

# MIXW4

## RIGS AND INTERFACES

----- 30 May 2021 -----

[Content](#)

Annexes.....	3
Introduction.....	3
Configuration.....	3
Interfaces, Trevr's settings.....	4
Flex SDR.....	4
MixW4 with a Flex Radio 5000 SDR + Power SDR.....	4
MixW with a Flex Radio 6300 + SmartSDR.....	8
MixW4 with a Flex Radio 6400 SDR + SmartSDSR.....	8
Micro HAM-interfaces.....	9
FT-991A met een micro KEYER II.....	9
FTdx-101MP with a micro KEYER II.....	10
FTdx5000 with a micro KEYER II.....	10
IC-703 with a micro KEYER II.....	11
IC-7610 with micro KEYER III.....	11
IC-703 with a microHAM USB Interface III.....	12
IC-7600 with a microHAM USB Interface III.....	12
TS-2000 with a micro KEYER II.....	13
RigExpert interfaces.....	14
RigExpert Standart/TI-5/Plus.....	14
RigExpert TI-7/TI-8.....	15
FT-990 with RigExpert TI-5000.....	16
IC-7100 with RigExpert TI-8.....	17
SignalLink™ USB.....	18
CT-17 CI-V CAT interface.....	18
IC-756 Pro2.....	18
CAT cable connected to the USB port.....	18
FT-991A with a USB cable.....	18
FTdx3000 connected via USB-port.....	20
IC-7300 connected via USB port.....	21
IC-7610 connected via USB port.....	22
IC-7610 connected via USB port.....	22
Transceiver interfaces.....	23
TS-480 SAT with FUNKAMATEUR USB transceiver interface.....	23
<b>Yaesu SCU 17</b> .....	23
FT-817nd.....	23
Simple-Interface.....	24
FT-817.....	24
G4ZLP PRO3.....	25
Info.....	25
References.....	25

## Introduction

The purpose of these attachments is to give a better understanding of how certain settings are done and this with the different transmission receivers.

Also covered are the CAT settings from MixW4 and some Interfaces and the use of a CAT cable.

If you have a well-functioning MixW4 with an unlisted Interface or transceiver please send us these manuals so that you can supplement these manuals. They are a great help to other HAM's.

## Configuration

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There are up to 5 different settings that can affect the operation of the transceiver from MixW4:

1. Windows - Audio, COM ports, and settings.
2. MixW4 - Audio, CAT, macros, COM ports and settings, mode settings.
3. Control Interface - This is for non-USB <> USB connected transceivers. Audio (maybe), COM ports and settings, control rules.
4. Audio - this is for non-USB <> USB connected transceivers. Audio may be included in your operating interface.
5. Transceiver - Audio, COM ports and settings, steering lines.

To ensure that your MixW4 transceiver connection works correctly, all required components must be configured correctly.

While attempting to configure the interface you have installed, you may need to use Windows Device Manager to check COM ports or audio ports.

To enable Device Management, run C:\Windows\System32\devmgmt.msc.

I created a desktop icon, but you can also use the {Windows key} + R, or use a command prompt by running cmd.exe.

Most interfaces are powered by the computer's USB cable.

The recommended USB cable with a maximum length is 5 meters.

The use of a 5-meter cable and a potentially loaded PC power supply can cause temporary operational problems.

The voltage drops over the USB cable may be sufficient, if you don't reach the recommended operating voltage for using your interface unit.

One solution that has worked well with previous versions of MixW is to use two shorter USB cables and a USB hub with its own power supply between the cables.

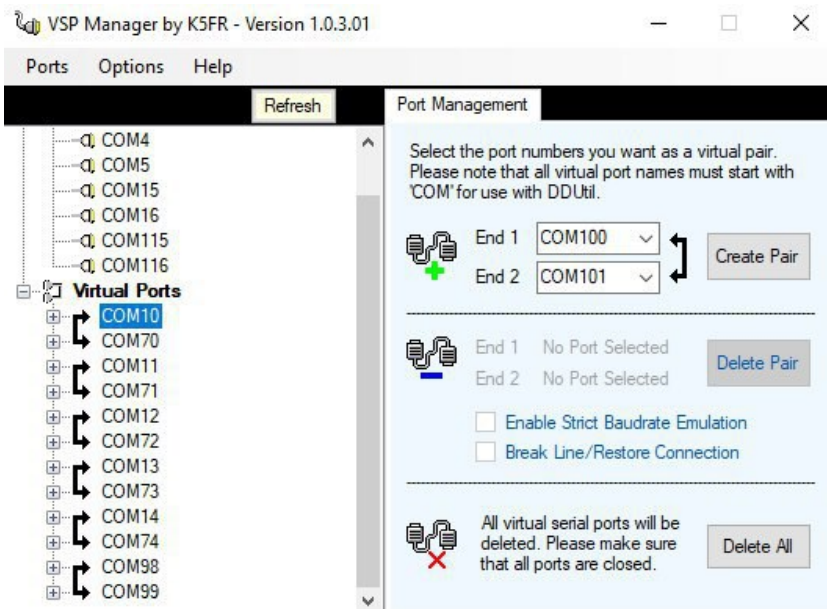
Interfaces, Trcvr's settings  
Flex SDR

MixW4 with a Flex Radio 5000 SDR + Power SDR

(by Alex Timmi, UT4ULP)

The VSP Manager is needed to create virtual pairs of COM ports.

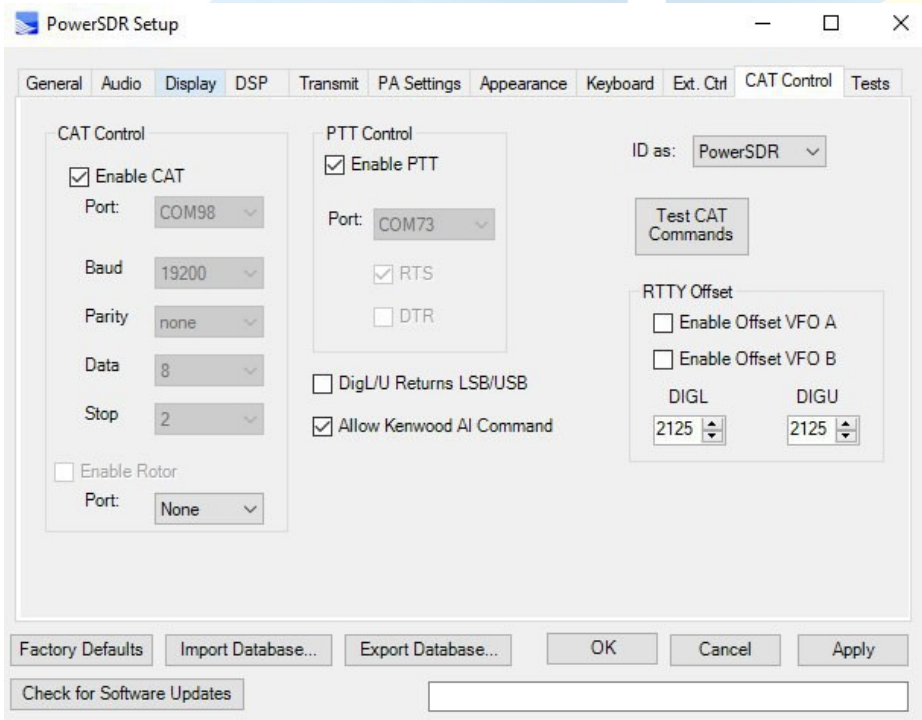
Since, unlike the 6000 series, the standard tools of Flex programs cannot do this. For radio amateurs, the author sends this application for free after request.



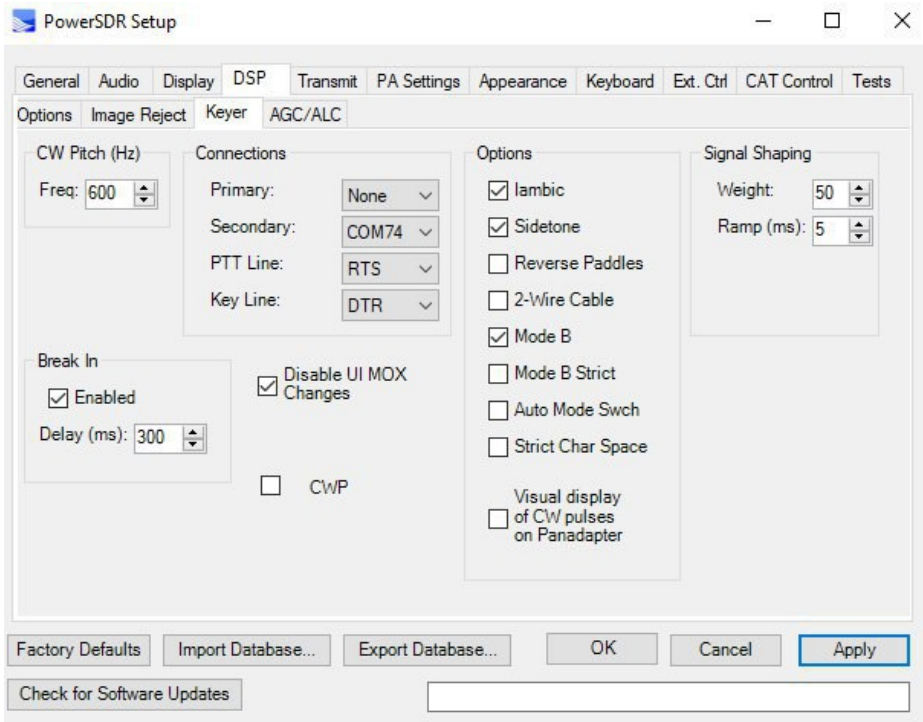
**PowerSDR settings**

Unfortunately, this program for work and in the digital and voice modus uses one option, and for work and in the CW mode another.

