

## StudioPro 5 Channel DMX Digital Decoder - 8A per Channel Part number: DMX-5-8A



The StudioPro 5 Channel DMX Digital Decoder - 8A per Channel is a five channel DMX controller with RDM compatibility and a wide array of configuration options. It accepts 12-24V DC input voltage range at eight amps per channel maximum current and can support a wide variety of LED installations. The digital display allows for easy configuration of the DMX address, number of output channels, PWM frequency, bit-rate and dimming curve. DMX connection options include 5-pin XLR, RJ45 and terminal blocks for input and output.

### Features

- Digital readout legibly displays the DMX address, which is useful in dimly lit rooms.
- Easily change DMX address without DIP switch math.
- PWM frequency is adjustable from 500Hz to 30kHz for flicker-free performance in any application.
- Switchable output smoothing, 8-bit or 16-bit.
- Adjustable number of output channels. See page 3.
- Configurable DMX modes, including 8/16-bit inputs and master controls. See pages 4-5.
- 12-24V DC input range.
- High 5 x 8A current capacity means it can drive up to 480W/960W per receiver at 12V/24V respectively.
- Adjustable dimming curve for a best fit for your application.
- Uses 5-pin XLR, RJ45 and terminal block connectors for DMX communication.
- Mounting tabs are integrated into the rugged chassis.

## Applications

- High capacity DMX lighting applications requiring 1, 2, 3, 4 or 5 output channels.
- On-camera applications requiring high PWM frequency.

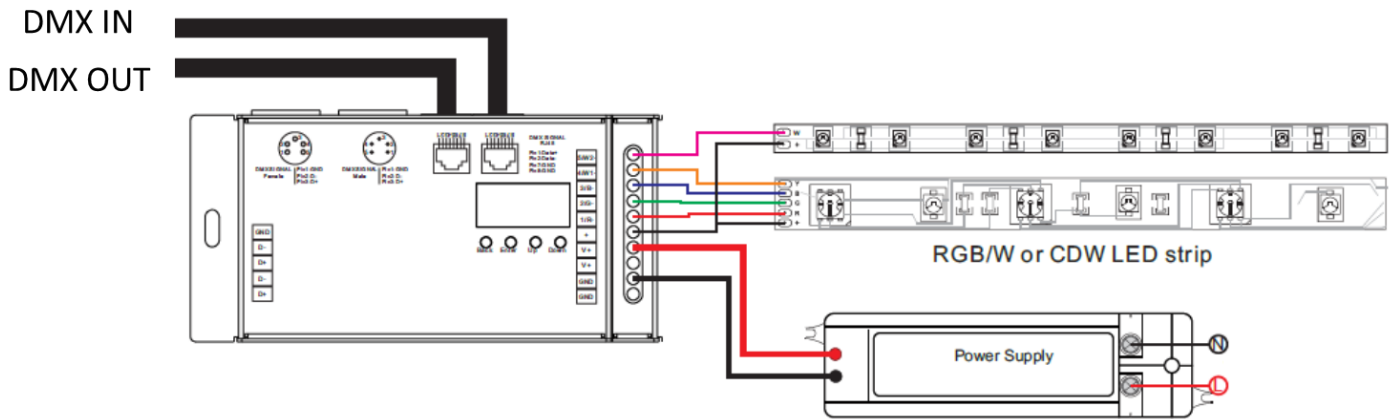
## Specifications

Dimensions:	2.9" x 6.5" x 1.5" 74 mm x 164 mm x 39mm
Output Channels:	1-5
Input voltage:	12-24 Volts DC
Max. current load:	5x8A
Max. output power:	480W/960W (12V/24V)
PWM frequency:	500-30,000Hz



## Wiring

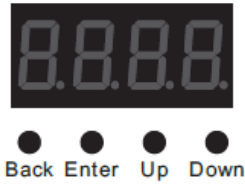
1. Confirm that the power supply voltage matches the LED voltage and that the power supply is unplugged.
2. Connect the LEDs and power supply to the **DMX-5-8A** using the screw terminals. Power supply positive and ground should be connected to “V+” and “GND” terminals respectively. LED positive should be connected to the “+” terminal. The V+ terminals may also be used for LED positive if extra space is needed. Connect LED negatives to output channels 1-5 as appropriate for the installation.



