Christmas on Manor

Rainbow Wall Runner User Manual

RWR100

24 LED RGB Thin Floodlight

Introduction

Congratulations on your purchase of Rainbow Wall Runner. The kit contains all the parts necessary to construct a fully functional Rainbow Wall Runner. Each Rainbow Wall Runner, used in conjunction with an LOR of d-Light DC controller, has the ability to create 16.2 million different colors. This user manual will give you all the information needed control the Rainbow Wall Runners.

Please take the time to read the following sections of this manual. Enclosed in this document is information regarding the control of each Rainbow Wall Runner. Be sure to fully understand all the information provided in this manual before powering any Rainbow Wall Runner units. Failure to understand the information provided here could render your unit useless.

***Disclaimer!** This device uses potentially deadly voltages in operation. If you do not feel it is within your ability to work with these voltages please stop and get assistance, or purchase a ready built, commercial product of the same type. This unit was designed for personal use **ONLY**, as a means of education and should be used for demonstration purposes only. **IT HAS NOT BEEN RATED, TESTED OR APPROVED FOR USE IN COMMERCIAL ENVIRONMENTS** and as such is forbidden by the designer. Improper use of this equipment could be hazardous to life and property and the suitability of use is your responsibility. I assume no responsibility in the use or operation of this equipment or for the accuracy of any information made on part of myself. I make no warranties; written or otherwise to it. It should be considered an experimental device with possible unknown characteristics.

In the Box

When you receive your Rainbow Wall Runner the package should contain the following:

- Circuit Board
- Component parts
- Assembly Manual
- User Manual

The following is an optional component that you may have purchased with your unit.

- LED's

The most recent copy of both the Assembly Manual and User Manual can be found at www.christmasonmanor.com. Click on the *Suppor*t page and locate the product you are working on.

Applications

The Rainbow Wall Runner's have countless applications in the real world. Only your imagination will limit the uses of this product. There are different ways of powering these units and adding computer controlled hardware and software will only expand the possible applications. The Rainbow Wall Runner runs on 12 volt, low voltage power. When used in conjunction with DC powered, computer controlled hardware you will have complete color control of the lights. Examples of use are:

- Hanging under the eaves of your house
- Up lighting a particular element of your display
- Under cabinet lighting

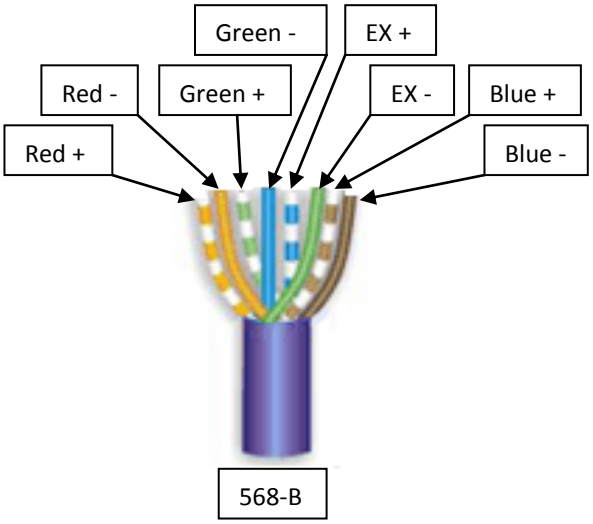
The remainder of this manual assumes you have fully assembled your Rainbow Wall Runner unit. If you have not done so, please fully assemble your unit as per the instructions in the Assembly Manual.

