PRODUCT MANUAL
Duet DMX & Wireless RGB-W Controller

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www.SolidApollo.com

Product Description

Solid Apollo LED's new wall mounted Duet DMX & RGB-W LED Controller has been created to control LED light fixtures in three different ways. Users can independently control DMX enabled LED fixtures or non-DMX LED fixtures operating in RGB-W mode, or use both DMX and non-DMX systems simultaneously.

The Duet can be wired directly to any DMX enabled LED lighting fixture, such as LED wall washers and flood lights, or the Duet's wireless capability can be used to control any non-DMX LED lighting fixture using the optional wireless receiver, for color changing LED strips or lights. The simple modern design and budget friendly price make the Duet LED Controller an excellent option for easy color changing LED control.

Main Functions:

- 2 in 1 Controller: DMX Control or Wireless RGB-W
- Includes 10 Pre-loaded Programs
- Full Color Options, Dimming and Speed Control
- Touch Sensitive Glass Surface
- Easily Fits Standard US Switch Boxes
- 50 Foot Wireless Range
- Memory Function – Remembers Last Setting Even When the Power Goes Off
- Perfect for Controlling DMX or RGB-W Fixtures

This manual reviews:

- Entire installation process
- Product features and primary uses
- Detailed functionality
- Troubleshooting options
- Technical Parameters

For Direct DMX Control: No Receiver Needed

Controller

For DMX Control of RGB-W Light Fixtures: Use the 4 Channel DMX to RGB-W LED Receiver
Part# SA-CTRL-001-V2

For Wireless RGB-W Control: Use the LED Wizard WIFI LED Receiver
Part# WIFI-RECEIVER

Optional Receivers

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Installation

The Duet DMX & RGB-W In Wall LED Controller can independently control DMX enabled LED fixtures or non-DMX LED fixtures operating in RGB-W mode, or use both DMX and non-DMX systems simultaneously. The type of LED lighting fixture being used will determine if a receiver is needed, and what type will be needed.

Tools Required:
Philips Screwdriver
Flat Head Screwdriver
Wire Stripper

Select the correct LED fixture type

1) If using DMX compatible LED products (see step A below)
2) If using RGB-W (five wire) LED products requring DMX connections (see step B on page 5)
3) If using RGB-W (five wire) LED products using wireless control (see step C on page 6)

A) Using DMX compatible LED products

When using DMX compatible LED products only requring data connections, no receiver is required and the Duet controller can be hard wired directly to the DMX LED products.
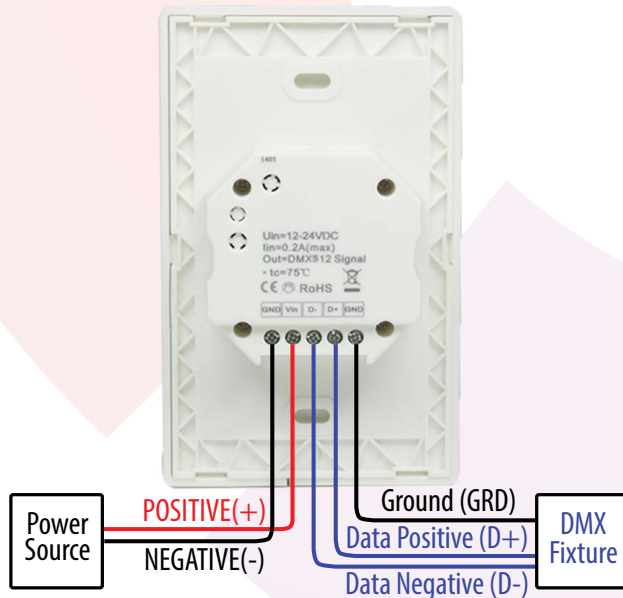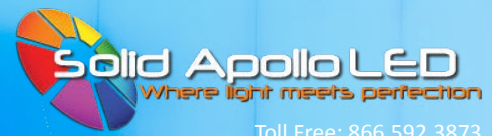

1 First, turn off all power to the installation location to prevent injury or shock. Turn off power or unplug the power at the location's junction box, or consult a certified electrician to appropriately turn of the power.

2 Select a location to place the controller. If no gang box exists, a new gang box and wiring from a power source will be required as the controller uses 12-24V DC power. If an old wall controller is already in place, remove the old wall controller, but leave the gang box in place. Make sure the correct power (12-24V DC) is available for the controller.

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3 Unscrew the five wiring box screws located on the back of the controller. Unscrew until the wire doors are completely open (note: screws will not come out). Prepare the two wires from the power source and the three wires from the DMX light fixture by using a set of wire strippers to remove ¼ inch of the plastic covering on the wires. Twist the exposed metal wire ends to help make a secure connection.


4 First connect the power source wiring starting with the ground wire (-).Take the wire and insert into the far left wiring slot, under the label "GND" (means ground). Take the Philips Screwdriver and tighten down the far left screw until it becomes tight. Gently pull on the wire to make sure it will not easily pull out.
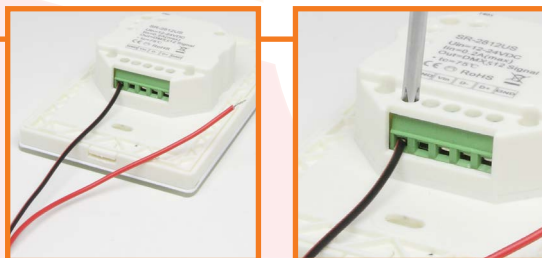
5 Then, take the second power wire, the voltage wire (+), and insert it into the second from the left wiring box, under the label "Vin" (means voltage in). Take the Philips Screwdriver and tighten down the second from the far left screw until it becomes tight. Gently pull on the wire to make sure it will not easily pull out.
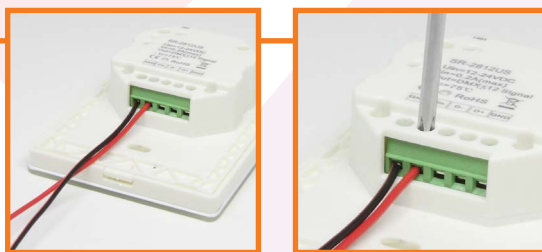
6 Repeat the wiring attachment process for the data wires to the three wiring boxes on the right side, making sure the Data Negative (D-), Data Positive (D+) and Ground (GRD) match their respective wiring boxes. (Note: the paper on the wires are lables we added to ensure the installation was correct).
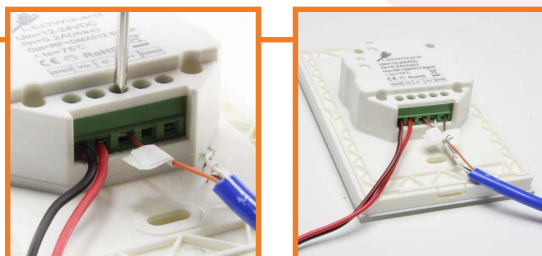
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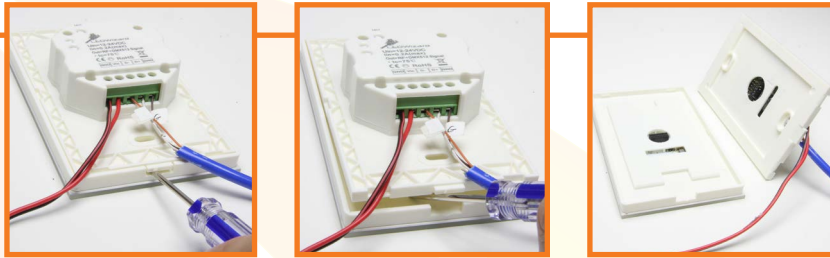
7 To mount the controller, the rear mounting plate must be removed from the front cover. Insert a flat head screwdriver carefully into the center bottom of the controller and gently pry upwards to pull the rear mounting plate off from the front cover. Place the front cover to the side and on a soft surface to prevent damaging the touch surface.

8 Take the Philips Screwdriver and the provided mounting screws to mount the rear mounting cover. First take one screw and insert through the top hole of the rear mounting plate (if unsure which is the top, check the back side of the rear mounting plate for top and bottom orientation, the text should not be upside down). Begin tightening the screw by hand into the top screw receptacle of the gang box.

