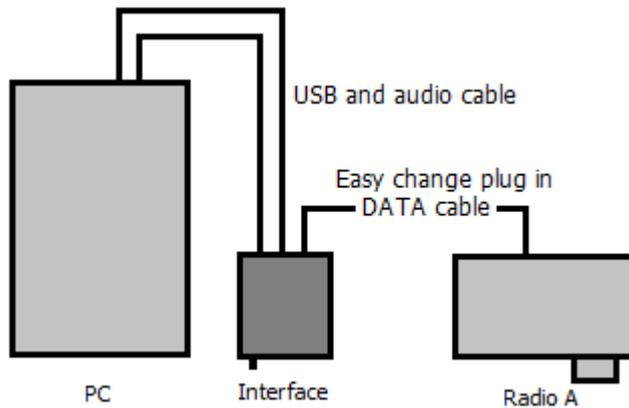# DigiMaster MiniPro

Isolated AFSK mode DATA interface.

The DigiMaster MiniPRO
USB Audio-DATA interface for ALL afsk DATA modes
And ALL afsk software.

Suitable for ALL afsk data modes and is perfect for programs including MixW2 and ALL other Windows afsk software.

The interface connects to the PC via any of the PC's standard powered USB ports, using a standard USB cable (included). The USB cable from the PC connects to the interface via the interfaces standard type B USB socket, the same type socket as used on printers and scanners etc.

When this cable is connected, Windows will recognize the USB connection and, depending on your Windows version, will either automatically install the drivers required or prompt you to install them.

The installation is normally automatic with Windows XP and Windows 7 and Windows 8.

Should your version of Windows ask you for a driver you can instruct Windows to search the net so as to obtain the very latest drivers, or you can download the driver directly from the FTDI website. Should you need to install the drivers yourself, full step by step instructions are provided by FTDI and can be downloaded directly from the FTDI website.

The drivers will have installed a "virtual" comport on your PC.

Once the drivers have been installed, Windows will inform you that the device is ready for use, and you only need to know what port Windows has assigned to the interface. You will need to know the port number when you configure your DATA mode software.

Your software will see (and use) this "virtual port" as standard comport.

You can see the "virtual port" in Windows->Device Manager as a standard comport, and will be used by any software running under Windows as a standard comport.

If you do not know how to use Windows device manager here is a guide to using device manager. Take note of the number of the new comport provided. You should configure your software to use this new comport. The port is seen by your software as a normal comport and you need only to configure your software to activate the PTT via the RTS signal line of the new comport provided.

A very few radios (The IC-910 for example) require the PTT link in the interface to be closed. The PTT link is a small link next to the 6 pin DATA socket, it is the only link in the interface.

If the new comports value lies outside the range useable by your software, you can use Windows -> Device Manager to remap it to a value that lies in the range allowed by your software, see the link to the guide to using device manager above.

When you connect the interface to your PC you will notice that Windows tests the virtual comports and in doing so will raise and lower the ports RTS line several times. If your radio is attached during this process it will of course switch into TX then RX as this process happens. You will see the TX/RX LED change 3 times during the test. If this happens then your interface drivers are fully and correctly installed.

You can now plug in your cable that connects the unit to the radio.

There are many cables available to connect to your radio(s).

Some radios need to be correctly configured to use data modes, see your radios operating manual for information on data modes (afsk). Some data leads (such as the YL02A also need your radio to be correctly configured, information on how to set up your radio when using a YL02A is on the instruction page of the website.

When using a "UN01" data lead the IC706 needs it's packet baud rate set to 1200, this does not affect any speeds but simply selects the appropriate 1200/9600 baud pin on the radios data socket. Plug the other end of this cable into your radio and run your software.

It is important that the unit is plugged into the PC and turned ON, and that Windows has recognized your USB interface BEFORE you start your software, otherwise your software will not be able to find the driver to control the interface.

For ALL models of the DigiMaster Audio-DATA interfaces, it is important that you configure your software to activate your radios PTT via the interface. NOT via the CAT. This is because many radios, when put into TX via the CAT open the "microphone" rather than the DATA input socket for transmission. ALL Kenwood radios for instance will only transmit DATA via the 13 pin acc socket when the PTT on the 13 pin socket is activated.

