DMX WALL CONTROL RGB · WC–DMX–RGB

DMX512 Animation Controller

DMX512 Automatic Color Control & 3 Channel Dimmer / 8 Scenes

USER MANUAL

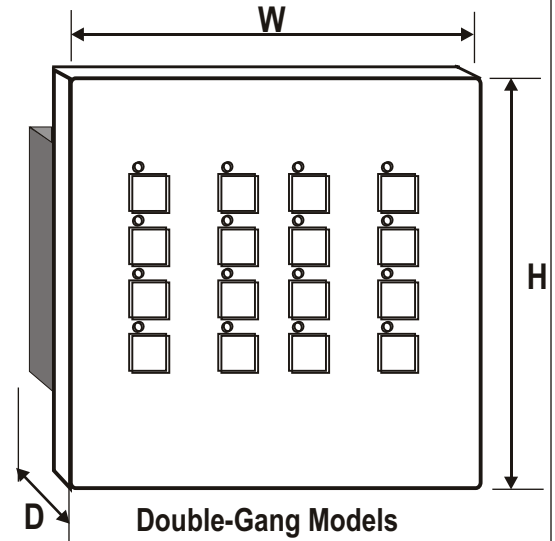**TPR ENTERPRISES, LTD.**
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DMX WALL CONTROL RGB
Maximum Outside Dimensions

MODEL	WIDTH	HEIGHT	DEPTH	GANG
WC-DMX-RGB	**4.600"** **117 mm**	**4.600"** **117 mm**	**1.650"** **042 mm**	**Double**

DEPTH (D) includes circuit board with components

Double-Gang Models

INTRODUCTION

The **DMX Wall Control RGB** is a three-channel 8 scene lighting color control. 3 Individual channel dimming allows the use of Red, Green and Blue primary color sources to create thousands of combinations of colors. This new design employs the latest electronic technology and presents a control panel with a sleek modern look and simple to use controls. Added features include a standard **DMX-512** output. When in dynamic mode, the **DMX Wall Control RGB** creates dazzling light shows from user selected crossfading between user programmable scenes. In static mode, the **DMX Wall Control RGB** acts as a three-circuit dimmer with eight scenes. The **DMX Wall Control RGB** can also work in an ON/OFF between scene sequencing mode. In short, whether your lighting project requires rapid light sequencing or a more subtle cross-fade mixing of colors, the **DMX Wall Control RGB** provides you with a perfect solution. The **DMX-512** compatibility makes the **DMX Wall Control RGB** a perfect and inexpensive solution for retrofit applications by working with existing **DMX-512** dimmers. The **DMX Wall Control RGB** requires a double-gang box.

