PRODUCT MANUAL

ProAv 5 Channel DMX & RDM to RGBWA Decoder

Solid Apollo™
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Product Description

Solid Apollo's ProAV 5 Channel DMX512 and RDM Decoder is a state of the art high end Decoder that converts DMX and RDM signal to RGBWA.

It has a built-in visible digital display that is user friendly for easy setting or configuration adjustments. The unit offers the best and most reliable configurations for a quality and flicker-free lighting display on audiovisual applications.

The ProAV DMX & RDM Decoder has a variety of DMX input and output signal options including XLR5, RJ45, or detachable screw down connectors. This allows user to connect the Decoder to any type of DMX Fixtures or DMX Products.

With output Channels for both White and Amber this product is an excellent choice for using RGB with White or Amber to offer you a much wider range of color creation in the thousands including pastel colors.

ProAV 5 Channel DMX512 & RDM Decoder

Product Features

- DMX512 Decoder with Remote Device Management (RDM) capability.
- Metal housing for durability with integrated tabs for easy mounting.
- 5 adjustable output channels that are settable from 1CH – 5CH.
- LED screen with button controls for easy parameter setting.
- Multiple kinds of DMX input/output ports: RJ 45, XLR, Detachable Screw-down Terminal Blocks.
- 5 x 8Amps Output Channels and a common Anode to drive up to 960W at 24V DC
- PWM frequency of 500 – 30000Hz to remove any flickers in audiovisual applications.
- Several Gamma values settable from 0.1 to 9.9 for ultra-precise output dimming.
- Multiple kinds of Decoding mode for DMX input processing and mapping.
- Interchangeable PWM output resolution ratio of 8-bit or 16-bit.

Manual will Review

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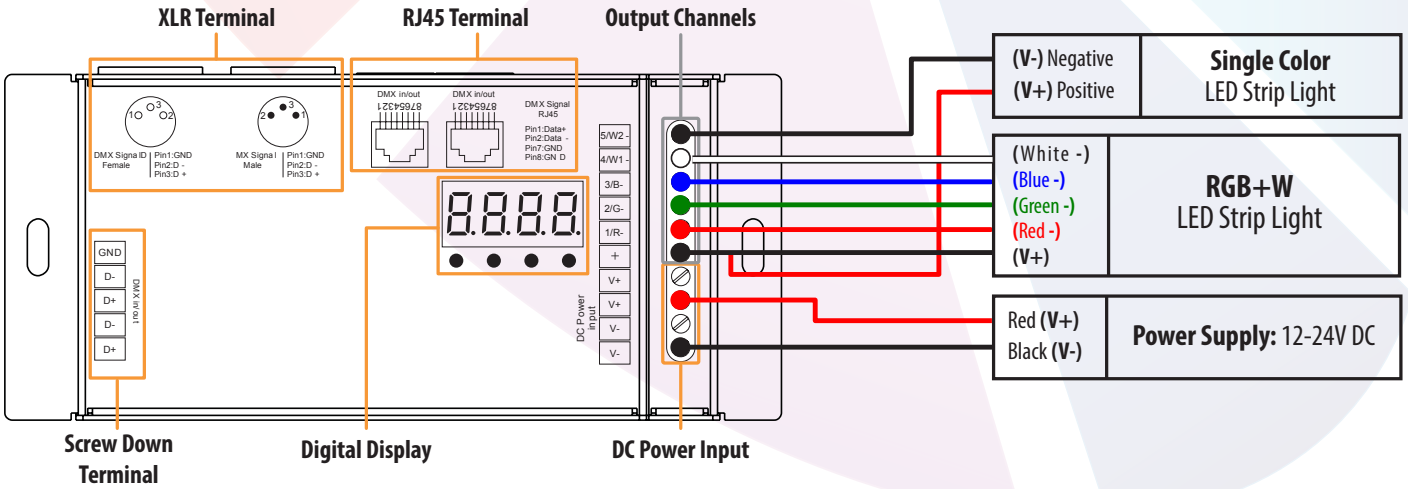
Product Installation