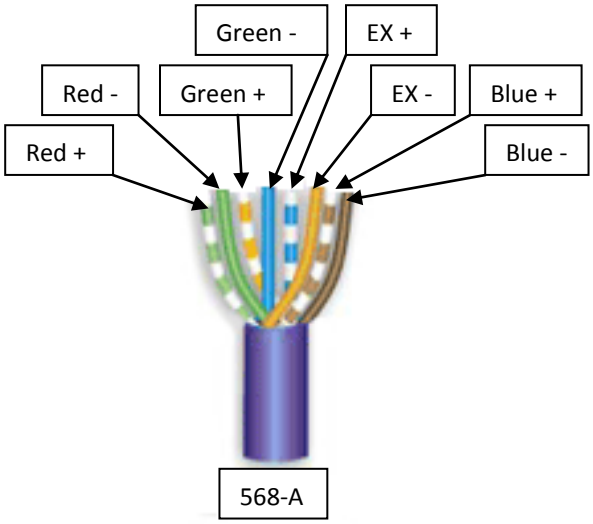
Understanding Rainbow Wall Runner

Each Rainbow Wall Runner is a fully functional lighting unit with the ability of broadcasting light across a 3 foot wide surface. It will only operate on 12 volts DC and powering it with any other voltage may render the unit useless. Connection between units is made with any standard Cat-5 cable. It is important to understand that these units are NOT waterproof and some sort of protection needs to be given to each light. (More information on that later) It is also important to understand that without the use of a DC control board, these lights will only light in one particular color; usually white. Independent control of each color is needed to produce all the available colors of the spectrum.

Power Connections

Power is supplied to the unit via a Cat-5 cable. Each pair of wires in the cable controls a different color of light. The unit was designed with the Cat-5 wiring, 568-B Standard. 568-A Standard wiring will also work, but be sure to follow the wiring considerations listed below. Also be aware that each board has the ability of carrying an additional voltage of 12volts @<500mA. That connection is there in order to help provide you with a way of easily getting power from one side to the other. This is done via the third pair of wires in the cable. In the event that you do not need this, simply do not add power to those two wires.





Orange Strip / Orange Solid > Red
Green Strip / Blue Solid > Green
Blue Strip / Green Solid > Extra – 12v @ <500mA
Brown Strip / Brown Solid > Blue

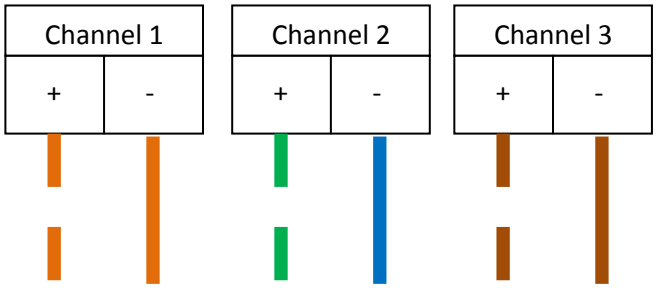
Green Strip / Green Solid > Red
Orange Strip / Blue Solid > Green
Blue Strip / Orange Solid > Extra – 12v @ <500mA
Brown Strip / Brown Solid > Blue

It is very important to stay consistent in the wiring standard you choose. If you purchased a Cat-5 cable from Christmas on Manor (part# CAT22) the wiring is done in the 568-B Standard. Most Cat-5 cables on the market today are wired in the 568-B Standard, but not all. Be sure to understand which cable you are using.

Initial Power

Getting power to the first Rainbow Wall Runner is not a difficult thing to do. There are several options you can use to get power to the lights, but this manual will explain the simplest one.

Be sure to consult the chart on the page prior to this one to understand which wire goes where. This wiring diagram uses the 568-B Standard for demonstration purposes. If you are using the 568-A Standard, be sure to adjust your initial wiring. This diagram also assumes you are not using the extra power line available on the board.



Follow these steps to attach the wires to the controller:

1. Begin by cutting off one end and peel back the plastic lining.
    a. Note: There could be fiberglass insulation inside. Remove the insulation.
2. Strip the following wires:
    a. Orange Strip
    b. Orange
    c. Green Strip
    d. Blue
    e. Brown Strip
    f. Brown
3. The three stripped wires get attached to the positive terminals. The three solid wires get attached to the negative terminals
4. Plug the other end into the first Rainbow Wall Runner's "In" jack

If you are planning on using the fourth pair of wires, that can be connected to an external power supply or a fourth channel. The line can handle any voltage up to 12 volts and any amperage up to 500mA.

