Ham Radio Deluxe - Troubleshooting ICOM Radio USB Port Data Modes.

Most of the new ICOM radio's include a USB sound codec device

Driver information

Firstly the radio control and audio may not function correctly if the rig was connected to the computer via the USB lead before the drivers were installed, so if you did this. Then   go to control panel, find the Serial port that Windows has assigned to the rig and delete it, also delete any USB audio devices that windows has installed for the rig.

If you have had many USB devices connected to your PC, you may wish to do a spring clean, we recommend the USB Devices View (USBDEVVIEW) software for this task.

http://www.nirsoft.net/utils/usb_devices_view.html

For ICOM radio's Download the latest driver from ICOM Japan website – they will always have the latest version

http://www.icom.co.jp/world/support/download/firm/

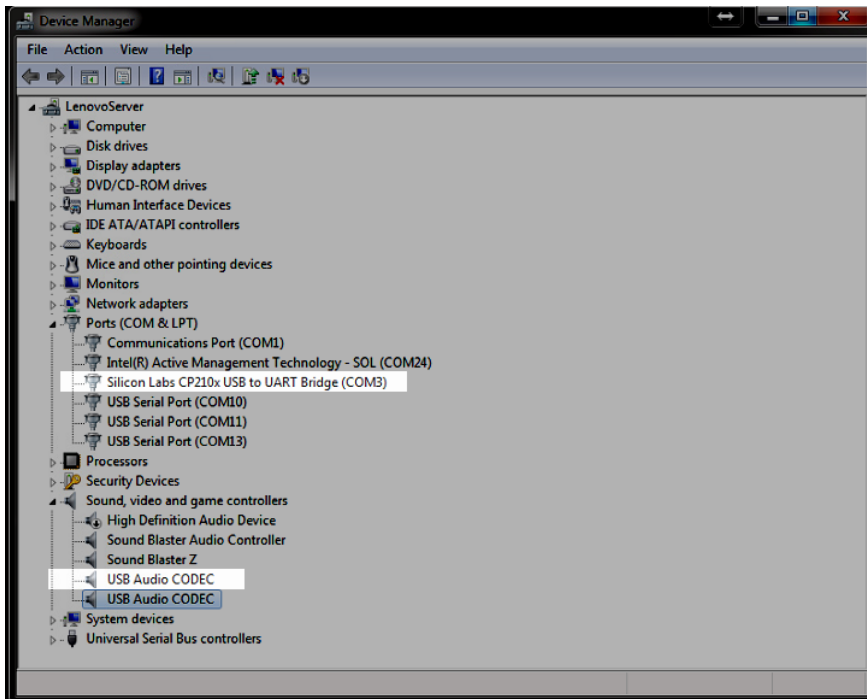Only once the driver has been installed. Then connect the radio to the computer.

Computer Configuration

Once the rig has been connected to the computer, the computer will assign the radio a control Com Port and it will install a USB sound card.

From the Control Panel > Device Manager   find the ports section, double click and it will show the port that the rig has been assigned, switch the rig OFF or disconnect the USB cable and this port will disappear from the list. Switch the rig back on and the port will re-appear **make a note of the port number**. You may wish to go to the advanced properties of the port and change the port number but beware that each port must have a unique number.
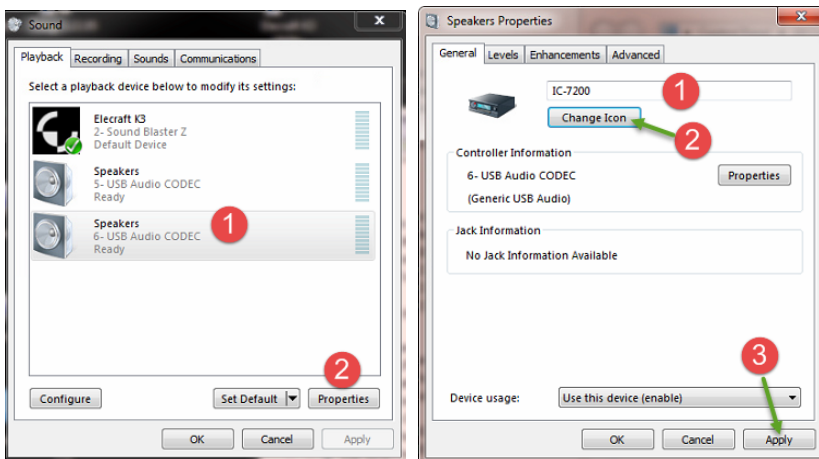
Also within Device manager you will see the the USB sound card appear under device and sound controllers.