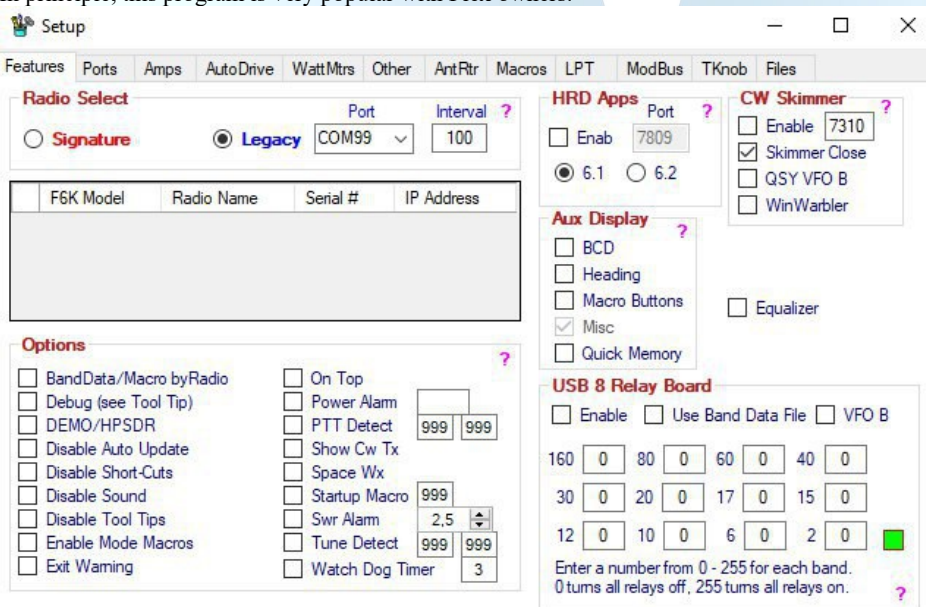
**SSB and DIGI settings**



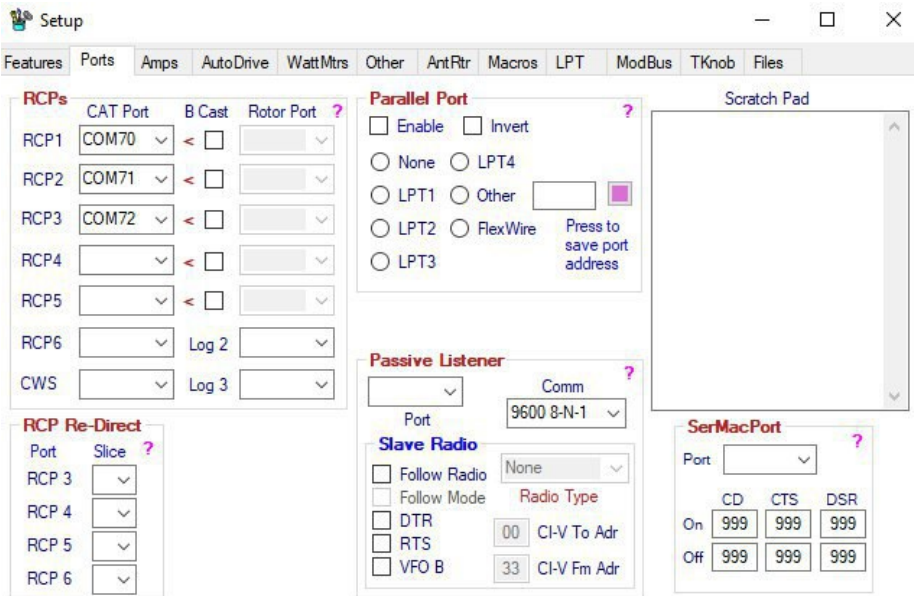
**CW settings**



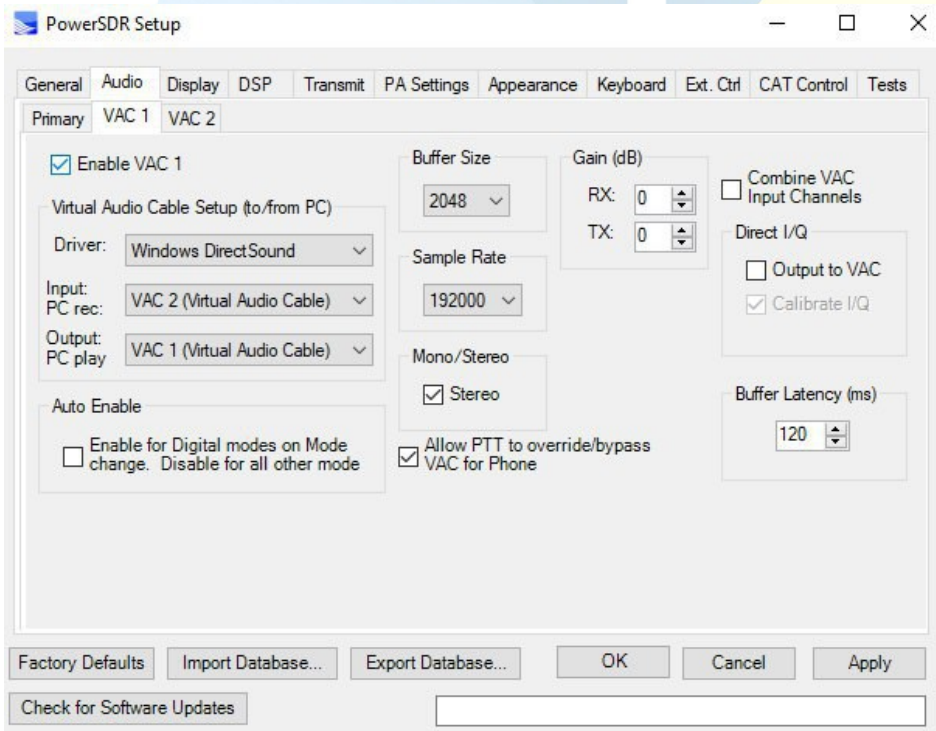
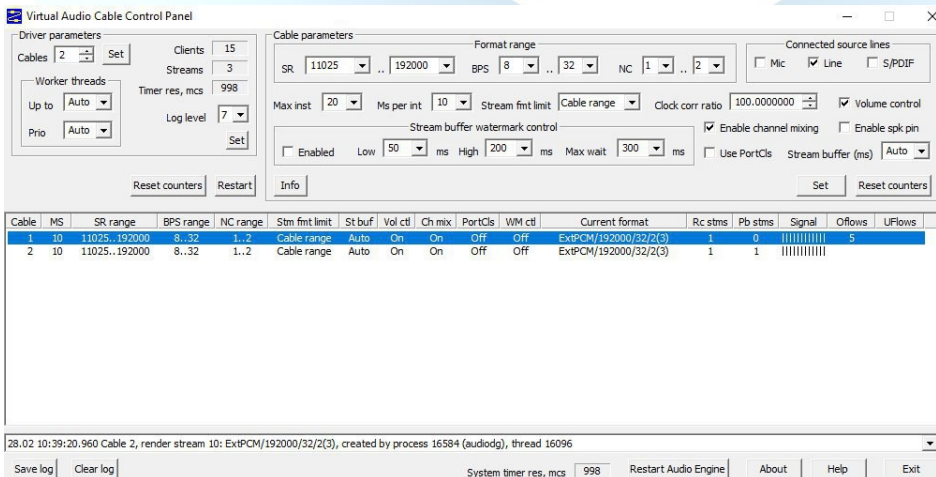
The DDUtil program is used for easy use of the CAT  
 In principle, this program is very popular with Flex owners.



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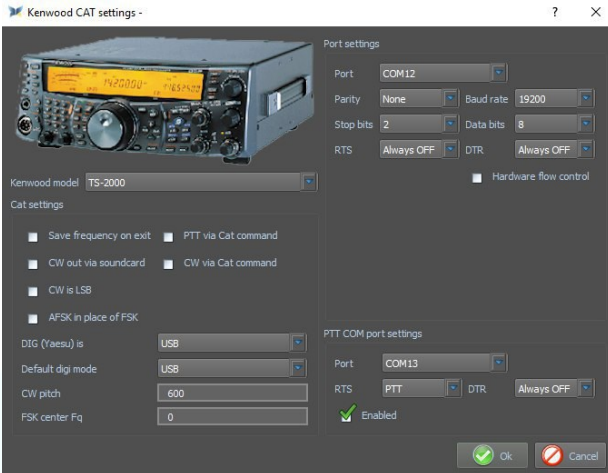


To convey sound, virtual cables are used in the VAC program

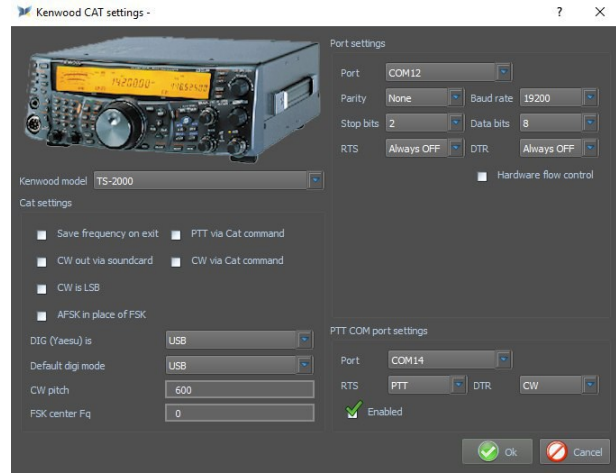


### MixW4 settings

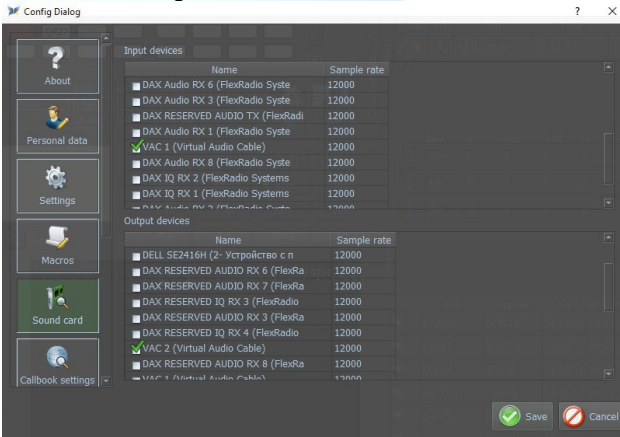
#### CAT settings for SSB and DIGI modes



