

USB ISOTERM-DUAL DELUXE DATA-INTERFACE

Instruction Manual
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March 2013 print 1



USB DELUXE ISOTERM-DUAL

Thank you for purchasing this interface.

However can I just bring something to your attention before we move on?

You can of course connect 2 HF rigs or indeed 2 VHF/UHF rigs at the same time.
Or 1 HF and 1 VHF/UHF. None of this is a problem. But you must have thought regarding having 2 rigs on the same band. More so if an antenna is still connected to the unused rig. Large voltages could be induced from the TX rig into the frontend of the rig on receive. If they are on 2 different bands and with the normal DATA output level this would seem ok.

It has been supplied with the Rig cables as requested.

Setting up the dual unit is very similar to a standard single channel Isoterm.
However I would ask that you start of by using DIGIPAN or AIRLINK EXPRESS.

There is a copy of Digipan on the supplied CD. This may not be the latest version available. A quick check on the web will confirm this; Digipan does show problems on operating systems later than XP.

Regarding AIRLINK EXPRESS, the writer will not allow me to add this to the supplied CD. However a quick Google will locate it and the download is free. AIRLINK EXPRESS is a more up to date program and is still supported. This is fine to Win7 and allows RTTY to be used.

It maybe in time to want other modes other than PSK-31. However I know these mentioned programs quite well and if you find it necessary to email me or ring me I will be able to help you quicker.

Once the basic connections and set ups have been proven, then of course if you have any Problem with a new mode .It will usually be down to just program set up.

There are two independent channels A and B each has a Front Panel mounted control to adjust the required drive to the Receive and the Transmit side of the selected Rig on the desired channel.

The channels are selected by the Push Switch in the middle of the two Panel Controls. Above each channel control are 2 Led indicators.

The **GREEN Led** indicates the channel in use and in **RECEIVE Mode**.

Pressing the selector switch will change the **GREEN Led** from RIG A to RIG B.

When **TRANSMIT** is selected in the PC Program being used ,the Selected channel Green Receive Led will change to RED indicating that channel is in Transmit Mode.

The front panel switch chooses the required channel.

SWITCH in the OUT position selects the RIGHT hand output cable RIG B

SWITCH in the IN position selects the LEFT hand output cable. RIG A

Connect both the 3.5mm Jack plugs into Soundboard and the supplied USB cable to one of the computers USB ports.

The Jack with the **MARKER fitted goes into LINE IN.** or Mike if a Laptop is used.
The other Jack is fitted to the **LINE OUT** or Headphones if a Laptop is used.

Connect Rig end of cables to the two rigs you want to set up for. Or maybe if you are not too experienced with DATA work. Just connect one rig and get some experience before connecting a second rig.

Take your time. Data is a different world at the start.

Power up one transceiver to start with, and tune to some PSK-31 Signals.
Good place to start is 14.070 approx.

As most rigs have widely different Audio outputs from the DATA ports the unit is fitted with **Two front panels receive level controls.**

To start with it is worthwhile to set both RX and TX controls to mid position.

This allows one setting of the LINE IN slider in the Soundboard settings and the two interface controls can be set to give a balanced drive to the PC display no matter which Rig is selected.

Set both transceivers MIKE controls to the normally used SSB position.

Regardless of which Isoterm cable is selected, there should be signal or at least noise appearing on the software Waterfall.

Change the Interface push switch and there should still be Signals or noise on Waterfall.

That's of course subject to both transceivers being powered.

Next is to check out the TX/RX function.

NOTE if 2 HF rigs are being used and both have antennas connected.

Be careful how much power is transmitted at this point.

VERY LOW at this time is advisable and put the HF rigs on different bands.

If one rig is an HF and One VHF/UHF then this is not a problem.

The Soundboard Sliders controls for the TX side are OUTPUT and WAVE. Set these to circa $\frac{1}{4}$ of the way up. Make sure the COMs port has been selected on the PC.

This may be show in a Pop up window COM 4 is regular but may change on other computers

This is done in (Digipan) by Clicking on **CONFIGURE** other software may differ.

Make sure **RTS** is also clicked in the COM port selection window. RTS is for PTT activation.

On the bottom of Software screen you will see a **TX/RX tab.**

Take your mouse and click on it.

The rig selected should go into TRANSMIT. Some power output MAY appear on OUTPUT POWER meter TAKE CARE of the AMOUNT at this time till final settings are preformed.

When you prove that the rig in fact goes into transmit. Select RX again and rig should return to RX.

Carry out the last test on the second channel rig.

If all above are satisfactory, commence to set up the TX audio drive levels.
This can be set up from the Soundboard setting in conjunction with the 2 front panel TX drive controls. To start put both Panel controls to MID Position

Set up the AUDIO transmit drive to each rig in turn. As there are 2 Panel attenuators fitted to the Dual Isoterm this should present no problems.