Please be CAREFUL when plugging in mini din plugs.
If you push an 8 pin plug into a 6 pin socket you will damage the plug!
Plug damage caused in this way is not covered by your warranty.

The Audio from the PC
The audio from the PC connects to the unit via the stereo lead provided (see below). Most speakers have a separate output that can be used. If you do not have a separate 3.5mm output socket and wish to monitor the PC's audio output then you can use a 3.5mm "Y" stereo splitter so that you can also plug your speakers in.

The Audio to the PC.
The audio from the radio goes via the unit to the PC using the lead described below. This can go your pc's mic or line input sockets.
You will find that one or the other performs better. If you have any software that performs "sound effects" on the input signal you will get better results if you turn it off. Use Windows Volume control (recording properties) to adjust the input level for best results. If you have trouble getting any input then ensure that you have selected the appropriate input (mic or line in).

Adjusting the input level
Simply use Windows volume control, recording properties to adjust your mic or line in levels. The Interface contains 2 small "presets", (both are marked) to adjust the input and output level. First, using windows volume control set the input level to an acceptable level.
If your input level is too high, then use the "line in" socket.
If you are using your mic input, ensure that any "mic-boost" in Windows volume control is turned off. Also ensure that any software type of graphic equalizer is also switched off.
Preset I/O level adjustments are also provided inside the interface.
If you do not know how to adjust Windows audio levels a guide can be found on the instruction pages of the website.

Adjusting the output level
This is achieved via Windows volume control.
However, there is an adjustment that can be made inside the unit should you need to. Ensure that your soundcard software is set such that no "sound effects" are in use.
The Interface contains 2 small "presets", (both are marked) to adjust the input and output level. First, using windows volume control set the output volume level to an acceptable level.
Remove the rear of the unit and slide the pcb out or adjust in situ. Adjust while monitoring power and ALC levels. You should aim to adjust for zero alc action. This may not always be easy to get and you may also have settings on your radio that will affect this. Many radios have a "digital gain" or have adjustments that can also be made to the input (and output) levels.
Adjust your radios power output settings to get the desired power.
Note that the digi-modes are basically qrp modes, most operators use less than 10 or 20 watts.
If you do not know how to adjust Windows audio levels a guide can be found on the instruction pages of the website.
Please note: Many laptop PC's have a very low output level that may in extreme cases be too low to drive your radio hard enough to obtain the power output levels you would like to see. You can purchase small inexpensive USB audio soundcards that will do the job, such as the following;
http://www.g4zlp.co.uk/unified/usbsoundcard.shtml
Separate soundcards are recommended so that system sounds can be directed to the normal speakers, while your data software can be configured to send data signals to the separate soundcard – thereby eliminating the windows sounds being transmitted.
Digi-modes are high duty cycle modes, running your radio at high powers under such conditions is your choice but is not recommended as your PA may get very warm.

Audio to/from rig.
The audio connection to the radio is via the lead that connects to the unit and the radio. Should you change your radio you can simply replace this lead to connect to your new radio. The lead has one end terminated in a six pin mini din plug, this end fits into the unit. If your lead has a six pin mini din connector at each end then you can of course connect it either way around.
Several leads require that your radio be configured correctly.
For information on using a YL02A.
Remember, if using a "UN01" data lead with the IC706 set the radios packet baudrate to 1200.

Operation
Most Ham digi-modes are in USB regardless of band.
Some radios may need to be in a specific "digi-mode" for example the FT-857 needs to be in Digi-mode -> USB. The 857 (and many other radios) has a separate digital gain which can be accessed via the radio's menu system which may be of help in setting up.
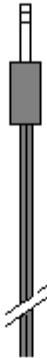Some radio's inc the FT1000 MKV may need the function of pin 5 of the packet data socket configuring via the radios menu system. (Please refer to your radios operating manual).
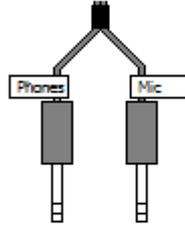SSTV on VHF is almost always in FM.
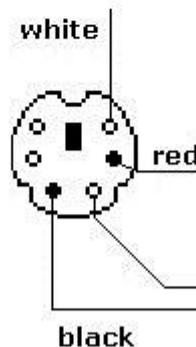
White = From Radio
Red = PTT
Yellow = To Radio
Black = Audio GND
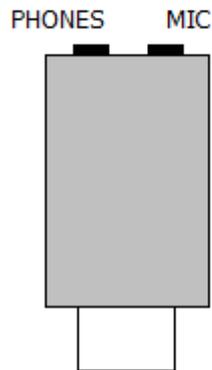Screen = Radio GND