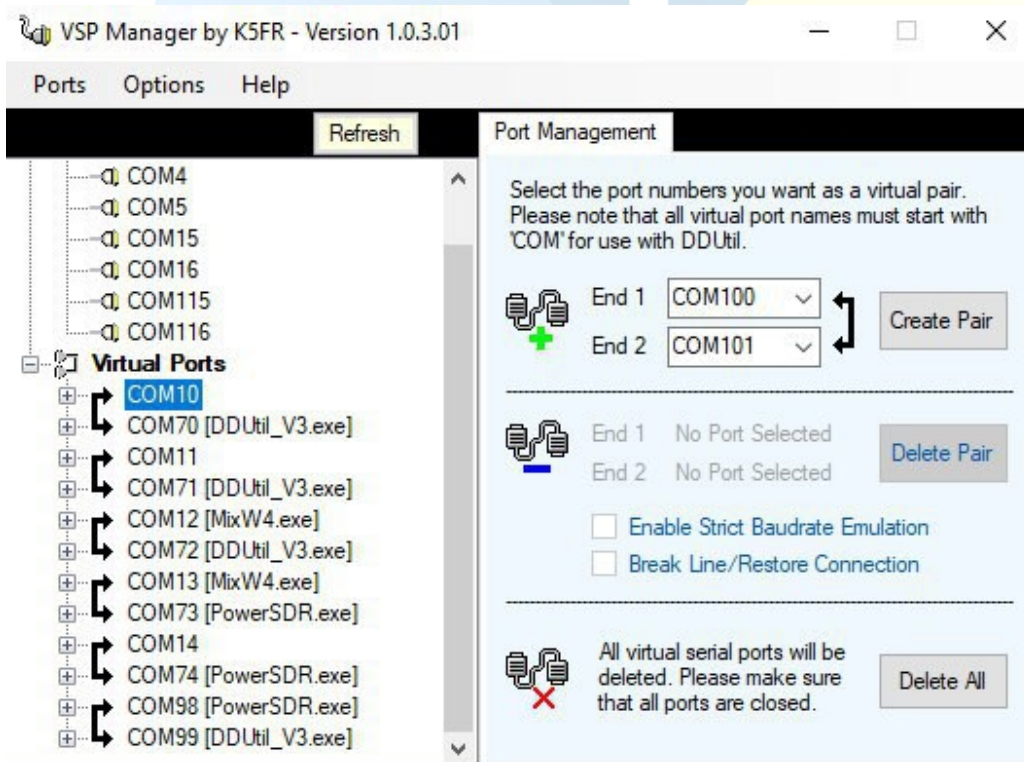
#### CAT for the CW modus



### Audio Card settings

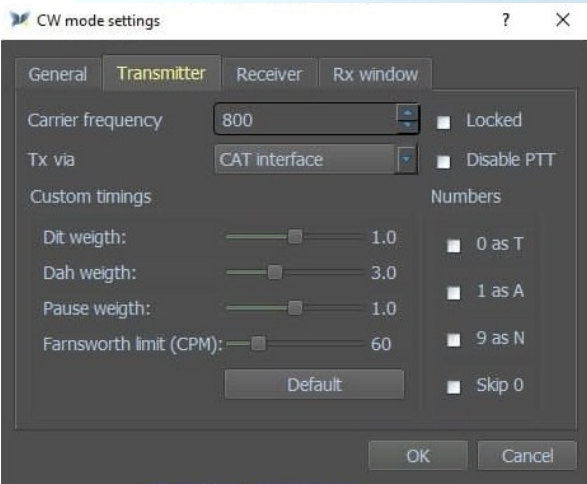
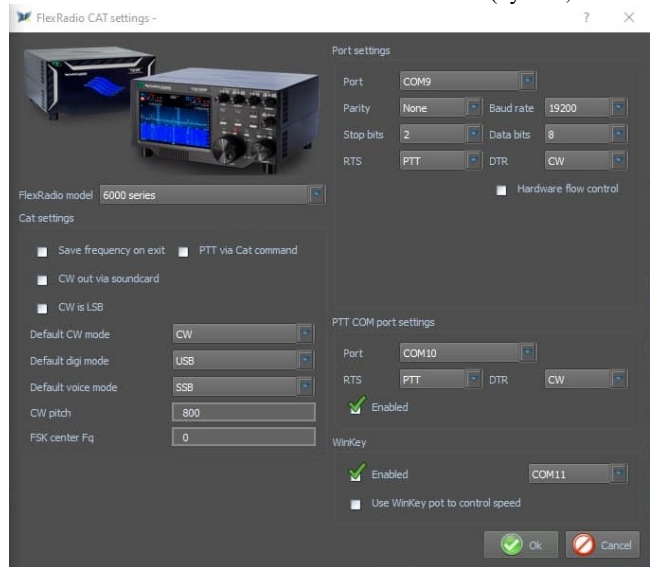
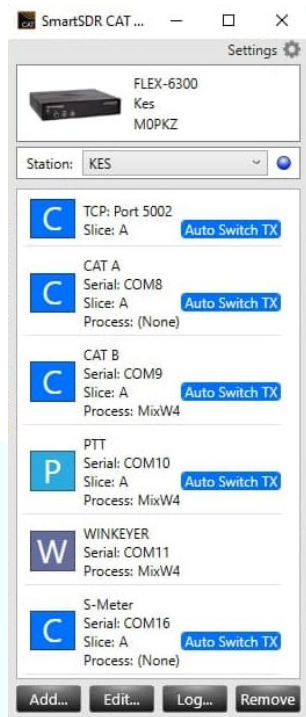


This is what a virtual com port manager looks like after everything is connected and executed.



MixW with a Flex Radio 6300 + SmartSDR

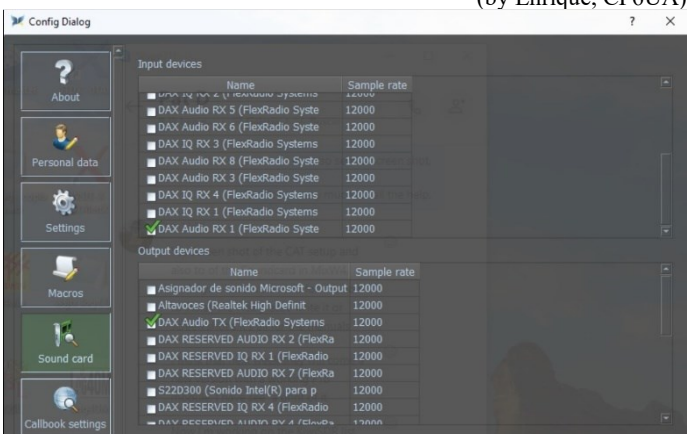
(by Kes, M0PKZ)



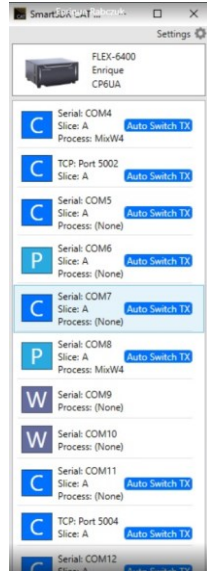
[\(top\)](#)

MixW4 with a Flex Radio 6400 SDR + SmartSDSR

(by Enrique, CP6UA)







[\(top\)](#)

### Micro HAM-interfaces

The microHAM interfaces use the Eltima Virtual Serial Port drivers, which are installed when installing the microHAM USB Device Router. To do this, go to the Vertical Port menu and select the necessary COM ports that you think you will use. Personally, I've selected 13 COM ports.

### FT-991A met een micro KEYER II

(By Pat, ON2AD)

Since I noticed when I used the FT-991A in DATA-USB the frequency was always 1 kHz higher than normal, I decided to always use the FT991A in USB mode. A few settings had to be made for that in the Menu of the FT-991A

### FT-991A setup

No.	Menu Function	Available Settings	ON2AD	Default Value
004	HOME FUNCTION	SCOPE/FUNCTION	FUNCTION	SCOPE
012	KEYER TYPE	OFF/BUG/ELEKEY-A/ELEKEY-B/ELEKEY-Y/ACS	OFF	ELEKEY-B
028	GPS/232C SELECT	GPS1/GPS2/RS232C	RS232C	GPS1
029	232C RATE	4800/9600/19200/38400 (bps)	38400	4800bps
031	CAT RATE	4800/9600/19200/38400 (bps)	38400	4800bps
033	CAT RTS	ENABBE/DISABLE	DISABLE	ENABLE
034	MEM GROUP	ENABLE/DISABLE	ENABLE	DISABLE
050	CW LCUT FREQ	OFF/100Hz - 1000Hz(50Hz/step)	100Hz	250Hz
052	CW HCUR FREQ	700Hz - 4000Hz(50Hz/step) / OFF	4000Hz	1200Hz
055	CW AUTO MODE	OFF/50M/ON	ON	OFF
056	CW BK-IN TYPE	SEMI / FULL	FULL	SEMI
059	CW FREQ DISPLAY	DIRECT FREQ/PITCH OFFSE	DIRECT FREQ	PITCH OFFSE
060	PC KEYING	OFF/DAKY/RTS/DTR	DTR	OFF
062	DATA MODE	PSK/OTHERS	OTHERS	PSK
064	OTHER DISP (SSB)	-3000 - 0 - 3000(10Hz/step)	1500Hz	0Hz
065	OTHER SHIFT (SSB)	-3000 - 0 - 3000(10Hz/step)	1500Hz	0Hz
066	DATA LCUT FREQ	OFF/100 - 1000(Hz)(50Hz/step)	OFF	300Hz
067	DATA LCUT SLOPE	6dB/oct / 18dB/oct	6dB/oct	18dB/oct
068	DATA HCUR FREQ	700Hz - 4000Hz(50Hz/step)/OFF	4000Hz	3000Hz
069	DATA HCUR SLOPE	6dB/oct / 18dB/oct	18dB/oct	18dB/oct
071	DATA PTT SELECT	DAKY/RTS/DTR	DAKY	DAKY
072	DATA PORT SELECT	DATA/USB	DATA	DATA
094	RTTY HCUR FREQ	700Hz - 4000Hz (50Hz/step) / OFF	4000Hz	3000Hz
096	RTTY SHIFT PORT	SHIFT/DTR/RTS	RTS	SHIFT
104	SSB HCUR FREQ	700Hz - 4000Hz (50Hz/step) / OFF	4000Hz	3000Hz
106	SSB MIC SELECT	MIC/REAR	REAR	MIC
108	SSB PTT SELECT	DAKY/RTS/DTR	DAKY	DAKY
109	SSB PORT SELECT	DATA/USB	DATA	DATA
110	SSB TX BPF	100-3000/100-2900/200-2800/300-2700/400-2600	100-3000	300-2700
115	SCP DISPLAY MODE	SPECTRUM/WATERFALL	WATERFALL	SPECTRUM

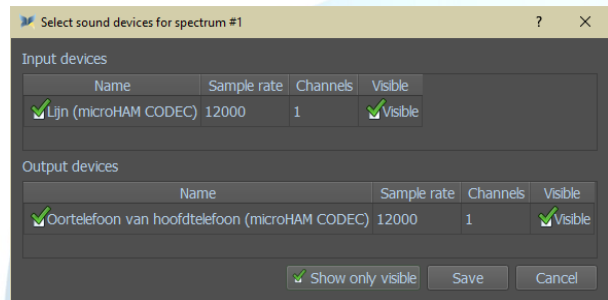
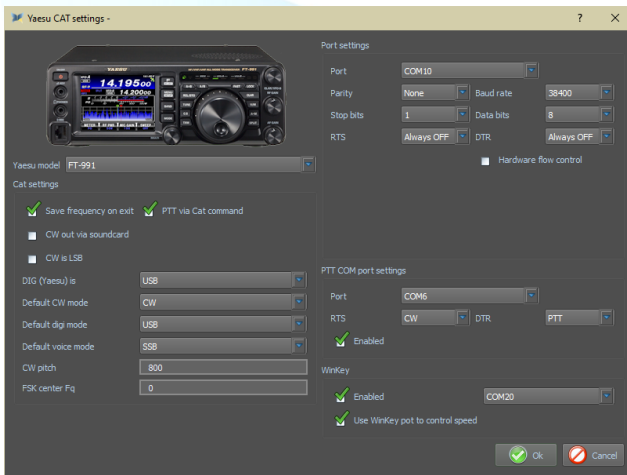
### Menu F (M-List)

WIDTH	MIC GAIN	NAR/WIDE	MONI	PROC	DT GAIN	NB	IPO	AGC	5/10	MIC-EQ	BK-IN
3000Hz	50	W 3 k	15	50	50	ON	AMP 1	AUTO	10Hz	ON	OFF

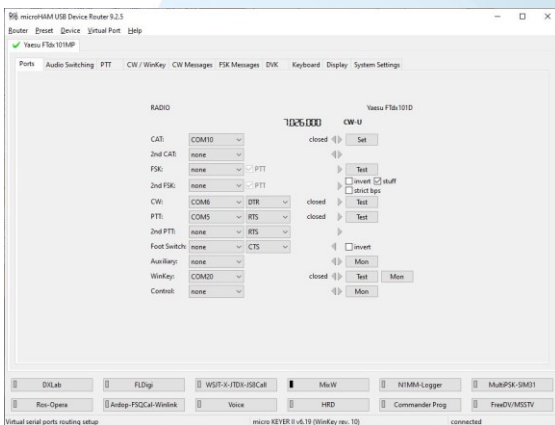
### Menu Mode

Digimodes select USB  
 CW mode select CW (USB)  
 With CW set the KEYER to OFF and the BK-IN to ON

