



Octagon
Wireless Controlled LED Effect Lighting Fixture
User's Manual

Introduction

The Octagon is a unique wireless controlled LED fixture. A microprocessor controls the 16 million available colors of each of the 8 individual clusters. Built in special effects are all controlled by the user using a wireless transmitter from 400 feet away. Communication is RF (radio frequency) so line of sight is not required.

The Octagon has two modes of operation. Single Mode (1) and Octal Mode (8). Single Mode the Octagon operates as a conventional ColorMaker fixture with all 8 clusters controlled using a single RGB channel. Single mode also includes our ColorRoll technology. Octal Mode the Octagon requires 10 RGB channels to control the clusters and effects. 8 channels are requires to set the individual RGB levels of each of the clusters and 2 channels for effects. The Octagon incorporates our auto address feature for easy setup. The Octagon is compatible with all ColorMaker transmitters operating on 916 Mhz.

The Octagon operates on 12 volts DC and can be powered in one of three ways. 1) Internal rechargeable battery 2) External wall adapter GL2500. 3) External battery pack one of ColorMakers D12 series batteries.

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Octagon *Overview*

A:	Power / Charge switch
B:	Power / Charge jack
C:	Battery Compartment (2)
D:	Mode switch
E:	Power Saver switch
F:	Indicator lamp
G:	Program switch

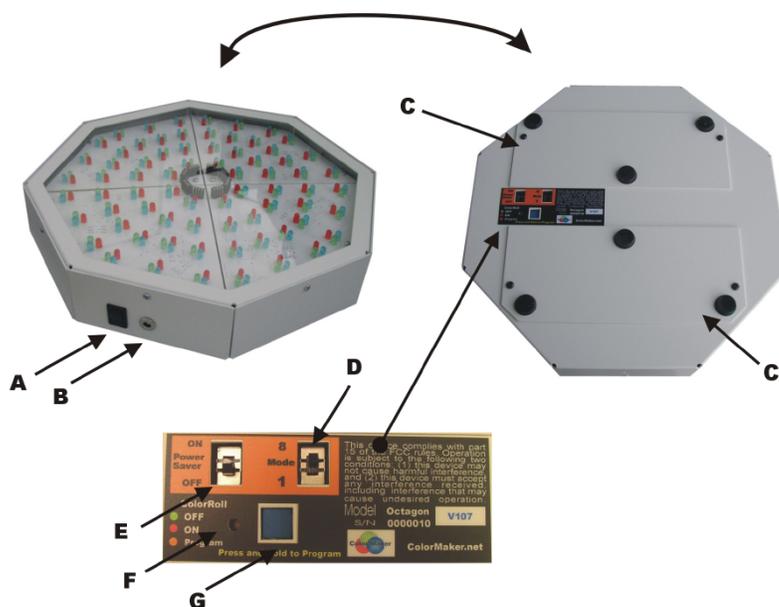


FIGURE 1

Getting Started

The following instructions are explained using the CM-T10-PRO-Enhance remote. Later in this manual CMI-1600 DMX interface will be covered and how to use multiple Octagon on separate addresses. This manual will cover Octal (8) Mode in detail with examples on how to use the effects.

Selecting the Mode

The Mode selector switch (D figure 1) sets the fixture to the operating mode desired. **1 (Single) mode** the fixture will operate as a conventional ColorMaker fixture with all 8 clusters operating using a single RGB channel. **8 (octal) mode** the fixture will be controlled using 10 RGB channels 8 channels for the clusters and 2 additional channels for the effects.

Power up the Octagon

To turn on the Octagon flip the Power switch up.

Auto Addressing

The Octagon has an auto address feature. This feature automatically set the fixture control address by sending a command from the remote. When the Fixture is operating in Octal mode then all 10 channel on the remote will be used for a single Octagon so be sure to set the Network address on the CM-T10-PRO-Enhanced before programming fixture address. To set the address press and hold the Program button on the Octagon until the indicator light turns yellow then release the button. Using the CM-T10-PRO-Enhanced remote press Red UP button on the remote. The indicator will turn green identifying the fixture has received the new address.