Audio to/from PC

Lead is marked Phones and Mic

Phones   Mic

Audio   Audio
from PC   to PC

TO PC or external soundcard

PHONES   MIC

The interface is suitable for use with ANY afsk software and configuration of software is simple.
Example configuring HRD's DM780 DATA mode software for use with the DigiMaster MiniPro.

There are literally 100's of afsk packages available and the interface will work with all of them, we cannot provide details of how to configure every piece of software, so, as an example we will show you how to configure DM780 for use with the MiniPro. You can use the same steps as provided here but things may look very different with your software.

[1] Connect all leads, DATA lead, audio leads to the PC (RED=audio FROM PC) and green=audio TO the PC, RED=TX, green=RX.

[2] Turn the radio ON.

[3] If necessary, configure the radio for data mode operation and select the correct mode. (Your op manual), the FT857 for example requires you set the radio to "DIG" mode, but you must also have configured the radio so that "DIG" equates to "USR-USB". If using a UN01 lead with the 606 then select packet baud rate to 1200.

[4] Turn the interface ON.

[5] Run DM780.

[6] Press "F8" or select "Program Options", the following window will open;-
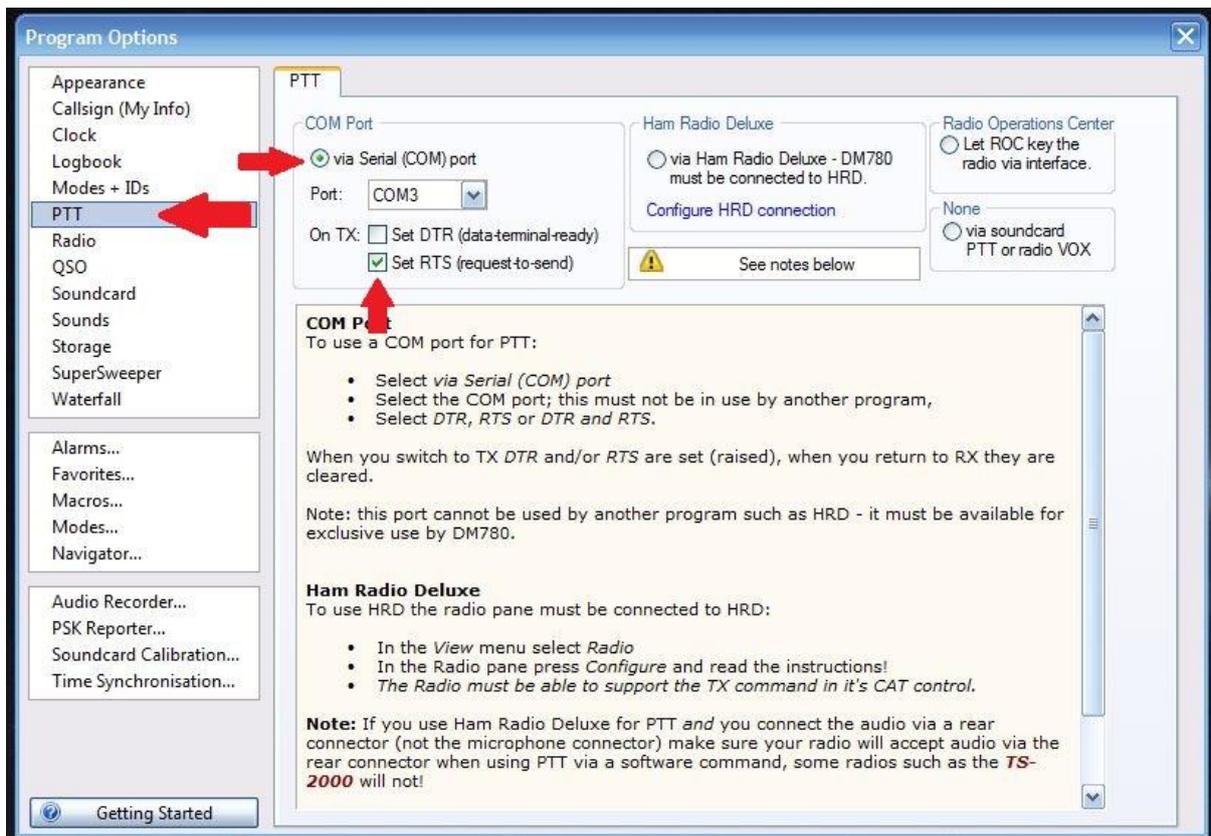
[7] Select "PTT" and then select the port to be used for PTT (The same port provided by the interfaced), select "RTS" as the signal that will be used to activate PTT. That is all there is to configuring PTT.