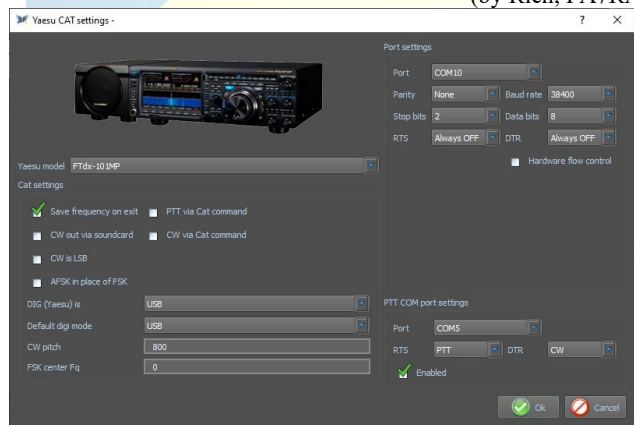
### MixW4 setup



### FTdx-101MP with a micro KEYER II



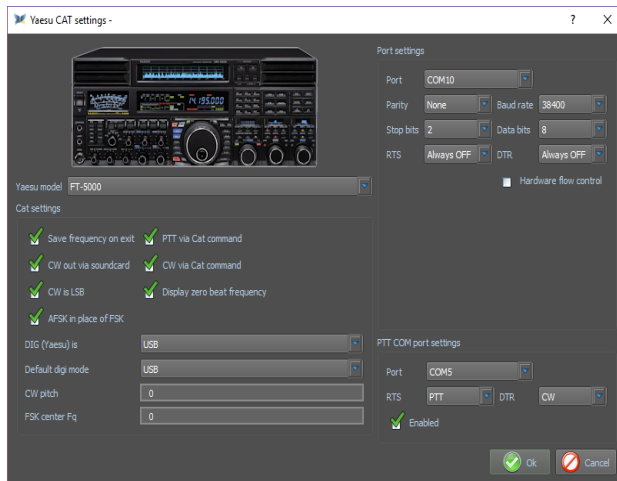
(by Rien, PA7RA)



### FTdx5000 with a micro KEYER II

(by Rien, PA7RA)

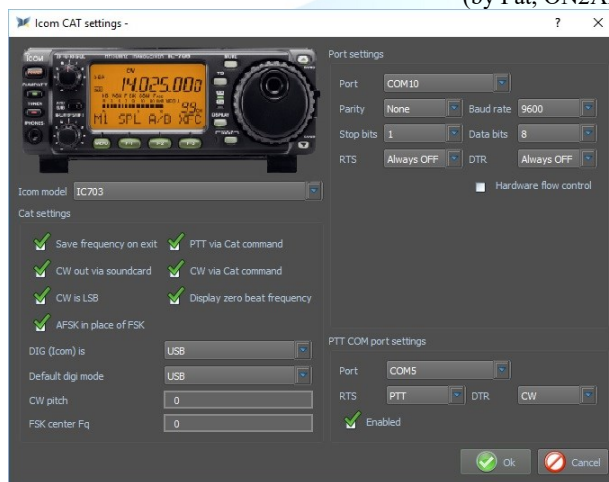
For the settings of the micro Keyer II see this of the TS-2000



IC-703 with a micro KEYER II

(by Pat, ON2AD)

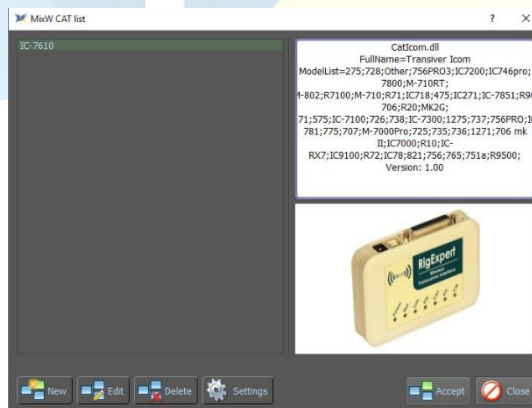
For the settings of the micro Keyer II see this of the TS-2000



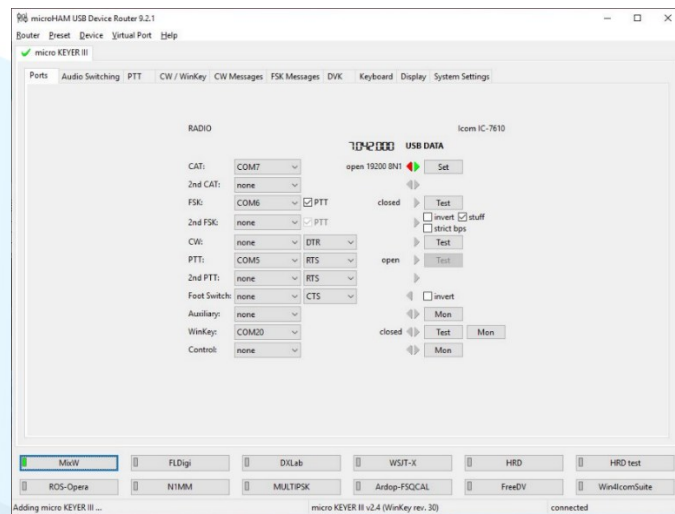
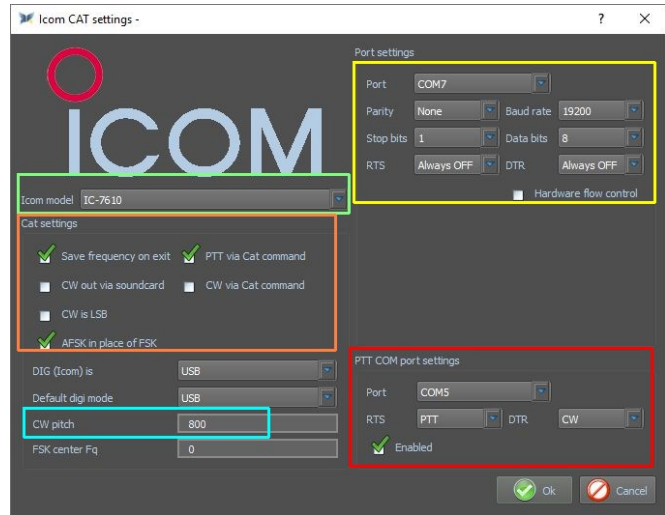
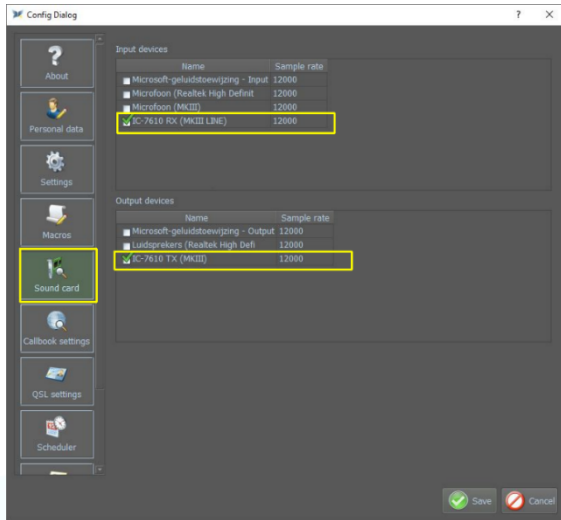
[\(top\)](#)

(by Rien, PA7RA)

IC-7610 with micro KEYER III

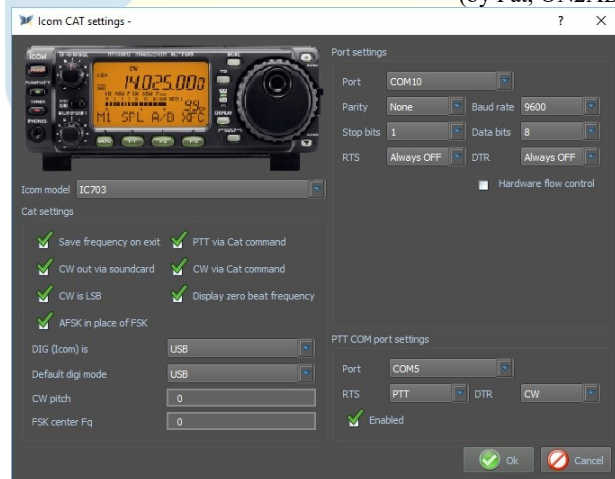
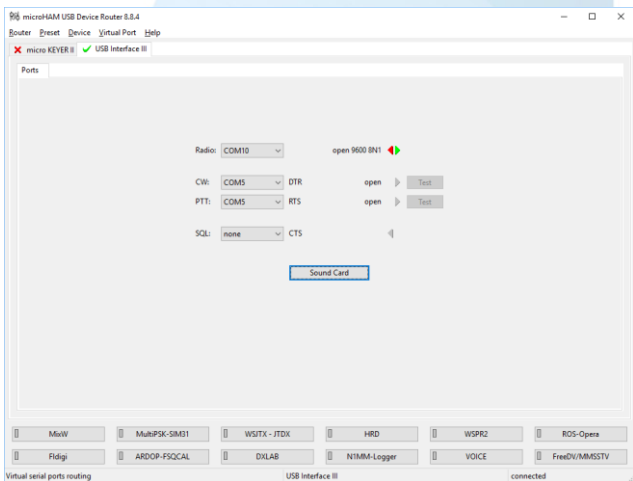


Selecteer USB PKT voor gebruik met een micro Keyer III



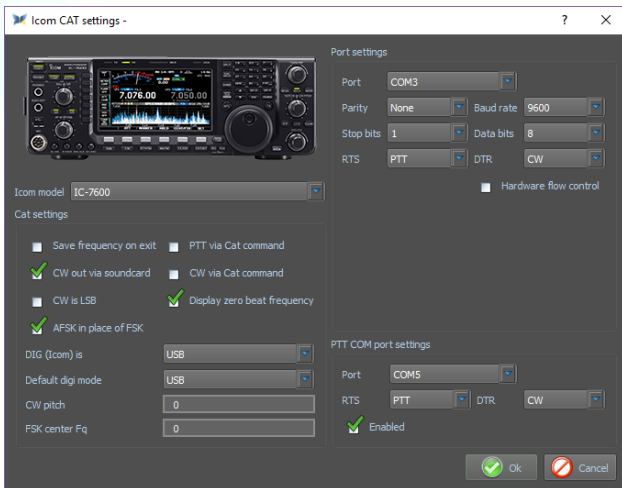
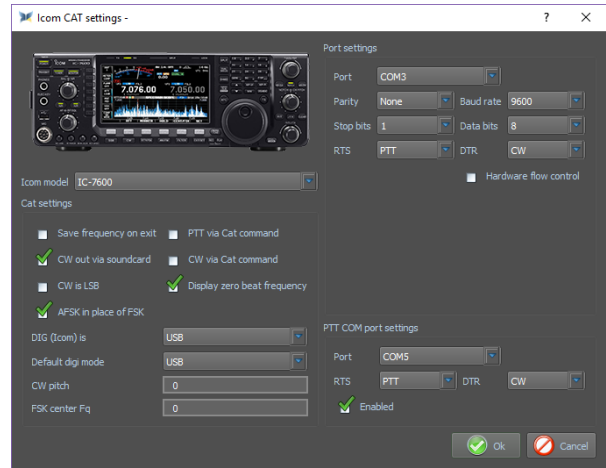
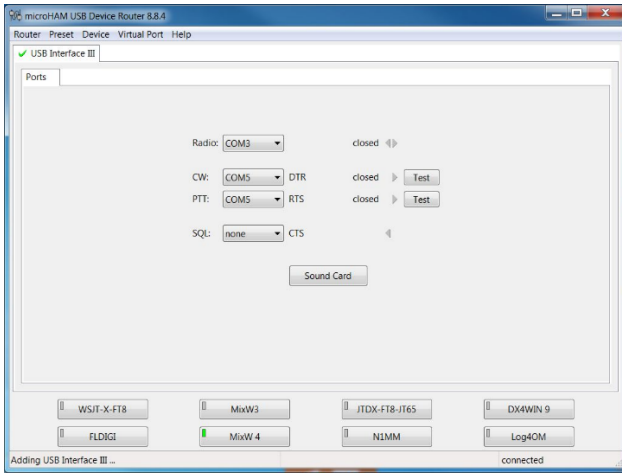
IC-703 with a microHAM USB Interface III