Reset ColorRoll

Once the fixtures address has been set the you will need to reset the ColorRoll option. This is also set using the Program button. The ColorRoll can be toggled on and off by momentary press and release of the program button. Be sure not to press and hold or the fixture will enable auto program mode. ColorRoll is OFF when indicator light is green and ON when indicator light is red.

Controls

The following instructions are for Octal Mode only

Table below list the function of each channel and the functions of the RED, GREEN and BLUE dimmer buttons.

Q Select	RED UP/DN	GREEN UP/DN	BLUE UP/DN
Q1	Cluster 1 RED	Cluster 1 GREEN	Cluster 1 BLUE
Q2	Cluster 2 RED	Cluster 2 GREEN	Cluster 2 BLUE
Q3	Cluster 3 RED	Cluster 3 GREEN	Cluster 3 BLUE
Q4	Cluster 4 RED	Cluster 4 GREEN	Cluster 4 BLUE
Q5	Cluster 5 RED	Cluster 5 GREEN	Cluster 5 BLUE
Q6	Cluster 6 RED	Cluster 6 GREEN	Cluster 6 BLUE
Q7	Cluster 7 RED	Cluster 7 GREEN	Cluster 7 BLUE
Q8	Cluster 8 RED	Cluster 8 GREEN	Cluster 8 BLUE
Q9	Fade Time	Follow Time	Reserved for future use
Q10	Fade or Flash	Pattern	Pattern Direction

Effects Definitions

Fade Time: The Time the scene takes to fade from scene to scene.

Follow Time: The time between scenes.

Fade or Flash: Sets the Octagon to fade or flash.

Pattren: Sets one of 8 preset patterns.

Pattern Direction: Sets the pattern direction (Foward or Reverse)

Effects

The Octagon effects are controlled using 2 channel buttons and the RGB setting of each channel. Each of the effects have a value from 0 to 100 as displayed on the CM-T10-PRO-Enhanced display. We will cover each of the effects and the how the value will affect the Octagon. For any effects to appear we must first set the 8 clusters. For this example we will set clusters 1 through 7 to RED and Cluster 8 to BLUE.

Step 1: Press Q1 and RED UP until the display read 100. Cluster 1 on the Octagon should be on.

Step 2: Repeat step 1 for Q2 through Q7.

Step 3: Press Q8 and press BLUE UP until display read 100.

The Octagon should now have 1 BLUE cluster and the other 7 should be RED.

To activate the effects the Fade Time (Q10 RED) must be greater than 0.

Note: Fade time values are reversed from our ColorRoll Technology. 0 is OFF, 1 is Slow and 100 is Fast.

Activate the effects by pressing the RED UP button. For this example we will set it to 100 so press the RED UP button until the display reads 100 then do the same for the Follow Time by pressing GREEN UP until the display reads 100. The Octagon should now be RED with a BLUE Cluster circling.

Continue.....

Below are two charts for the Fade Time and Follow Time values.

Fade Time Value chart

Value	Function	Calculated Time
0	OFF	Fade Time OFF - Effects Disabled
1-50	Low Speed rate	Full Color fade time 3 minutes - 1 minute
51-100	High Speed Rate	Full Color fade time 1 minutes - 3 seconds

Follow Time Chart

Value	Function	Calculated Time
0-50	Follow Time Long	Follow Time 1 minute- 30 seconds
51-99	Follow Time Short	Follow Time 30 seconds - 1 second
100	OFF	Follow Time OFF

Play with the RED (Fade Time) and GREEN (Follow Time) dimmer values and see how they affect the speed of the of the circling GREEN Cluster. The disable the effects set the RED (Fade Time) to 0.

The Octagon Q9 BLUE channel 9 is not used and reserved for future use.

Fade or Flash (Q10 RED)

The Octagon can be set to fade or flash by adjusting Q10 RED dimmer. This is an easy adjustment dimmer levels 0 to 49 set the Octagon to Fade setting the dimmer from 50 to 100 disables the Fade and set the Octagon to flash through the selected colors. When Flash is enabled the Follow Time value is disabled.