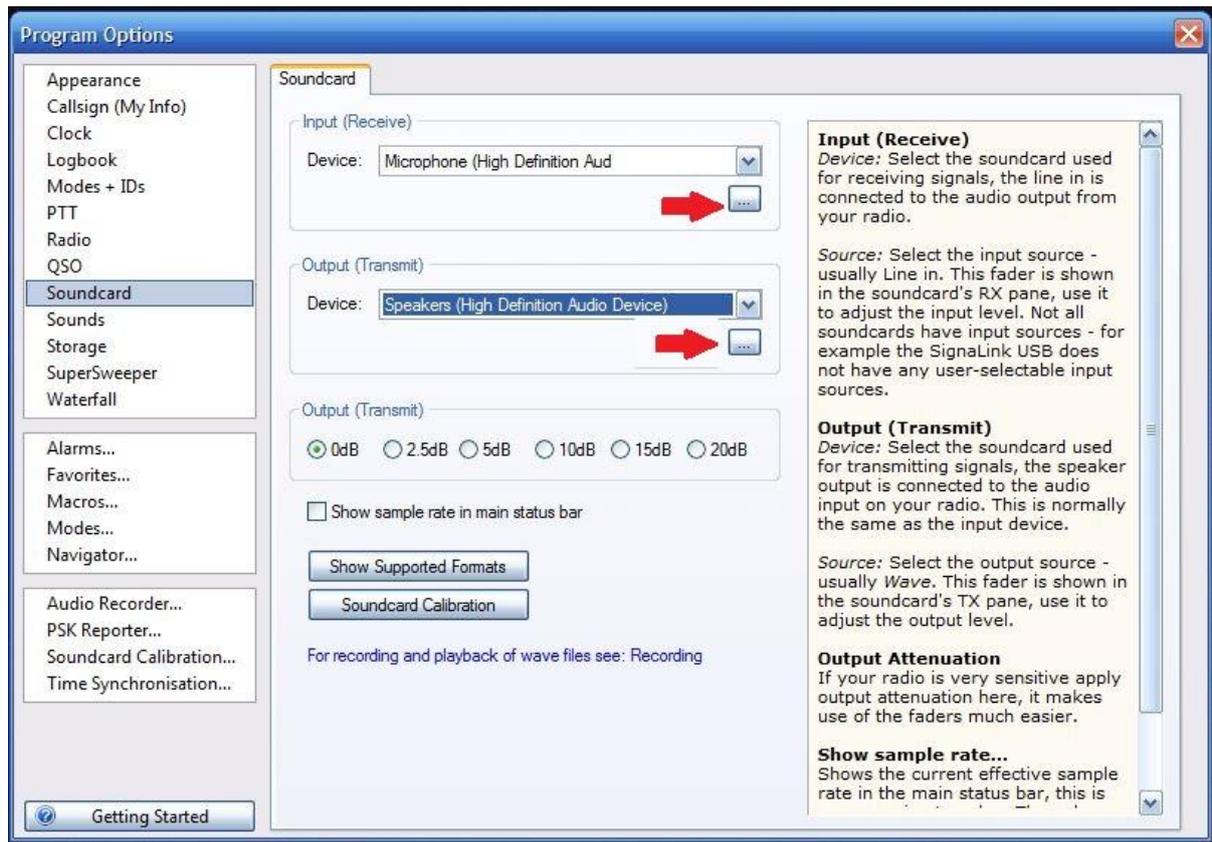[8] Now select "Soundcard", and select from your choices of soundcard;
[a] The soundcard you wish to use for input
[b] The soundcard you wish to use for output.
