WIRING AN RGB CONTROLLER WITH AN RGBW, RGBWW or RGBA LED STRIP

In most cases, you'll also be wiring an existing OEM switch or adding another switch into the circuit (e.g. dimmer switch).

This document has FOUR wiring diagrams as follows:

1. Wiring an RGB controller with RGBW LED strips.
2. Wiring an RGB controller with RGBWW LED strips.
3. Wiring an RGB controller with RGBA LED strips.
4. Wiring a DUAL COLOR configuration with RGBA LED strips.

An RGBW LED has 4 diodes: red, green, blue and warm white.

An RGBA LED strip has 4 diodes: red, green, blue and amber

An RGBWW LED strip has 5 diodes: red, green, blue, warm white and cool white.

An RGB LED controller can be used to power the R-G-B diodes on any of these LED strips.

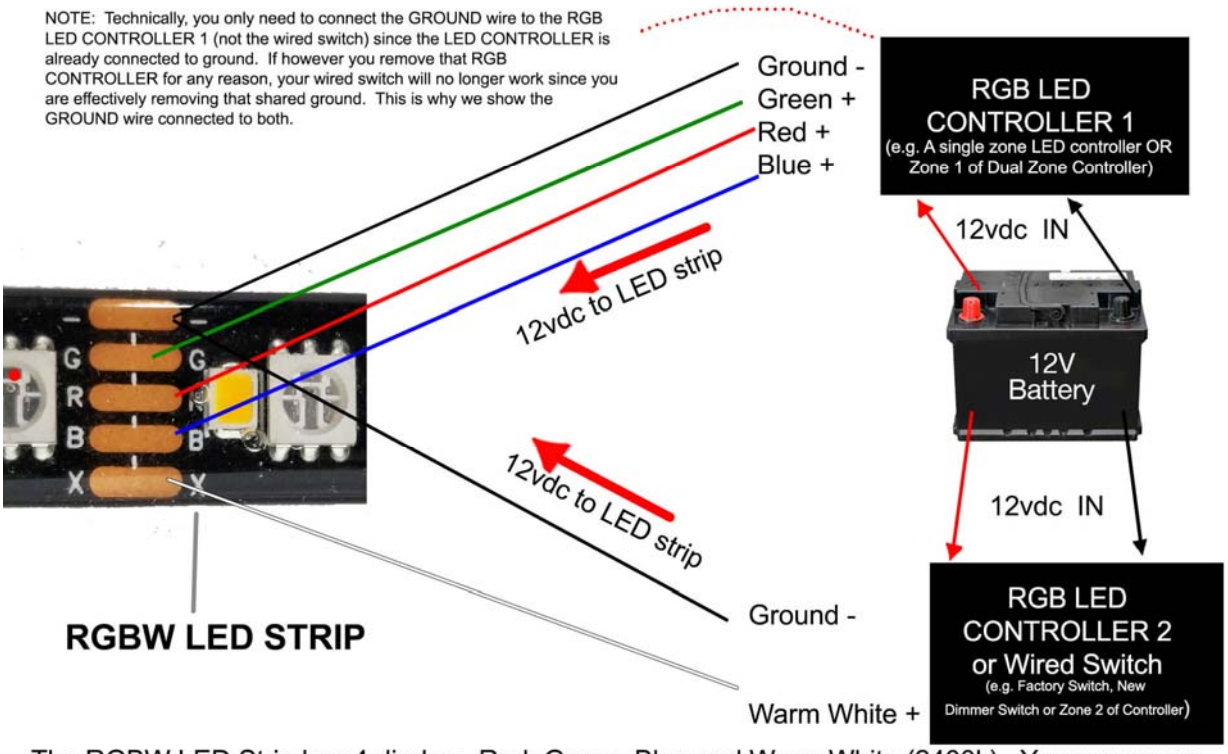
The remaining W (or A) diodes can be controlled by a hard wired switch such as a factory installed switch (or new dimmer switch) or, you can use a second RGB led controller (or zone 2 of our dual zone controller) to power the W (or A) diodes.