9 Take the second screw and insert it into the bottom hole of the rear mounting plate and begin tightening the second screw by hand into the bottom screw receptacle. Using the Philips Screwdriver, tighten the top screw until it is snug, and then tighten the bottom screw until it is snug. Both screws should be almost flush with the rear mounting plate.


10 Take the front cover and place back over the rear mounting plate. Note the alignment tab at the bottom center of the front and rear covers. Carefully place the front cover over the rear mounting plate and push on the top and then the bottom until the cover clicks into place. The Duet controller is now ready to interface with the LED light fixtures and the power can be turned back on.
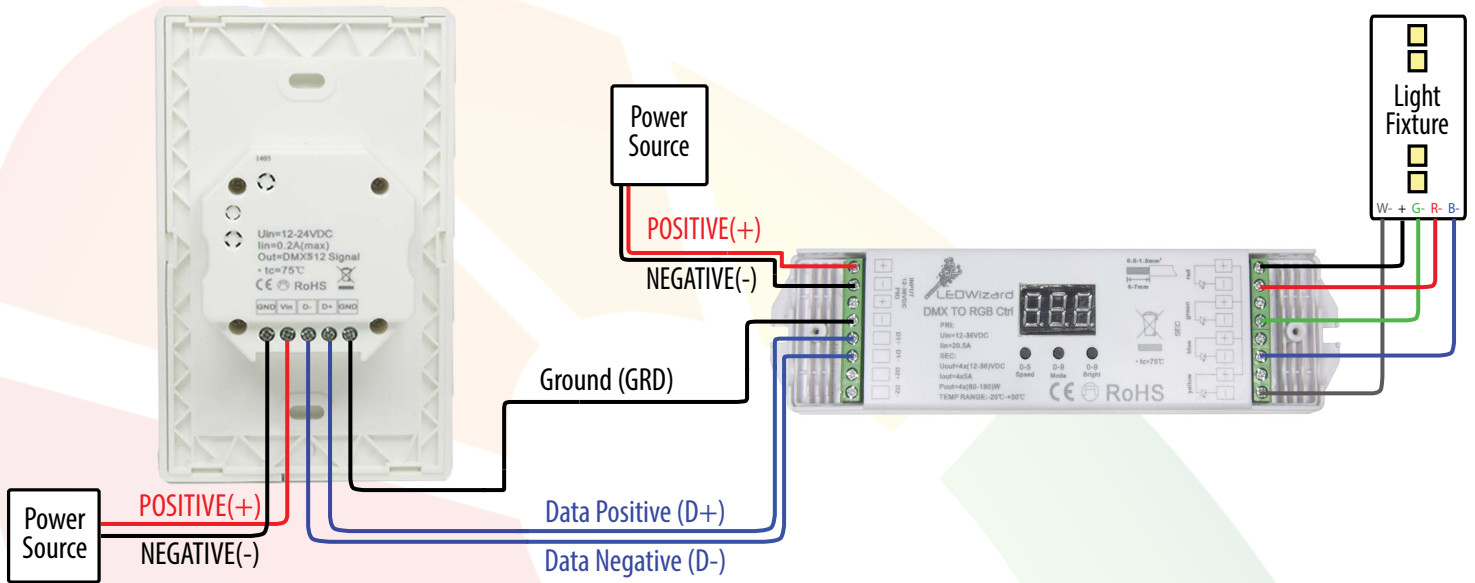
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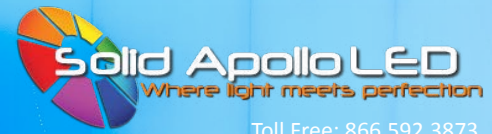
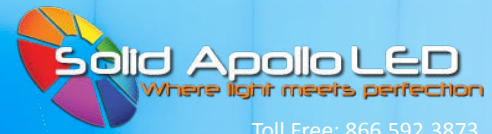## B) Using RGB-W (five wire) LED products requiring DMX connections

When using DMX compatible LED products requring RGB-W five wire connections, use the 4 Channel DMX to RGB-W Controller