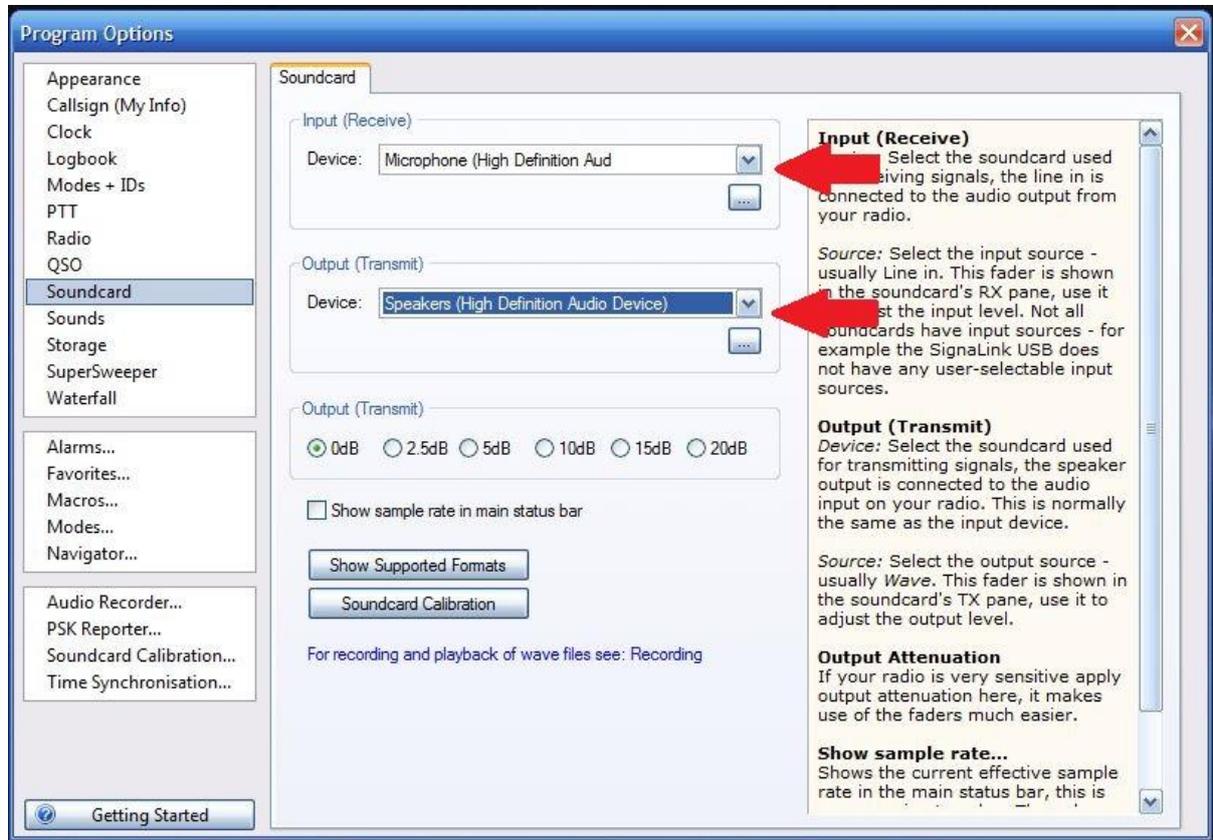
[9] Adjust the soundcard INPUT and OUTPUT levels.
You can access the controls by clicking on the buttons that contain the "…" just below the soundcard selections.