If you have a GEN2 LED Controller, that series of controller has the ability to control the W or A diodes built in. No extra switch required. It also has our QUICK-SWITCH feature which can be useful. See GEN2 controller wiring diagram and operating manual for details.

The Amber diode is most commonly controlled by a hard wired on/off switch as is the case with our DUAL COLOR configuration.

Here are four wiring diagrams that illustrate the possibilities.

Wiring an RGB controller with RGBW LED Strip



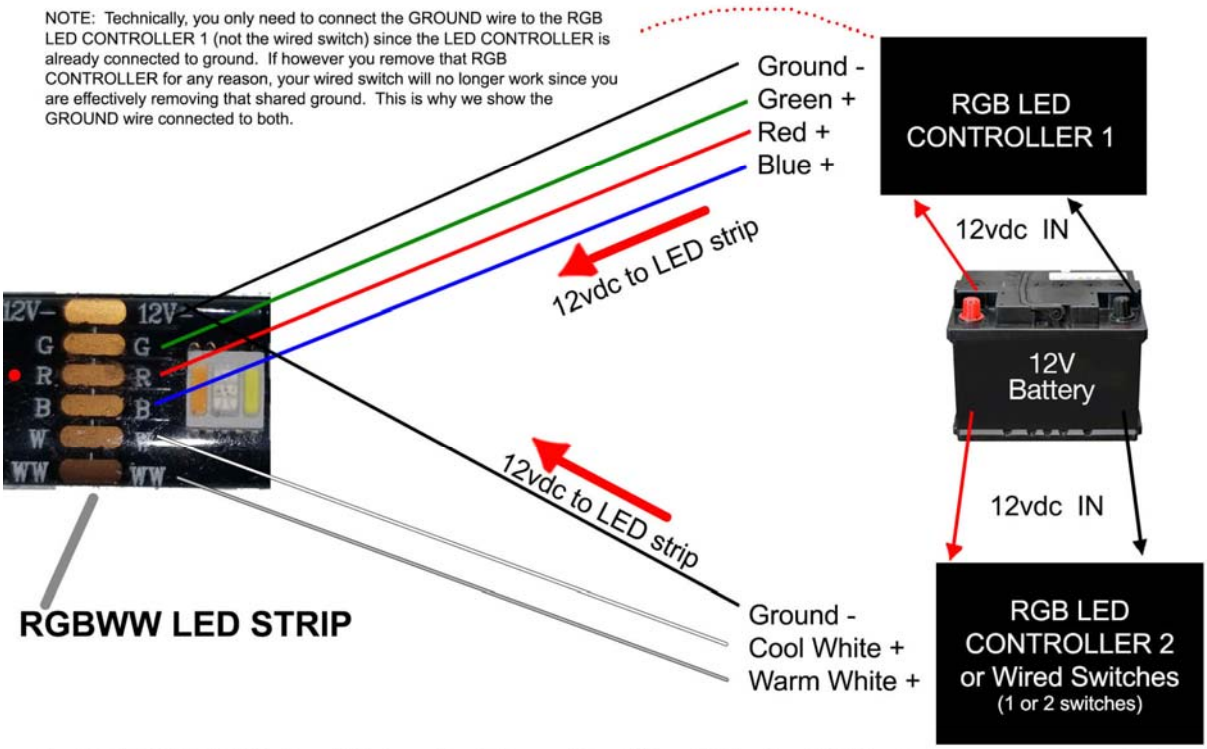
The RGBW LED Strip has 4 diodes: Red, Green, Blue and Warm White (2400k). You can power those 4 diodes using a combination of 1) RGB Controller + Hard Wired Switch or 2) RGB Controller + RGB Controller (our Dual Zone LED controller is often used for this). In all cases, the ground has to be supplied to each controlling device as shown in the above diagram.

