5-Channel DMX512 Decoder

Important: Read all the instructions before installation

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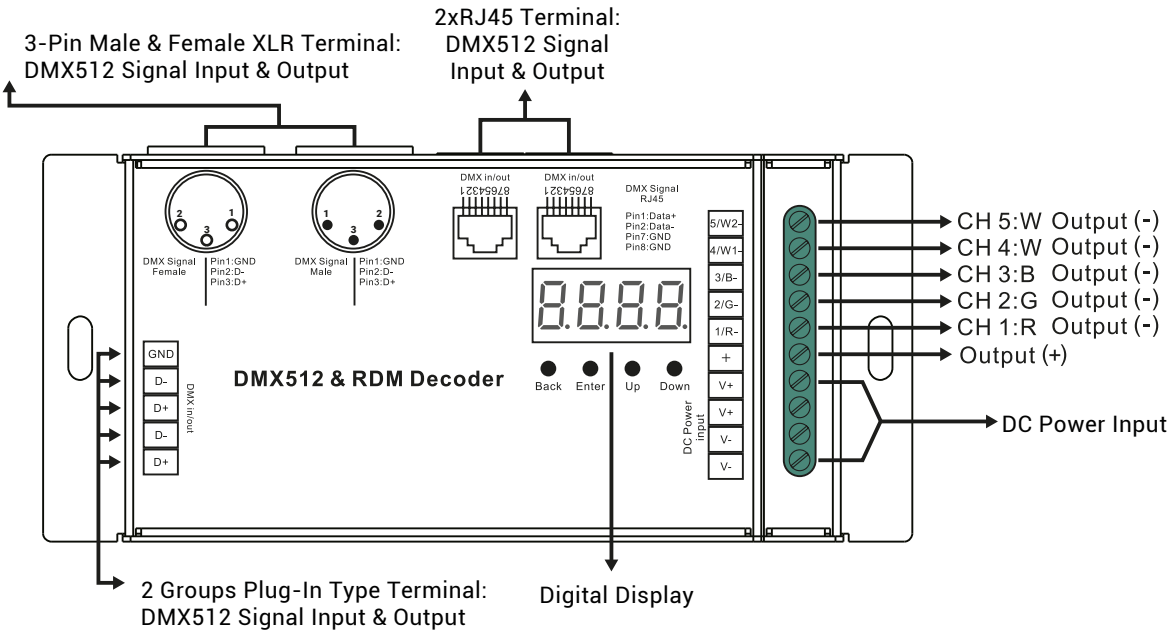
5-Channel DMX



Product Data

Input Voltage	Output Power	Output Current	Size
12-24V DC	480W (12V) & 960W (24V)	8A/5 channels	L: 6.5" (164 mm) W: 2.8" (73 mm) H: 1.5" (38 mm)

Product Features

- High-end DMX512 & RDM LED Decoder
- Controller mode available for standalone RGB control
- User-friendly digital display
- Durable metal casing
- 8 amp, 5-channel constant voltage output
- **Multiple data port options:** XLR3 ports, RJ45 ports, and screw DMX terminals
- Compatibility with DMX512, DMX512 (1990), DMX512-A and RDM V1.0 (E1.20 - 2006 ESTA Standard) protocols
- RDM bi-directional communication function allowing for real time remote monitoring
- Short circuit protection

- **Under RGB Controller Mode:**
  - 8 levels of brightness
  - 32 built-in programs for RGB static and dynamic patterns
  - Different speed levels and individual channel control

- **Under Decoder mode:**
  - Decoder detection, DMX address setting, and decoder information display functions
  - Address up to five channels
  - PWM output frequency setting
  - PWM ratio frequency setting
  - Optional decoding modes, brightness adjustments, Gamma-dimming curve values setting