And that is it.

Configuring your software, using device manager are all basic Windows operations and to those who are familiar with operating Windows it takes far longer to describe than to do. But if if it looks like a lot to you don't worry, once done it's done and it is far simpler than it looks.

Then you are working.
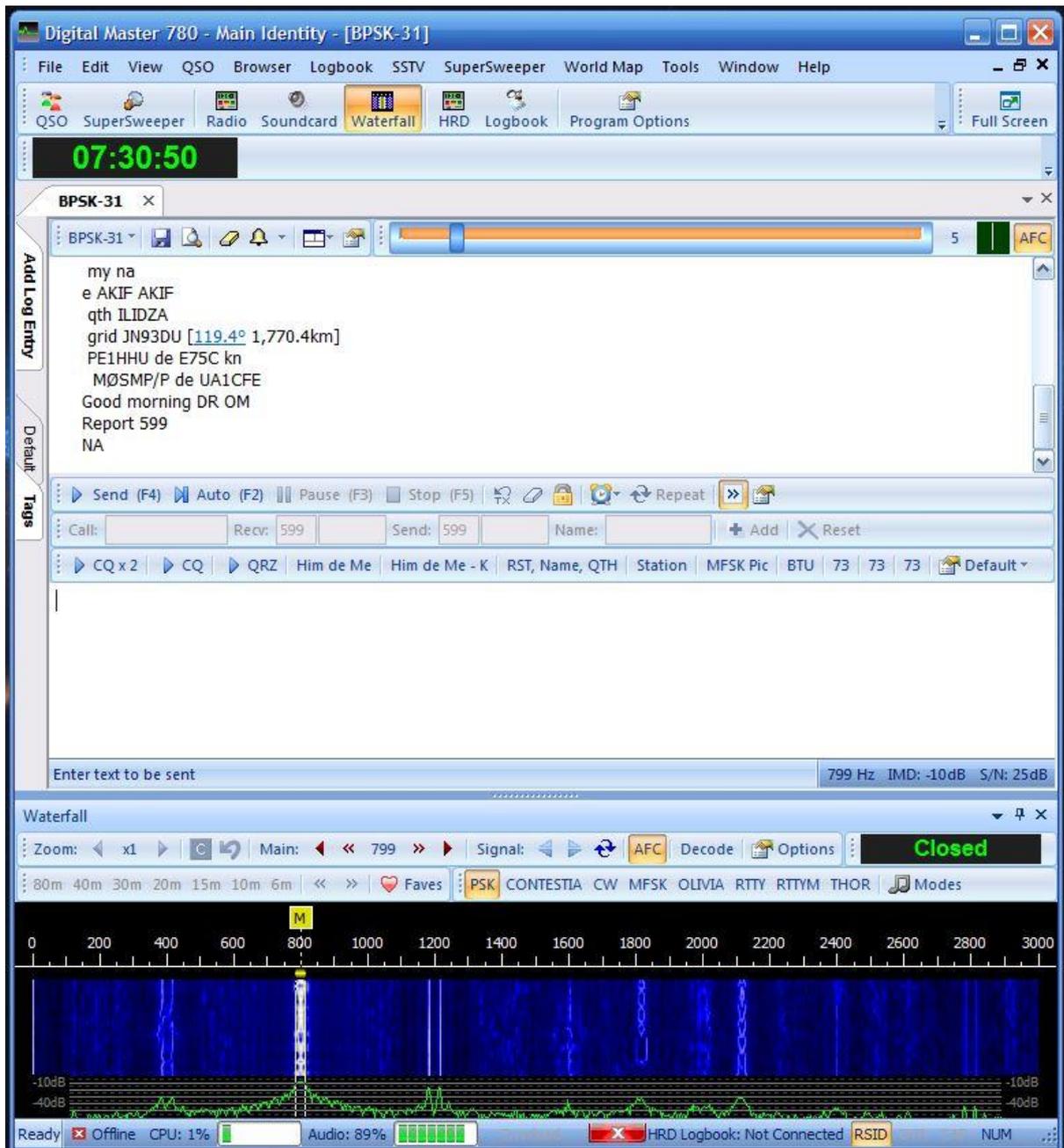
If it's all "as clear as mud" as one eHam reviewer put it.

Well, you don't need to know what's going on "under the hood" to accomplish the above, it is all basic Windows housekeeping. But from some reviews we know that not everyone can perform basic Windows housekeeping.

So, if you find yourself struggling, we can even remote log on and set it up for you. (We cannot configure every piece of software but we will configure DM780 for you if need be, you can then use that as an example to configure your own software).