NOTE: If you have a GEN2 LED controller, the WARM WHITE power lead connects to the GEN2 controller's GREY & WHITE output wires. No extra switch needed. See GEN2 wiring diagram. 06-10-23

The RGBW LED strip has a 6 conductor power lead wire. **The grey wire is not used.** The RED, GREEN, BLUE, BLACK and WHITE wires are used. The WHITE power lead wire is connected to the White diode in the RGBW LED strip.

NOTE: If you're using another LED controller to control the X diode (e.g. Zone 2 of a Dual Zone Controller), which LED Controller output color you choose to connect that X diode to doesn't matter other than for identification purposes. For example, if you connect the W diode of the RGBW LED strip to the Blue output wire coming from Zone 2 of the LED Controller, the Blue operational control (RF wireless remote or the Bluetooth APP) will operate the W diodes on the RGBW strip. To make it easier to remember, some folks choose to connect all three LED controller output wires (Red, Green and Blue) to the W diode. That way no matter which operational control they're using on the RF wireless remote of the Bluetooth APP will operate the White Diode on the RGBW LED strip.

Wiring an RGB controller with RGBWW LED Strip



The RGBWW LED Strip has 5 diodes: Red, Green, Blue, Warm White, Cool White. You can power those 5 diodes using a single RGBWW LED Controller or you can power them using a combination of 1) RGB Controller + Hard Wire Switch(es) or 2) RGB Controller + RGB Controller. In all cases, the ground has to be supplied to each controlling device as shown in the above diagram. NOTE: If you want to control both WW diodes individually, you need 2 dimmer switches. See product page for details.

NOTE: If you have a GEN2 LED controller, the WARM WHITE & COOL WHITE power leads connect to the GEN2 controller's GREY & WHITE output wires. No extra switch or controller needed. See GEN2 wiring diagram.

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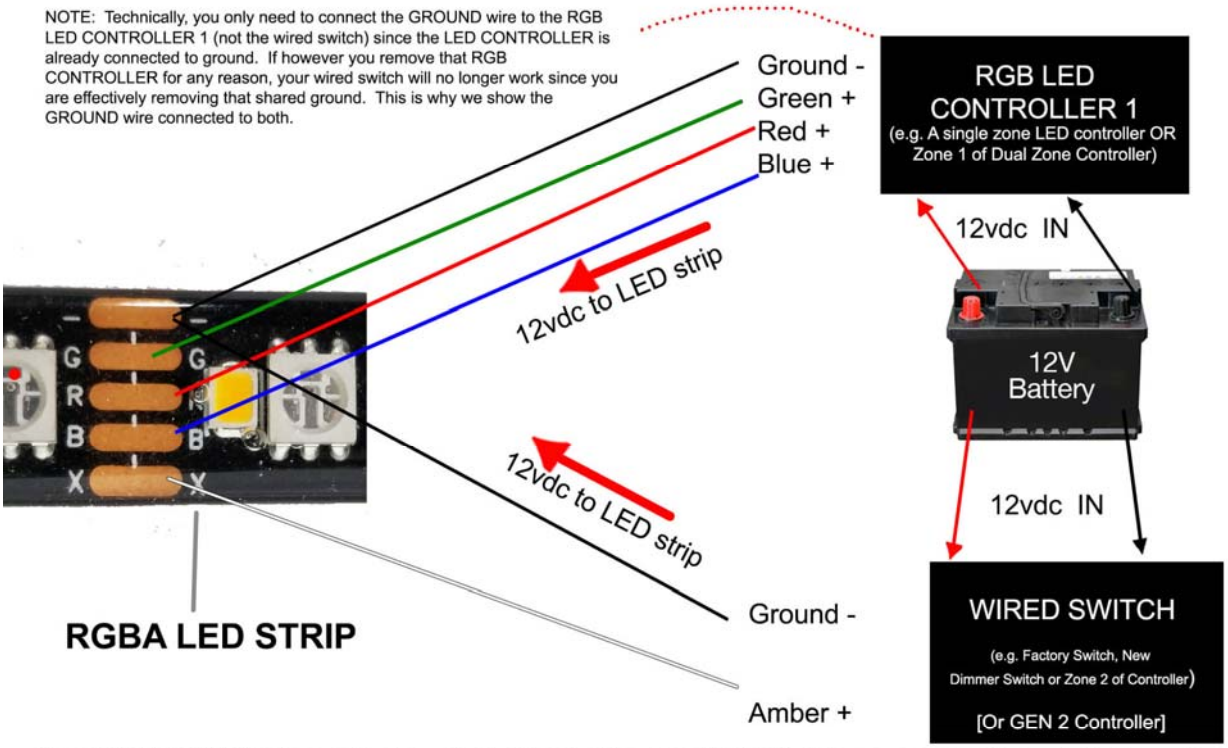
Wiring an RGB controller with RGBA LED Strip