(by Pat, ON2AD)



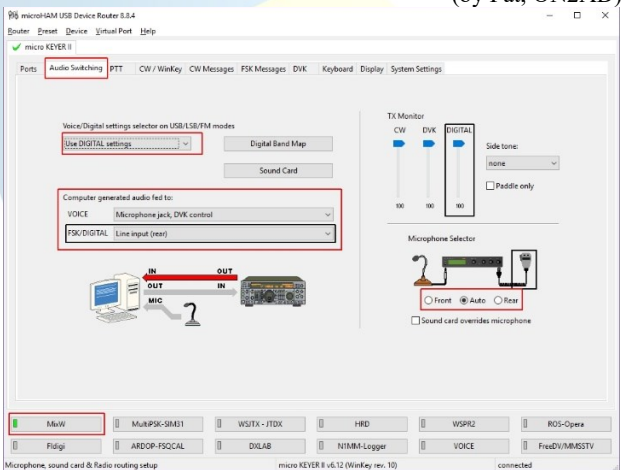
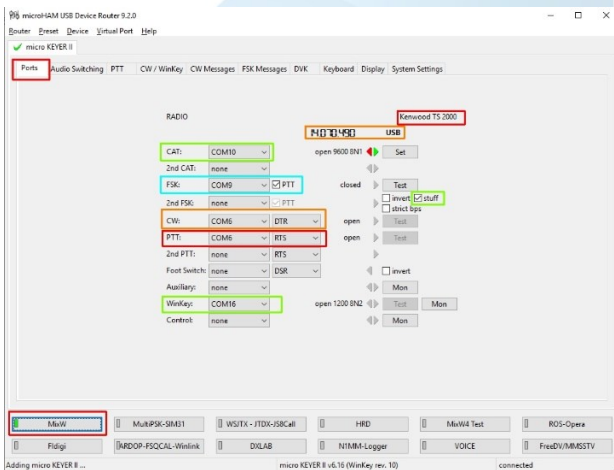
IC-7600 with a microHAM USB Interface III

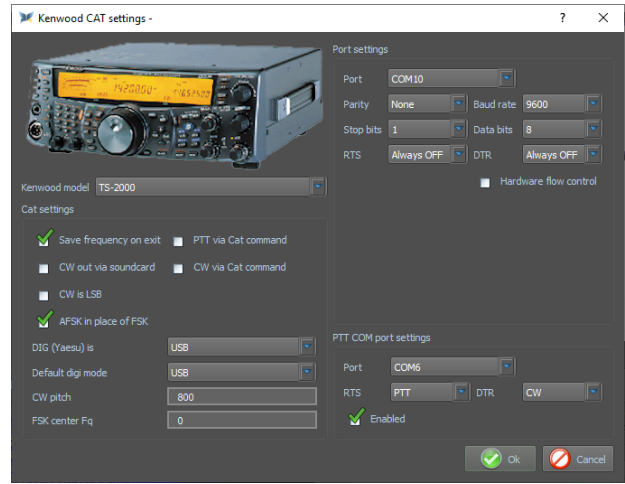
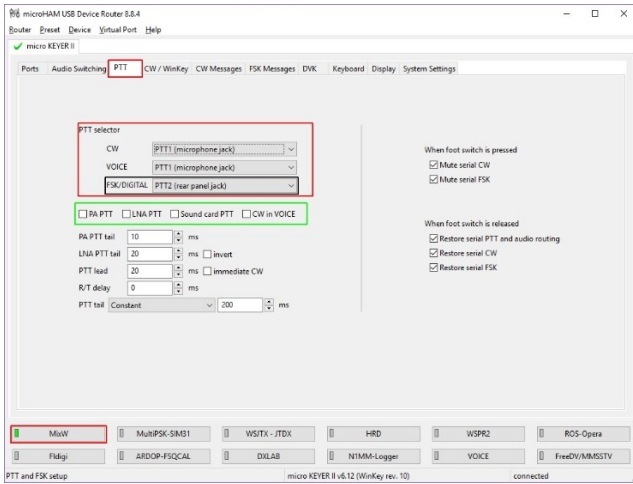
(by Enrique, CP6UA)



TS-2000 with a micro KEYSER II

(by Pat, ON2AD)

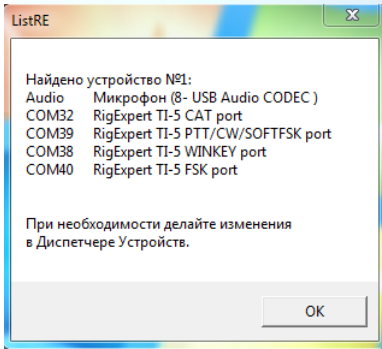




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## RigExpert interfaces RigExpert Standart/TI-5/Plus

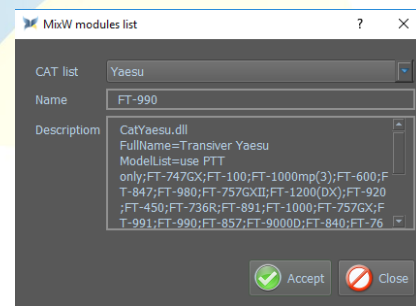
(by Alex, UT0UN)



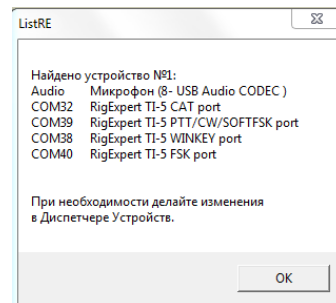
After you connect the interface to your computer, run the List RE program.

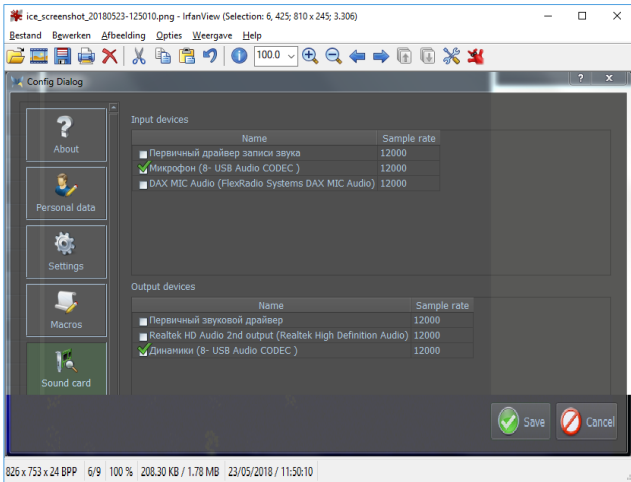


In the CAT list window, you must add your transceiver. You can add multiple transceivers to the list and quickly switch between these transceivers.



In the MixW4 program, enter the required port numbers.





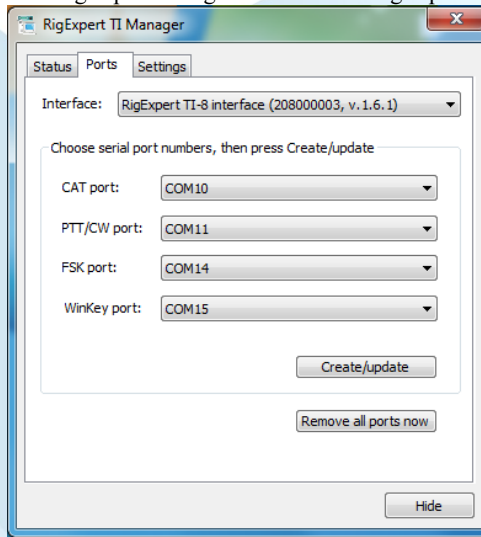
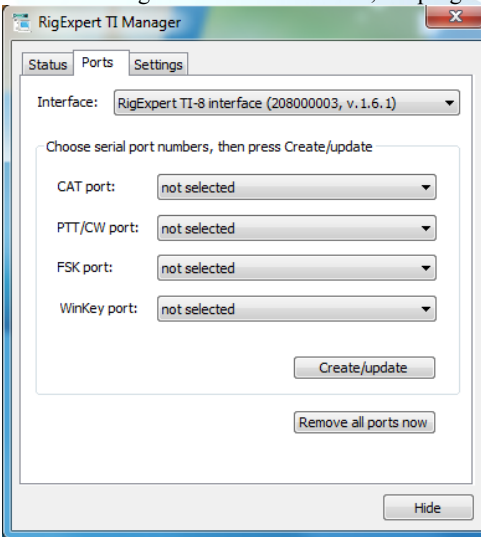
Select the interface sound card from the sound card settings menu

[\(top\)](#)

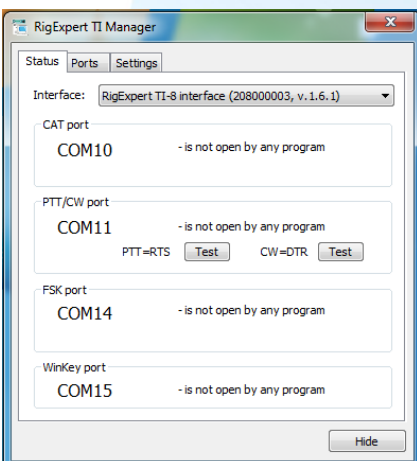
### RigExpert TI-7/TI-8

(by Alex, UT0UN)

After connecting the interface to the PC, the program starts - RigExpert Navigator for TI-7 or RigExpert Manager for TI-8.



On the Ports tab, select any available COM Ports. Then click – Create/update.

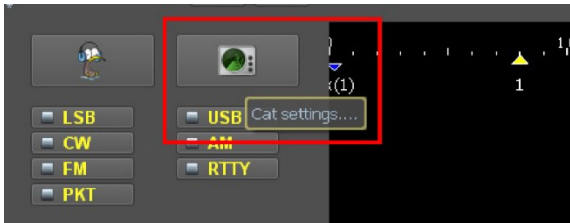


On the Status tab, make sure the ports are created.