Output power of 30-40 watts max should be aimed for on a standard 100-watt rig.

Once you have DIGIPAN/AIRLINK EXPRESS working correctly, it means that if you change to another DATA program and you have some problem. It will most certainly be in the program settings.

Please note any suggestions in transceiver handbook about possible menu or special settings for controls. On some transceivers it may be better to set TX Power control to max and just adjust the level of audio drive to attain the correct RF out set-up.

If you decide to ask for help in setting up please make sure you have read and understood these instructions first.

My advice is to get used to one of the rigs on say 14.070 KHz for a while then start to use the faculty of having 2 rigs under your control

Just take your time ok.

de Johnny G3LIV

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TROUBLE SHOOTING NOTES FOR INTERFACING OF ISOTERMS

Dear Customer.

It would appear from phone conversations I am having with customers that a number of people are not reading the instructions supplied either with the ISOTERM or the HELP file in DIGIPAN/AE

I will attempt here to cover the common problems discussed.

IT WON'T PUT RIG INTO TRANSMIT.

Check the **CONFIG file** in the software It will request that you select the COMs port you are wanting to use it also asks for you to select RTS or CTS switching. ISOTERM is wired for **RTS**. If you don't know what Coms port you are using. Select one at a time and try each one, to see if it will trigger rig into transmit. Also on later rigs with PACKET input socket, make sure you select PACKET on front panel.

IT'S NOT RECEIVING.

Again go to **CONFIG file**. Go to **WATERFALL DRIVE**. You will be presented with slider controls.

These are Soundboard **LINE IN** controls. Make sure none are **MUTED**.

Take all controls to MAX as you monitor the WATERFALL.

Usual controls are marked **LINE IN**. Not all Soundboards are marked the same. So play around and check the operation on receive. Set slider for blue background with yellow specks.

You should be able to see PSK-31 signals as **YELLOW** streaks. Monitor 14.070 while looking to set up system. Unless band is closed there are usually a good number of signal around this frequency.

IT'S NOT TRANSMITTING.

Again go to **CONFIG file**. Select **Transmitter Drive**. Again you will see a set of Sliders controlling the soundboard **OUTPUT**. But don't forget, you must have your mike control on the rig, at least in the position that would drive it for SSB. Also the **ATTENUATION** control in the ISOTERM is for **YOUR** use.

I can't set it here to suit all rigs. I have been setting to suit MY SETUP. But differing positions of your **MIKE GAIN**, **SOUNDBOARD OUTPUT** and **ISOTERM ATTENUATOR** will all mean that my set-up will differ from yours. One other test you can carry out. Plug a set of headphones into the **LINE OUT** jack socket of your soundboard. Go into transmit on DIGIPAN; you should hear a tone in the headset.

Play around with the **SLIDERS** to find which one turns volume up/down. Reconnect the 3.5mm jack into your **LINE OUT** and check PA current shown on rig when you go to transmit. Set PA output for maybe 30/40 watts. This is sufficient power for PSK-31.

So just think what you are trying to achieve and work towards that goal.

One step at a time.

With out exception all cases reporting that the ISOTERM is NOT WORKING have been no other than lack of reading the instructions. And ignoring the software help files.

PSK-31 is a wonderful mode, just take time setting up your rig. By all means if you are having difficulties in getting going and you have checked out the above advice please do not hesitate to contact me

We can get you going.

FINAL NOTES.

On some later rigs with MENU selections check these out in case various ones need to be set for rear socket use.

On **TS-570S**, if using 13 pin rear socket. Set Menu # 33 AF IN to 0
Set Menu # 34 AF OUT to 9.

On **TS-870S**, if using 13 pin rear socket. Set Menu #20 PKT IN to 0
Set Menu # 21 PKT OUT to 9.

On **FT-847**, it has been noted that if to high an audio transmit level is used. The PTT will drop out. The Audio in from computer be raised to obtain required 30/40 watts output, with regard to PTT staying on transmit

YEASU FT-1000 RANGE. Some of the rigs in this range will not allow USB to be selected while in PKT mode and using the 5 Pin rear din.

But PKT does need to be selected to use PSK and DATA modes other that Packet.

However this really is not a problem as PSK-31 BSPK is not sideband sensitive; one side of QSO can be on USB while the other can be on LSB. Only in QSPK is there a need for both stations to be on the SAME sideband.

Thank you for your custom, Happy Warbling.

