

Sound-to-Light LED Controller for RGB LED Strips (6A per channel) - 12 or 24 VDC

Part number: STL-6A



The Sound-to-Light LED Controller **syncs** your LED strip lighting with music. You can use the built-in microphone or a standard audio coaxial jack on the side of the unit. It also has several functions that do not require audio input, including various steady-burn color selection functions and color fade programs. The hand-held remote control communicates with the controller using infrared light, similar to a TV remote control. The controller's IR "eye" is on the end of a 36-inch cable, so you can place the controller out of site and have only the IR eye in view. The remote requires line-of-site visibility and will not work through walls.

You can use this controller with 4-wire Red-Green-Blue 5, 12 or 24-volt DC LED strips or other LEDs. This **3-Channel RGB** controller is rated at 6A per channel, or 90W at 5V, 216W at 12V, and 432W at 24V. The worst case condition is sustained white (red, green and blue on full power, with no color changing). Our double density RGB uses up to 50 watts per 5-meter reel. We recommend designing at 80% of the maximum rating to provide conservative design margin. Therefore, you can control up to 3 reels of double density LED strip with the STL-6A.

Features

- Infrared hand-held remote lets you select operating modes:
 - Power on/off.
 - “||” Pause button.
 - 20 preset scenes.
 - Sound-to-light mode. Flashes the light to music as it fades from color to color.
 - Speed + or -: during a color sequence, speeds or slows the sequence.
 - Brightness + or -: brightens or dims the lights.
 - R, G, B + or -: Adds or subtracts red, green or blue, the primary colors of light, to allow you to mix any color. Controller will remember the custom color if you turn the lights off.
 - 12 storage places for easy access to your favorite colors and modes.
- Audio source is the built-in microphone or standard audio coax input, selectable by switch on the side of the controller.
- Compact 5.76” x 3.54” x 1.25” controller is easy to hide or mount.
- Even more compact 3.7" x 2.3" x 0.3" remote control. Remote control uses CR2032 3-volt lithium battery. All remotes are the same - they are not coded and paired to specific controllers.
- ON/OFF button. Unit powers up in the mode it was set on when you turned it off, which is convenient.
- 3 signal outputs: Red, Green, Blue and Common anode (DC+ 5, 12 or 24).
- 5, 12 or 24-volt DC input is required. Use a high quality regulated driver and use the voltage specified by your LED lights.
- You can increase the number of LEDs you can drive by adding one or more amplifiers.
- -4 to 140 °F operating temperature range.
- 1-year manufacturer warranty.

Applications

- Synchronize your lighting with music to enhance the ambiance of any location!
- An economical solution for full color LED control systems. Use with 12 or 24-volt DC Red-Green-Blue LED lights, including strips and modules.
- Downlighting and uplighting features.
- Hotels, restaurants, clubs, office buildings, homes and casinos, wine cellars, home entertainment centers.

Operation

Controller Connections

Use 5 VDC, 12 VDC or 24 VDC, depending on your lights. Controller accepts either, and generates maximum output voltage equal to the input voltage. Apply voltage using the DC+ and DC- terminal blocks provided for bare-wire power connection. The four output lines (red, green, blue cathodes and common anode) are also available on a terminal block, so use bare wires to connect your lights.

The coax audio jack can be used for sound input, or you can use the built-in microphone. Depending on the level of pre-amplification you use before the coax cable, you may need to adjust volume to achieve desired performance. You can also adjust the sensitivity of the microphone using the “Speed+” and “Speed-” buttons while in sound-to-light mode. Make sure your brightness is at maximum before adjusting microphone sensitivity.







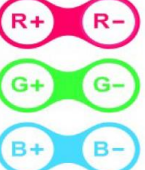


Next to the coaxial jack (labeled “Music”) on the front right of the unit, is the switch to set the type of input that the controller should analyze. Switch it to the left for coaxial, and to the right for microphone.

On the front left of the unit is the jack for the IR sensor. If you wish to use the remote control, you must plug the included IR sensor into this jack. It has a 36” cable so that the IR sensor can be placed in a convenient location, no matter where your controller is located. The IR remote must have line-of-site communication with the eye in the controller.

Preset Modes

Number	Mode	Number	Mode
1	Red	11	Green strobe
2	Green	12	Blue strobe
3	Blue	13	Yellow strobe
4	Yellow	14	Magenta strobe
5	Magenta	15	Cyan strobe
6	Cyan	16	White strobe
7	White	17	RGB strobe
8	RGB Step	18	7 color strobe
9	RGBYMCW Step	19	RGB fade
10	Red strobe	20	7 color fade

Control Functions

	<p>Power ON/OFF.</p>
	<p>Pause a dynamic function on any static color.</p>
	<p>Go up or down through preset modes. Modes listed above.</p>
	<p>Speed up or down in dynamic modes. In sound-to-light function, the Speed+ and Speed- buttons are used to adjust the sensitivity of the microphone.</p>
	<p>Brighten or dim the LEDs.</p>
	<p>Storage places for custom colors and favorite scenes. To save a color or scene here, make sure you are not in sound to light mode. Play the desired mode, or create a custom color as described below. Hold down a key 1-12 for 5 seconds, until you hear a beep. The mode or color will now be available for easy use simply by pressing that key 1-12. Only accessible on the remote.</p>
	<p>Customize a static color by increasing or decreasing the levels of red, green and blue. Custom colors can be saved as described above.</p>
	<p>Enter sound to light mode.</p>
	<p>Hold down for three seconds, until you hear a beep, in order to initiate a cycle of the 12 modes/colors saved in slots 1-12. Each will play for ten seconds, in order.</p>

Specifications

Controller	5.76" x 3.54" x 1.25"
Dimensions:	146 mm x 90 mm x 32 mm
Remote Control:	3.7" x 2.3" x 0.3" 94 mm x 58 mm x 8 mm
Channels:	3: Red, Green and Blue
Output frequency:	480 Hertz
Voltage:	5, 12 or 24 volts DC
Current:	6A per channel
Power:	90 watts at 5VDC, 216 watts at 12VDC, 432 watts at 24VDC.

Instructions

Please take the following precautions:

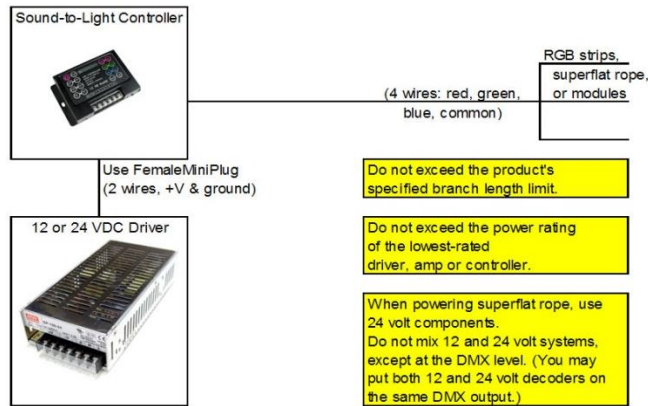
1. This equipment, like all electrical equipment, should be installed by a qualified person.
2. Do not expose these LEDs, dimmers or power supplies to intense electro-magnetic fields, including lightning.
3. The controllers and power supplies are not waterproof. Keep them dry.
4. Always observe proper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

Circuit Diagrams for Controllers



You might choose to buy two controllers and connect one to the left stereo channel and one to the right, like this:

