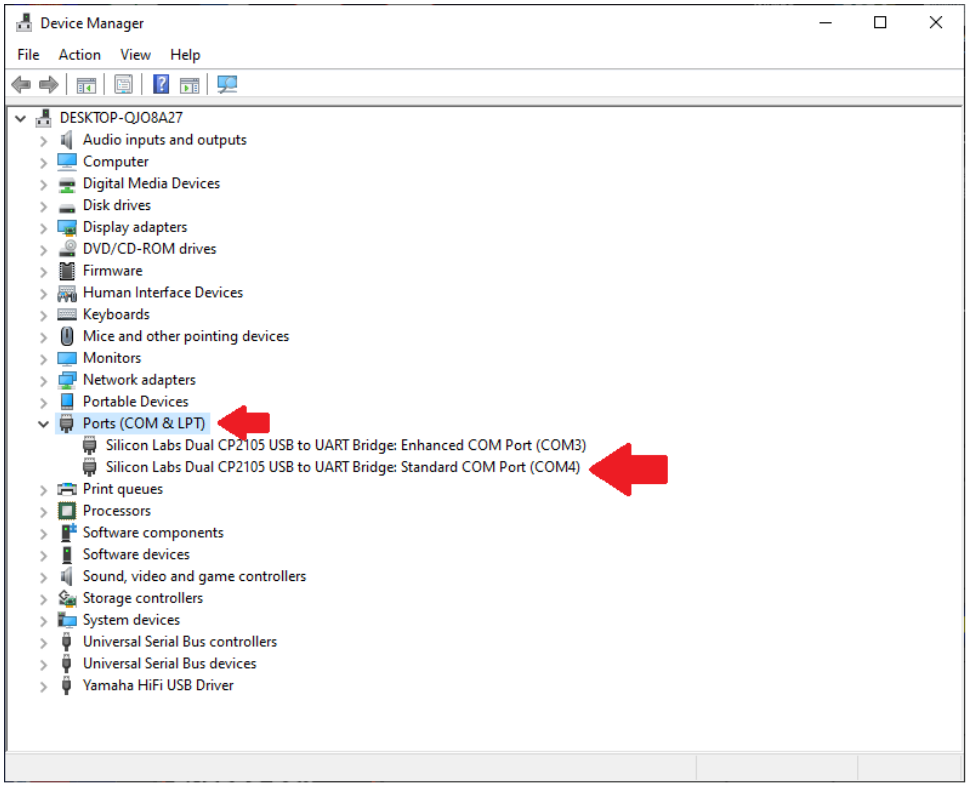
RTTY For Yaesu FTDX101D/MP & FTDX10

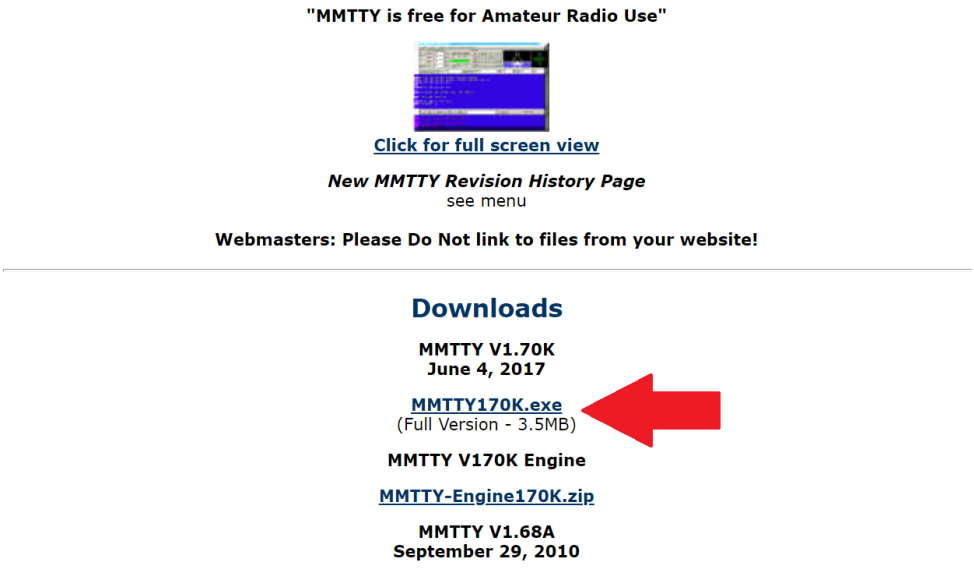
John 2E1HEL

First, we need to set the radios RPTTY to be controlled by the USB virtual com port.
To do this press Function/FUNC then RADIO SETTING -> MODE RTTY.
Scroll down to RPTT SELECT and choose DTR.
Leave all other settings to their defaults (highlighted in yellow)