In order to successfully and effectively be able to use Solid Apollo's ProAV 5 Channel DMX & RDM Decoder, it will have to be properly installed/wired. The correct amount of power has to be supplied and proper connections made between DMX Console or Controller, Fixtures, or LED Strips. Here is a guide on how to correctly install the product:

1. Ensure that the necessary accessories (*DC Wires, Power Connector, and XLR/RJ45 Cable*) are available.
2. Verify that the Power Supply has the right voltage and Wattage required.
3. Connect one side of a piece of DC wire to the "**DC Power Input**" Screw Terminals of the Decoder with Red Wire screwed to **V+** and Black Wire screwed to **V- or GND**. (See diagram below)

   Note: There are two **V+** and two **V-** screw channels on the Decoder to allow for Daisy Chaining if needed. Otherwise, you need to use only one **V+** and one **V-** channel for power connection
4. Connect the other side of the **DC wire** to a Female Barrel Connector with the Red Wire screwed into the + terminal and Black Wire screwed to the – terminal (when applicable).
5. Connect the Female Barrel Connector attached to the DC wire to the Barrel Connector of the Power Supply. This completes the Power connection side.
6. Connect the LED Strip Light wires to the corresponding color channel on the screw terminal of the Decoder *(i.e. Blue Wire to Channel 3/B, Green Wire to Channel 2/G, etc.)*
7. Plug the Power Supply to a Power Outlet and power up. The display Screen on the Decoder will show **A001** in Red where **001** is the DMX starting address.
8. Finally, connect the DMX input/output cables (if applicable) to the input/output ports on the Decoder using either **XLR**, **RJ45**, or Set-down Screw Terminals.

   Note: Always make sure that the Decoder is powered on first before sending DMX signals.



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Programming Information

Buttons

Up / Down: These are used to ***navigate/scroll through*** settings and adjust parameters.

Enter: This button is used to ***select*** a parameter to be adjusted.

Back: This button is used to ***save*** the selected parameter setting on display.

Display Parameters

Means **DMX Address** which can be set from 001 to 512. The default Address setting is 001.

Means **DMX Channel** quantity which can be set from 01 to 05. The default setting is Ch05.

Means **Bit** which is the output smoothing resolution of either 8-bit or 16-bit (default setting).

Means **Decoding Mode** with some settings that could allow micro dimming. Default setting is 1.1

Means **Pulse Width Modulation** Frequency of 500Hz to 30KHZ for output flicker filtering. 1K is the default setting.

Means **Gamma Value** of 0.1 to 9.9 for precise output dimming at various brightness levels. The default set value is 1.5.

Parameter Setting

DMX Address

When the Decoder is powered on, the display shows an **A01** address which is the default starting address. To change or set to a different address, press the "Enter" button and this will cause the display to start blinking. Then use the "**Up**" or "**Down**" button to scroll through the addresses to the desired number. The "Up" and "Down" buttons can be held down to quickly scroll through the addresses. Once the desired address is displayed, press the "Back" button to confirm it and then display will stop blinking.

LED Output Channel

This parameter allows the utilization of all five LED output channels using fewer or more DMX Channels at specified DMX Decoding Modes (*See tables in DMX Decoding Mode section below*). To change the Output Channel, scroll through the menu with the "Up" or "Down" buttons and select the "CH xx" menu with the "Enter" button. The parameter will start blinking when the "**Enter**" button is pressed. Use the "**Up**" or "**Down**" button to change to the desired channel and then press the "**Back**" button to confirm.