Try it. Your Octagon should still be circling a GREEN cluster. Press Q10 and Press the RED UP button until the display reads 100 or any value above 49. **Wow thats fast....** Press Q9 then press RED DN button to slow the speed of the Octagon. Play with the Fade Time (Q9 RED) value and see how it affects the speed of the circling GREEN cluster.

Pattern Direction (Forward or Reverse)

Here is a another easy one. Q10 BLUE will adjust the direction of the pattern Forward or Reverse. 0 to 49 sets the direction to Forward and 50 to 100 set the direction to Reverse. Go ahead and just give it a whirl.... no pun intended.

Pattern (Q10 GREEN)

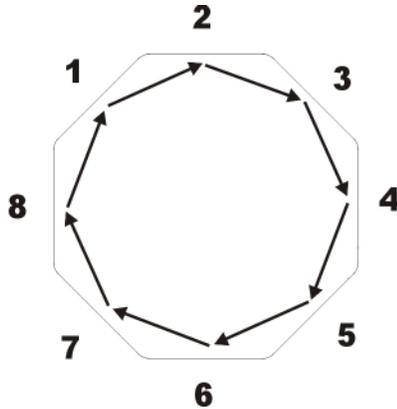
This adjustment set the Octagon to run 1 of 5 preset patterns. All the example effects we have been reviewing have been pattern 1 which is a simple circular pattern. Pattern 2 through 5 are a collection of patterns when used with multiple colored clusters along with fade time and follow time values will create some cool effects. Pattern table list the pattern and the dimmer level for each pattern

Pattern Number	Dimmer Level
1	0 to 20
2	21-40
3	41-60
4	61-80
5	81-100

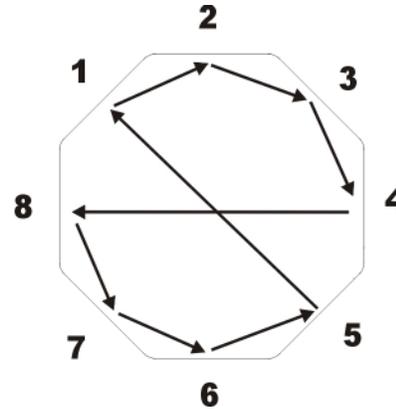
Patterns

When patterns are activated all 8 clusters sequence to the selected pattern. Each pattern has 8 steps which continuously loop until the pattern is changed or the effects are disabled. Below is a diagram of all 5 patterns and the chase sequence each will use. The Q10 (BLUE) Forward or Reverse effects will change the sequence direction.

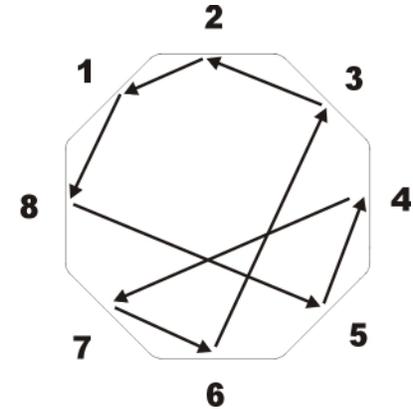
Pattern 1



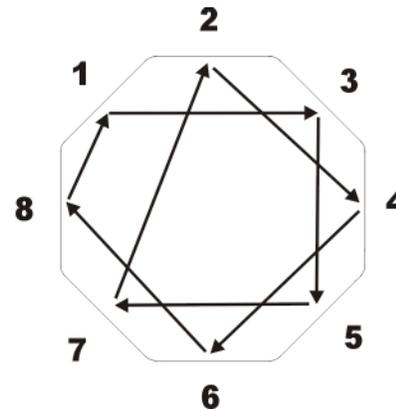
Pattern 2



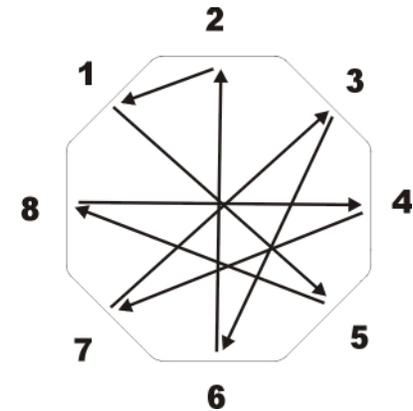
Pattern 3



Pattern 4



Pattern 5



Editing Cluster Colors

LED cluster colors can be changed while a pattern is running. The sequence of the cluster are shifted as the pattern shifts through all 8 steps of the pattern so cluster controlled by Q1 at startup may not be the same cluster after a pattern has been activated.