DMX Wall Control RGB FEATURES

- Economical.
- 3 Channel Logic DMX512
- 8 scene Crossfading Patterns
- Cross-Fade and Chase Modes
- Static 3-Ch. Dimmer with 8 Scenes
- User Programmable Scenes
- Automatic Pattern Change Mode
- Single Pattern Select Mode
- Independently Adjustable Chase Rate
- Independently Adjustable Fade Rate
- Blackout Switch
- Nonvolatile Memory
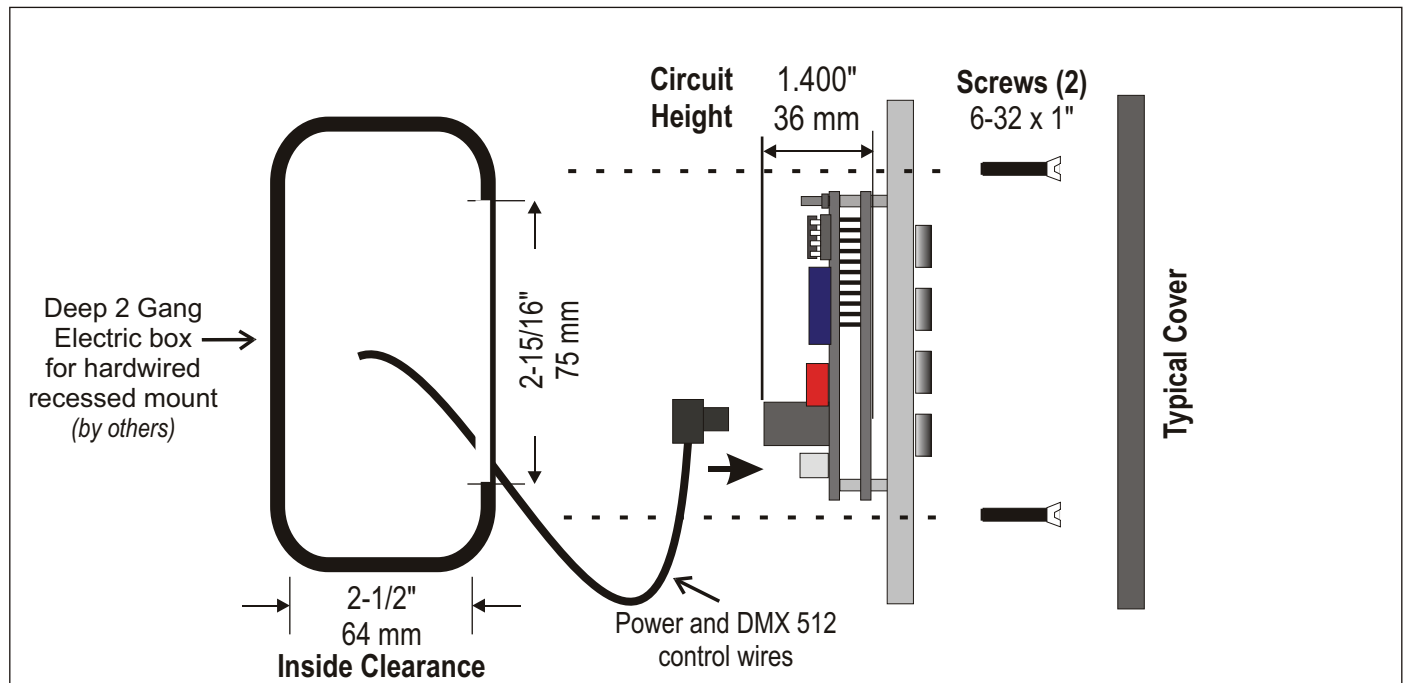- Simple Push Button Operation
- LED Indicators

APPLICATIONS

- Architectural & Decorative Lighting
- Landscape Lighting
- Pond and Fountain Lighting
- Museums and Art Galleries
- Movie Theaters
- Theme Parks
- Point of Sale Displays
- Christmas Displays
- Sign Animation
- Entertainment and Club Lighting

Physical and Electrical Specifications

Back Plate:	Metal Construction
Dimensions:	See Table Above
Voltage range:	8 to12 V; 50 / 60 Hz or VDC
Power:	200 mAmps
Data Output:	RS485 Compliant
Output Drive:	**256 H. Impedance RS485**
Data Format:	Standard DMX-512 Protocol
Data Retention:	10 years, no batteries required
ESD Protection:	15 KV on data input and output
DMX output Port:	Standard RJ45 pins 1 & 2 (XLR5 output available)

The **DMX Wall Control RGB** requires an external dimmer pack with a DMX cable. Any DMX-512 compatible dimmer may be used. TPR Enterprises, Ltd. manufactures high quality low cost DMX-512 dimmer packs.

Circuit Height 1.400" 36 mm Screws (2) 6-32 x 1"

Deep 2 Gang Electric box for hardwired recessed mount *(by others)*

2-15/16" 75 mm

Typical Cover

2-1/2" 64 mm
Inside Clearance

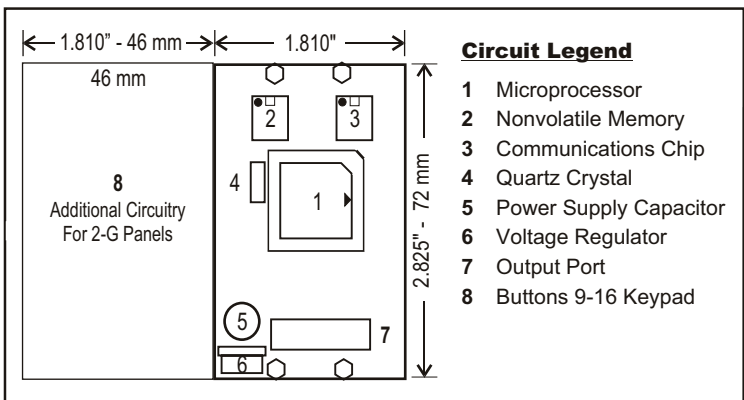Power and DMX 512 control wires

Mounting requirements

- The **DMX Wall Control RGB** mounts in double-gang deep electric box

- Double Gang box must have a minimum depth of 2-1/2" and a minimum inside height of 2-15/16" to allow clearance for printed circuit board. (See above illustration.)

