

# RoscoLED<sup>®</sup> Tape

## Variable PWM DMX Decoder User Guide



### Controls for Vibrant, Versatile Lighting Solutions

This guide applies to the following Rosco X-Effects LED Projector models:

RoscoLED <sup>®</sup> Variable PMW DMX Decoder	
Item Code	Description
293222610001	RoscoLED Variable PWM DMX Decoder 5 x 8A
293222610002	RoscoLED Variable PWM DMX Decoder 12 x 5A

### KEY FEATURES

- 8-Bit and 16-Bit modes
- Adjustable Dimming curve Gamma: 0.1 to 9.9
- Easy-to-read digital display

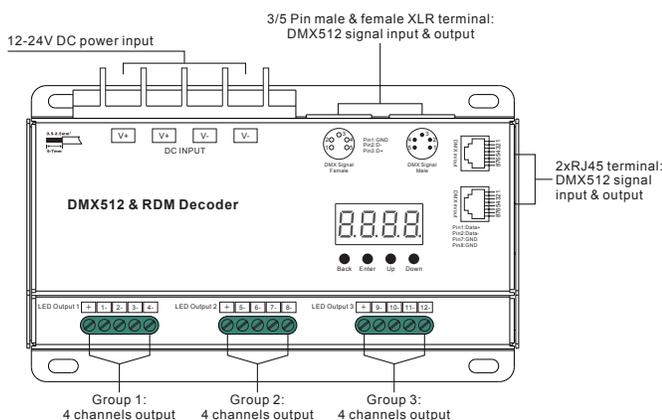
### SPECIFICATIONS

#### RoscoLED 12 x 5A DMX Decoder

Input Voltage: 12 – 24VDC  
 Output Current: 12 x 5A  
 Output Power: 12 x (720–1440)W  
 DMX In/Out: 5-Pin XLR, RJ45, Wire Terminals  
 PWM Adjustment: 500Hz – 30kHz  
 IP Rating: IP20  
 Operating Temp: -4° F to 122° F (-20° C to 50° C)  
 Dimensions: 6.5" x 2.9" x 1.5"  
 (154 mm x 73 mm x 38 mm)