Wiring

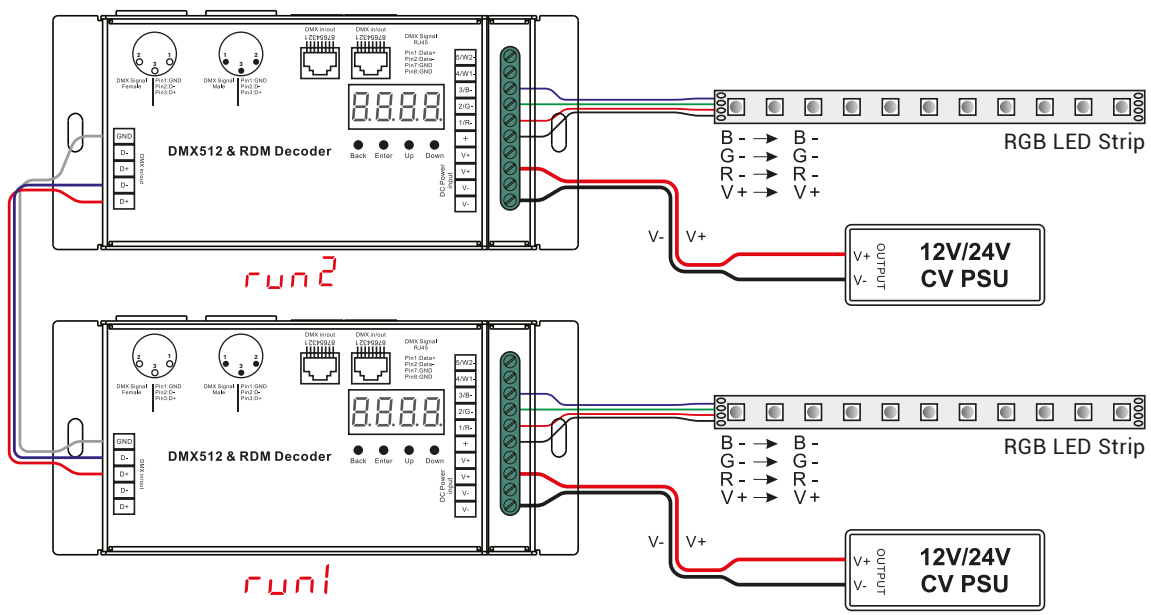
01. Confirm that the power supply voltage matches the LED voltage and that the power supply is unplugged.

02. Connect the LEDs and power supply using the screw terminals. Power supply positive and negative should be connected to “V+” and “V-” terminals under DC power input, respectively. LED positive should be connected to the “+” terminal. Connect LED negatives to output channels.

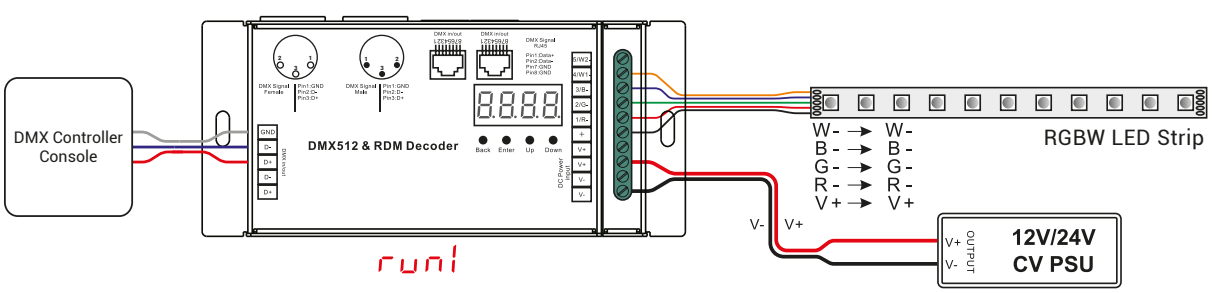
03. Keep in mind that the controller can be wired as a Controller or as a Decoder, as shown in the image:

Wiring Diagram

Controller Mode (RGB only)



Example of Decoder Mode



04. Power up the power supply.

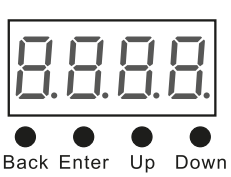
05. Connect the DMX input and output (if applicable) to any of the input/output ports. Note: Do not send DMX signals to the decoder while it is powered down.

Operation

Before you change any other settings, please set the device to Controller or Decoder mode.

run1 = **DMX Decoder mode**

run2 = **DMX Controller mode**



To do this, click the DOWN button to scroll through settings until you land on “run1” or “run2”, then press ENTER, and then UP or DOWN to change between the two modes. Press BACK once the desired mode has been reached. A reboot is required to change between modes.

DMX Controller Mode

The standalone mode of the unit features both pre-programmed modes as well as individual channel control for RGB light fixtures. These are the functions available:

→ Pre-Programmed RGB Modes P.XXX

Controls a total of 31 programs. The static and dynamic modes use the first three channels and assign values based on the assumption that Channel 1 is controlling red, Channel 2 is controlling green, and Channel 3 is controlling blue. Press ENTER, and then UP and DOWN to select between preset modes.