- Use Grounded metal boxes to protect against high static discharge .

Wiring Notes

- All wiring between the DMX Wall Control RGB and dimmerpacks is low voltage (NEMA Class 2) and must be a shielded twisted pair cable.
- Standard industry DMX-512 cables may be used with the DMX Wall Control RGB.
- Do not run DMX cable in the same conduit with non-class 2 circuits.
- The DMX Wall Control RGB must be supplied with an external low voltage power supply.
- Power for the wall control may be on a different power phase from power supplying the DMX-512 dimmer packs or fixtures.
- Installation must conform to local and/or NEC code requirements.

Ordering Information

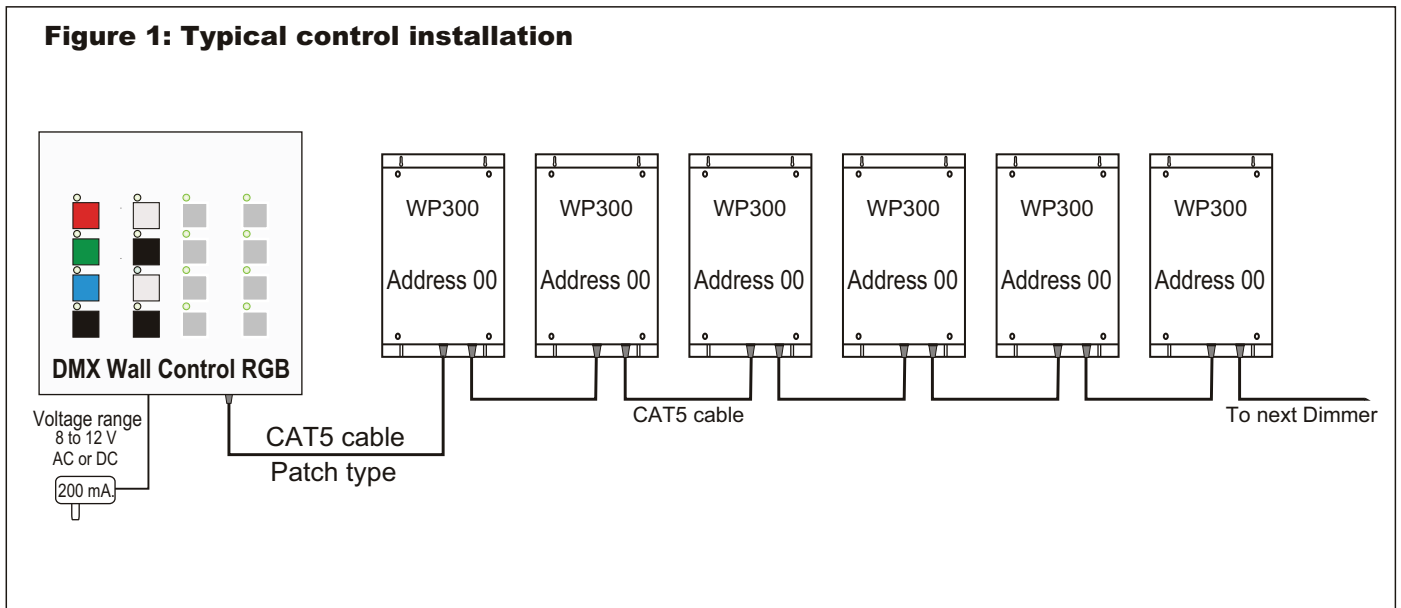**WC-DMX-RGB:** Cross-Fader/Chaser/3-Channel Dimming Controller, 2-Gang size.

1.810" - 46 mm 1.810"

46 mm

8 Additional Circuitry For 2-G Panels

2 3

4

1

5 7

6

2.825" - 72 mm

Circuit Legend

1 Microprocessor
2 Nonvolatile Memory
3 Communications Chip
4 Quartz Crystal
5 Power Supply Capacitor
6 Voltage Regulator
7 Output Port
8 Buttons 9-16 Keypad

A - General Information

The DMX Wall Control RGB controllers use low-power electronic components and do not not directly connect to high voltage supply or electric loads. They are powered by an external low-voltage transformer. The loads connect to a separate DMX-512 compatible dimmer pack(s). The DMX Wall Control RGB controls the outputs of the dimmer pack(s) by sending a series of digital dimming levels over a low voltage cable. Several DMX dimmer packs may be connected to the same control cable in a daisy-chain configuration. The DMX information is received by all dimmers and each pack extracts and uses the portion of the information that is intended for it. This is accomplished by setting each dimmer pack to a different DMX address by way of address selectors. It is possible to have several dimmer packs set to the same address when controlling loads that exceeds the dimmer's output capacity. Loads may be broken into smaller sections and still be controlled as a single load by any particular DMX.