The RGBA LED Strip has 4 diodes: Red, Green, Blue and AMBER. You can power those 4 diodes using a combination of 1) RGB Controller + Hard Wired on/off Switch or 2) RGB Controller + RGB Controller (our Dual Zone LED controller is often used for this). In all cases, the ground has to be supplied to each controlling device as shown in the above diagram.

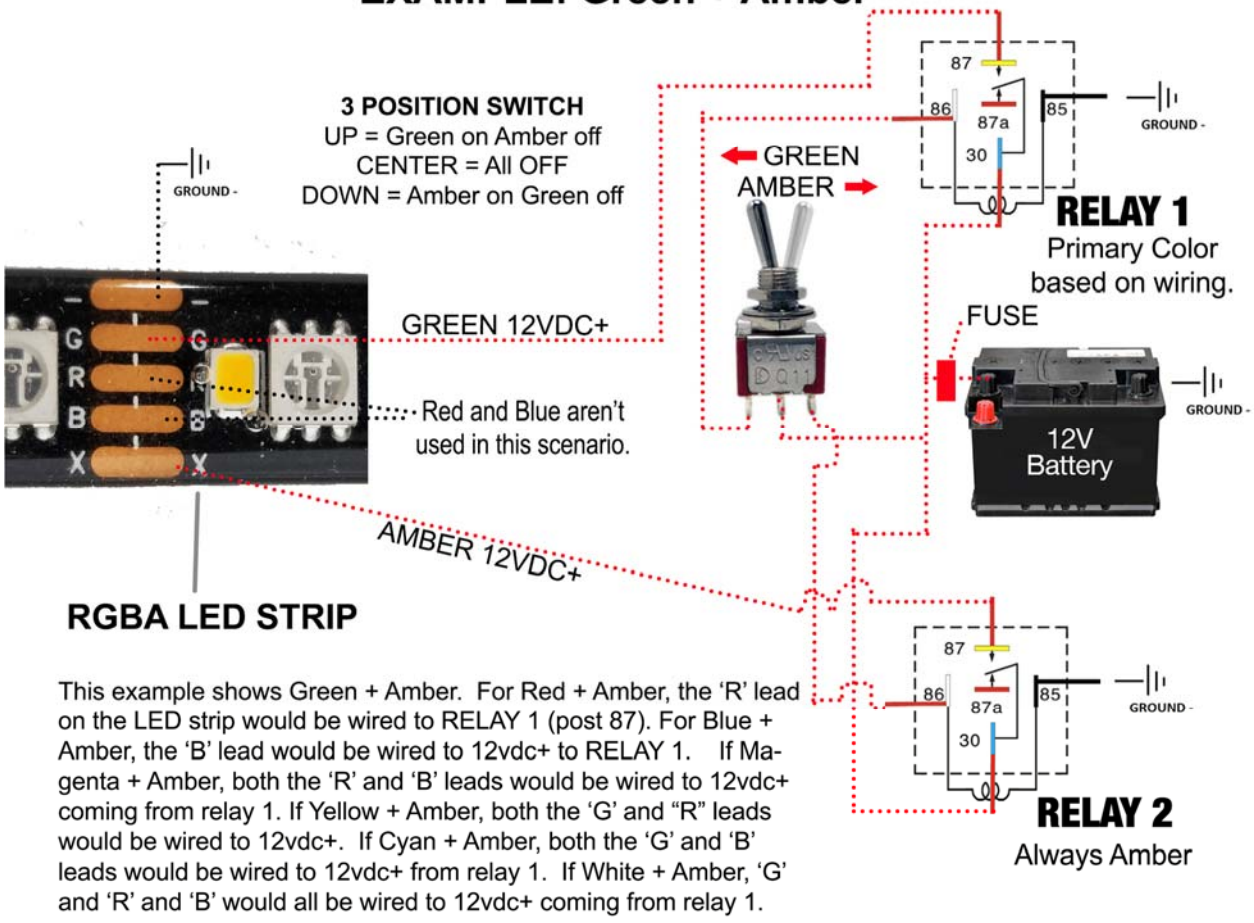
NOTE: If you have a GEN2 LED controller, the AMBER power lead connects to the GEN2 controller's GREY & WHITE output wires. No extra switch needed. See GEN2 wiring diatram. 06-10-23