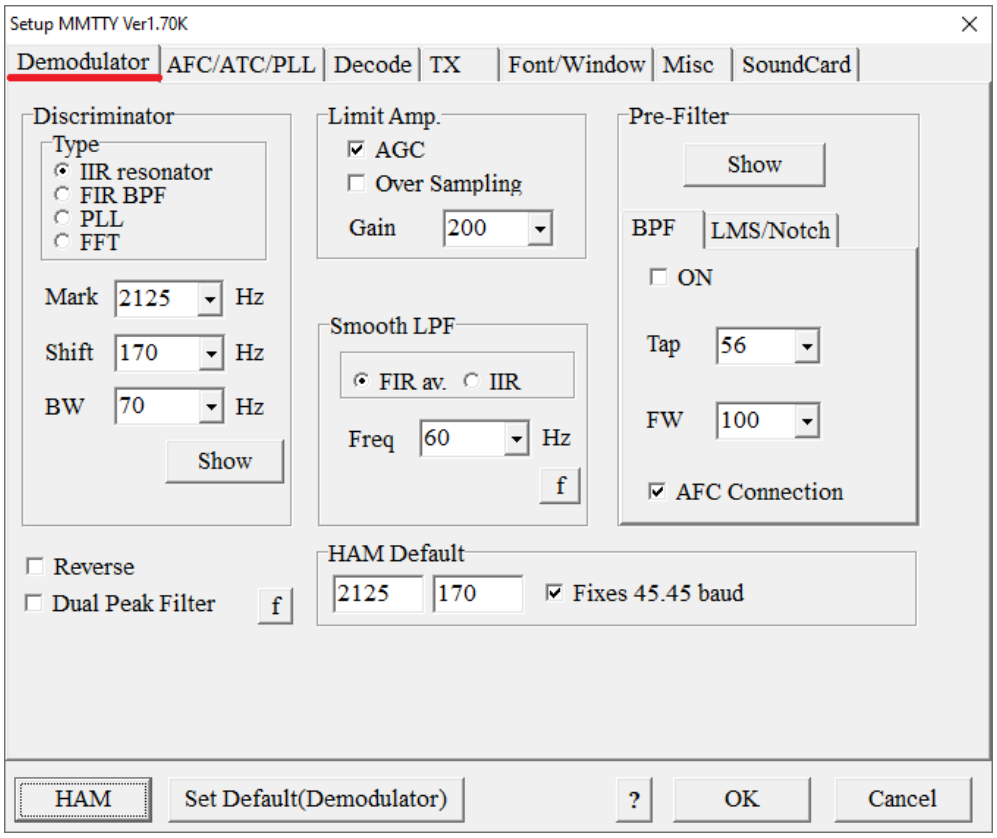
With the radio on and connected to your PC make note of the virtual com port numbers in the device manager of windows.
You can easily locate the device manager by clicking the start menu then typing the word **device**.
Your COM port numbers may differ to the image below but the highest value number is usually allocated to the Standard UART Bridge, this is the one we need later.
In my case its number 4:

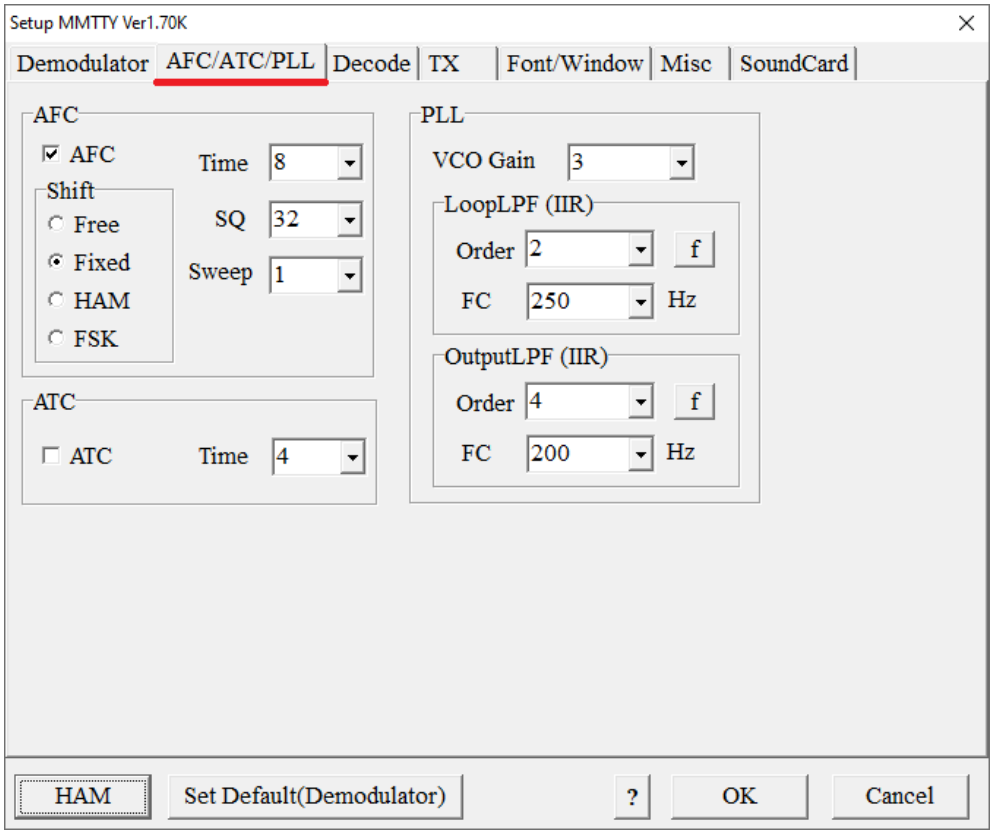


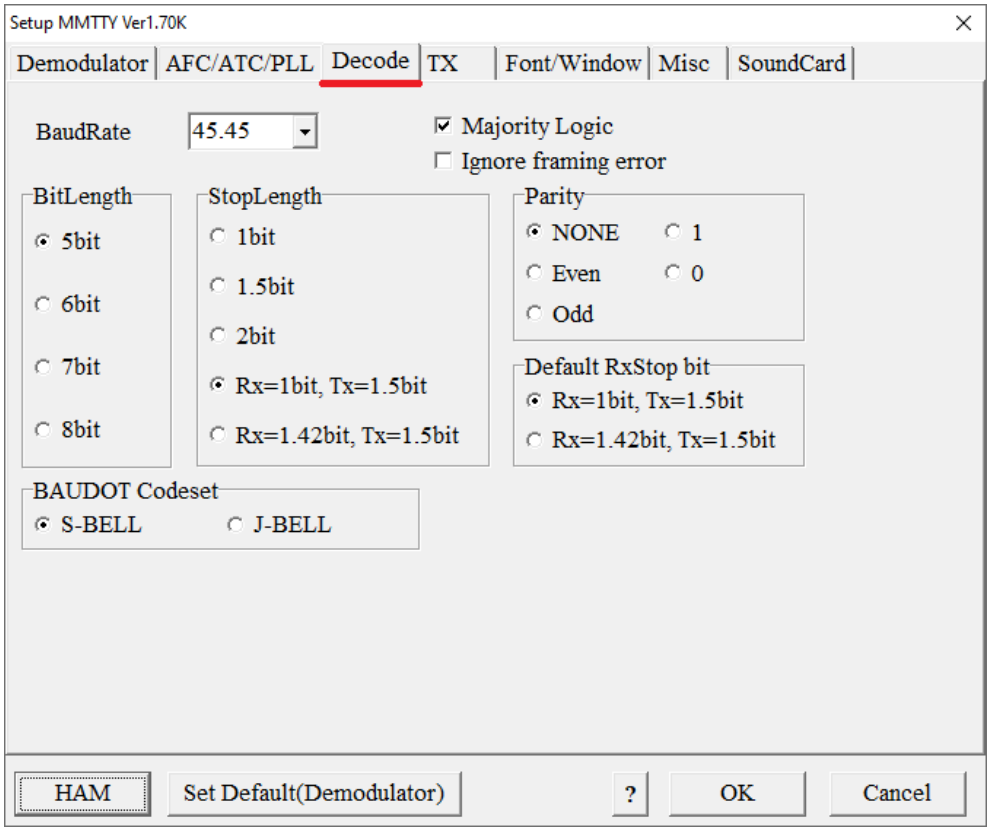
Download and install the MMTTY software from https://hamsoft.ca/pages/mmtty.php
Make sure you click on the correct Full Version link a little way down the page and not on the clickbait links at the very top.