B - DMX Wall Control RGB DMX Output

The information sent by the DMX Wall Control RGB is in accordance with the DMX-512 standard control protocol. The DMX Wall Control RGB sends control information over the first 3 DMX addresses. All remaining addresses, up to 512, are sent a DMX off-level. Figure 2 below shows the various DMX outputs generated by the DMX Wall Control RGB according to the number of channels setting.
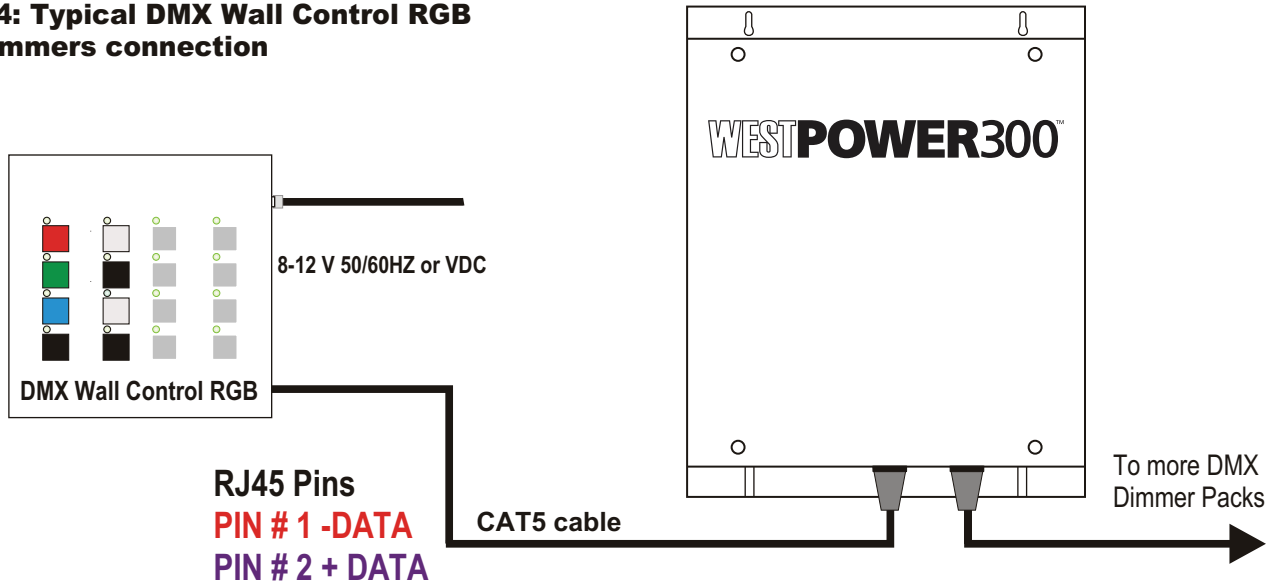
Figure 1: Typical control installation

DMX Wall Control RGB

Voltage range
8 to 12 V
AC or DC

200 mA

CAT5 cable
Patch type

WP300 Address 00 | WP300 Address 00 | WP300 Address 00 | WP300 Address 00 | WP300 Address 00 | WP300 Address 00

CAT5 cable

To next Dimmer

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C - **Installation Instructions** (See Figs. 4 & 5 below).

1. Install the DMX Wall Control RGB in a convenient location. Fig. 4 shows a DMX Wall Control RGB which has a tail for power and DMX.