### INTERFACE CONNECTIONS

#### RoscoLED 12 x 5A DMX Decoder



RoscoLED 12 x 5A DMX Decoder

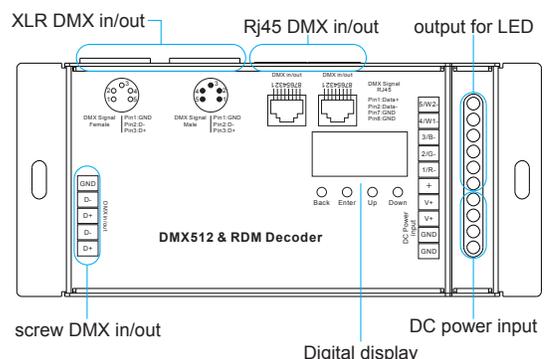


RoscoLED 5 x 8A DMX Decoder

#### RoscoLED 5 x 8A DMX Decoder

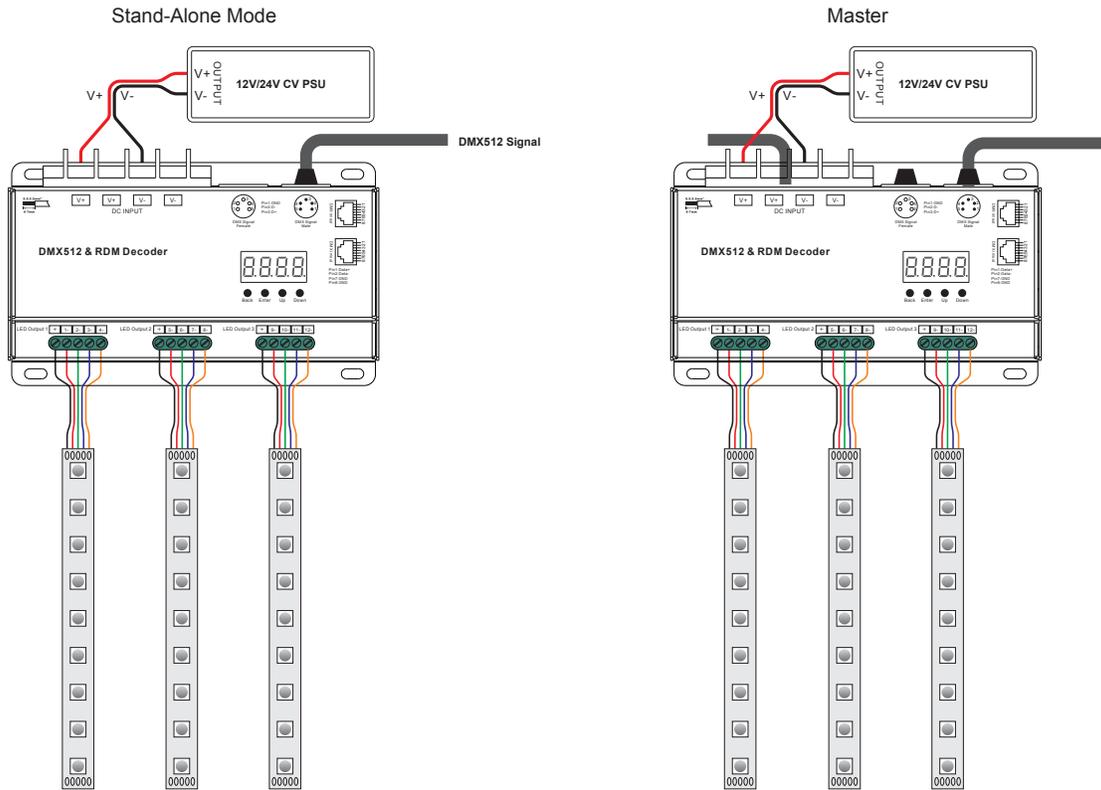
Input Voltage: 12 – 24VDC  
 Output Current: 8 x 5A  
 Output Power: 5 x (96–192)W  
 DMX In/Out: 5-Pin XLR, RJ45, Wire Terminals  
 PWM Adjustment: 500Hz – 30kHz  
 IP Rating: IP20  
 Operating Temp: -4° F to 122° F (-20° C to 50° C)  
 Dimensions: 6.5" x 2.9" x 1.5"  
 (154 mm x 73 mm x 38 mm)

#### RoscoLED 5 x 8A DMX Decoder

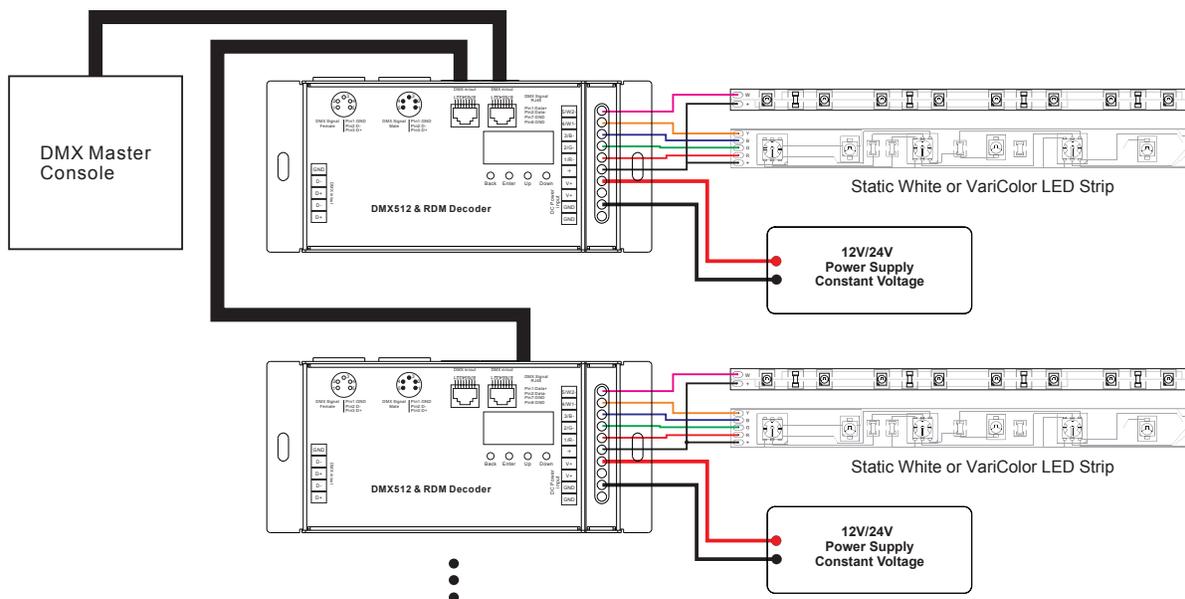


### WIRING DIAGRAMS

#### RoscoLED 12 x 5A DMX Decoder



#### RoscoLED 5 x 8A DMX Decoder



## INTRODUCTION

Congratulations on your purchase of a RoscoLED Variable PWM DMX Decoder. Designed for the most demanding lighting applications, these decoders offer both DMX and Stand-Alone Modes for controlling RoscoLED products – with or without a DMX console. RoscoLED DMX Decoders also provide lighting professionals the means to vary the Pulse Width Modulation and Gamma Curve of the unit for complete control of their RoscoLED products.