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If you wish to give the sound card a more meaning full name, this can be done from Control Panel >Sound This makes things easier if you have many sound devices

Select the playback device and then select properties and give it a more useful name and possibly change it's Icon

Repeat this for the recording device also

It is also NOT a good idea to have the Radio's sound card devices set as the default playback, recording or communications device , otherwise error beeps, beeps when you receive email etc could be accidentally transmitted.

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Radio Configuration

The Rig needs a few configuration changes to use the USB Port audio, as we use USB for the name for the port and also for the USB (upper side band mode) From now onwards I will always use USB to refer to the USB port and usb in lower case to refer to the mode.

The radio needs to be configured to use the USB audio input and output rather than the other available connections (Microphone, data socket, auxillary socket).

The ICOM radio's can be put into data mode, when the rig is in usb D or lsb D mode it will switch from using the mic input to another input device. We have to specify that we want the rig to use USB audio when it is switched to D data mode, and that it is to remain using the microphone when it is not in Data mode.   Each of the radio's does this slightly differently, please refer to your actual rig's handbook.   In this case I will explain how this is done for the IC-7100 radio.

On the radio itself, select setup then connectors

Set USB Audio SQL to OFF (Open)

Set Data OFF MOD to Mic,ACC (this is the default , so when data mode is not enabled the audio in out and output will be via the mic and ACC socket)

Set DATA MOD to USB, the default would have been ACC, now when you are in Data mode the audio input and output will use the USB connection.

There are also level controls on this radio, USB MOD Level (TX) Levels can be set to make things more manageable, see the following video clips
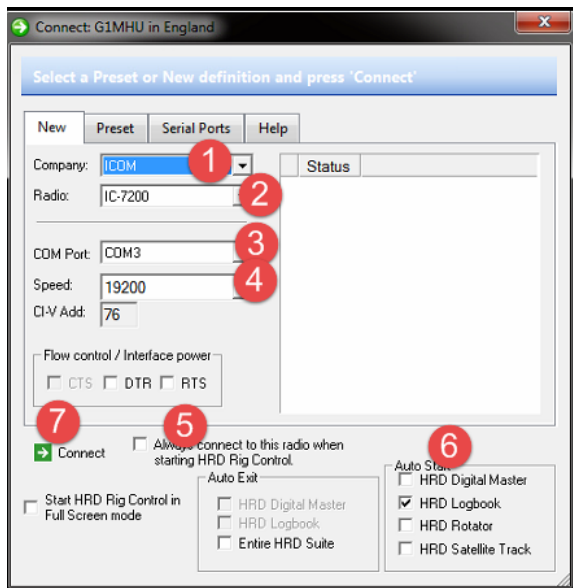
https://www.youtube.com/watch?v=fkyKaoVY5YY

https://www.youtube.com/watch?v=vitbPIk_mlY

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HRD Setup

Connect to the radio in the HRD radio control application.

1 Select the Company – Icom,

2- Select the Radio that you have

3 – Select the Com Port that the radio is connected to

4 – Select the Speed (Normally I recommend one down from the fastest (you may need to set this in the radio's menu also)

5 – If you only have one radio then tick this box

6 – Set what modules you want to always start up at the same time

7- Click Connect

Note that I did not select flow control / interface power as they are not required when using a direct USB lead from the PC to the Radio