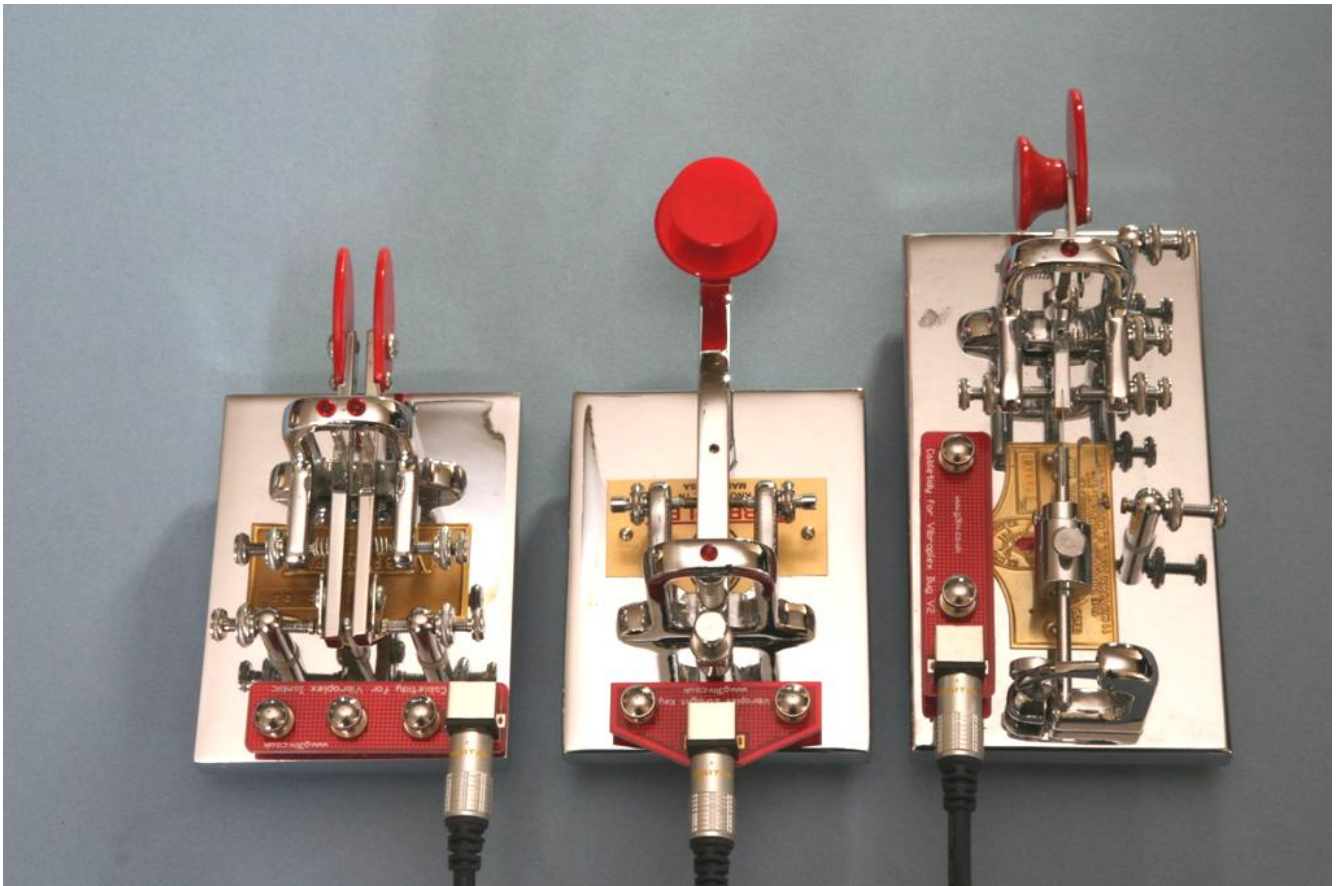
73 de Johnny G3LIV.

What is a CABLETIDY ?

This is a series of PCBoards to fit many Morse keys.
They tidy up the usual cable mess; it allows keys to be swapped over.
Just unplugging one and plug in a replacement.

CABLETIDYS are available for the following keys and are available in RED or BLACK depending on the model. Some are now GOLD Plated.

VIBROPLEX IAMBIC_VIBROPLEX VIBROCUBE_VIBROPLEX STRAIGHT
VIBROPLEX ORIGINAL BUG_LIONEL/VIBROPLEX J -36



VIBROPLEX BLUE RACER_K8RA PADDLES_JA7GHD PADDLES.

There is also a UNIVERSAL CABLETIDY that fits many other less popular keys.
Just email me about your keys type. I will help.

See www.g3liv.co.uk Also www.eham.net/reviews/detail/9689
Adverts are also running on EBay, just search Vibroplex Bugs-Keys.

I will be happy to reply to any questions, email Johnny@melvin.com
Or 0191-2843028