When the Octagon effects are disabled by bringing FadeTime value to 0 the cluster sequence will not be reset until a Blackout command is received from the remote. This will probably never be an issue but I thought I should mention it any way.

This concludes the lesson on Octagon Effects.

Using the Scene Control on the CM-T10-PRO-Enhanced

The CM-T10-PRO-Enhanced can control up to 9 Octagon fixtures. This will require the use of all 9 network addresses. Using the Scene record and play functions on the CM-T10-PRO-E the Octagon colors and effects can be recorded for easy playback. Its recommended to set the CM-T10-PRO-E Fade control to OFF (Shift + ColorRoll 1) when playing back a Octagon setting.

Single Mode (1)

The Following lesson will cover the ColorRoll feature. For this lesson you will need to switch the Octagon to Single (1) mode and enable the ColorRoll option. The indicator light should be red. If not press and release the program button to switch the ColorRoll ON.

Introducing

ColorRoll™ Technology by ColorMaker Inc.

What is ColorRoll ?

ColorRoll is a technology developed by ColorMaker Inc. to operate on the ColorMaker line of wireless LED fixtures. When activated a collection of colors are transmitted to the fixture by a remote. Once the fixture receives the packet of data which takes less than 1 second the fixture will start rolling through the colors fading from one color to the next with flicker free transition. This is an endless loop when the last color is reached the process starts over to the first color. Once the ColorRoll has started the Fade Time from color to color can be controlled from 15 seconds to 5 minutes for each color. The fixture will operate completely independent of the transmitter until it receives a signal to terminate. Custom colors are programmed and saved in the remote. There are 3 buttons marked ColorRoll 1, ColorRoll 2 and ColorRoll 3 which are used for the ColorRoll feature.

How many Colors are there?

If we do the math there are 16 million colors. there are 255 levels for each color with 3 Colors. which totals $255 \times 255 \times 255 = 16,000,000$

Where do I get the colors for a ColorRoll ?

Creating a ColorRoll is the same as creating a scene with a few minor adjustments. When a scene is created using all 10 fixtures Q1 through Q10 this represents the 10 colors in a ColorRoll. The color setting for Q1 will be the first color in the ColorRoll and Q10 will be the last color in the ColorRoll. If you don't have 10 fixtures then you can use the digital display to set the RGB values. The remote does not know if you are using fixtures.

How to create a ColorRoll using 10 colors

- 1) The first step is to choose the first color in the ColorRoll by selecting Q1 and then set the color. Do this through Q10.*
- 2) With all 10 colors set press and release the REC key in the yellow Scene Control box. The display will read REC.*
- 3) Now select where you want to store the ColorRoll pattern. Your options are ColorRoll 1, ColorRoll 2 or ColorRoll 3.*
- 4) Once you have made your selection the display will return to the last selected fixture and the ColorRoll has been saved.*

And you thought it was going to be difficult! Well we're not done yet.

Lets do a ColorRoll with only 3 colors, Red, Green and Blue.

- 1) The first step is to choose the first color in the ColorRoll by selecting Q1 and then set the color. Do this through Q3 since we only want 3 colors.*

This is the confusing part so stay focused.

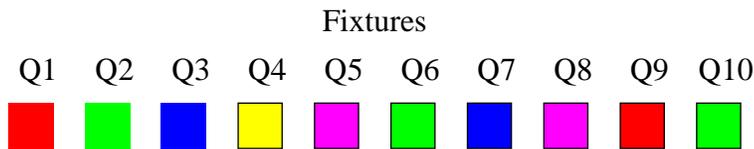
The ColorRoll knows you have 3 colors Red, Green and Blue. But it does not know whether you intended the 4th color which is OFF to be part of the ColorRoll pattern. Well it's been programmed to assume Yes its part of the pattern. So now your ColorRoll looks like Red, Green, Blue and OFF. So if you played this ColorRoll pattern back it will look like a dead spot in your program.