1 Repeat the previous steps from Step A on page 2 (steps 1 through 10), except the three wires for data and ground (D-, D+, GRD) need to be connected to the 4 Channel DMX to RGB-W Controller. Please refer to the user manual titled "4 Channel DMX to RGB-W LED Controller Manual" located on the web site for the 4 channel receiver to correctly connect all the wiring, settings and using the receiver.
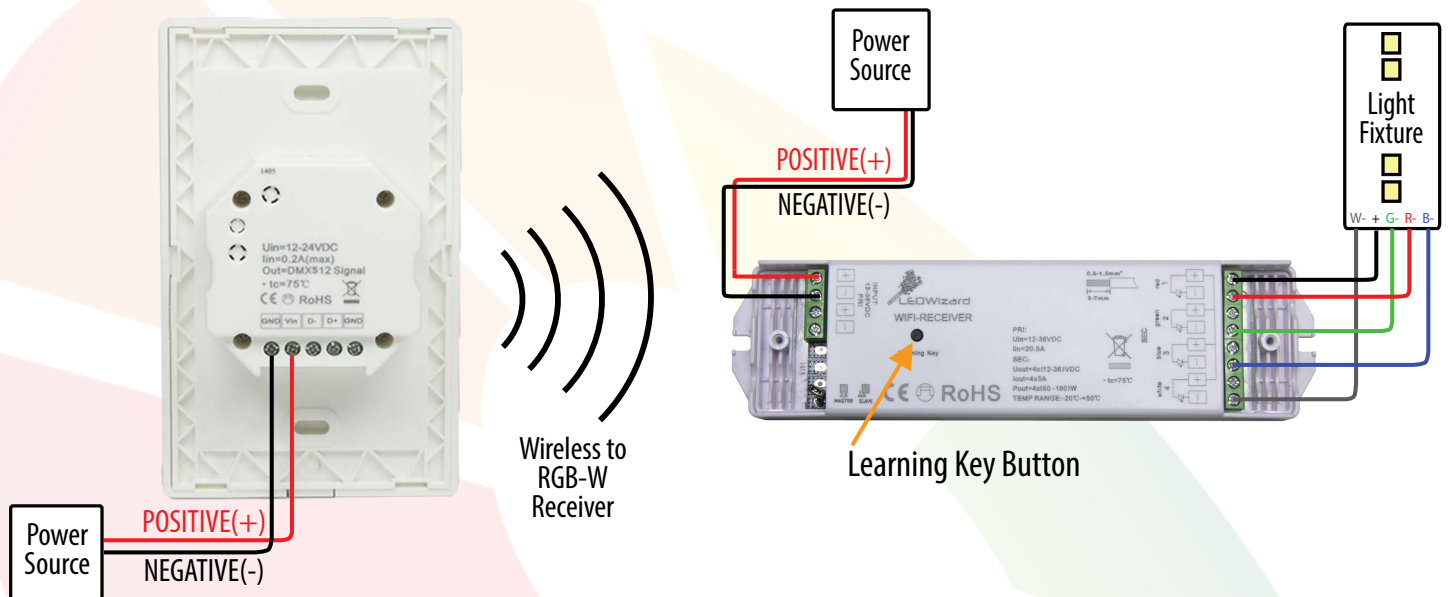
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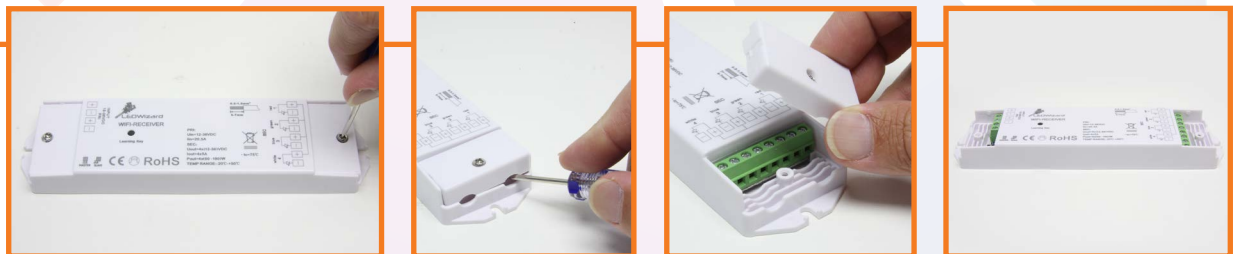## Duet DMX & Wireless RGB-W Controller

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C) Using wireless control for RGB-W (five wire) LED products

When using the wireless mode to connect to LED products, the WIFI receiver is required to control the RGB-W light fixtures


Power Source

POSITIVE(+)
NEGATIVE(-)

Light Fixture

W- + G- R- B-

Wireless to RGB-W Receiver

Learning Key Button

Power Source

POSITIVE(+)
NEGATIVE(-)

1 First, turn off all power to the installation location to prevent injury or shock. Turn off or unplug the power at the location's junction box, or consult a certified electrician to appropriately turn of the power.