[\(top\)](#)

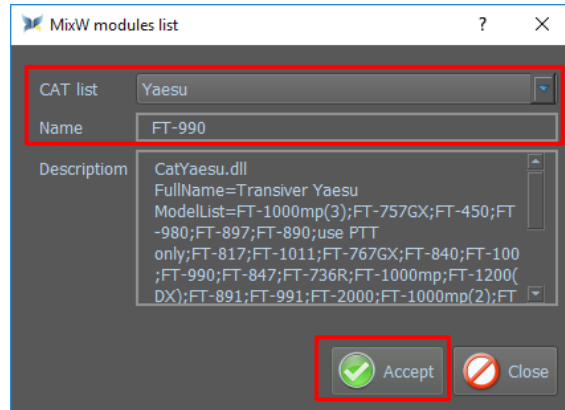
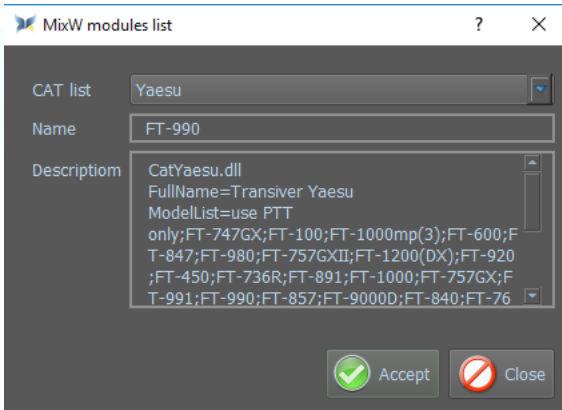
Click the CAT settings

Click New



In the CAT list window, you must add your transceiver. You can add multiple transceivers to the list and quickly switch between these transceivers.

Select your transmitter from the CAT list and enter the name of your transmitter in the Name box, and then click Accept



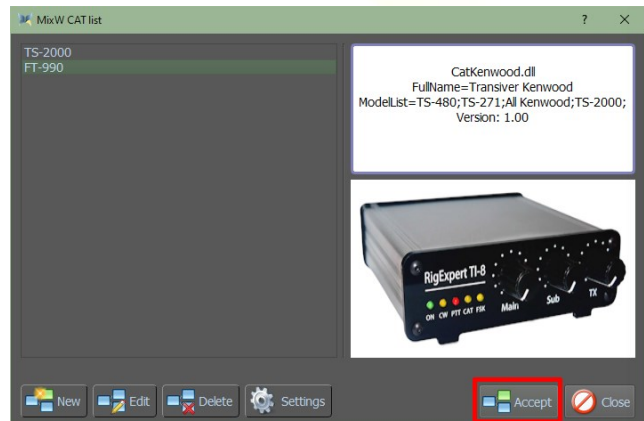
Click Settings



Select the correct COM ports, and then click OK



Click Accept

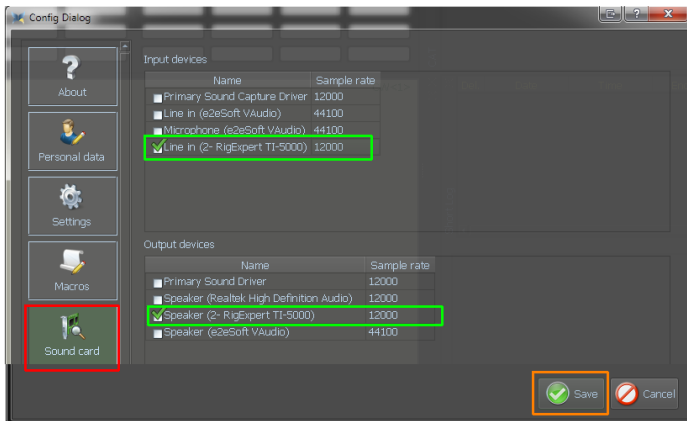


(top)

FT-990 with RigExpert TI-5000

(by Alex, UT0UN)





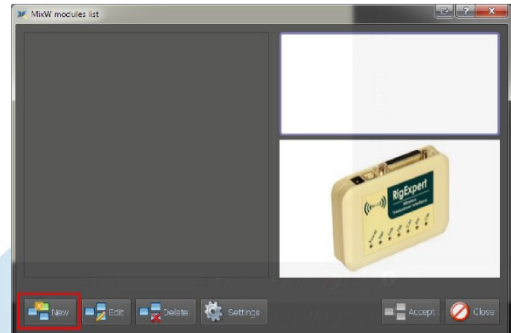
After connecting the TI-5000 interface to the PC, start MixW4.

Click Settings, and then click Sound card, and select the Input and Output devices as in the example, and then click Save

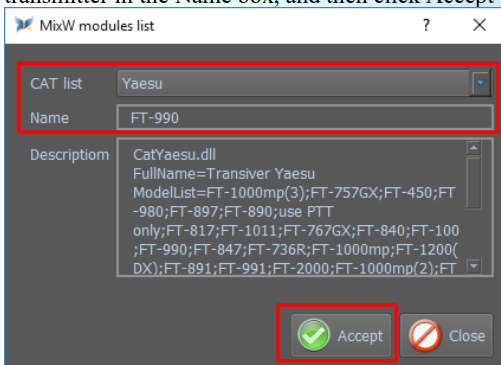
Click the CAT settings



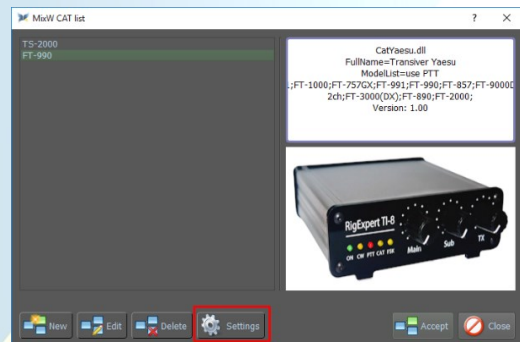
Click New



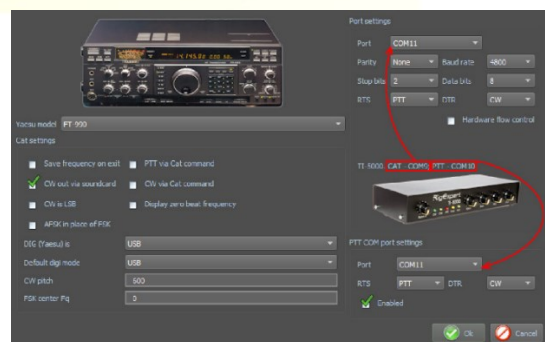
Select your transmitter from the CAT list and enter the name of your transmitter in the Name box, and then click Accept



Click Settings now



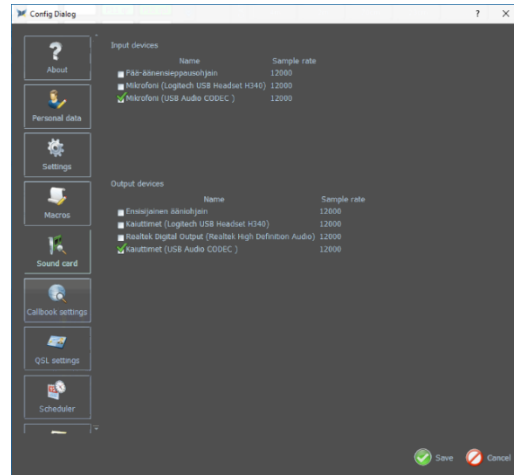
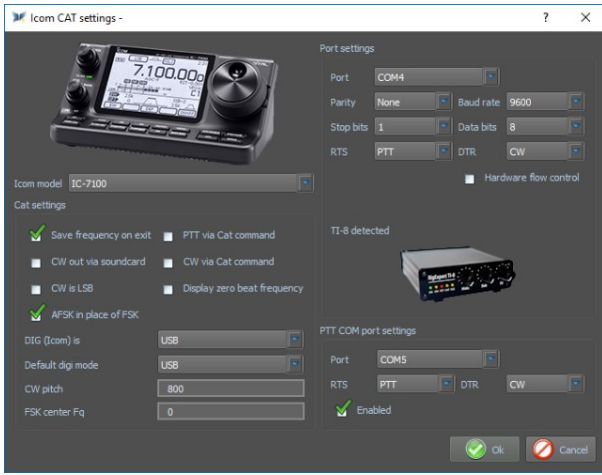
Fill in all the values as in example, and then click OK, and then on the next screen, click Accept



[\(top\)](#)

IC-7100 with RigExpert TI-8

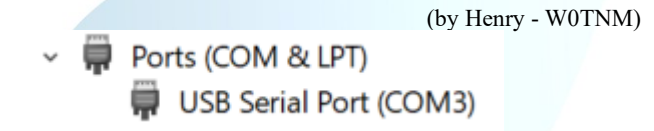
(by Matti – OH2NT)



Signalink™ USB  
CT-17 CI-V CAT interface

IC-756 Pro2

After installing the Signalink, open your Device Management to see which COM port was installed. Here the COM3 port was installed

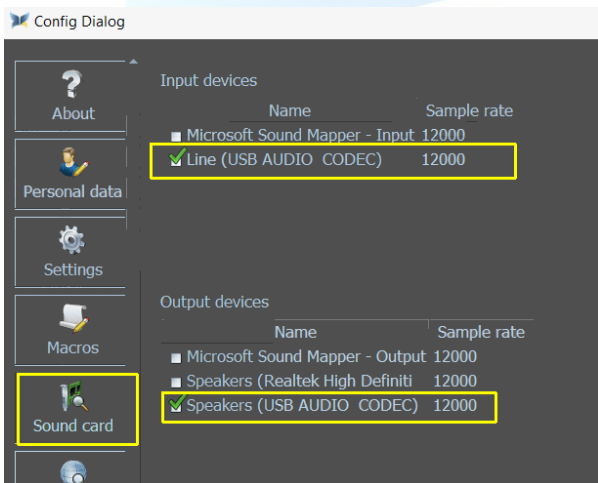


This COM3 port is also used for port settings and for PTT COM Port settings

It is important that you set the correct Data bits in the Port settings, otherwise the CAT may not work properly or even.

The IC-756 Pro II is connected to a CT-17 CI-V CAT Process the band, mode and frequency for the CAT.

