ZLP Electronics

Instructions for using the

DigiMaster USB Audio–Data Interfaces.

DigiMaster DUAL CHANNEL USB Audio-Data Interface

Suitable for ALL afsk data modes and is perfect for programs including MixW2 and other Windows afsk software.
The interface connects to the PC via the PC's standard powered USB port, using a standard USB cable (A to B).
The USB cable from the PC connects to the interface via the interfaces standard type B USB socket.
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 automatic with Windows XP.
Should you need to install the drivers yourself, full step by step instructions are provided on the and can be downloaded from the website.
Once the drivers have been installed, Windows will inform you that the device is ready for use.
The drivers will have installed two "virtual" comports to your PC.
Since this is a USB comport connection and not a "real" comport, this comport is termed a "virtual" comport.
This comports will appear in Windows->Device Manager as a standard comport, and will be used by programs running under Windows as a standard comport.
Take note of the number of the new comports provided. You should configure your software to use this new comport. The higher value comport is used for the CAT connection, the lower value comport is used to activate PTT by the RTS line.
If the new comports values 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.
When you connect the interface to your PC you will notice that Windows tests the virtual comports. If your radio is attached during this process it will of course switch into TX then RX as this process happens.
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).
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 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 "mic" 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.

DigiMaster DUAL Channel USB Audio-Data Interface.

The dual channel usb interface provides the user with two independent "virtual" comports.

Channel "A" is normally installed by Windows as the lower numbered virtual comport.

Channel "B" is normally installed by Windows as the higher numbered virtual comport.

The audio interface is controlled by channel A. RTS can be used to activate your radios PTT line. If your interface has CW option then DTR is used for CW. If your CW cable has a "marker" at one end, then this end of the cable should be plugged into the unit.

You can run any digimode software on channel A as though you where using any audio interface, simply configuring your software to suit the number of the virtual comport, RTS for PTT and DTR for CW (if fitted).

Channel "B" is the CAT – CIV connection to the radio, the dual channel interface supports Icom/Yaesu or Kenwood, jumpers inside the unit select Icom / Yaesu or Kenwood. Both jumpers are to the left for Icom and Kenwood, both to the right for Kenwood.

When holding the PCB with the components and connectors uppermost. The USB connector on the left.

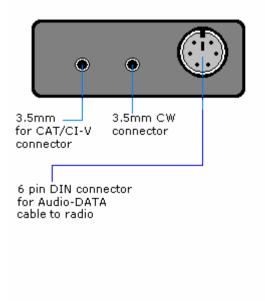The CAT – CIV settings are dependant on your radio make and model.

Refer to your operating manual for instructions how to configure your CAT software.

Generally, for Icom radios you will need to set;-

CIV address, baud rate, comport (virtual comport), radio model.

And for Yaesu radios, baud rate and comport (virtual comport) and radio model.

Since the dual channel unit has a separate CAT channel, you can run different CAT software at the same time as your digimode software.

Driver installation is not automatic, but it is straight forward, simply install the driver from the CD supplied or download the driver from the site along with the detailed driver installation instructions.

USB Drivers

3.5mm
for CAT/CI-V
connector

3.5mm CW
connector

6 pin DIN connector
for Audio-DATA
cable to radio

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 with blue marker.
Most speakers have a separate output that can be used. If you do not have a separate
3.5mm socket then you can use the PC's audio output socket and use a 3.5mm "Y"
stereo splitter so that you can also plug your speakers in and so continue to monitor the
PC's audio.

The Audio to the PC.
The audio from the radio goes via the unit to the PC using the other stereo lead without a
marker. This can go to either your mic or line input socket. 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).

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.

Using your interface with a CAT Interface.
If you are also using a CAT interface and your radio can TX via the CAT system you can
of course configure your software to TX via the CAT.
The functionality of your software and the CAT functionality of your radio will affect the
capabilities of your station.

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 also 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.

Adjusting the input level
Simply use Windows volume control, recording properties to adjust your mic or line in levels.
If your input level is high, then the line input is proffered over the mic input.
If you are using your mic input, ensure that any "mic-boost" is turned off.
Also ensure that any software type of graphic equalizer is also switched off.

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 a small "preset", to adjust the 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. Then simply adjust the "pot" while monitoring your output 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 10watts.
Digi-modes are high duty cycle modes, running your radio at high powers under such conditions are not recommended.