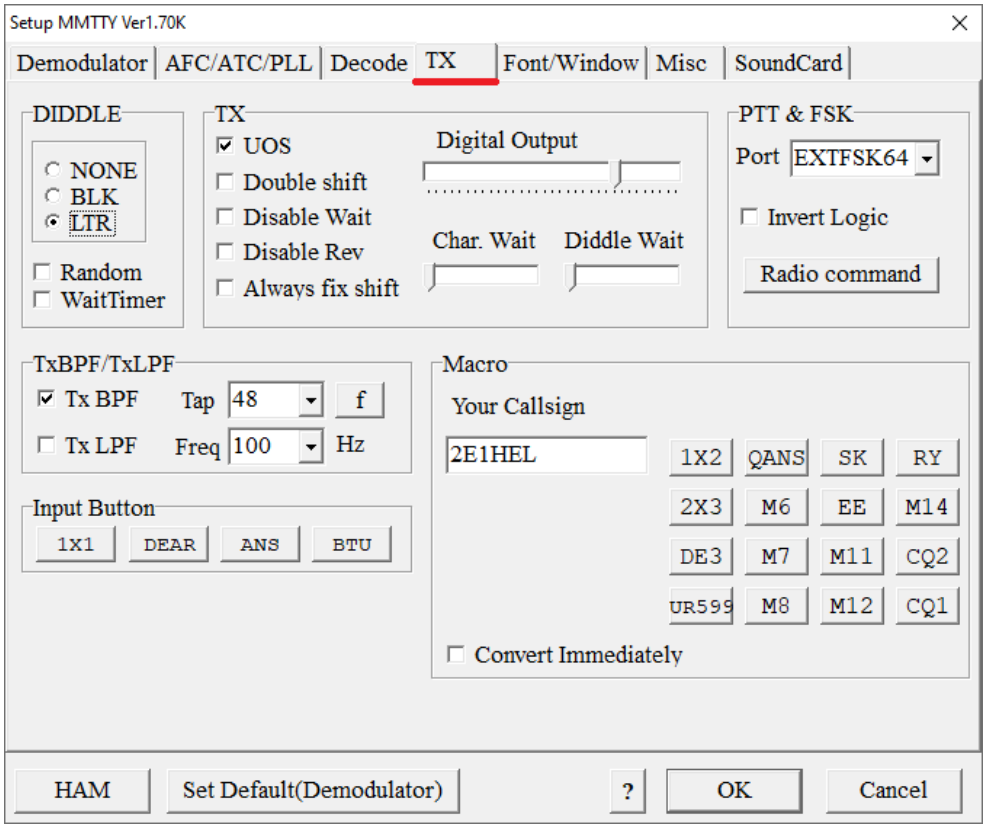
Once the MMTTY software is loaded on the first run it will ask for your callsign.
Next click **Option (O)** at the very top then click **Setup MMTTY (O)** from the drop-down menu.
I won't go into detail of what all the options mean, please simply match your settings to the screenshots below:


Setup MMTTY Ver1.70K
Demodulator
AFC/ATC/PLL
Decode
TX
Font/Window
Misc
SoundCard
Discriminator
Type
IIR resonator
FIR BPF
PLL
FFT
Mark 2125 Hz
Shift 170 Hz
BW 70 Hz
Show
Limit Amp.
AGC
Over Sampling
Gain 200
Smooth LPF
FIR av.
IIR
Freq 60 Hz
f
Pre-Filter
Show
BPF
LMS/Notch
ON
Tap 56
FW 100
AFC Connection
Reverse
Dual Peak Filter
f
HAM Default
2125
170
Fixes 45.45 baud
HAM
Set Default(Demodulator)
?
OK
Cancel