Stay Focused ...

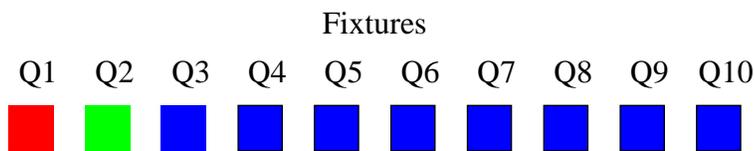
How do I remove the dead spot in my ColorRoll ?

We need to tell the remote that the 4th color which is OFF is not part of the pattern. The way we do this is to make the colors not in the pattern the same as the last color in the pattern. The last color in the pattern is Blue so we would set Q4 to blue, Q5 to blue, Q6 through Q10 to Blue. Now when the ColorRoll runs it will see Red, Green then Blue when it gets to the 4th color its still blue so it checks colors 5,6,7,8,9 and 10. Until a new color is used the ColorRoll will not change so our results will be Red, Green and Blue then repeats.

Example 1: ColorRoll setting that starts with Red then fades through all 10 colors then repeats.



Example 2: ColorRoll process that starts with Red the fades to Green then fades to Blue then repeats.



If you can master the ColorRoll programming then its all down hill from here.

Starting a ColorRoll

Starting a ColorRoll is done a little different that starting a scene. With ColorRoll the Play button is not use just select a fixture Q1 through Q10 then select a ColorRoll pattern ColorRoll button 1, 2 or 3. If a ColorRoll program was recorded then it will start. Select another fixture and then another ColorRoll or use the same ColorRoll. Shift + Q10 works well with ColorRoll to send a Patterns to all fixtures with one button.

Since the ColorRoll is running independant of the remote some fixtures may roll slightly faster which after time will cause them to roll unevenly. Choose from one of our other ColorMaker line of transmitters with continious signal control if tracking is needed.

Controlling the ColorRoll

The ColorRoll patterns can be controlled on how fast the colors fade and weather they fade or Flash. Fade rates can be set from 3 seconds to 5 minutes.

**Remeber fade rates are perportional to dimmer values*

ColorRoll fade rate keys are shared with the Red and Green UP and Down keys. Marked with Roll Rate. Rate keys are only active after a ColorRoll patterns has been sent to the fixture.

ColorRoll Fade Rate setting

There are two fade rate settings. Rate and Rate Multiplier. Fade rate keys are shared with the Red and Green UP and Down keys. Marked with Roll Rate. Rate keys are only active after a ColorRoll patterns has been sent to the fixture. These two values are controlled by Red and Green UP and DN keys. The Red UP and DN keys controls the Rate Value the Green UP and DN keys controls the Rate Value Multiplier.

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Adjusting the ColorRoll Fade Rate

Example:

- 1) Start a ColorRoll by selecting a fixture, Q1 will be fine.
 - 2) Press a ColorRoll button which has been previously programmed.
 - 3) After pressing a ColorRoll button the Red and Green UP and DN dimmer keys become Rate Keys.
 - 4) Press the Red DN button and bring the Rate to 0 if not already indicated by the display. Do the same for Green.
- The ColorRoll is now running at full speed roughly 3 seconds per color.

To increase the fade rate (make it fade slower) Press the Red UP key which will increase the fade. Bring it up to about 50%. There will be a noticeable decrease in the roll rate. By increasing Rate Value Multiplier which is the Green UP and DN keys it will make the fade rate even slower. It probably will not be noticeable but over a period of 3 to 4 minutes you will notice a change.

Fade Rate Values Saved to Memory

Each of the ColorRoll buttons stores its own fade rate and fade rate multiplier values so fast and slow ColorRoll patterns can be programmed. The rate values are saved each time they are changed. When a ColorRoll button is reprogrammed the Fade Rate Value and the Fade Rate Multiplier Value of the previous ColorRoll will be used until it is changed.

Need a Disco Look ? ColorMaker can do it.

Along with Fade Rate there is also a control to make the LED fixture FLASH through the ColorRoll pattern. After a ColorRoll button is pressed the Blue UP and DN keys become Flash Control buttons. By bringing the Value above 50% it turns off the fade control and colors flash through the ColorRoll patterns. The flash rate can be controlled by Fade Rate and Fade Rate Multiplier. Flash value is also stored when changed.

