven I Eight
Stop Bits
○ Default         ○ Ong         ● Two
Handshake
Default     O None
○ XON/XOFF ○ <u>H</u> ardware
Force Control Lines
DTR: RTS:
Test CAT Test PTT
OK Cancel

Settings	?	x
General Radio Audio Reporting Frequencies Saved Messages Notifications UI		
	erval: 1 s	÷
CAT Control Rig Options		
PTT Method		
● C <u>A</u> T O R <u>T</u> S		
Port: COM6	~	
Mode		
○ None         ○ USB         ● Data/Pkt		
Transmit Audio Source		
○ Rear[Data		
Split Operation		
○ None ○ Rig ● Fake It		
Advanced		
Tx delay: 0.2 s	~	
Test CAT Test PTT		
ОК	Can	icel

# JS8Call configuration (page 2 of 2)

Badio	Audio	Reporting	Erequencies	Saved Me	sages No	fications	UI.			
rd										
Micropho	ne (3- US8	Audio CODEC	)						<ul> <li>Mono</li> </ul>	•
Speakers	(3- USB A	udio CODEC )							<ul> <li>Mono</li> </ul>	•
ectory										
C:/Users								[	Sglect	
otory										
								[	Select	
er power s	ettings by	band								
smit					Tune					
	Speakers ectory c: C:/Users ectory c: C:/Users	Microphone (3- USB Speakers (3- USB A ectory c C;/Users ctory c C;/Users er power settings by	Microphone (3- USB Audio CODEC Speakers (3- USB Audio CODEC) ectory c: C:/Users ectory c: C:/Users er power settings by band	erd Microphone (3- USB Audio CODEC ) Speakers (3- USB Audio CODEC ) ectory a: C:/Users ectory a: C:/Users er power settings by band	ertory c: C:/Users er power settings by band	ertory  c: C:/Users  er power settings by band	etory	etory c: C:/Users er power settings by band	rd  Microphone (3- USB Audio CODEC.)  Speakers (3- USB Audio CODEC.)  ectory  c: C:/Users  ectory  c: C:/Users  er power settings by band	rd Microphone (3- USB Audio CODEC)  Speakers (3- USB Audio CODEC)  CodeCo Speakers (3- USB Audio CODEC)  Cod

73 Glen G0SBN