An example of the channel mappings at the default DMX Address (001) and Decoding Mode (dp 1.1) settings is as follows:

CH01 = 1 DMX address for all the output channels, which are all address 001.
CH02 = 2 DMX addresses, output 1&3 is address 001, output 2, 4 & 5 are address 002.
CH03 = 3 DMX addresses, output 1, 2 is address 001, 002, output 3, 4 & 5 are address 003.
CH04 = 4 DMX addresses, output 1,2,3 is address 001, 002, 003, output 4 & 5 are address 004.
CH05 = 5 DMX addresses, output 1, 2, 3, 4, 5 are address 001, 002, 003, 004, 005.

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Programming Information *(continued)*

Output Resolution Bit

This parameter allows user to select either an **8-bit** or **16-bit** output smoothing resolution. The default setting is at 16-bit however to change that, use the "Up" or "Down" buttons to scroll through the menu until "bt xx" is displayed on the screen. Press "Enter" to select and adjust the parameter. Once "Enter" is pressed the parameter will start blinking. Use the "Up" or "Down" button to change to 8 bit and then press the "Back" button to confirm.

Output PWM Frequency

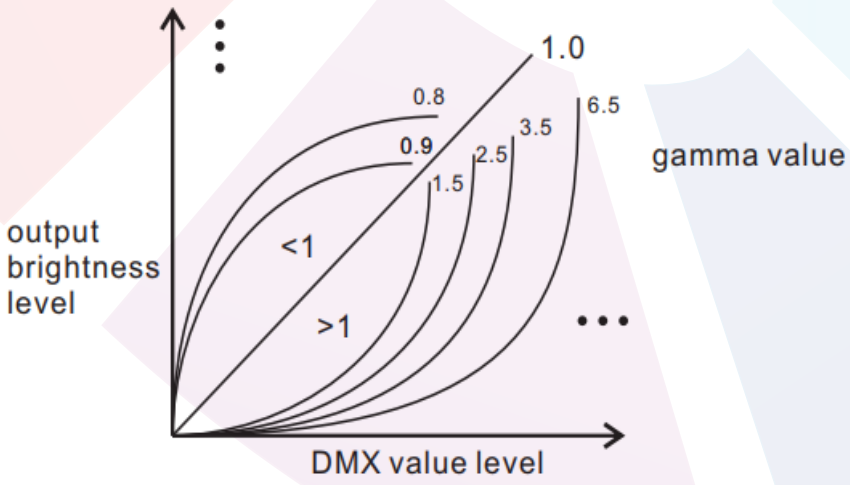
The Pulse Width Modulation Frequency can be adjusted from 500 Hertz to 30000 Hertz for extremely high quality audiovisual application requirements.

To change this setting, scroll through the menu with the "Up" or "Down" buttons and select the "PF xx" menu with the "Enter" button. The "xx" in the display means frequency in kilo Hertz (kHz). Therefore, "PF 01" (which is the default setting) means 1kHz PWM frequency and "30" means 30kHz. The "00" option corresponds to a 0.5kHz (500 Hertz).

Output Dimming Curve

This parameter is used to adjust the rate at which the output brightness changes at different DMX values (see graph below). Human perceive the brightness change non-linearly and have better sensitivity at low luminance than high luminance. The non-linear gamma diming can help make diming less sensitive for greater precision at various brightness levels (low or high).

Gamma values less than 1 give more precise diming at higher brightness levels while gamma values greater than 1 give better precision diming at low brightness.



The default gamma value is 1.5 but the values can be adjusted from 0.1 to 9.9. To set a desired value, scroll through the menu with the "Up" or "Down" buttons to "GA xx" and the press "Enter" button to select it. Once selected, the display will start blinking and the "Up" or "Down" buttons can be used to scroll to the desired gamma value. Press the "Back" button to confirm.

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Programming Information *(continued)*

DMX Decoding Mode

This is the parameter that determines how the DMX input is processed and mapped to the outputs. Its effect is related to the settings of the Output Channels parameter. It is important to set the output Channel parameter first in order to effectively utilize the DMX Decoding modes. For example, the "dP2.1" decoding 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.