Octagon Power supply

The Octagon can be powered from 3 sources.

- 1) Internal batteries
- 2) External Wall supply (GL2500) for 110 volt operation
- 3) External battery pack (ColorMaker D12 series battery pack).

The Octagon is set at factory to be used with internal rechargeable batteries but can be changed by adjusting the power switch inside the Octagon battery compartment. The Octagon holds two 2.5 Ah rechargeable batteries capable of running the Octagon at full intensity for 5 hours or 10 hours in power saver mode.

Power Saver Mode

Power saver mode reduces the fixtures light output by 30%. This reduced power consumption will provide the user with longer run times. Power saver mode can be turned on and off depending on the application by adjusting Power Saver switch (See figure 1)

Charging batteries

ColorMaker offers several styles of battery chargers to charge the Octagon. Charger connected the 2.5mm power jack located next to the power switch. The power switch must be in the OFF/Charge position for the batteries to charge.

External Power source

Users may want to use an external power source such as 110 Volt wall adapter (GL2500) or one of our D12 series batteries for longer runtimes. Inside battery compartment there is a power select switch to switch the Octagon power supply from internal to external. The switch is located under the main circuit board just behind the battery. By switching to external the internal batteries are disconnected and may be removed. Batteries are removed by removing battery from compartment then disconnecting from connector located on the circuit board. Remove battery and wire harness.

Figure 2 shows the Octagon with battery removed. Selector switch is located just below the circuit board. Adjust switch to right side for external power source and left for internal battery use.

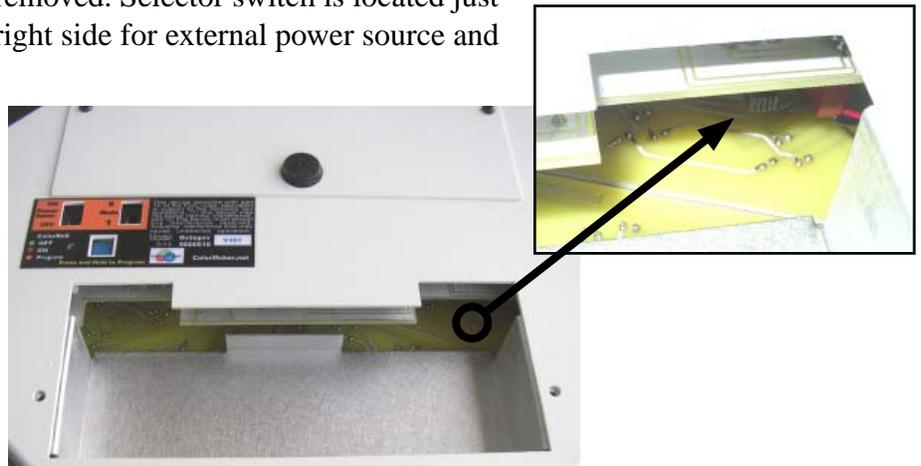


Figure 2

Warranty

ColorMaker Inc. hereby warrants, to the original purchaser, ColorMaker Inc. products to be free of manufacturing defects in materials and workmanship for a period of (90 days) from the date of purchase. This warranty shall be valid only if product is purchased within the United States of America. It is the owners responsibility to establish the date and place of purchase by accepting evidence, at the time service is sought.

For warranty service, send the product to the ColorMaker Inc. factory. All shipping charges must be prepaid. Equipment must be sent in its original package and to include all control devices.

Warrant is void if serial number has been altered or removed, seals have been voided, if the product is modified in any manner which ColorMaker Inc. concludes, after inspection, affects the reliability of the product; if the product has been repaired or services by anyone other than ColorMaker Inc. unless prior written authorization was issued to purchaser.

ColorMaker Inc. reserves the right to make any changes in the designs and/or improvements upon its products without any obligation to include these changes in any products theretofore manufacture.

Factory location:
ColorMaker Inc.
970 Sunshine Lane Suite E
Altamonte Florida 32714
(407) 862-3363



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