## SAFETY INFORMATION

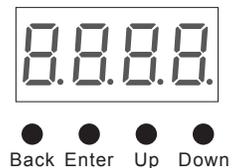
- Please read this manual before attempting to use your Decoder.
- DO NOT install with power applied to device.
- For indoor use only. DO NOT expose the device to moisture.
- Always match DC output voltage of power supply with input voltage of tape.

## MODES OF OPERATION

The RoscoLED PWM DMX Decoder has two modes of operation: **DMX Mode** and **Stand Alone Mode**.

Before applying other settings, the Mode of Operation must be set.

To select the desired mode, press the Down button until **runX** appears and press the Enter button, click the Down button again to select 1 or 2, then press the Back button.



**run1** : **DMX Mode** – In this mode DMX from a DMX512 console will be used as the data source for control.

**run2** : **Stand Alone Mode** – In this mode DMX is not required. The on board control panel can be used for dimming control or preprogrammed effects sequences.

When changing between modes it will be necessary to cycle power to the device (disconnect power and re-energize).

## DMX Mode

### UNDERSTANDING THE DISPLAY IN DMX MODE

**A.XXX** A period between the “A” and the following digits indicates the presence of a DMX signal.

**A XXX** Indicates DMX address. The factory default is 001.

**CHXX** Indicates number of output channels. The factory default will match the number of outputs for the hardware.

**BE XX** Indicates 8bit or 16bit mode. The factory default is 16bit.

**PE XX** Indicates output PWM frequency (500Hz to 30kHz). The factory default is 1kHz.

**GA XX** Indicates output dimming curve gamma value. The factory default setting is gA1.5.

**DP XX** Indicates Decoding mode. Factory default setting is dP1.1, 1 channel per output.

**run1** Indicates the device is set to run1 mode (DMX decoder mode).

### CHANGING DMX ADDRESS

Select display option **A XXX** Press “Enter”. The screen will flash to acknowledge a change can be made. Press “up” or “down” to select desired value. Press “Back” to save value.

Note: This device has the capability to detect the presence of DMX signal. This indicator is between the A and following digits A.XXX.



### SETTING DMX CHANNEL OUTPUTS

Select display option **CH XX** Press “Enter”. The screen will flash to acknowledge a change can be made. Press “up” or “down” to select desired value. Press “Back” to save value. CH01 will assign all outputs to one channel of DMX. CH05/CH12 will assign one DMX channel to each output. CH05 (5 Channel Model) or CH12 (12 Channel Model).

### SETTING BIT MODE FOR PWM OUTPUT

Select display option **bt XX** Press “Enter”. The screen will flash to acknowledge a change can be made. Press “up” or “down” to select desired value. Press “Back” to save value. bt08 will offer 8 bit, bt16 will offer 16 bit.

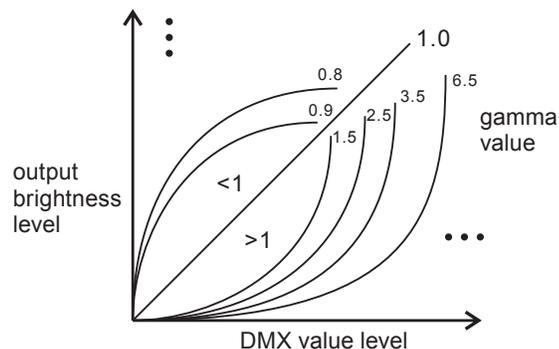
### SETTING PWM FREQUENCY

Select display option **PF XX** Press “Enter”. The screen will flash to acknowledge a change can be made. Press “up” or “down” to select desired value. 00=500 Hz, 01=1KHZ, 30=30KHZ.