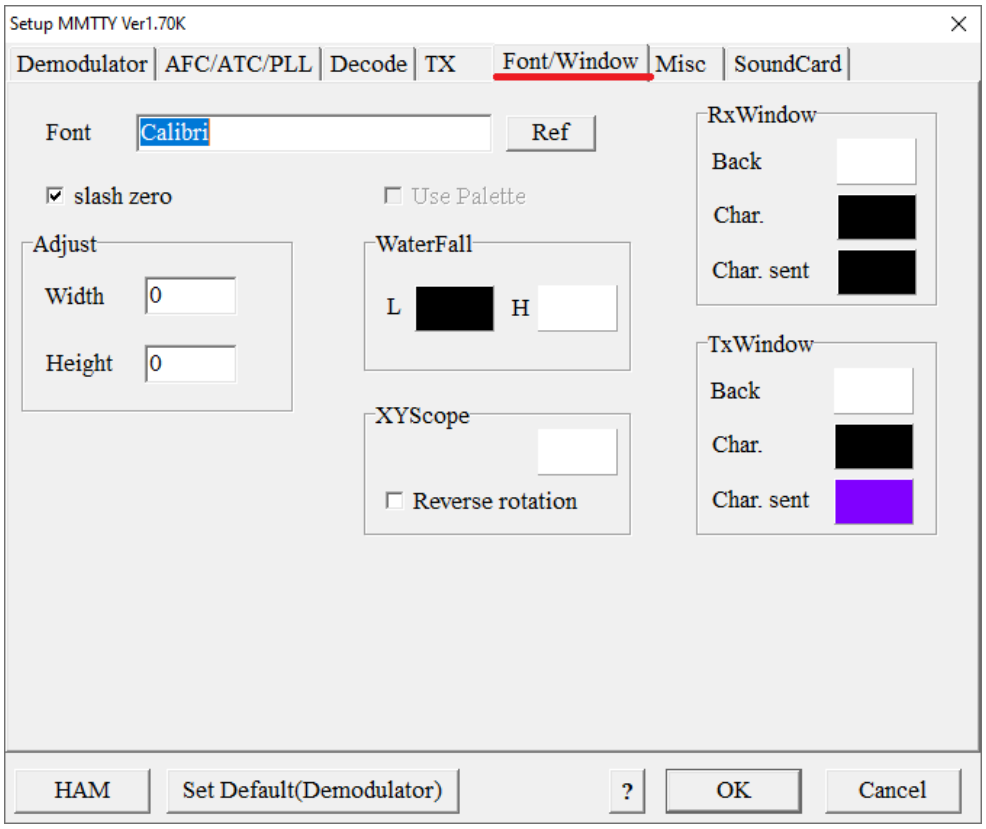

Setup MMTTY Ver1.70K
Demodulator
AFC/ATC/PLL
Decode
TX
Font/Window
Misc
SoundCard
AFC
AFC
Time 8
Shift
Free
Fixed
HAM
FSK
SQ 32
Sweep 1
ATC
ATC
Time 4
PLL
VCO Gain 3
LoopLPF (IIR)
Order 2
f
FC 250 Hz
OutputLPF (IIR)
Order 4
f
FC 200 Hz
HAM
Set Default(Demodulator)
?
OK
Cancel