00. RGB off

01. Static red

02. Static green

03. Static blue

04. Static yellow (50% red+50% green)

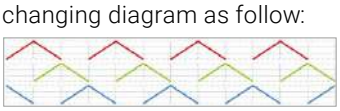
05. Static orange (75% red+25% green)

06. Static cyan (50% green+50% blue)

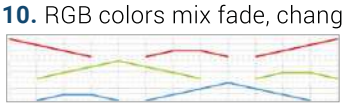
07. Static purple (50% blue+50% red)

08. Static white (100% red+100% green+100% blue)

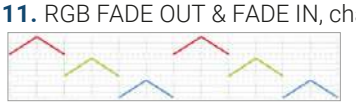
09. Any two colors of RGB mix fade, changing diagram as follow:



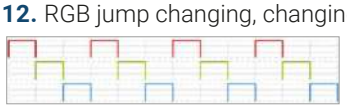
10. RGB colors mix fade, changing diagram as follow:



11. RGB FADE OUT & FADE IN, changing diagram as follow:

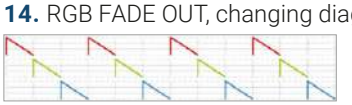


12. RGB jump changing, changing diagram as follow:



13. RGB FADE IN, changing diagram as follow:

14. RGB FADE OUT, changing diagram as follow:



15. RGB 3 colors strobe

16. White color strobe (100% red+100% green+100% blue)

17. 7 colors FADE OUT & FADE IN (red, orange, yellow, green, cyan, blue, purple FADE OUT & FADE IN)

18. 7 colors jump changing (red, orange, yellow, green, cyan, blue, purple jump changing)

19. 7 colors strobe (red, orange, yellow, green, cyan, blue, purple strobe)

20. Red-white (100% red+100% green+100% blue) circle gradual changing

21. Green-white (100% red+100% green+100% blue) circle gradual changing

22. Blue-white (100% red+100% green+100% blue) circle gradual changing

23. Red-orange circle gradual changing

24. Red-purple circle gradual changing

25. Green-yellow circle gradual changing

26. Green-cyan circle gradual changing

27. Blue-purple circle gradual changing

28. Blue-cyan circle gradual changing

29. Red-yellow-green circle gradual changing

30. Red-purple-blue circle gradual changing

31. Green-cyan-blue circle gradual changing

→ Brightness Control b- XX

This option controls the brightness of the programmed scenes. Press ENTER, and then UP and DOWN to select a brightness level between 1 and 8 with 8 being the brightest.

→ Speed Control SP-X

This option controls the speed of the programmed scenes. Press ENTER, and then UP and DOWN to select a speed level between 1 and 9 with 9 being the fastest.

→ Individual Channel Control 1-01

If you don't want to use a pre-programmed scene, you can also use the controller mode to control each channel individually. Selecting one of the menu options that includes a number with a dash and another number after it allows you to control brightness for each channel. Select a channel of 1 through 5 by clicking the UP or DOWN buttons. The first number is the channel and the number after the dash is the brightness level. Click the ENTER button, and then click UP or DOWN buttons to select a number between 00-99-FL, with "FL" indicating 100% output. Press BACK once the desired brightness level has been reached.

DMX Decoder Mode

→ **Decoder Menu Options**

Keep tapping on the UP button and you will find the below menu on display:

DMX signal indicator: When a DMX signal input is detected, the indicator on the display after A turns on red A.XXX

A.XXX Sets the DMX address. Factory default setting is 001.

CHXX Sets the quantity of DMX channels being used. Factory default setting is Ch05.

bLXX sets the PWM resolution (8bit or 16bit). Factory default setting is 16bit.

PFXX Sets output PWM frequency. Factory default setting is 1K HZ.

gaXX Sets output dimming curve gamma value. Factory default setting is ga 1.5.

dPXX Sets Decoding mode. Factory default setting is dp1.1.

Set-up

Basic Functions:

→ **DMX Address: A XXX**

Most users will only need to adjust the address on their decoders. This menu function indicates the current DMX address. Press ENTER, and then UP or DOWN to change the DMX address. UP and DOWN can be held down to quickly scroll through addresses. Press BACK once the desired DMX address has been reached.