Waterproofing

Each Rainbow Wall Runner is not waterproof. If you plan on using the lights as a flood light, two units fit perfectly into a four foot section of clear, 1 ½" plastic tubing. We highly recommend using a fluorescent

tube protector that can be found in the lighting section of any Lowe's or Home Depot. These tubes are extremely inexpensive and the end caps have holes which allow you to slip the Cat-5 cable connectors in and out as well as allow any heat to escape.

Each tube can hold two Rainbow Wall Runners with a 22 inch space in-between. This will give you the ability to light a section of wall up to 7 feet wide.

Additional Power Options

In the event you do not want the ability to change the colors of the Rainbow Wall Runner, you can use a 12volt transformer like the one pictured. With this, you will only be able to produce one color light. Wiring will depend on what color you want to produce. If you want to produce Red, only wire the Orange Strip and Orange Solid wires. If you want to produce Green, only wire the Green Strip and Blue Solid wires. If you want to produce Blue, only wire the Brown Strip and Brown Solid wires. If you want to produce white, wire Orange Strip, Green Strip and Brown Strip together to the positive wire. Then wire Orange Solid, Blue Solid and Brown Solid together to the negative terminal.

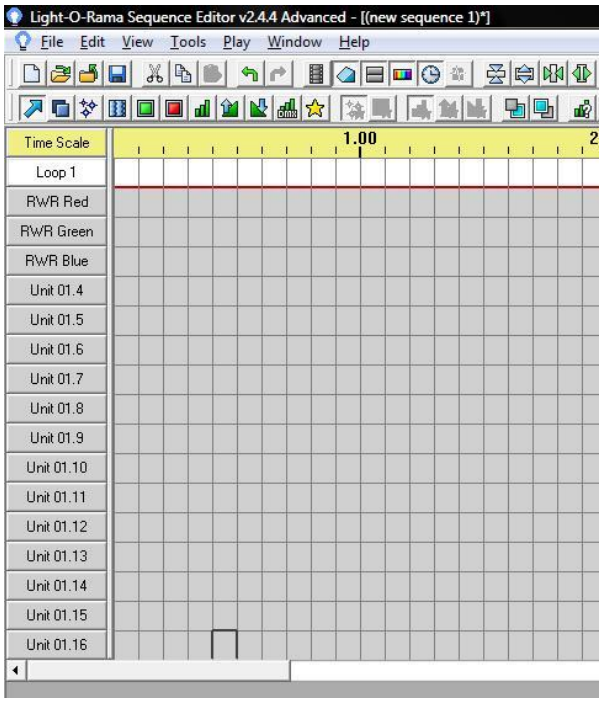
Light-O-Rama, d-Light or other DC controller wiring

Light-O-Rama sells a 16 channel DC controller (CMB16D). This unit is perfect for operating the Rainbow Wall Runners. Be sure to understand the amount of Rainbow Wall Runners you are installing per channel. Over loading a single channel or bank of channels will harm the controller. A maximum of 4 amps with no heat sinks and 8 amps with heat sinks is the maximum amount of power controlled by each channel.

d-Light also sells a 16 channel DC controller (DCx16). This unit is also perfect for operating Rainbow Wall Runners. Like with the LOR controller, it is important to understand the power load going onto each channel. According to d-Light's manual, each channel can handle up to 15amps, with each bank of channels handling 15amps.

There are many other controller types on the market today. They certainly have the ability to control these lights. Just remember that the Rainbow Wall Runners needs to run on 12 volts DC. If you have questions, it is best to contact your controller designer directly.