Ensure that the IP Server is running and is set to always startup (Tools > IP Server)
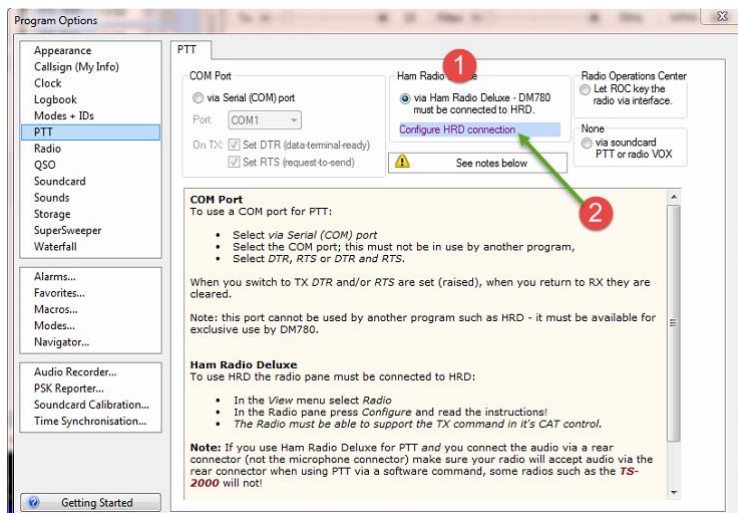
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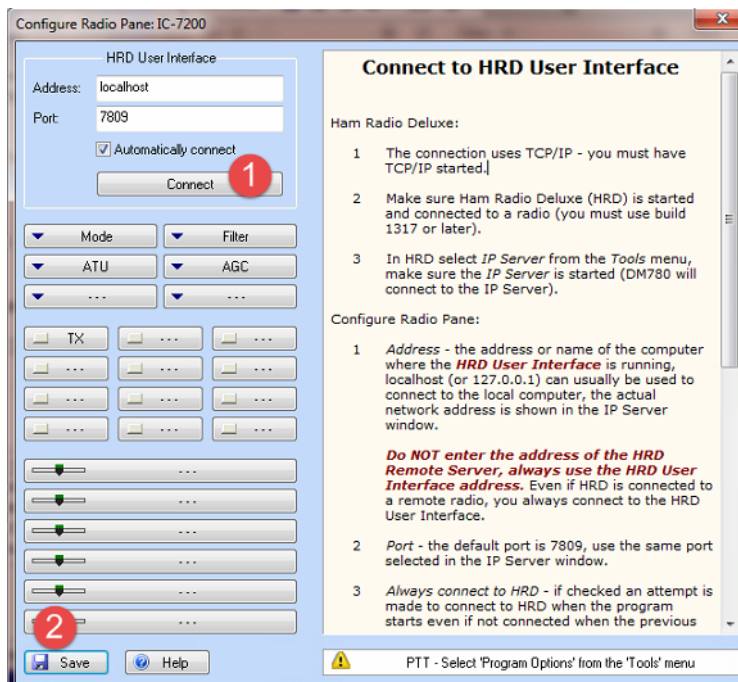## DM780 Configuration

Start DM-780

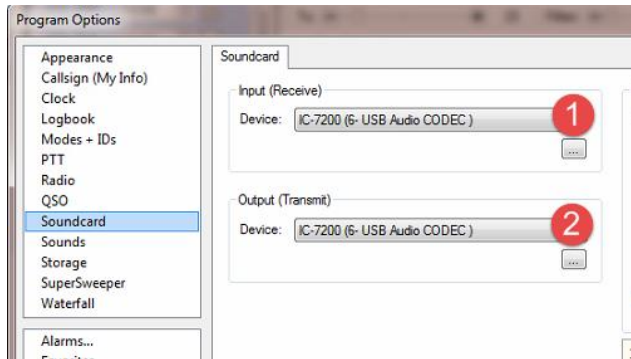1 Set PTT to be via HRD

2 Configure radio Connection

From the Radio Connection configuration, you may wish to configure the buttons and sliders to whatever commands you wish, but you must leave the TX button there.

I like to Add the TX power slider and the TX USB gain slider

From Program Options select Sound card > set input and output sound card to be the radio's sound device.

You may now close the configuration panel and set your TX and RX levels and you should be good to go.

Rig must be set to DATA U mode.