The Signalink USB interface processes the CW and PTT information between MixW4 and the transceiver



CAT cable connected to the USB port

FT-991A with a USB cable

[\(top\)](#)

(by Pat, ON2AD)

## Installing the Communication Ports (COM)

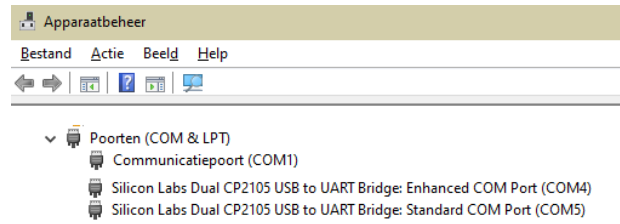
Go to Yaesu's website select the FT-991A click Files and download the FT-991A / SCU-17 USB driver (virtual com port driver)

After installing these drivers, two com ports are created

The Enhanced COM Port is used for CAT control.  
The Standard COM Port is used for the TX

(the COM ports may be different from those in the example)

You can view the installed COM ports in device manager



## FT-991A setup

No.	Menu Function	Available Settings	ON2AD	Default Value
028	GPS/232C SELECT	GPS1/GPS2/RS232C	RS232C	GPS1
029	232C RATE	4800/9600/19200/38400 (bps)	38400	4800bps
031	CAT RATE	4800/9600/19200/38400 (bps)	38400	4800bps
062	DATA MODE	PSK/OTHERS	OTHERS	PSK
072	DATA PORT SELECT	DATA/USB	USB	DATA
076	FM PKT PTT SELECT	DAKY/RTS/DTR	DTR	DAKY
096	RTTY SHIFT PORT	SHIFT/DTR/RTS	DTR	SHIFT
104	SSB HCURT FREQ	700Hz - 4000Hz (50Hz/step) / OFF	4000Hz	3000Hz
109	SSB PORT SELECT	DATA/USB	USB	DATA
110	SSB TX BPF	100-3000/100-2900/200-2800/300-2700/400-2600	100-3000	300-2700

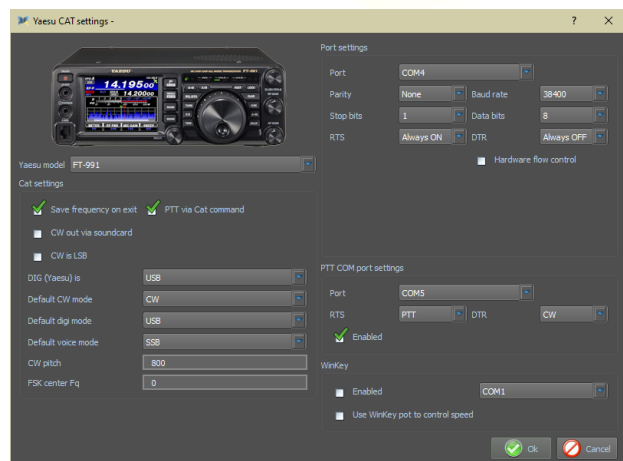
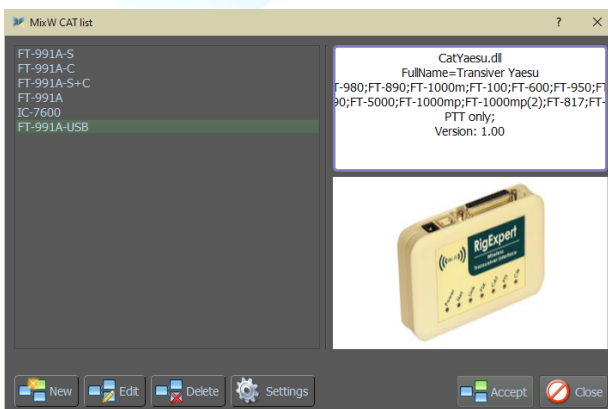
## Menu F (M-List)

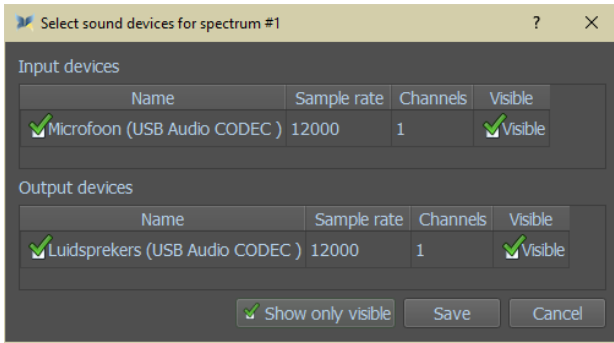
WIDTH	MIC GAIN	NAR/WIDE	MONI	PROC	DT GAIN	NB	IPO	AGC	5/10	MIC-EQ	BK-IN
3000Hz	50	W 3 k	15	50	50	ON	AMP 1	AUTO	10Hz	ON	OFF

## Menu Mode

Digimodes select USB  
CW mode select CW (USB)

## MixW4 setup





FTdx3000 connected via USB-port

(by Colin, 2E0BPP)

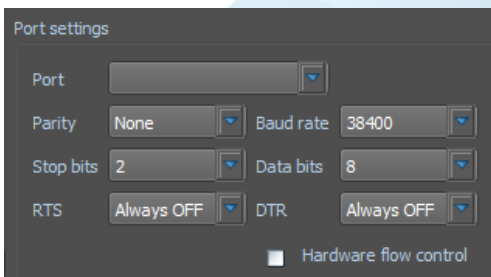
This document describes a method I used to make my Yaesu FTdx3000 work through the USB port on MixW4 1.0.5.

I do not normally use my FT3k via USB. I miss having level controls at hand easily.

### Met FT3K verbonden via de USB kabel.

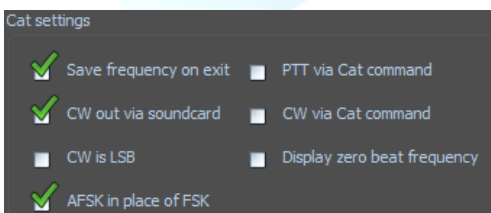
Radio menu:		
Menu	Name	Setting
37	CAT	USB
40	CAT RTS	Disabled
65	PC Keying: Set to DTR if you plan to use CW only through the sound card.	
65	PC Keying: Set to DTR for data modes but set to RTS if you plan to use CW, but not with the sound card.	
75	Data	USB

### MixW setting.



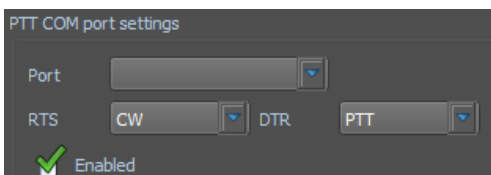
I found myself untrustworthy with RTS Always ON.

I didn't experience any problems with DTR ON or OFF, so I worked with both on OFF.



#### CW off via sound card: checked

Check:  
 Save frequency on exit  
 CW out via soundcard  
 AFSK in place of FSK



For the PTT COM port settings, the PTT + CW setting is not available.

To transmit data or CW via the sound card, the DTR box must contain PTT. When you set this up, the RTS box automatically goes to CW. With these settings, I can send BPSK or CW. The FT3K must be set to DATA mode.

#### CW off via sound card: unchecked

You must change the radio menu 65 to RTS. This is to overcome a problem I had with saving the CAT settings, causing MixW4 to regularly lose control of the CAT.

You need to make sure the FT3K is in CW mode when you use CW through a COM port.

I can only send CW with these settings. To send data, you must change the FT3K and MixW4 settings.

Occasionally I have held the TX after sending CW. The only way I have found to fix this is by going to the CAT settings, removing the check mark from the PTT COM port settings enabled box, click OK, and then accept. Stops the TX.

[\(top\)](#)

**A preliminary solution**

However, I managed to find a reasonably reliable way to send CW and data modes without manually making changes to MixW4. As a result, the CAT's lost control is sometimes erased when saving the CAT settings. Also, I haven't experienced that the FT3K is stuck in shipping using the following method.

I created 5 macros.

Naam	Macro	Actie
Mode CW	<CATCMD:MD03;> <MODE:CW>	Set FT3k to CW mode and set MixW4 to CW mode
RTSCW	<CATCMD:EX0652;>	Set FT3K CW PC encoding to RTS
Modedata	<CATCMD:MD0C;> <MODE:BPSK31>	Convert FT3K to Data USB and MixW4 to BPSK31 mode. This mode can be any data mode that MixW4 can use.
DTRCW	<CATCMD:EX0651;>	Set FT3K CW PC encoding to DTR
CWData	<CATCMD:MD0C;> <MODE:CW>	Convert FT3K to Data USB and MixW4 to CW mode

Make sure the PTT COM port is set to RTS is CW and DTR is PTT  
Data is always sent with ft3K in data mode and MixW4 in required data mode. Run Macros Mode data followed by DTRCW  
Data modes need to work now.

**CW from through sound card editing.**

Run macros CWData followed by DTRCW.  
CW should now be sent via the sound card.

**CW without sound card operation.**

Run ModeCW macros followed by RTSCW  
CW must now be sent by switching the RTS line of the PTT COM port.

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IC-7300 connected via USB port

(by Rene, ON6OM)

Setup of the IC-7300

You press the Menu button => Set->Connectors => Mod Input => DATA OFF Mod => and here you must select MIC,USB !

**Reason:**

In USB alone everything is going to work fine for your digital mode but if you want to make a regular QSO you have no microphone modulation and in the MIC,USB you have that, but then you have to  
Put the microphone aside and, if necessary, cover up so that no sound comes through or simply disconnect the microphone from the transmitter.

Shut down and then you can broadcast in USB mode, not USB-D1

Device Manager shows the image below, although the COM ports may be different.



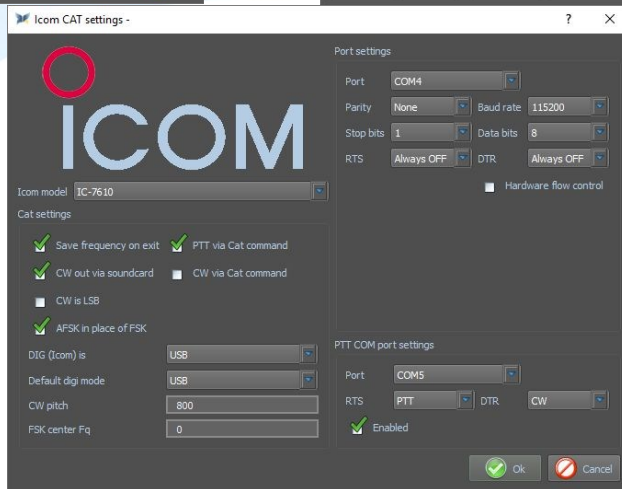
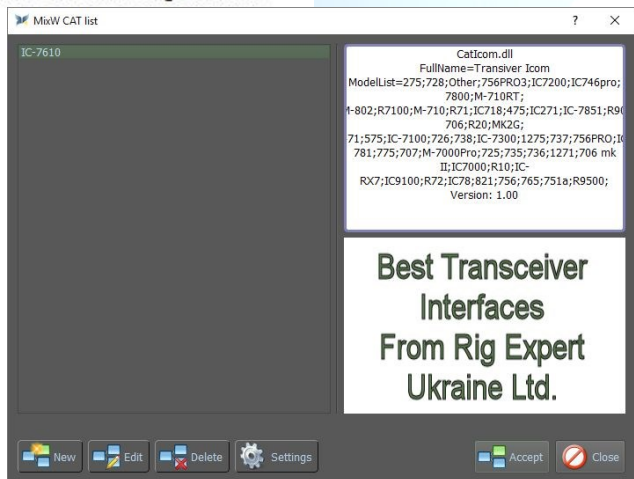
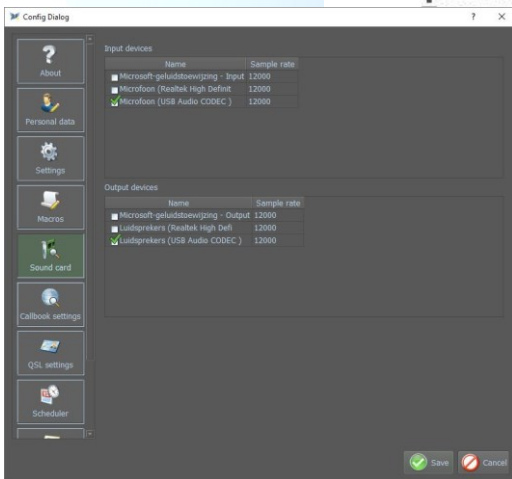


IC-7610 connected via USB port

(by Rien, PA7RA)

Device Manager shows the image below, although the COM ports may be different.