The RGBA LED strip uses 6 conductor power lead wire. **The grey wire is not used.** The RED, GREEN, BLUE, BLACK and WHITE wires are used. The WHITE power lead wire is connected to the Amber diode.

NOTE: If you're using another LED controller to control the X diode (e.g. Zone 2 of a Dual Zone Controller), which LED Controller output color you choose to connect that X diode to doesn't matter other than for identification purposes. For example, if you connect the A diode of the RGBA LED strip to the Blue output wire coming from Zone 2 of the LED Controller, the Blue operational control (RF wireless remote or the Bluetooth APP) will operate the A diodes on the RGBA strip. To make it easier to remember, some folks choose to connect all three LED controller output wires (Red, Green and Blue) to the A diode. That way no matter which operational control they're using on the RF wireless remote of the Bluetooth APP will operate the Amber diode on the RGBA LED strip.

Wiring DUAL COLOR with RGBA LED Strip

EXAMPLE: Green + Amber



This example shows Green + Amber. For Red + Amber, the 'R' lead on the LED strip would be wired to RELAY 1 (post 87). For Blue + Amber, the 'B' lead would be wired to 12vdc+ to RELAY 1. If Magenta + Amber, both the 'R' and 'B' leads would be wired to 12vdc+ coming from relay 1. If Yellow + Amber, both the 'G' and "R" leads would be wired to 12vdc+. If Cyan + Amber, both the 'G' and 'B' leads would be wired to 12vdc+ from relay 1. If White + Amber, 'G' and 'R' and 'B' would all be wired to 12vdc+ coming from relay 1.

Note that POLE 87a on both relays are not used. They MUST be capped and sealed.

HEAVY DUTY (HD) DUAL COLOR. The HD Dual Color led strips have 5 power leads: Black, Red, Green, Blue and Yellow. The Yellow wire matches up with the AMBER LED diode. The Black wire is ground. The Red, Green and Blue wires match up with their respective LED diodes on the LED strip.

LOW PROFILE (LP) DUAL COLOR. The LP Dual Color led strips have 5 power leads: Black, Red, Green, Blue and White. The White wire matches up with the AMBER LED diode. The Black wire is ground. The Red, Green and Blue wires match up with their respective LED diodes on the LED strip

See chart on next page.

DUAL COLOR CONFIGURATION	POWER LEAD WIRE COLOR				
	Black/GND	Red	Green	Blue	White or Yellow*
Power Polarity>	(12VDC-)	(12VDC+)	(12VDC+)	(12VDC+)	(12VDC+)
Relay #>	1, 2	1	1	1	2
Red + Amber	X	X			X
Green + Amber	X		X		X
Blue + Amber	X			X	X
Magenta + Amber	X	X		X	X
Yellow + Amber	X	X	X		X
Cyan + Amber	X		X	X	X
White + Amber	X	X	X	X	X

*HD strips have a YELLOW power lead wire. Low Profile LED strips have a WHITE power lead wire.

Note: The 12vdc+ connections are wired to POLE 87 on their respective relays as indicated.