To set this parameter, scroll through the menu with the "Up" or "Down" buttons and select the "dP xx" menu with the "Enter" button. Use the "Up" or "Down" buttons to scroll to the desired decoding mode and then press the "Back" button to confirm selection.

The tables below show the Decoding modes relationship to the DMX Channels when the DMX Address is set to 001.

DMX Address 001, CH01

DMX Channel	Decoding Mode	
	dp 1.1	dp 2.1
1	For all output dimming	For all output dimming
2	No use	For all output micro-dimming

DMX Address 001, CH02

DMX Channel	Decoding Mode		
	dp 1.1	dp 2.1	dp 3.2
1	For output 1 & 3 dimming	For output 1 & 3 dimming	For output 1 & 3 dimming
2	For all 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 001, CH03

DMX Channel	Decoding Mode			
	dp 1.1	dp 2.1	dp 4.3	dp 5.3
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 master dimming	For all output master dimming
5		For output 3, 4 & 5 dimming		Strobe Effect
6		For output 3, 4 & 5 micro-dimming		

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Programming Information *(continued)*

DMX Address 001, CH04

DMX Channel	Decoding Mode			
	dp 1.1	dp 2.1	dp 5.4	dp 6.4
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 master dimming	For all output master dimming
6		For output 3 micro-dimming		Strobe Effect
7		For output 4 & 5 dimming		
8		For output 4 & 5 micro-dimming		

DMX Address 001, CH05

DMX Channel	Decoding Mode			
	dp 1.1	dp 2.1	dp 6.5	dp 7.5
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 & 5 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 master dimming	For all output master dimming
7		For output 4 dimming		Strobe Effect
8		For output 4 micro-dimming		
9		For output 5 dimming		
10		For output 5 micro-dimming		

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Technical Information

UI Listed :	***Yes***
Dimmable :	***Yes***
Operating Voltage :	***12-24V DC***
Max Power :	***480W@12V & 960W@24V***
Max Amp :	***8A per Channel***
Warranty :	***3 Years***
Weight :	***0.85 lbs***
Size :	***L: 6.5in x W: 3in x H: 1.5in***
Control System :	***DMX512***
PWM Refresh Rate :	***500 – 30000Hz***
Dimming Curve :	***0.1 - 9.9 Gamma***
Resolution :	***8-bit / 16-bit***
Channels :	***5***
RGB Channels :	***3***
DMX Channels :	***512***
Product Color :	***Black***
Product Material :	***Light Weight Metal***
Working Temperature :	***-4°F – 122°F***
Certificates :	***CE, RoHs, UL Listed***

Safety Recommendations

In order to efficiently operate the ProAV DMX512 & RDM Decoder it is important to correctly and safely install it.
Here are a few tips on things to be aware of:

1. Ensure that all the accessories (Drivers, LED Fixtures or Strips, Connectors, etc.) necessary are obtained beforehand.
2. Ensure that the product is properly installed with the right accessories and guidelines.
3. Ensure that wires or cables are correctly connected to their right ports or terminals.
4. Ensure that the Decoder is placed or mounted in a dry location.
5. Use only one (not multiple) type of DMX in/out connection at a time between Decoder and DMX Console.
6. Ensure that peeled (bare) section of the wires going into Screw Terminals are not extending out of the terminal without the insulation.
7. Ensure that the right parameters are set in order to better see the effects of associated parameters.
8. Connect and test the ProAV DMX512 & RDM with the accessories to ensure everything works before final installation.
9. It is recommended to install the ProAV DMX512 & RDM at an accessible area for easy settings adjustment when needed.
10. The product is backed by a 3-year warranty. Please refer to www.solidapollo.com for more information on warranty coverage.

** Should you have any questions about installation, troubleshooting and other concerns, please don't hesitate to call us at 425.582.7533 and we will be glad to assist you.*