2 Begin by wiring the receiver. First, the wiring door covers need to be removed. Take the Philips Screwdriver and unscrew the left and right wire door screws. Carefully pull the wire doors up and off. A flat head screwdriver may be used to help carefully pry the doors up and off by inserting the screwdriver into the wiring holes on the side of door. Place the two screws and the wire doors to the side.
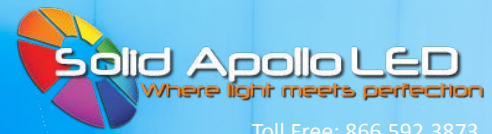
Duet DMX & Wireless RGB-W Controller

**3** First, prepare the wires providing power to the receiver. Use a set of wire strippers to remove ¼ inch of the plastic covering on both the positive and negative wires. Twist the exposed metal wire ends to ensure a secure connection. On the two left wire boxes, unscrew the two screws until the boxes are completely open (note the screws will not come out).
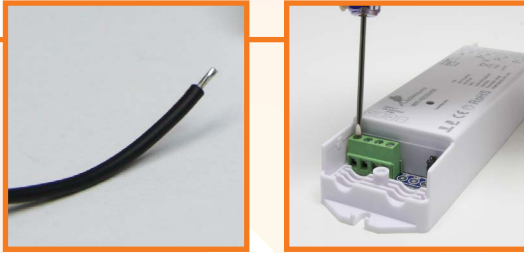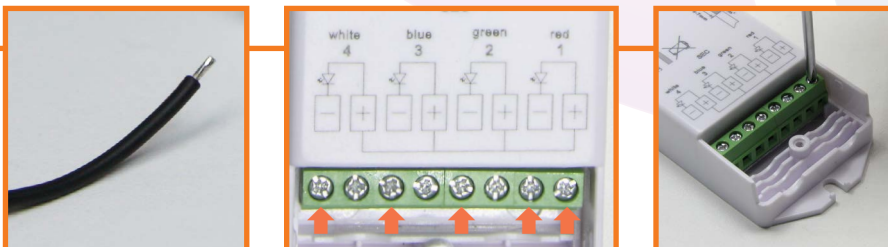
4 First connect the wiring starting with the negative ground wire (-).Take the wire and insert into the second from the left wiring slot, under the label "-", until it stops when touching the back of the wire box. Take the Philips Screwdriver and tighten down the screw until it becomes tight. Gently pull on the wire to make sure it will not easily pull out.
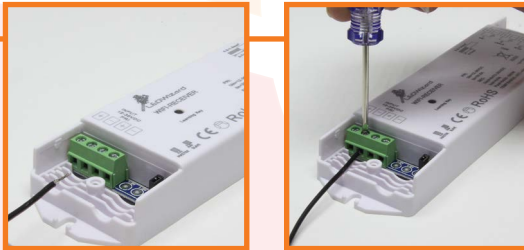
5 Then, take the second wire, the positive voltage wire (+), and insert it into the left wiring box, under the label "+". Take the Philips Screwdriver and tighten down the second from the far left screw until it becomes tight. Gently pull on the wire to make sure it will not easily pull out. The power wires are now connected.
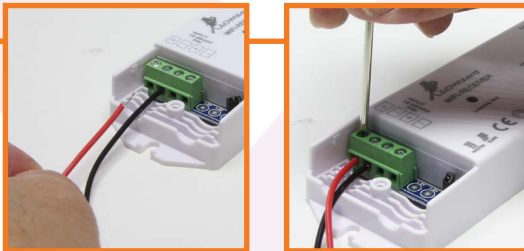
6 Next connect the wires from the light fixture, take the four wires and prepare them using the wire stripper to remove ¼ inch of the plastic covering. Twist the exposed metal wire ends to make a secure connection. Take the Philips Screwdriver and unscrew the five wiring boxes noted in the diagram below (from the left, loosen the 1st, 3rd, 5th, 7th and 8th screws), until the wiring boxes are open (note the screws will not come out).