3. Power up the power supply. The screen will display **A.XXX** where “XXX” is the DMX starting address.
4. Connect the DMX input and output (if applicable) to any of the input/output ports. Note: do not send DMX signals to the decoder while it is powered down.

# Operation

## Navigation Buttons:



- Up and Down are used to cycle through settings and adjust parameters.
- Enter is used to select a setting to adjust.
- Back saves the current setting and stops adjustment of that parameter

## DMX Address: 0.XXX

This display indicates the current DMX starting address. Press Enter and then Up or Down to change the DMX starting address. Up and Down can be held down to quickly scroll through addresses. Press Back once the desired DMX address has been reached.

## Output Channels: 00.XX

The “Output Channels” parameter allows the utilize all five output channels using fewer DMX channels. Based on the number of independent channels needed, the outputs will be mapped as follows. Note: this mapping is for DMX starting address 001 and default “Decoding Mode” value. See the section on Decoding Mode below for more information.

Output Channel	CHXX Setting				
	CH05	CH04	CH03	CH02	CH01
Channel 1	001	001	001	001	001
Channel 2	002	002	002	002	001
Channel 3	003	003	003	001	001
Channel 4	004	004	003	002	001
Channel 5	005	004	003	002	001

## Output PWM Resolution: 00.XX

The Bit Depth setting controls the DMX output smoothing resolution, either 8-bit or 16-bit. The decoder provides output smoothing in 16-bit mode (default and recommended). This setting is different from 16-bit DMX input. 16-bit DMX input is set through the Decoding Mode.

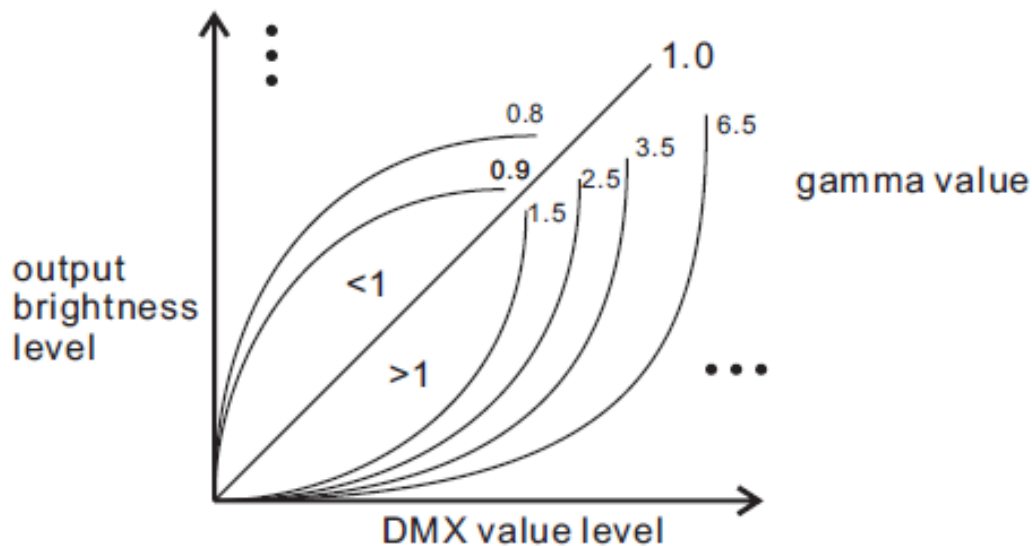
## PWM Frequency: **88.XX**

The output PWM frequency is set through this parameter, with “XX” being the frequency in kHz. The default value is “01”, corresponding to 1kHz. Options range from “00” = 500Hz to “30” = 30kHz.

The output PWM frequency can be adjusted to avoid flicker in different settings. It can be left at 1kHz for most applications. For on-camera use, settings around 5kHz are typically sufficient to eliminate flicker. Very high frequency settings (over 10kHz) should be used only if necessary. Very high frequency signals can be distorted by long cable runs and/or environments with a lot of electrical signals.

## Output Dimming Curve: **88.XX**

The “gamma” value of the dimming curve is set with this parameter. This changes the rate at which the brightness changes at different DMX values. It can be used to make dimming less sensitive at the high or low end for greater precision in that brightness range. Default value is 1.5 and can be adjusted from 0.1-9.9. Values less than 1 give greater dimming precision at high brightness and values greater than 1 increase precision at low brightness. Human vision is more sensitive at low light levels, so values greater than 1 are most common.



