

BEAM LABS

DMX Decoder


Making DMX work in the real world



A high-performance DMX decoder with up to two DMX inputs and a switch override.

Allows multiple sources of DMX to control one bank of lights. Ideal for home automation systems such as Control4, Lutron and Mode where the basic DMX functionality can be enhanced by a dedicated standalone DMX controller.

The switch override allows the user to switch the lights on and off from a standard retractive switch that can match any existing switches.



Introduction

DMX controlled lighting is perfect for homes, bars, clubs, sensory rooms, restaurants, theatres and public spaces in that it is a high performance, high resolution, low cost control system with up to 512 channels. It is supported by most lighting manufacturers and is very stable.

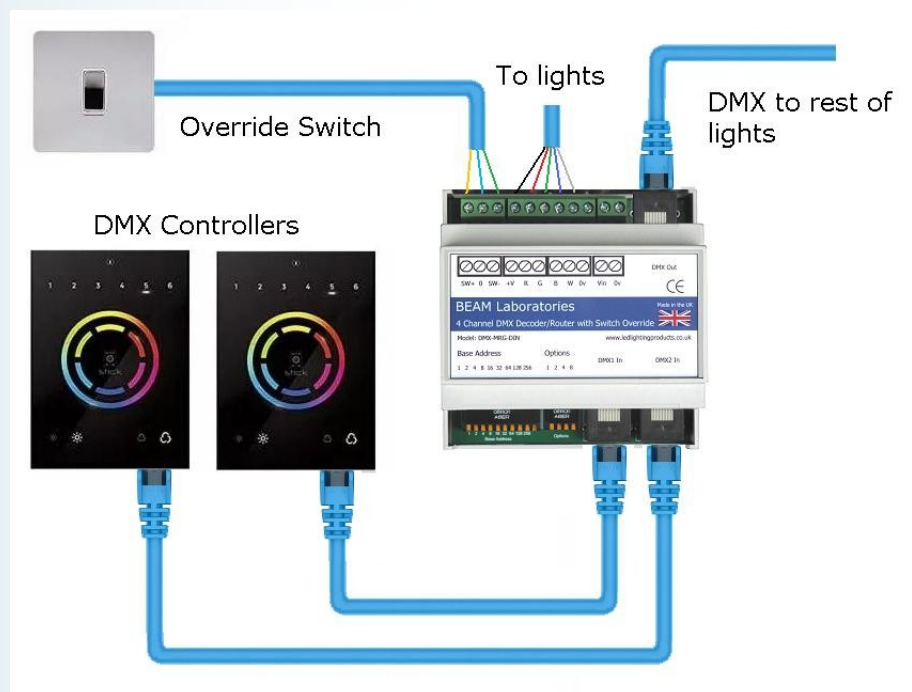
As DMX is an open standard, there are a plethora of DMX lights and controllers available, from very low cost Far-East offerings to top-spec programmable units from Sunlite, Nicolaudie, Chromateq etc. Hobbyists can also generate DMX via popular platforms such as Arduino and Raspberry Pi. DMX is also supported by most home automation systems.

The switching frequency is also user-selectable with an ultrasound option for TV studio or where silent operation is required.

Key Features

- Decodes 4 DMX Channels
- Ideal companion to RGB, RGBW and White LED Lights
- Optional Standalone Operation
- Convenient Low-Profile DIN Rail mounting
- Optional Second (DMX2) Input
- Buffered DMX Out Signal (Mirrors the input that is in control)
- Switching frequency 4KHz/16KHz
- Total Max Power Output: 100W @ 4KHz, 70W @ 16KHz.
- Switch Override Inputs
- RJ45 Connections For DMX
- DMX Chips are socketed for ease of replacement
- 5mm Pluggable Terminal Blocks for Easy Connection