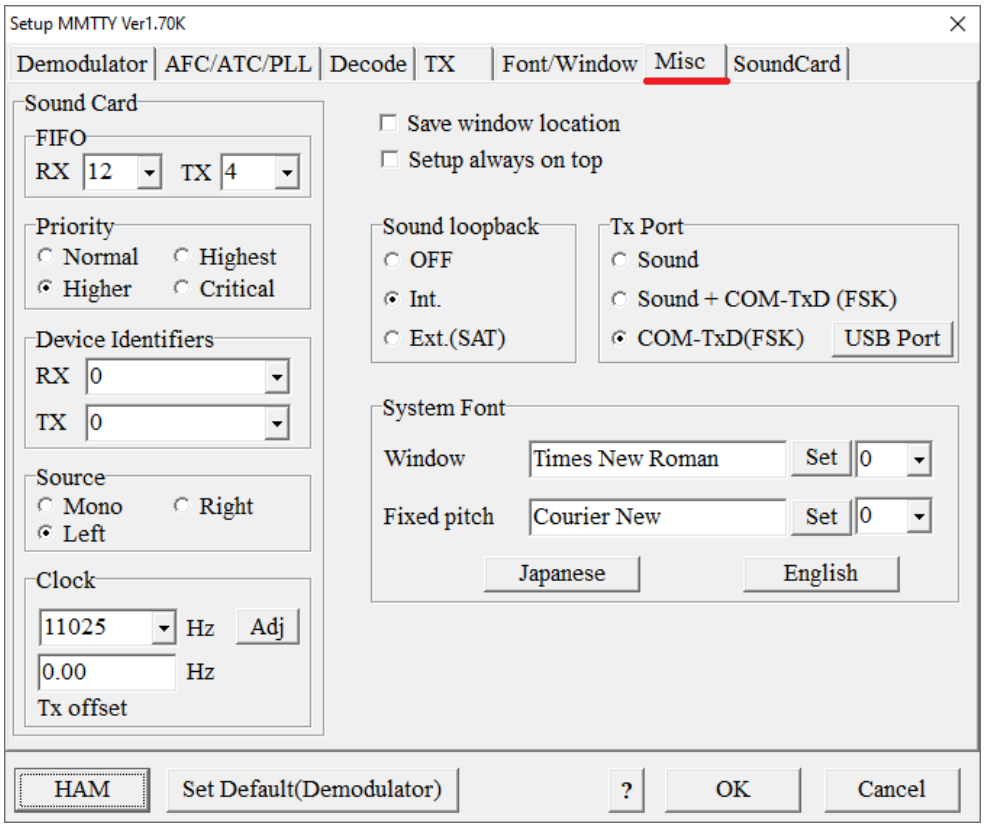


Obviously use your Callsign. EXTFSK64 is at the very bottom of the drop-down menu:

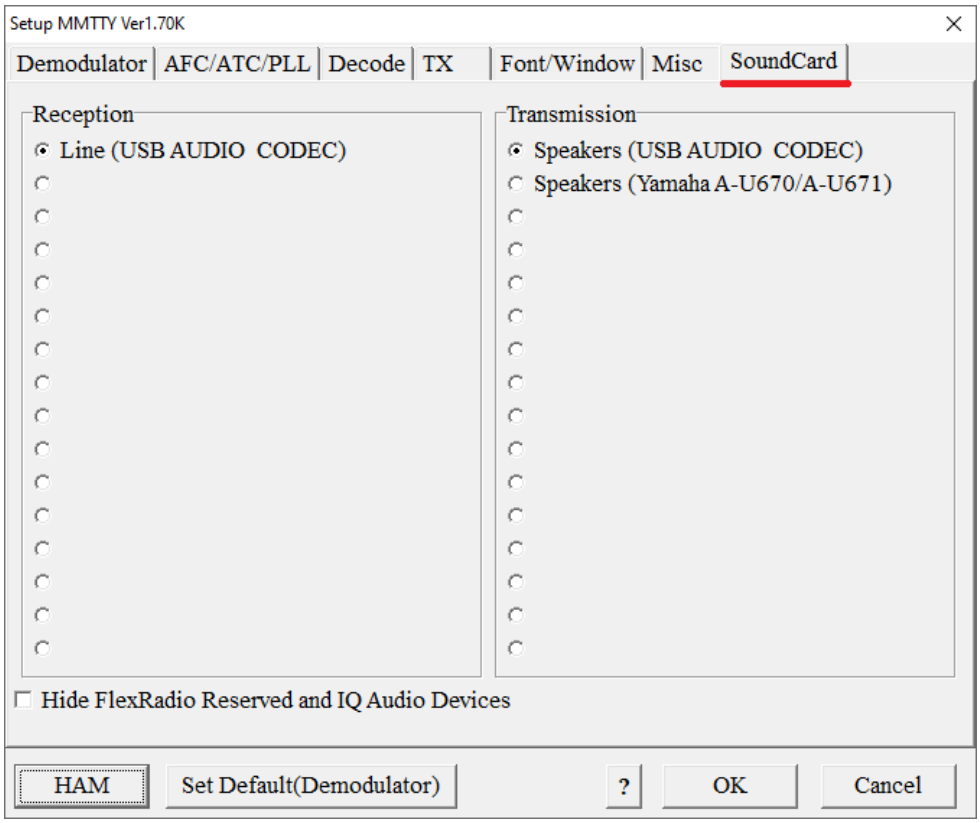


The fonts window is all personal preference and does not affect operation:

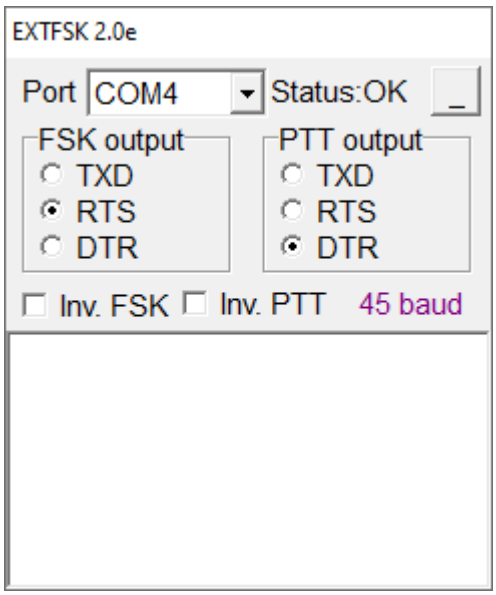




Here you should be able to identify the radios USB audio codec:

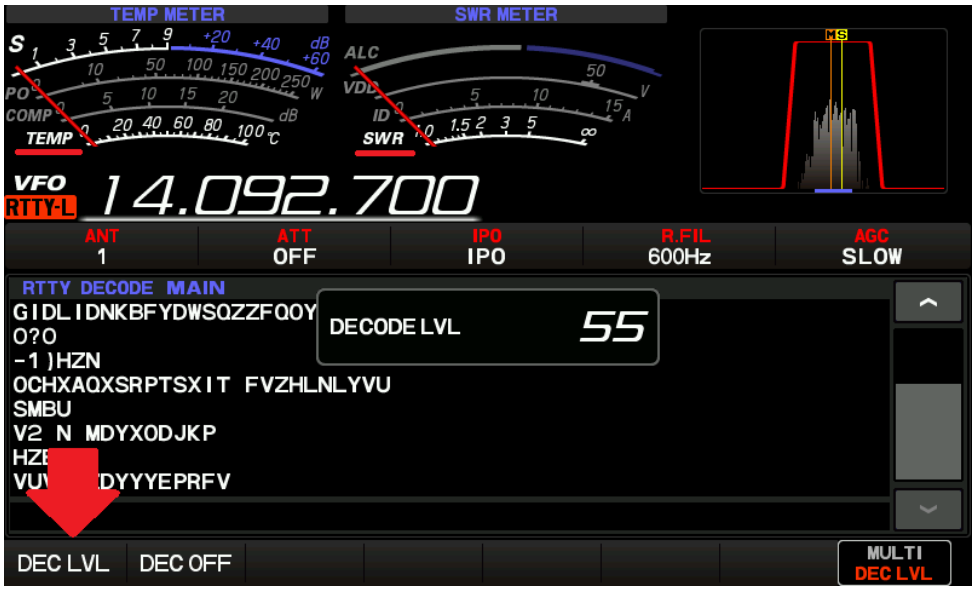


With all the options set press **OK** to close the options window.
A secondary window should now automatically appear.
Here we need to set the virtual COM port number we found in the device manager earlier.
As said before its usually the bigger of the two numbers but you may need to try the other if it fails to work.
In my example it's COM4 but yours may be different:



Hopefully with everything set we're nearly ready to start RTTY.
Going back to the radio press MODE then select RTTY-L
MMTTY will obviously decode RTTY but I find it can be helpful to have the radio decoding as well.
Press Function/FUNC then select DECODE.

You'll probably see a lot of gibberish appearing on the decode screen, this is simply the decoder trying to make sense of what it's hearing within the noise floor.
Select DEC LVL and adjust the level up until the gibberish decoding just about stops.
Setting the level too high could stop a genuine signal being decoded properly, some experimentation may be needed.



Another feature I personally like to enable is the radios monitor set to a low volume. Just a bit of reassurance we're actually sending something.

At this point please:
Make sure you are in the data portion of the band.
Make sure your tuned to your antenna with the lowest SWR possible.
Make sure your output power is no higher than the AM power rating of the radio. For 100W radios this is likely to be 25W
It's a good idea to monitor both your SWR and Temperature. FTDX101D/MP users can display both at the same time.

All good?
Let's now try sending some RTTY!
Return to the MMTTY software and hit the F9 key of your keyboard.
Your radio should start transmitting a carrier of essentaily blank RTTY and you should also see the little EXTFSK window populating repeatably with "1F"
You can now start typing your communications CQ CQ CQ DE (your call) (your call) (your call) PSE K for example.
When you want to end your transmission hit the F9 key again to return to RX.
If your radio did not transmit check again the COM number in the little EXTFSK window and all settings mentioned previously.

If it did work then you're ready to rock!
The MMTTY software is capable of setting assignable macros for calling CQ and setting responses to signal reports and so on.
I won't go into all that here so I recommend having a read through the MMTTY PDF File from their website: https://hamsoft.ca/pages/mmtty.php