## DMX Decoding Mode: **88.XX**

The DMX Decoding Mode determines how the DMX input is processed and mapped to the outputs. This setting is directly affected by the Output Channels parameter, please make sure that setting is configured before adjusting the DMX Decoding Mode. The setting “dP2.1” enables 16-bit input mode for all channel configurations. This mode uses two DMX input channels for each output, the first channel is the standard DMX adjustment and the second is for fine dimming control.

The tables below are based on a DMX starting address of 001. The **CHXX** setting is indicated above each table

### CH01

DMX Channel	Decoding Mode	
	dP1.1	dP2.1
001	Dimming all channels	Dimming all channels
002		micro-dimming all channels

### CH02

DMX Channel	Decoding Mode		
	dP1.1	dP2.1	dP3.2
001	Dimming output 1 & 3	Dimming output 1 & 3	Dimming output 1 & 3
002	Dimming output 2 & 4	Micro-dimming output 1 & 3	Dimming output 2 & 4
003		Dimming output 2 & 4	Master dimming
004		Micro-dimming output 2 & 4	

### CH03

DMX Channel	Decoding Mode			
	dP1.1	dP2.1	dP4.3	dP5.3
001	Dimming output 1	Dimming output 1	Dimming output 1	Dimming output 1
002	Dimming output 2	Micro-dimming output 1	Dimming output 2	Dimming output 2
003	Dimming output 3, 4 & 5	Dimming output 2	Dimming output 3, 4 & 5	Dimming output 3, 4 & 5
004		Micro-dimming output 2	Master dimming	Master dimming
005		Dimming output 3, 4 & 5		Strobe
006		Micro-dimming output 3, 4 & 5		

**CH04**

DMX Channel	Decoding Mode			
	dP1.1	dP2.1	dP5.4	dP6.4
001	Dimming output 1	Dimming output 1	Dimming output 1	Dimming output 1
002	Dimming output 2	Micro-dimming output 1	Dimming output 2	Dimming output 2
003	Dimming output 3	Dimming output 2	Dimming output 3	Dimming output 3
004	Dimming output 4 & 5	Micro-dimming output 2	Dimming output 4 & 5	Dimming output 4 & 5
005		Dimming output 3	Master dimming	Master dimming
006		Micro-dimming output 3		Strobe
007		Dimming output 4 & 5		
008		Micro-dimming output 4 & 5		

**CH05**

DMX Channel	Decoding Mode			
	dP1.1	dP2.1	dP6.5	dP7.5
001	Dimming output 1	Dimming output 1	Dimming output 1	Dimming output 1
002	Dimming output 2	Micro-dimming output 1	Dimming output 2	Dimming output 2
003	Dimming output 3	Dimming output 2	Dimming output 3	Dimming output 3
004	Dimming output 4	Micro-dimming output 2	Dimming output 4	Dimming output 4
005	Dimming output 5	Dimming output 3	Dimming output 5	Dimming output 5
006		Micro-dimming output 3	Master dimming	Master dimming
007		Dimming output 4		Strobe
008		Micro-dimming output 4		
009		Dimming output 5		
010		Micro-dimming output 5		

## Safety Precautions

Please take the following precautions:

1. This equipment, like all electrical equipment, should be installed by a qualified person.
2. Do not expose these LEDs, dimmers or power supplies to intense electro-magnetic fields, including lightning.
3. The controllers and power supplies are not waterproof. Keep them dry.
4. Always observe proper polarity.

When installing LED lighting, it is a good idea to follow this “dry-run” procedure:

1. Be sure you have everything you need before you start.
2. Lay out your lights and power supply on the floor or table.
3. There is some resistance in the LED lighting. If you see any color fading or dimming at the end of a long run, you may have too many LEDs for your power supply and you might need a bigger supply or shorter runs. Use a bus structure as described in [rgb\\_manual.pdf](#). Call if you need assistance with larger projects.
4. Connect everything and test it to be sure it works and you have it connected properly. It is unlikely, but possible, that some part of your system is defective or was damaged during shipment. If that is the case, it will be very helpful to you to know that before you do all the work involved in installing custom LED lighting systems. You will also know if you damage anything during installation, which is really helpful in trouble-shooting because manufacturing defects and installation damage typically have very different solutions.

Once you have tested the system successfully, you are ready to install it. We recommend you install LEDs, electronic controls and dimmers in such a way that you have access to them in case they fail. All electrical components can fail.