2. Provide power supply for the DMX Wall Control.

3. Install the DMX dimmer pack and follow the wiring instructions in its user manual.

4. Connect the DMX Wall Control RGB to the Dimmer Pack using a standard Cat5 patch or gross cable. Skip to Operating Instructions.
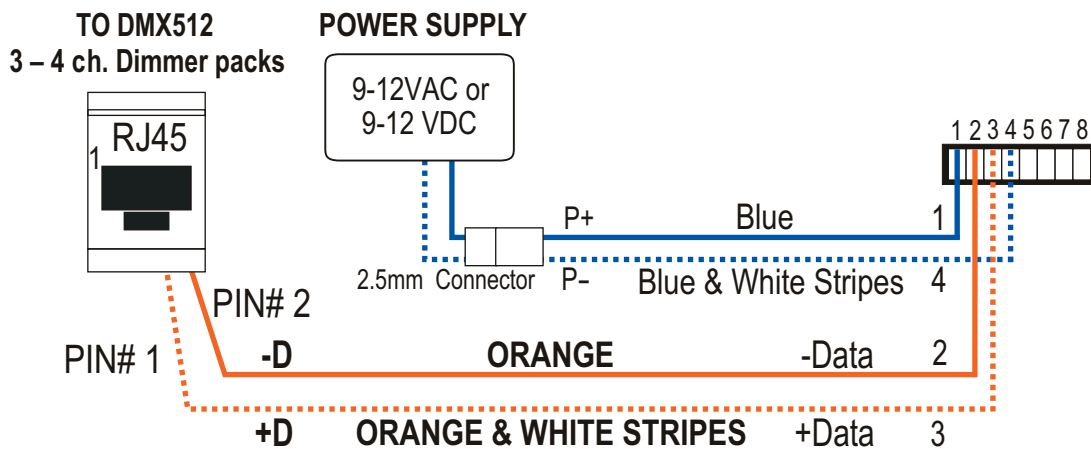
Fig. 4: Typical DMX Wall Control RGB to dimmers connection

8-12 V 50/60HZ or VDC

WESTPOWER300™

DMX Wall Control RGB

RJ45 Pins
PIN # 1 -DATA
PIN # 2 + DATA

CAT5 cable

To more DMX Dimmer Packs

E - **DMX Wall Control RGB DMX and Power Connections**

Use a tail to connect to DMX equipment as seen in Fig. 4.

Power and DMX pin assignments are shown in Fig. 5.

Fig. 5: WC-DMX-RGB Wiring

TO DMX512
3 – 4 ch. Dimmer packs

POWER SUPPLY

9-12VAC or
9-12 VDC

RJ45

1 2 3 4 5 6 7 8

P+   Blue   1

2.5mm Connector   P–   Blue & White Stripes   4

PIN# 2

PIN# 1   **-D**   **ORANGE**   -Data   2

+D   **ORANGE & WHITE STRIPES**   +Data   3

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DMX Wall Control RGB Operating Instructions

I. Introduction

The DMX Wall Control RGB DMX-512 is a 3 Channel (3 primary colors) 8 scenes dimmer controller with programmable scene sequence and cross fade.

The DMX Wall Control RGB has simple to use push-button controlswith LED indicators. Following is a description of the operation of the DMX Wall Control RGB Buttons and the various functions they perform.
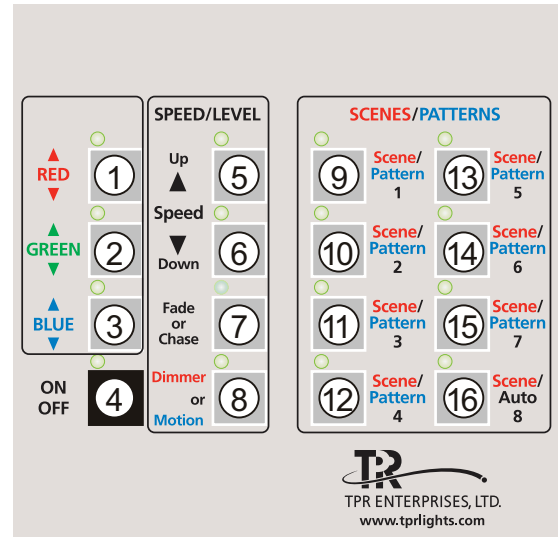
Fig. 6: The DMX Wall Control RGB Front Panel

II. The Control Panel

Buttons # 1, 2, 3 & 5, 6: Dimmers Controls

To activate the individual control functions, the DMX Wall Control RGB should be on Dimmer Mode. Button number 8 should be pressed momentarily and its LED indicator should be ON.
Each of the 1 (RED), 2 (GREEN), 3 (BLUE) channels could be dimmed or brightened by pressing and releasing the corresponding Button. The LED indicator of the pressed Button should come ON. Then to adjust the Level of this channel Push and hold Button 5 to raise or push and hold Button 6 to lower.
The LED indicators of Buttons 5 & 6 will both come ON when the level is between 1 and 99%. The LED of Button 5 will come ON and of Button 6 will come OFF when the maximum 100 % is reached. The LED of Button 6 will come ON and of Button 5 will come OFF when the minimum 0 % is reached.