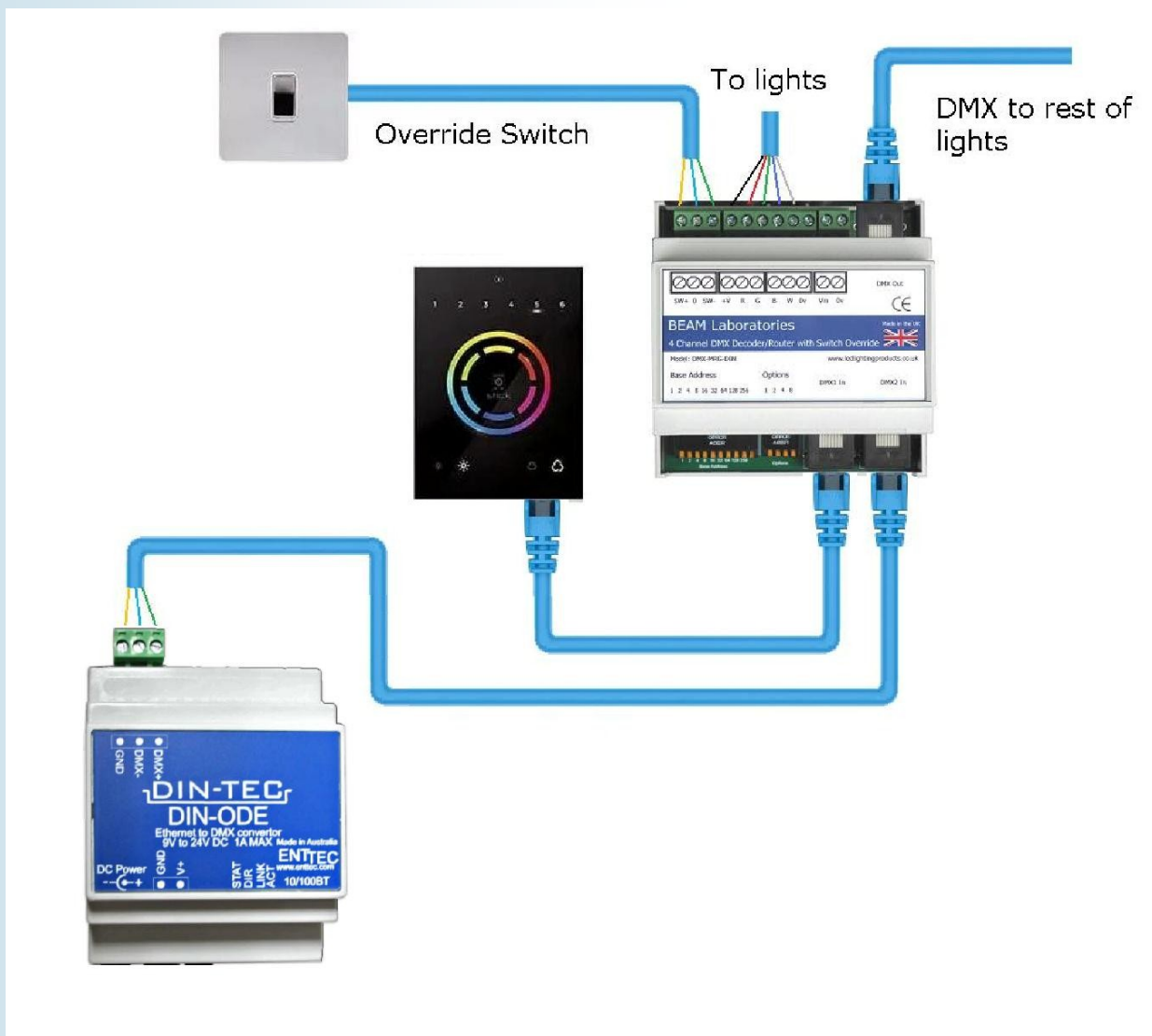
Typical Installation



In this instance, there are two DMX controllers, for example one at the house entrance and one at the exit.

Typical Applications (cont)

In this application an artnet-DMX converter interfaces to Control4



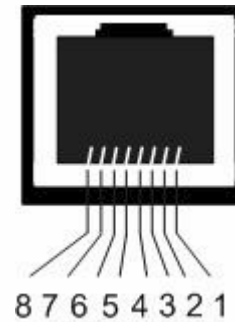
DMX Connections

All RJ45 connections share a common pinout:

Pin 1 DMX+

Pin 2 DMX-

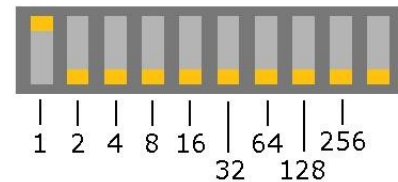
Pins 7,8 0v



Setting the Base Address

The control channel is set by the 10 Way DIP switch marked 'Base Address'. The base address is the sum of all the switch values that are set to the UP position.

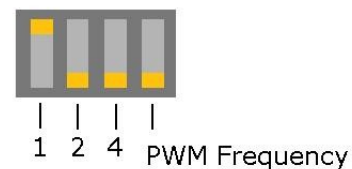
The base address in this instance is 1.



Setting the Operating Mode and PWM Frequency

The operating mode is set by the 'Options' switch. The mode is the sum of all the switch values that are set to the UP position.

The operating mode in this instance is 1.




The PWM frequency is 4KHz with the switch DOWN, and 16KHz with the switch UP.



Summary of the Operating Modes

Mode	Action
0	Standard DMX Decoding
1	White DMX Decoding (all four channels follow base address)
2	Standalone Red
3	Standalone Blue
4	Standalone Green
5	Standalone snap between colours
6	RGB Standalone Controller (uses switch inputs to index through modes)
7	Rainbow colour change (base DIP switch sets speed)



How Switch Inputs Work

The system default is the background system, ie whichever DMX input is in control. However, if the decoder detects that the local switch has been touched then it takes control. The switch actions are as follows:

Switch Action	Effect
Short Press Up	Lights ON at previous dim Level
Long Press Up	Lights dim up from previous dim Level
Short Press Down	Lights OFF
Long Press Down	Lights dim down from previous dim Level

The background control system regains control by changing the value of its control channel (base address + 4) This is easily achieved by either moving a slider on the app or building this into the control software.



Contacting Technical Support

Technical support is available by emailing info@ledlightingproducts.co.uk or by calling 01543 481532.

For customers outside the UK please dial +44 1543 481532.

The technical helpline is open Monday-Thursday 9:30am—4:30pm and Friday 9:30am—12:00 pm.

Warranty

LED Lighting Products Ltd warrants that the product it manufactures and sells will be free from defects in materials and workmanship for a period of 1 year from the date of despatch. If the device proves defective within the respective period, LED Lighting will repair or replace the defective hardware at its sole discretion. If the failure is due to an operator error the user accepts to pay for any charge relating to the diagnosis of the hardware, faulty parts or shipping from our factory.

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