### COM Port



IC-7610 connected via USB port

(by Rene, ON6OM)

Setup of the IC-7610

You press the Menu button => Set->Connectors => Mod Input => DATA OFF Mod => and here you must select MIC,USB !

**Reason:**

In USB alone everything is going to work fine for your digital mode but if you want to make a regular QSO you have no microphone modulation and in the MIC,USB you have that, but then you have to put the microphone aside and, if necessary, cover up so that no sound comes through or simply disconnect the microphone from the transmitter.

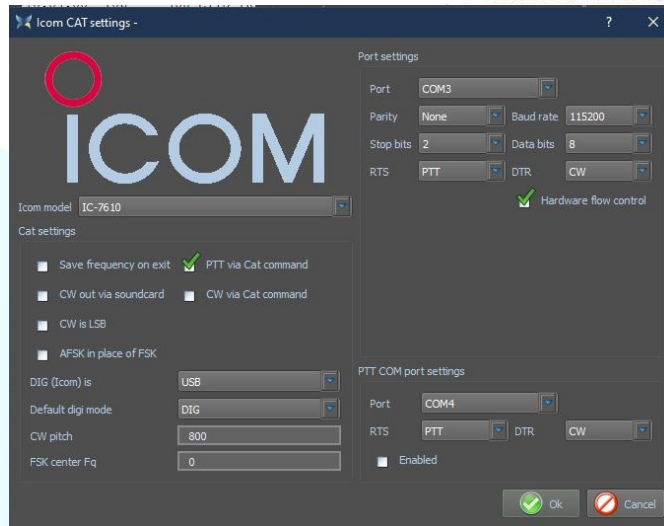
Shut down and then you can broadcast in USB mode, not USB-D1

**COM Port**

- ▼ Poorten (COM & LPT)
  - Communicatiepoort (COM1)
  - Silicon Labs CP210x USB to UART Bridge (COM3)
  - Silicon Labs CP210x USB to UART Bridge (COM4)

**Audio**

- ▼ Audio-invoer en -uitvoer
  - Digital Audio (S/PDIF) (3- High Definition Audio Device)
  - Digital Audio (S/PDIF) (3- High Definition Audio Device)
  - Luidsprekers (USB Audio CODEC)
  - MD20444 (2- NVIDIA High Definition Audio)
  - Microfoon (USB Audio CODEC)
  - Microphone (Logitech Mic (QuickCam E3500))
  - Philips 230C (2- NVIDIA High Definition Audio)

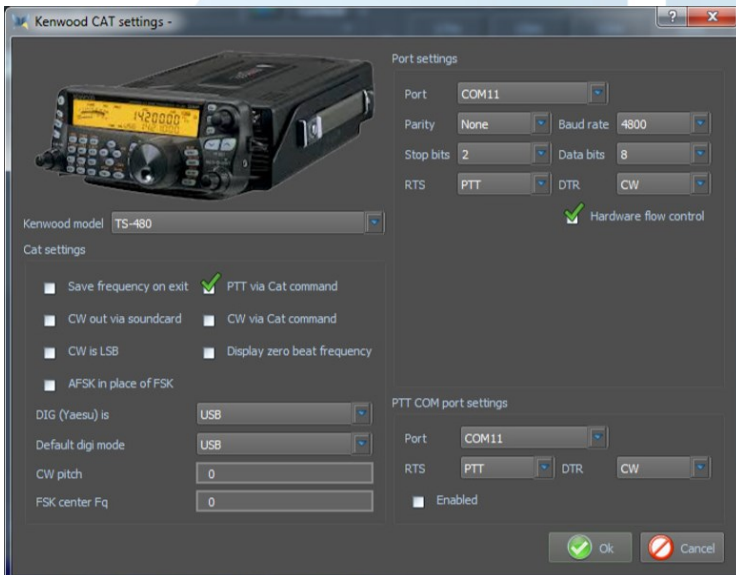


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**Transceiver interfaces**

TS-480 SAT with FUNKAMATEUR USB transceiver interface

(by Rudolf, DL3AYJ)

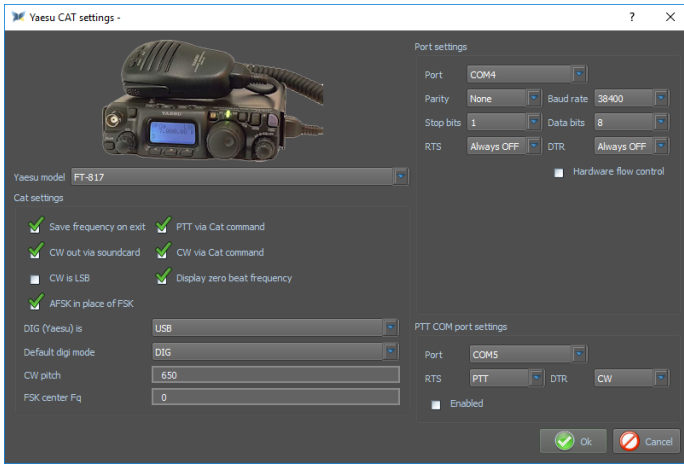


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**Yaesu SCU 17**

FT-817nd

(by Filippo, IT9IGN)



**Port settings:**

Controle your PC drivers:  
Silicon Labs... CP210x ENCHANGED COM (nr.)  
port, here the COM4 is used.  
RTS and DTR on Always OFF

**FT-817ND**

Menu 14 Set RTX  
CAT rate 38400 like de Baud rate

**PTT COM port settings**

Check your PC drivers:  
Silicon Labs... CP210x STANDARD COM (no.) port,  
here the COM5 is used. **If you use the "back door" of  
the RTX (3.5 mm (3.5-inch) connection for CW/BPSK)**

**Default digi mode** is DIG (settings in the Trcvr menu  
26 DIG-mode User-U)  
**CW-pitch** = 650 (Tone CW)

**Sound card setting:**

Open the Config Dialog and click Sound Card and tick the following settings

**Input devices**

Microphone (USB Speakers) and Sample rate 12000

**Output devices**

Speakers (USB Speakers) and Sample rate 12000

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**Simple-Interface**

FT-817

It does not always have to be caviar ...

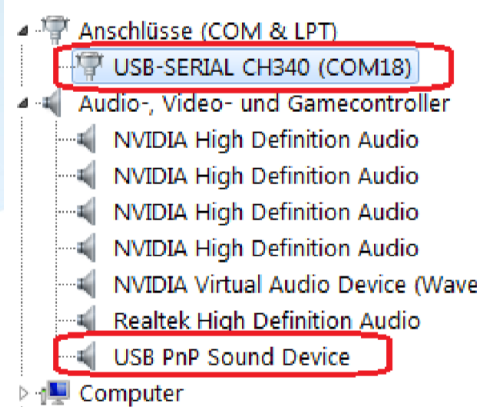
(by Rudolf, DL3AYJ)

Here a very reasonably priced solution is presented (about 10 euros or 8 US\$) consisting of USB CAT-Interface cable and USB sound stick. The sound stick is only needed if you do not want or cannot use the computer soundcard

**CAT-cable Interface**



**Windows Device Manager**



**USB-soundcard stick**



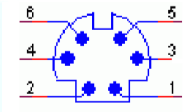
These CAT cables are also available for other transceivers, e.g. ICOM, but **BEWARE!** It only works if the transceiver supports PTT via CAT command! For example, the FT-817 models can do this.

**Settings in MixW**



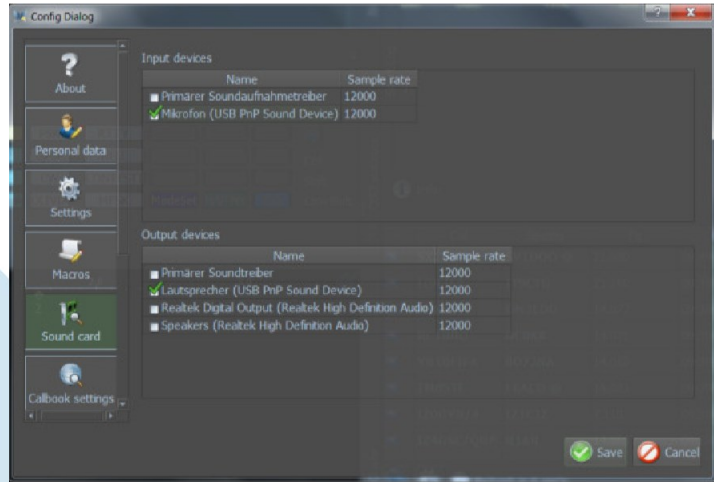


The NF link must connect the FT-817 data connection to the sound card (best over a voltage divider 1:10)



- Pin 5 → Microphone
- Pin 1 → Speaker
- Pin 2 → Mass

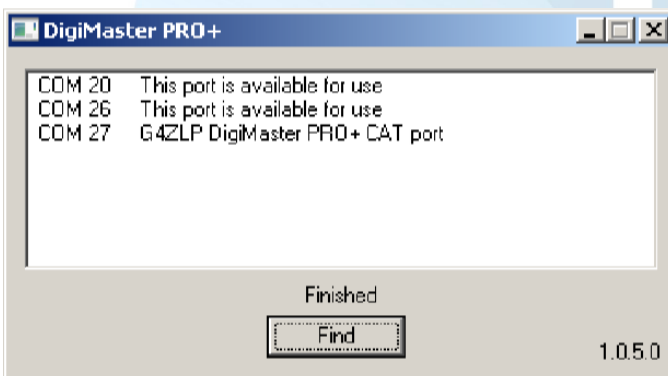
Looking to plug soldering pens



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### G4ZLP PRO3

The G4ZLP's included manual describes the installation procedure in detail. Once the installation of the software is complete, run Find Digi Master PRO.exe. At least 3 interfaces must be displayed. If more than 3 are shown, the detailed installation procedure describes how the G4ZLP PRO3 ports can be identified.



Configure the MixW4 CAT port with the CAT port number that appears on the display. Although not displayed, USB Audio Codec channels have been created. Configure it in MixW4 Audio settings.

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### Info

This manual is not complete and may contain language errors and other errors. If you have such errors and other additional information, please send a please to my email address that is on QRZ.com. Many texts of this manual have been translated with the Google translator, read, and adapted, and supplemented with my own experience with MixW4. The use of this manual is for own personal responsibility. I am not responsible for any errors and operating errors and operation.

### References

1. First Russian curtailed manual.

2. English manual from, Colin 2E0BPP.
3. German manual of, Rudolf DL3AYJ.
4. Dutch manual, Pat ON2AD.
5. English manual, Pat ON2AD.
6. Details of the English manual of MixW3.2.105.
7. Thanks to Erwin PE3ES, for checking and improving Dutch spelling.
8. Thanks to all here not mentioned for the necessary additions, tips, and improvements.
9. Alex Timmi, UT4ULP, of the MixW-Team.
10. Alen, from the MixW-Team.