Advanced Functions:

→ **DMX Channel Setting: CH 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. Select this option clicking on ENTER, and then use the UP and DOWN buttons to set the DMX channel quantity. Click on BACK to confirm.

- **CH01:**1 DMX address for all the output channels all of which have 001 as the address.
- **CH02:** 2 DMX addresses, 001 for output channels 1 and 3, and 002 for channels 2, 4, and 5.
- **CH03:** 3 DMX addresses, 001 for output channels 1 and 2, 002 is the address for channel 003, and 003 is the address for output channels 4 and 5.
- **CH04:** 4 DMX addresses, 001 is the address for channel output 1, 002 for output 2, 003 for output 3, and 004 for output channels 4 and 5.
- **CH05:** 5 DMX addresses, 001 is the address for channel output 1, 002 for output 2, 003 for output 3, 004 for output 4, and 005 for output 5.

→ **Setting the PWM Output Resolution: bL XX**

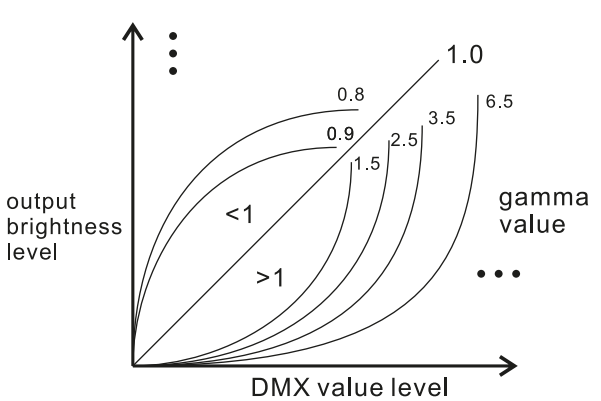
The Bit Depth setting controls the DMX output smoothing resolution, either 8-bit or 16-bit. The decoder provides output smoothing in 16-bit mode (default and recommended). Select this option by clicking on ENTER, and then use the UP and DOWN buttons to choose either 08-bit or 16-bit. Click on BACK to confirm.

→ **Setting the PWM Frequency: PF XX**

For this parameter, "XX" shows 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. Select this option clicking on ENTER, and then use the UP and DOWN buttons to choose a number between 00 and 30. Click on BACK to confirm.

→ **Setting the Dimming Curve Gamma Value: gA 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. Select this option clicking on ENTER, and then use the UP and DOWN buttons to choose between 0.1 and 9.9. Click on BACK to confirm.



Setting the Decoding Mode

Select the dP XX option clicking on ENTER, and then use the UP and DOWN buttons to choose the decoding mode. Click BACK to confirm. 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.

Decoding Mode Tables

DMX Address is 001, CH01

DMX Channel / Console Slider No.	dp1.1	dp2.1
1	For all output dimming	For all output dimming
2	No use	For all output micro dimming

DMX Address is 001, CH02

DMX Channel / Console Slider No.	dp1.1	dp2.1	dp3.2
1	For output 1 & 3 dimming	For output 1 & 3 dimming	For output 1 & 3 dimming
2	For output 2, 4 & 5 dimming	For output 1 & 3 micro dimming	For output 2, 4 & 5 dimming
3		For output 2, 4 & 5 dimming	For all output dimming
4		For output 2, 4, 5 micro dimming	

DMX Address is 001, CH03

DMX Channel / Console Slider No.	dp1.1	dp2.1	dp4.3	dp5.3
1	For output 1 dimming	For output 1 dimming	For output 1 dimming	For output 1 dimming
2	For output 2 dimming	For output 1 micro dimming	For output 2 dimming	For output 2 dimming
3	For output 3,4,5 dimming	For output 2 dimming	For output 3,4,5 dimming	For output 3,4,5 dimming
4		For output 2 micro dimming	For all output controller dimming	For all output controller dimming
5		For output 3,4,5 dimming		Strobe affects
6		For output 3,4,5 micro dimming		

DMX Address is 001, CH04

DMX Channel / Console Slider No.	dp1.1	dp2.1	dp5.4	dp6.4
1	For output 1 dimming	For output 1 dimming	For output 1 dimming	For output 1 dimming
2	For output 2 dimming	For output 1 micro dimming	For output 2 dimming	For output 2 dimming
3	For output 3 dimming	For output 2 dimming	For output 3 dimming	For output 3 dimming
4	For output 4 & 5 dimming	For output 2 micro dimming	For output 4 & 5 dimming	For output 4 & 5 dimming
5		For output 3 dimming	For all output controller dimming	For all output controller dimming
6		For output 3 micro dimming		Strobe affects
7		For output 4 & 5 dimming		
8		For output 4 & 5 micro dimming		