For step by step Level adjustment push momentarily Button 5 or Button 6 .
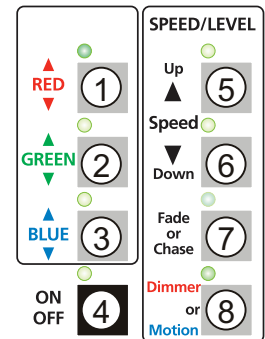For each momentary push the level will change by 1 step out of 256.

Fig. 7: Dimmers controls

Button # 4: All OFF

Pushing Button # 4 will alternate between Turning all three outputs OFF and returning to the previous status of operation.

Buttons # 5 & 6: Fade / Chase rate

Pushing Button # 5 will increase the speed of level change for the dimmers and the Fade between scenes in the action mode.
Pushing Button # 6 will decrease the speed of level change for the dimmers and the Fade between scenes in the action mode.

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Button # 7: Fader / Chaser
Pushing Button # 7 will alternate between Fader mode (slow change between scenes) to Chaser mode (instantaneous Scene ON and scene Off).

Button # 8: Dimmer / Action
Pushing Button # 8 will alternate between The 3 Channel **Static Dimmer** 8 scenes Operation and the **Dynamic Crossfade or Chase** between selectable scenes.

Buttons # 9 through 16: Scenes

The DMX Wall Control RGB has a default lock for the scenes to avoid overwriting by mistake.
To unlock the scenes push the recessed reset Button (between Buttons (1 and 5) under face plate or unplug and replug power.
During the Reset cycle which lasts around 10 seconds while all LEDs on the DMX Wall Control RGB are ON, Push simultaneously Buttons **12 and 16**.
This will unlock the scenes to be programmed.

To program the scene presets the DMX Wall Control RGB should be on Dimmer Mode; Button number 8 should be pressed momentarily
to turn its LED indicator ON.
Pushing anyone of the scene Buttons will recall the corresponding prerecorded scene.
Using the dimmer Buttons (1, 2 or 3) will override the levels if desired.
8 default scenes are preprogrammed in the factory as follows:
1 =RED; # 2=GREEN; # 3=BLUE and the rest of the scene have combination of colors.
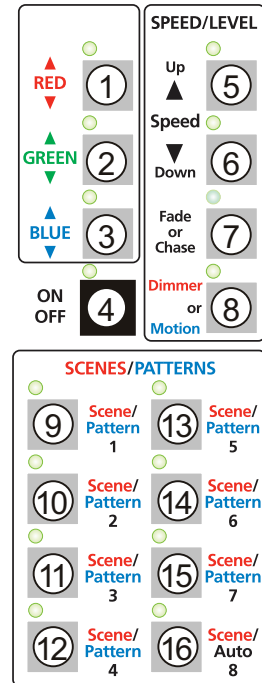
Fig. 8: Scene setup

Programming of the scenes is performed as follows:

Adjust Light levels on the three channels to get the desired Color mix. Press and hold any of the Scenes Buttons (9 to 16) to record the scene.

Repeat till all scenes are programmed.
Reset DMX Wall Control RGB or disconnect power and reconnect to LOCK the scenes.

In the **Motion** mode:
Sequencing (Fade or Chase) between scenes could be selected as follows.

Push Pattern Button # 1 (9)   Runs between Scenes # 1 & 2
Push Pattern Button # 2 (10) Runs between Scenes # 1 , 2 & 3
Push Pattern Button # 3 (11) Runs between Scenes # 1 , 2 , 3 & 4
Push Pattern Button # 4 (12) Runs between Scenes # 1 , 2 , 3 , 4 & 5
Push Pattern Button # 5 (13) Runs between Scenes # 1 , 2 , 3 , 4 , 5 & 6
Push Pattern Button # 6 (14) Runs between Scenes # 1 , 2 , 3 , 4 , 5 , 6 & 7
Push Pattern Button # 7 (15) Runs between Scenes # 1 , 2 , 3 , 4 , 5 , 6 , 7 & 8
Push Pattern Button # 8 (16) Runs a factory programmed auto pattern.