

XTBA DMX1 RELAY PCB

Rly1_14

XTBA

Unit 2 The Old Curatage
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Product #09404 - 09/2015

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XTBA DMX1 RELAY

Rly1_14 or later

DMX RDM Compatible see RDM section

Overview

The XTBA DMX1 Relay provides a simple and inexpensive method of interfacing DMX512 to a single relay closure and only requires an external transformer or PSU and XLRs. In addition (if required) the relay switch level can be set by the user (10% to 90% in 10% steps) and the relay can be changed to normally closed. The unit can also be set for 'emergency mode' to close the relay in the event of DMX loss.

Operation

In normal operation the red led will be lit showing that the power supply and the micro controller are running. The green data led will light if valid data is being received or will blink if the address switches are out of range or if the unit is in 600 test mode. If data is lost the green led will turn off after 1 second and the relay output will be maintained, or lost dependant on the setting of the PCB mounted switch. An amber on board LED is provided to show the state of the relay. Both power, data and output are provided by a single 8 pin molex/HE14 connector.

600 Test Mode - with the hundreds address switch set to six the unit will enter the test mode. The green data led will flash slowly to indicate the unit is off line. On setting units address switch to 1 the relay will close if the unit is set for normally open, or open if the unit is set for normally closed. See below:

USER SETTINGS IN POWER UP

These settings are only available on power up. Setting the address switches beyond 512 when the unit is powered will have no effect, but the green led will flash to indicate an invalid address.

77/1-9 Mode – On power up the unit will check if the hundreds and tens address switches are set for 77, the units address switch will then set the trigger level if between 1 to 9. 1 being 10% and 9 being 90% relay trigger. Following the power up the trigger level will be stored in non volatile memory.

The off trigger level is 2% lower than the setting (e.g. 50% on 48% off) This gives a 1% window and allows the DMX1 relay to operate with 'noisy' analogue faders or submasters.

770 Mode – On power up if the address switches are set to 770 the relay output will invert. This output mode will also be stored in non volatile memory. If the unit is powered down and powered up again with the switches still set to 770 the output will invert back.

The state of the output can be checked by entering 601 mode. If the led turns on the unit is in normally open mode, if it turns off it is set to normally closed. If the trigger level and the output mode both need setting. Set one mode, power down, change the address switches and power up again to set the second mode.

999 Emergency Mode – Switch on DMX loss

Setting the address switches to 999 and then powering up, the unit will enter 'emergency mode' In the event of DMX loss the relay will close.

000 Mode – On power up if the address switches are set to 000 the unit will default back to the factory settings. e.g. Normally open relay, 50% trigger level.

In 770, 77/1-9, 999 and 000 mode following the new values being entered the power and data LED's will alternate to show correct entry. Following this the data led will flash as the unit now has an invalid address, so change the address switches to the first address required in DMX.

DMX/RDM

DMX/RDM (Remote Data Management) allows a suitably equipped DMX controller to find, set and monitor functions of the Relay 1. By using RDM the address and personality can be remotely changed, product information, software version and system status found.

RDM Commands supported:

SET Device Label - Label the unit

SET Display Level – turn on/off the ident display on selection

SET Factory Defaults – reset the unit back

SET DMX Address – The front panel address switches can be overridden by a SET Address RDM command. This value will be used as the DMX start address unless the front panel address switches are changed. Once changed this new start address will now be used by the unit

SET DMX Personality – DMX1 Relay has nine RDM personalities to control the relay on trigger level and can be altered via RDM or by using 77? mode with the address switches. Other settings are be controlled from the address switches.

GET Commands Supported:

GET Device Model Description, Device Label, Manufacturer Label, Software Version, DMX Address/Slot Footprint, Personality.

DMX/RDM is fully compatible with standard DMX512.

If the control desk is not RDM it will not send a RDM request so the Relay 1 can't respond

Technical Specifications

Protocol	DMX512 1990 / DMX512 1986 / DMXRDM
Maximum Update Rate:	44 updates/s
Switch Point	DMX 50% On, DMX 48% Off - or user settable
Relay Outputs:	24V DC 0.5A
Hold last frame:	Yes - Switch set next to edge of board, No - Switch toward centre of board
Low voltage AC:	9/0/9V 3VA or 9/12VDC
Power Consumption	125ma – Relay closed, DMX input active
Dimensions	70mm x 50mm x 25mm - clearance height

PIN	FUNCTION
1	Data Screen XLR Pin 1 Next to mounting hole
2	DMX -ve XLR Pin 2
3	DMX +ve XLR Pin 3
4	Relay 1
5	Relay 2
6	0V AC
7	9V AC
8	9V AC

For DC Supply Pin 6 = 0V, Pin 7= +V and Pin 8 = not connected.

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