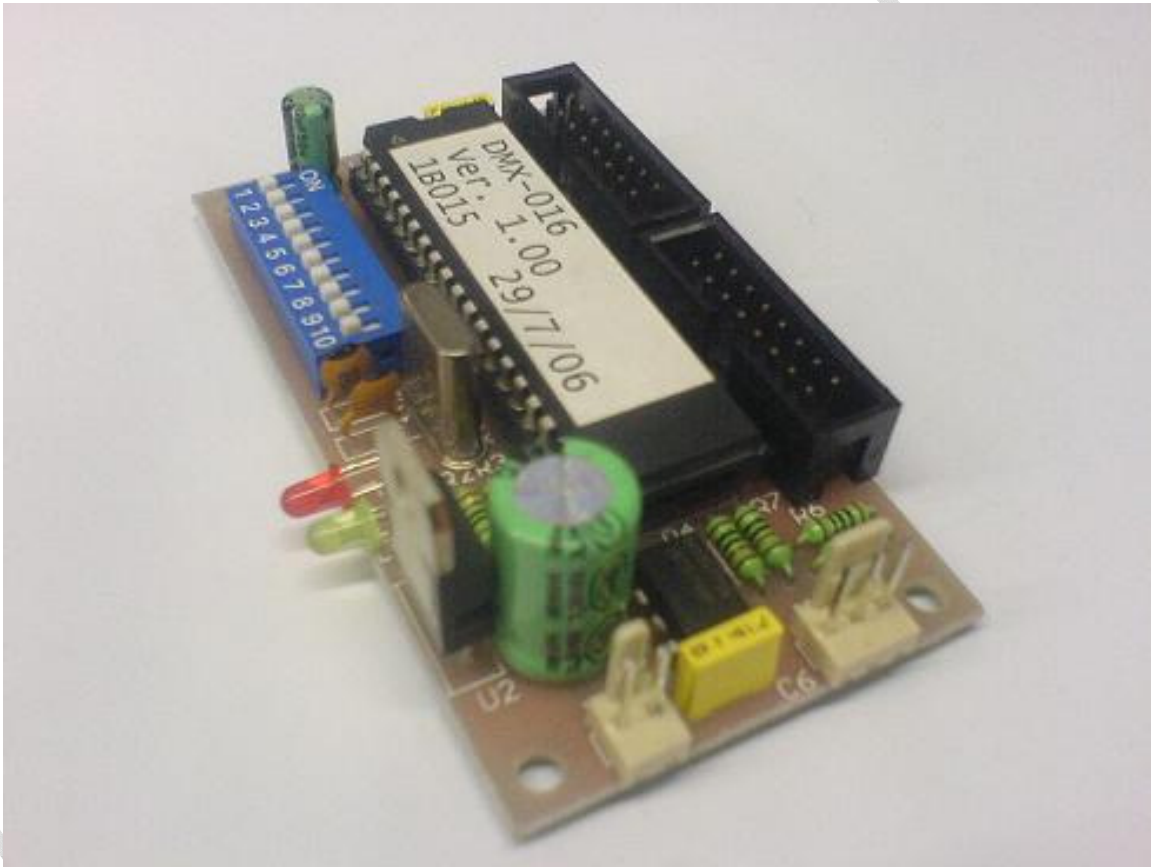


# DMX16t

## DMX512 – TTL Converter

*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.

© 2007 Lumina Visual Productions. All rights reserved.

## Application

The DMX16t provides a compact and simple means for the conversion of a DMX512 stream into 16 discrete digital outputs. The DMX16t provides for two modes of operation:

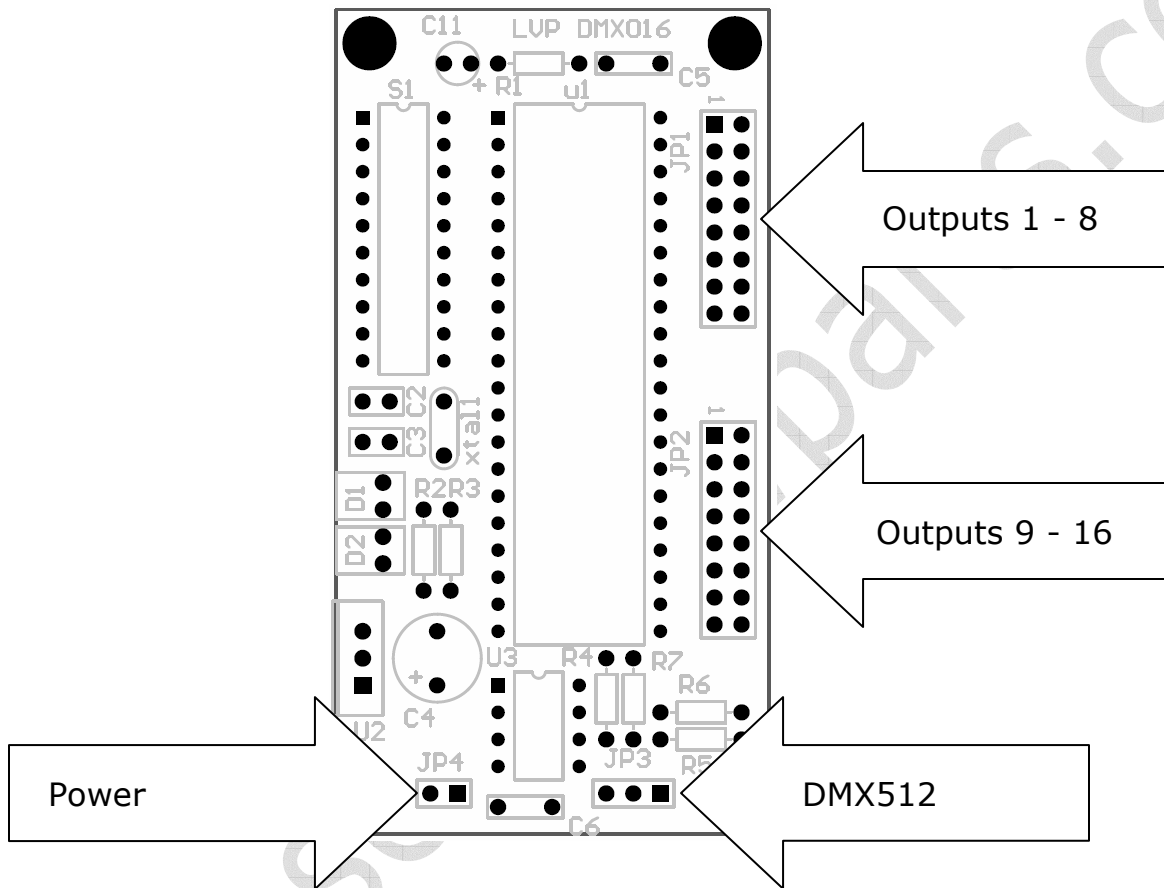
1. Fail-safe mode: If loss of DMX512 is detected, all outputs will fail to their 'off state', until DMX512 is restored.
2. Fail-hold mode: If loss of DMX512 is detected, all outputs will hold their previous state.

If being used as part of a laser show setup, it may be desirable to use the DMX16t 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 DMX16t ships to recognize 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 DMX16t 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. The dual row headers are pinned such that Pin 1 is the top left pad, pin 2 is to the right of pin 1, etc.

## Power

The DMX16t features an onboard regulator. Thus its power requirements are flexible: 6v to 15v. Its current draw is <250ma when fully driven. The power is connected as follows:

Pin 1: Ground  
Pin 2: +ve

## DMX512

The DMX16t receives DMX512 via this header. It is wired as follows:

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

## Outputs

The DMX16t has two 8 x 2 way headers to interface to your equipment. **Each header has one row of pins for power/ground**, with the other row being 8 of 16 available outputs. **Please note. This has been changed from the DMX016**

Outputs 1 – 8 (9 – 16) are pinned as follows:

Pin 1: Output 1 (9)  
Pin 2: **Power input +ve**  
Pin 3: Output 2 (10)  
Pin 4: **Power input +ve**  
Pin 5: Output 3 (11)  
Pin 6: **Power input +ve**  
Pin 7: Output 4 (12)  
Pin 8: **Power input +ve**  
Pin 9: Output 5 (13)  
Pin 10: **Ground**  
Pin 11: Output 6 (14)  
Pin 12: **Ground**  
Pin 13: Output 7 (15)  
Pin 14: **Ground**  
Pin 15: Output 8 (16)  
Pin 16: **Ground**

Each output is capable of sinking 20ma and sourcing 5ma.

## **Indicators**

The DMX16t provides two LED indicators that highlight normal operation:

*Green:* This LED lights when there is power applied, and the microprocessor has initialized itself.

*Yellow:* 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**

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 DMX16t will receive on channel 1 through 16 regardless of the position of switch 1.