

# DMX01R

## *DMX512 – 1 SPDT Relay Outputs*

*User's Manual*

*Rev 1.0*



Lumina Visual Productions reserves the right not to be responsible for the correctness, completeness or quality of the information provided in this user's guide. Therefore Lumina Visual Productions cannot be held liable for any damage caused through the use of the above specified information. Specifications are subject to change without notice.

This user's guide, and all of its contents remain the Copyright of Lumina Visual Productions, and may not be copied, reproduced or redistributed in any form without the express written permission of the author.

© 2005 Lumina Visual Productions. All rights reserved.

## **APPLICATION**

The DMX01R provides a compact and simple means for the conversion of a DMX512 stream into 1 discrete switched relay output. The DMX01R provides for two modes of operation:

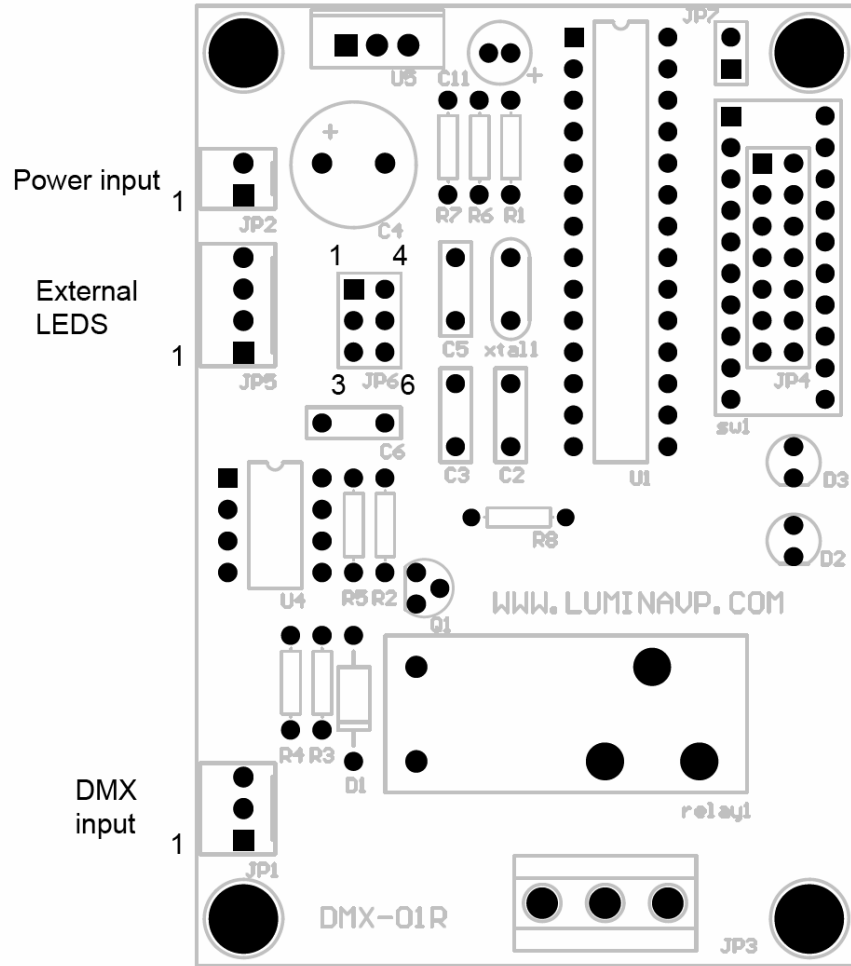
1. Fail-safe mode: If loss of DMX512 is detected, all outputs will fail to their 'off state', until DMX512 is restored.
2. Fail-hold mode: If loss of DMX512 is detected, all outputs will hold their previous state.

If being used as part of a laser show setup, it may be desirable to use the DMX01r in Fail-safe mode. The detection window for loss of DMX512 is approximately 150ms. This was set at 150ms to allow for a wider variety of DMX512 controllers to be used. If your application requires a shorter detection window, we can re-flash the microprocessor to provide for this.

The DMX01r ships to recognise a start code of '0' as being valid. If you wish to use this device with a start code of something other than '0', please advise us as we can also re-flash the microprocessor to provide for this.

## CONNECTIONS

The DMX01R has 4 headers for interfacing to your equipment. These are as follows:



*Note:*

*Pin 1 is designated by a square pad on the underside of the PCB.*

## ***Power Input***

The DMX01R requires a dc supply of +12v:. It's current draw is less than 100ma when fully driven. The power is connected as follows:

Pin 1: Ground  
Pin 2: +ve

## ***DMX512 In***

The DMX01R receives DMX512 via this header. It is wired as follows:

Pin 1: Hot (Signal +ve)  
Pin 2: Cold (Signal -ve)  
Pin 3: Ground

## ***Relay Outputs***

The DMX01R has one 3 way screw type terminal block connectors to interface to your equipment. These are directly connected to the dry contacts of the respective relays.

Pin 1: Normally Open (NO)  
Pin 2: Common (C)  
Pin 3: Normally Closed (NC)

### *Note:*

*Whilst the relays used in the DMX01R can switch in excess of 10A @ 240VAC, you must be certain that in using the DMX01R to switch mains voltages you are complying with the relevant local laws and regulations in your region.*

## ***External LEDs***

For applications where you require the status LEDS to be mounted away from the DMX01R PCB, can wire these to this jumper.

Pin 1: "Status OK" LED Anode  
Pin 2: "Status OK" LED Cathode  
Pin 3: "Valid DMX" LED Anode  
Pin 4: "Valid DMX" LED Cathode

## **INDICATORS**

The DMX01R provides two LED indicators that highlight normal operation:

*Green (Status OK):* This LED lights when there is power applied, and the microprocessor has initialised itself.

*Red (Valid DMX):* This LED lights when a valid DMX512 stream with start code of '0' has been received. If the DMX512 stream is not sensed after a period of ~150ms, this LED will extinguish and the device will fail to the mode set by DIP Switch 10.

## **DIP SWITCHES/JUMPERS**

### ***Channel & Fail mode Select***

10 DIP switches are provided to adjust settings. Switches 1 through 9 are used to set the offset/starting DMX512 address. Switch 10 is used to set the fail-mode. All switches are read once at boot-up, therefore a power cycle is required for any changes made to become effective.

Note: Switch 1 has no effect unless it is used in conjunction with other switches. Ie, if switches 2 through 9 are off, the DMX01R will receive on channel 1 through 16 regardless of the position of switch 1.

### ***LED Select***

The LED Select jumpers are used to set whether the on board LEDs are used. If the jumpers are placed across pins 5/6 & 2/3, then the on board LEDs are used. Otherwise, if the jumpers are placed across pins 4/5 & 1/2, then the external LEDs, wired to the external LEDs connector will be used.