

*DMX-Demux*

# User's Guide



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Manual Revision V1.3

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# I N T R O D U C T I O N

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## Overview

The DMX-Demux provides a compact method of translation between the DMX512 protocol and up to 72 analogue outputs.

The analogue outputs may be user configured in any of the following modes:

⇒ 0 to +10V voltage output

⇒ 0 to -10V voltage output

⇒ 0 to +370uA current output

⇒ 0 to -370uA current output

When operating in voltage mode, the outputs are diode isolated. In current output mode, the outputs are resistively isolated.

The DMX512 input is optically isolated and conforms to both DMX512 (4uS) and DMX512 1990 standards.

The start address of the received DMX512 is set by three front panel thumbwheel switches. The front panel also provides LED indication of power and data received.

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## Start Address

The start address is used to select the DMX512 channel which controls the first output of the DMX-Demux. For example, a start address of 005 means that the first output of the DMX-Demux is controlled by DMX512 channel 5, the second output is controlled by DMX512 channel 6 and so on.

The three rotary switches on the front panel are used to select the start address. Valid start addresses are in the range 001 to 512.

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## Test Mode

The DMX-Demux provides a test mode which allows any single output to be switched to 50% or 100% without a DMX512 signal.

Selecting the 'hundreds' wheel to '6' sets 50% test mode.

Selecting the 'hundreds' wheel to '7' sets 100% test mode.

The 'tens' and 'units' wheels are then used to select the channel. For example, a code of 701 sets the first output to full, whilst the code 623 sets output 23 to 50%.

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## Front Panel Indicators

The front panel shows status for both power and DMX512.  
The Power LED is illuminated when power is applied to the DMX-Demux.  
The Data LED is illuminated when valid DMX512 is received.

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## DMX512 Input

The DMX512 input is connected to the male 5 pin XLR on the rear panel. The female 5 pin XLR provides a passive loop through such that multiple DMX512 receivers can be connected to the same signal. When the DMX-Demux is to be used at the end of a DMX512 cable, a termination connector should be fitted to the loop through.

The DMX512 input is optically isolated from the analogue outputs and mains earth.

Cable connection is as follows:

Pin 1	Protective ground	Connect to cable screen
Pin 2	Data complement	Connect to twisted pair wire
Pin 3	Data true	Connect to twisted pair wire
Pin 4	Not used	
Pin 5	Not used	

The termination connector is constructed by soldering a 120 ohm resistor between pin 2 and pin 3 of a male 5 pin XLR connector.

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## Analogue Outputs

The analogue outputs are all accessed via the 25 pin female DB connectors on the rear panel. Cable connection is as follows:

Connector Pin	O/P Con1	O/P Con 2	O/P Con 3
1	1	25	49
2	2	26	50
3	3	27	51
4	4	28	52
5	5	29	53
6	6	30	54
7	7	31	55
8	8	32	56
9	9	33	57
10	10	34	58
11	11	35	59
12	12	36	60
13	13	37	61
14	14	38	62
15	15	39	63
16	16	40	64
17	17	41	65
18	18	42	66
19	19	43	67
20	20	44	68
21	21	45	69
22	22	46	70
23	23	47	71
24	24	48	72
25	Ground	Ground	Ground

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## Output Options

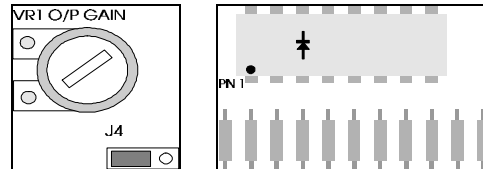
To adjust or calibrate the output of the DMX-Demux, use the following procedure:

- ⇒ Disconnect the power cable from the rear of the unit.
- ⇒ Remove the six pozi-drive screws which secure the lid.
- ⇒ Remove the lid.

Ensure that you are grounded before touching any internal components. You can achieve this by either wearing an anti-static wrist band or by touching an earthed metal surface at regular intervals.

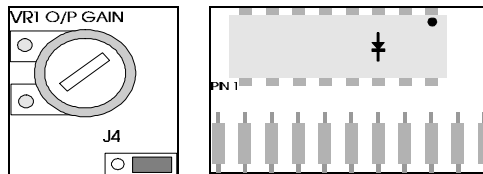
### **For 0 to +10V outputs**

- ⇒ Move the shorting link on J4 to the position shown.
- ⇒ Fit diode packs (Part no: DEM-DPACK) to the nine sockets marked RPA1 to RPA9. Ensure that the diode packs are inserted in the orientation shown.



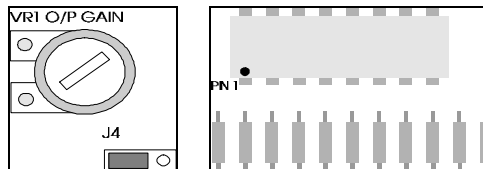
### **For 0 to -10V outputs**

- ⇒ Move the shorting link on J4 to the position shown.
- ⇒ Fit diode packs (Part no: DEM-DPACK) to the nine sockets marked RPA1 to RPA9. Ensure that the diode packs are inserted in the orientation shown.



### **For 0 to +370uA current outputs**

- ⇒ Move the shorting link on J4 to the position shown.
- ⇒ Fit 27K resistor packs (Part no: DEM-RPACK-27K) to the nine sockets marked RPA1 to RPA9. The orientation is not important.



In all modes the potentiometer may be used to fine tune the output voltage or current.

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## Power Supply

The internal power supply requires a 230V AC input with an earth connection. The mains fuse should only be replaced with a 500mA Slow Blow.

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