RGB LED Controller (Remote Control-10 Zones)  
and RGB LED Controller (Receiver)  

Part numbers: RGB10-Remote  
RGB10-Receiver  

The RGB10 is an easy-to-use controller for 4-wire Red-Green-Blue 12 or 24 volt DC LED strips or other LEDs. The remote control has a touch sensitive color wheel with thirty steps allowing you to instantly set your lights to the desired color. The remote also has 10 different zones that can be controlled separately or simultaneously in any combination, with multiple receivers allowed in each zone. The remote can create and store custom color sequences. You can choose whether to fade or step through the color cycle and adjust the speed and brightness. The RF remote control has a range of about 500 feet and works through walls. There is a USB port to charge the internal battery.

You can use our universal power supplies (drivers) on 100-240 Volts AC, 50 or 60 Hz, to generate 12 or 24 volts DC to operate the controller just about anywhere in the world.

The receiver is rated at 5 amps per channel which is 180 watts per receiver at 12 volts or 360 watts per receiver at 24 volts. Our regular density RGB LED strip uses up to 30 watts per 5 meter reel and the double density RGB LED strip uses up to 50 watts per 5 meter reel. Therefore, you can control 6 reels of regular density RGB LED strip or 3.6 reels of double density LED strip at 12 volts.
Features

- Compact 5.0” x 2.2” x 0.6” remote control has 19 buttons, touch wheel, and rechargeable internal battery. Uses common cell phone battery, rechargeable 1,000 times.
- Touch the color wheel to instantly choose a color for your lights.
- Store up to 10 custom color sequences and cycle through them with fade, step, or mix mode.
- Map receiver to a zone and control 10 different zones separately or together.
- Radio frequency remote control works through walls with range about 50 feet.
- Speed control buttons on remote control.
- Brightness control buttons on remote control.
- 3 signal outputs: Red, Green, Blue + Common anode (DC +12 or 24).
- 12 or 24 Volt DC input is required. Use a high quality regulated driver.
- Power off memory function.
- 5 to 113 °F operating temperature range.
- 1 year manufacturer warranty.

Applications

- Restaurants, bars, clubs, homes and entertainment centers.
- One example would be a home installation with different zones or rooms. Each room could have multiple receivers set to the same zone so that zone 1 is the kitchen, zone 2 is the hallway, zone 3 is the bedroom, etc. With the remote control, you would first press the zone number(s) you want to control and then the desired color.
Detailed Wiring Instructions

EnvironmentalLights.com provides detailed wiring instructions for our LED linear lighting (flex strips, superflat rope, modules and rigid strips.) In addition, we provide the design criteria charts that tell you how many feet, LEDs, modules, reels or other units you can put on a) each branch and b) each drive unit. A drive unit can be a controller, decoder or amp. This document is LED Color-Mixing Linear Lighting Manual. Please be sure to check this document for relevant information for your installation. This controller is fairly easy to wire. For larger installations, you need to follow our basic guidelines to get the outstanding results you seek.

Power input may be connected to the left side (above) or the right side (below).
Operation

Use 12 VDC or 24 VDC, depending on your lights. Receiver accepts either, and generates the voltage you apply at the outputs.

Remote Control

The power button will wake up the remote and light controllers will resume the mode they were previously running. The remote control is awake when the red light is on. It will go to sleep after 15 seconds of inactivity and you must wake it with the power button to issue another command.

The numbered buttons at the bottom represent zones. Once the remote is awake, select the zone(s) you want to control by pressing the corresponding number(s). You may press 1, 2, and 3, to send commands to those three zones together. Note: If you are creating a custom sequence with the S button, they act as slots to store color sequences.

In order to run a color sequence

1. Wake up the remote control.
2. Press the zone number.
3. Press and hold the S button.
4. Touch multiple colors in sequence.
5. Release the S button.
6. Press the zone number again.
7. Press M1 to fade, M2 to step, or M3 to mix.

To change the brightness, choose the zone and press the increase or decrease brightness button.

To change the speed of the color cycle, choose the zone and press the left or right arrow button.
Receiver Units

First remove the terminal block cover and connect the RGB LED strip to the red, green, blue, and common output channels. Then connect the power source to one of the input terminal blocks (there is input on both sides, only use one). After everything is connected for the first time you must assign it a zone number.

1. Wake up the remote control.
2. Press in the black button on the receiver and the red light will come on.
3. Press and hold a zone number on the remote control.
4. The red light on the receiver will blink to confirm zone designation.

You may assign multiple receivers to the same zone number and they will be controlled together. You can reassign a receiver to a different zone by following the same steps.

Each receiver has 3 color channels and supports 5 amps per channel.
Specifications

Dimensions: Remote Control: 5.0” x 2.2” x 0.6”
126 mm x 55 mm x 16 mm
Receiver: 6.7” x 1.7” x 0.9”
170 mm x 43 mm x 22 mm

Channels: 3: Red, Green and Blue

Output frequency: 357 Hertz
Voltage: 12 or 24 Volts DC

Sustained power: 180 watts at 12 VDC output. 15 amps total. 5 amps per channel.
Sustained power: 360 watts at 24 VDC output. 15 amps total. 5 amps per channel.

Instructions

Please take the following precautions:

1. This equipment, like all electrical equipment, should be installed by a qualified person.
2. Do not expose these LEDs, dimmers or power supplies to intense electro-magnetic fields, including lightning.
3. The controllers and power supplies are not waterproof. Keep them dry.
4. Always observe proper polarity.

When installing LED lighting, it is a good idea to follow this “dry-run” procedure:

1. Be sure you have everything you need before you start.
2. Lay out your lights and power supply on the floor or table.
3. There is some resistance in the LED lighting. If you see any color fading or dimming at the end of a long run, you may have too many LEDs for your power supply and you might need a bigger supply or shorter runs. Use a bus structure as described in rgb_manual.pdf. Call if you need assistance with larger projects.
4. Connect everything and test it to be sure it works and you have it connected properly. It is unlikely, but possible, that some part of your system is defective or was damaged during shipment. If that is the case, it will be very helpful to you to know that before you do all the work involved in installing custom LED lighting systems. You will also know if you damage anything during installation, which is really helpful in trouble-shooting because manufacturing defects and installation damage typically have very different solutions.

Once you have tested the system successfully, you are ready to install it. We recommend you install LEDs, electronic controls and dimmers in such a way that you have access to them in case they fail. All electrical components can fail.
**Troubleshooting Tips**

If your lights turn on when you plug in the receiver, but do not respond to the remote control:

1. Unplug the receiver and plug it back in.
2. Wake up the remote control.
3. Press the zone number that you assigned to that receiver, and tap on the color wheel.

If that does not work, try assigning a different zone number:

1. Wake up the remote control.
2. Press the black button on the receiver, the red light should illuminate.
3. Press and hold a number button on the remote. After a few seconds the red light should flash several times to acknowledge the zone assignment.

If the lights respond but are not the right color, check the output terminal block to make sure that red, green and blue channels are in their respective terminals.
Circuit Diagram

Detailed wiring instructions for our LED linear lights are available in “rgb_manual.pdf.” Ask for it, if you haven’t seen it.

Larger Scale Installation Using RGB LED Controller (Remote Control-10 Zones)

Do not exceed the product's specified branch length limit.

RGB strips, superflat rope, or modules

Do not exceed the power rating of the lowest-rated driver, amp or controller.

When powering superflat rope, use 24 volt components. Do not mix 12 and 24 volt systems, except at the DMX level. (You may put both 12 and 24 volt decoders on the same DMX output.)