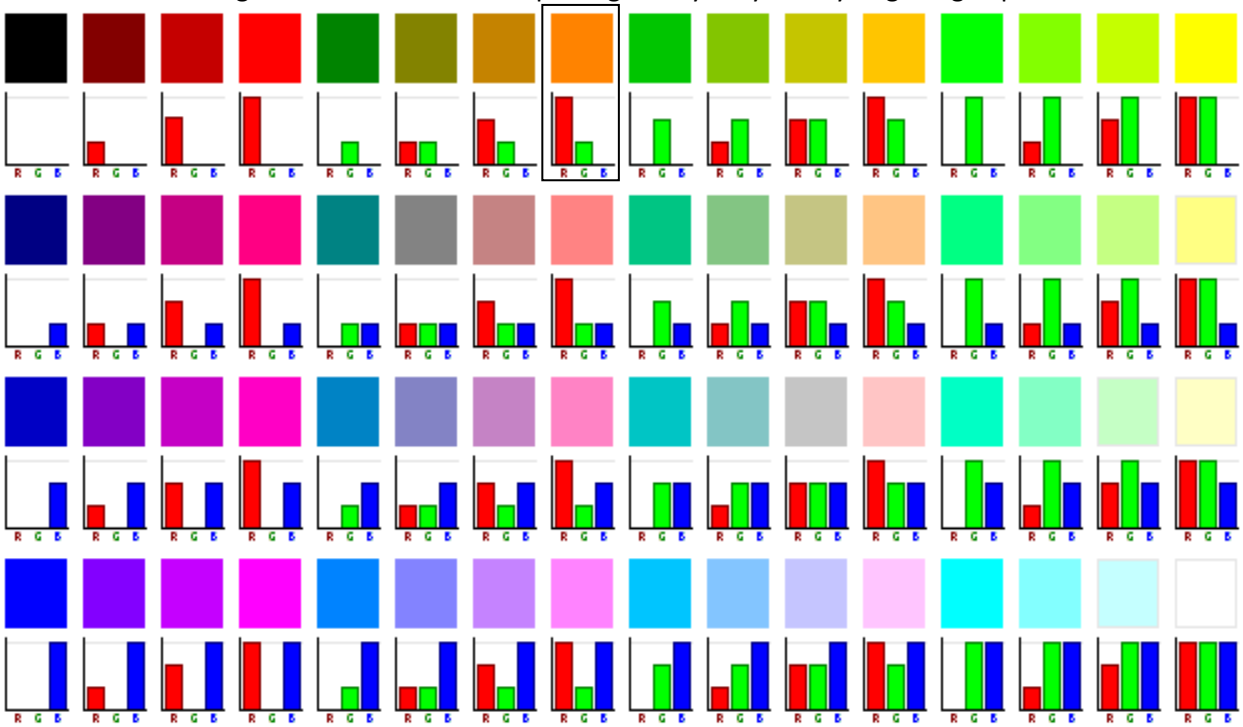
Sequencing



Sequencing these units is not difficult, however there are several setup steps that need to be taken before you can begin. All the DC controllers on the market today are of a 16 channel design. To begin, open up whatever Sequence Editor you are using and create a 16 channel sequence. Three channels need to be created; one for Red, one for Green and one for Blue. It is also important to note the controller unit ID and the channels each color is powered by. The sequence setup should look like the picture to the right.

The Rainbow Wall Runner can produce different colors by varying the intensities of each channel. If you want red, the red channel should be put on 100%. If you want white, the red, green and blue channels should be put on 100%. If you want teal, the green and blue channels should be put on 100%.

The chart below should help give you an idea of how to achieve certain colors. Understand that the bar graphs are in incremints of 3 or thirds. In order to achieve orange (outline with the box) you would put red on at 100% and green on at 33%. The sequecing is very easy once you get a grasp of intensities.



Most sequencing programs, other than LOR S2, have an RGB tool. Follow the manufacturer's directions for setup.

You're Done!

That's it. You have completed the installation and sequencing of the Rainbow Wall Runners. Now just sit back and enjoy the light show!

Troubleshooting

If you are having a problem, check out the *Support* page on www.christmasonmanor.com. There you will find a list of common problems that should be able to help you along. In the event that doesn't answer your question, do not hesitate to send an email to support@christmasonmanor.com