DMX Address is 001, CH05

DMX Channel \ Console Slider No.	dp1.1	dp2.1	dp6.5	dp7.5
1	For output 1 dimming	For output 1 dimming	For output 1 dimming	For output 1 dimming
2	For output 2 dimming	For output 1 micro dimming	For output 2 dimming	For output 2 dimming
3	For output 3 dimming	For output 2 dimming	For output 3 dimming	For output 3 dimming
4	For output 4 dimming	For output 2 micro dimming	For output 4 dimming	For output 4 dimming
5	For output 5 dimming	For output 3 dimming	For output 5 dimming	For output 5 dimming
6		For output 3 micro dimming	For all output controller dimming	For all output controller dimming
7		For output 4 dimming		Strobe affects
8		For output 4 micro dimming		
9		For output 5 dimming		
10		For output 5 micro dimming		

Data Definitions for Strobe Channels

- {0,7}: undefined
- {8, 65}: slow-to-fast strobe
- {66, 71}: undefined
- {72, 127}: slow push fast close
- {128, 133}: undefined
- {134, 189}: slow close fast push
- {190, 195}: undefined
- {196, 250}: random strobing
- {251, 255}: undefined

Supported RDM Parameter IDs (PIDs)

- DISC_UNIQUE_BRANCH
- DISC_MUTE
- DISC_UN_MUTE
- DEVICE_INFO
- DMX_START_ADDRESS
- IDENTIFY_DEVICE
- SOFTWARE_VERSION_LABEL
- DMX_PERSONALITY
- DMX_PERSONALITY_DESCRIPTION
- SLOT_INFO
- SLOT_DESCRIPTION
- MANUFACTURER_LABEL
- SUPPORTED_PARAMETERS

Restore Factory Settings

Press and hold both BACK and ENTER keys until the digital displays turns off, then release the keys and the display will turn on again, and all settings will be rest to factory settings, which are:

- DMX Address Code: a001
- DMX Address Quantity: SW1=0: ch05, SW1=1: ch04
- PWM Resolution Mode: bt16
- PWM Frequency: pf01
- Gamma: ga1.5
- Decoding Mode: dp1.1

Warranty Information

Limited Warranty:

This product has a 3 year limited warranty from the date of shipment. This warranty only includes the main product outlined in this specification sheet and does not include the additional accessories that are used as a reference. Complete warranty details for fixtures and additional accessories are available at: https://www.flexfireleds.com/warranties/ within the Policies section. For warranty related questions please contact product support team at (support@flexfireleds.com).

Consumer's Acknowledgment:

Flexfire LEDs, Inc. stands behind its products when they are used properly and according to our specifications. When you purchase our products, you are agreeing to the terms and conditions outlined in our warranty section. We try our best to make recommendations, but the burden of proper installation, design, and maintenance relies on the purchaser. This limited warranty does not include product failures that are the result of: Not using a voltage regulated power supply to connect the LED product or controls; Connecting LED products to the wrong output voltage; Improper connection of power supplies, LED products, or controls; Connecting LED products or controls directly to any AC power source if they are stated for DC only input; Connecting power supplies backwards to an AC power source; Products used in an inappropriate location or in environmental conditions (temperature, humidity, moisture, etc.) outside the normal specified range; Water damage to products not specifically sold as waterproof products; Electrical power surges and spikes; Damage from hail, flooding, tornado, fire, wind, earthquake, lightning, electrical storm, or any other natural disasters or "force majeure" incidences; Damage caused by a vehicle or other accident; Damage caused when transporting the item; Damage to any products that were modified by the user, used for purposes other than as intended or directed, or connected to LED systems or components not purchased from Flexfire LEDs; Products that have been subjected to misuse, mishandling, misapplication or accident. Products used in connection with any components, devices or systems other than those explicitly approved as compatible with Company's products and listed on Company's website. Excessive wear and tear and/or physical or accidental abuse, loss, or theft. Improper repairs or warranty services performed by someone other than Flexfire LEDs will void this warranty.

Contact Information

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