### SETTING OUTPUT DIMMING CURVE GAMMA VALUE

Select display option **gA XX** Press “Enter”. The screen will flash to acknowledge a change can be made. Press “up” or “down” to select desired value ranging from 0.1 to 9.9:

- Gamma setting = 1 Dimming response is linear
- Gamma setting < 1 Dimming curve is exponential with greater sensitivity at upper end (high output)
- Gamma setting > 1 Dimming curve is exponential with greater sensitivity at lower end (low output)



### SETTING DECODER MODE (5 CHANNEL MODEL)

- 88.1.1** = 1 Channel per output
- 88.2.1** = 2 Channels per output (coarse, fine). \*This function is only available when Gamma value is set lower than 1.4.
- 88.6.5** = 5 Outputs with Master. In this model channels 1-5 will control individual outputs with channel number 6 as a master dimming channel.
- 88.7.5** = 5 Outputs with Master and channel 7 as strobe controls.

### SETTING DECODER MODE (12 CHANNEL MODEL)

**8P.1.1** = 1 Channel Per output

**8P.2.1** = 2 Channels per output (coarse, fine). \*This function is only available when Gamma value is set lower than 1.4.

**8P.3.2** = Master with 2 channels. This is useful in tunable white LED tapes and panels like RoscoLED Tape VariWhite. The first channel controls overall intensity, channels 2 and 3 will control the two sets of LED chips.  
Ex: Master, warm, cool.

**8P.3.4** = Master with two combined outputs. In this mode the first channel will act as a master, the second channel will combine outputs 1 & 3, the second output will combine outputs 2 & 4.

**8P.4.3** = Master with 3 channels. This is useful in controlling RoscoLED Tape VariColor and panels like Rosco's LitePad RGB. The first channel controls overall intensity, channels 2, 3 and 4 will control the two sets of LED chips.  
Ex: Master, red, green, blue.

**8P.5.3** = Master with 3 dimming channels and strobe effects. *See table below for strobe values.*

**8P.5.4** = Master with 4 dimming channels. This is useful for RoscoLED Tape VariColor. The first channel controls overall intensity, channels 2, 3, 4 and 5 control each set of LEDs.  
Ex: Master, Red, Green, Blue, White.

**8P.6.4** = Master with 4 dimming channels and strobe effects. *See table below for strobe values.*

**8P.8.6** = Combination of Master with 4 dimming channels followed by Master with two dimming channels. This is good for when two different types of tape would need to be controlled using the same decoder.  
Ex: Master, Red, Green, Blue, White – Master, Warm White, Cool White

**8P.9.6** = Combination of Master with 4 dimming channels followed by Master with two dimming channels followed by a strobe effects control channel.

### STROBE CHANNEL PROFILE

DMX Value	
0-7	No Strobe
8-65	Linear Strobe speed control
72-127	Ramp Up, Snap Off
134-189	Snap On, Ramp Down
196-250	Random Strobe
250-255	No Strobe

### FACTORY RESET

To reset to factory values press "Back + Enter" simultaneously for 5 seconds. Display will flash and factory default settings will be restored.

### Stand Alone Mode:

#### UNDERSTANDING THE DISPLAY IN STAND ALONE MODE:

In this mode settings can be set using the onboard controls without the presence of a DMX controller. Any values that are set will generate a DMX signal that can be passed to other decoders using the 5-pin female XLR DMX output.

**0XXX** The first two digits represent the output being controlled. The next two digits represent the dimming level.

**000X** Chase Mode. 4 Different Chases Available.

**5PXX** Chase Speed. 9 Different Speeds available.

#### DIMMING CONTROL

Select display option **01XX 05XX** (5 Channel Model) or **01XX 02XX** (12 Channel Model).

The first two digits represent the output channel being controlled. Press "Enter". The screen will flash to acknowledge a change can be made. Press "up" or "down" to select desired dimming value from 0-FL (100 steps). Press "Back" to save value.

#### CHASE MODE

Select display option **0PXX**. Press "Enter". The screen will flash to acknowledge a chase mode had been engaged. In this model the screen will stay flashing. Press "up" or "down" to select the desired chase. Pressing "Back" will exit chase mode.

**0001** Sequential fade up/fade down of each output channel.

**0002** Overlapping fade up/fade down of each output channel.

**0003** Sequential Fade Up/Snap off of each output channel.

**0004** Sequential Snap On/Fade Down of each output channel

#### CHASE SPEED

Select display option **5PXX**. Press "Enter". The screen will flash to acknowledge a change can be made. Press "up" or "down" to select desired value. Speed can be adjusted from 01-09 (one being slowest, 09 being fastest).