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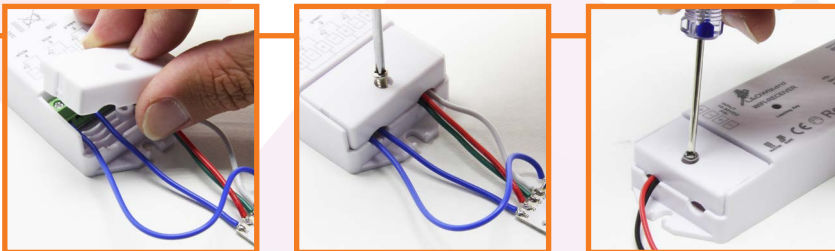## Duet DMX & Wireless RGB-W Controller

7 First connect the wiring starting with the positive wire (+).Take the wire and insert into the furthest to the right wiring slot, under the label "+," until it stops when touching the back of the wire box. Take the Philips Screwdriver and tighten down the screw until it becomes tight. Gently pull on the wire to make sure it will not easily pull out.
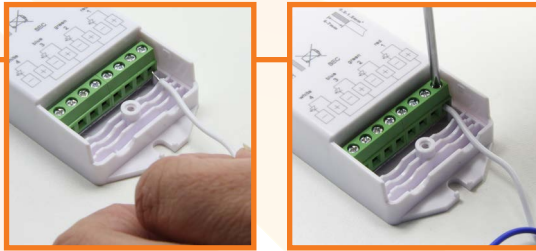
8 Then, repeat the wire connection process for the next four negative wires (red, green, blue and white) and connect them to the wiring slots indicated below.
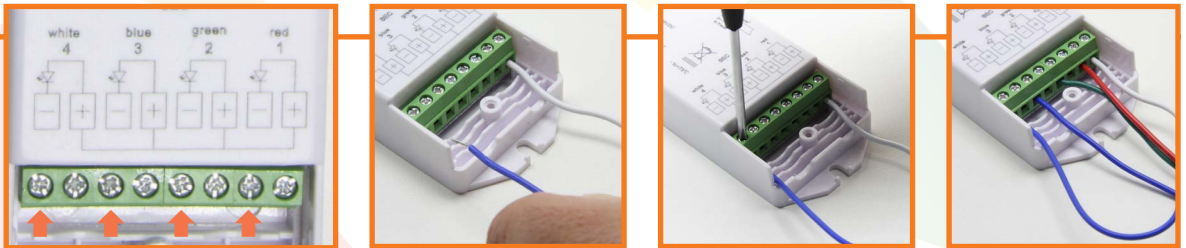
9 Place the wiring door covers back on each side of the receiver, and using a Philips screwdriver, tighten then down the screws while making sure the wiring comes out one of the side wiring holes (see center picture below). The light fixture is now connected to the receiver.

10 Next, connect and install the Duet Controller. Go to Step A listed on Page 2 and do steps 1 through 10 to complete installation of the Duet Controller.
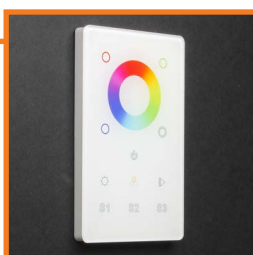
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Pairing the Duet Controller

This section will show you how to pair your new Duet Controller with three different light fixture options.
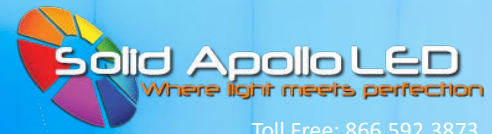
Select the correct LED fixture type

1) If using DMX compatible LED products (see step A below)
2) If using RGB-W (five wire) LED products requring DMX connections (see step B below)
3) If using RGB-W LED products requiring wireless control (see step C below)

A) Using DMX compatible LED products

When using DMX compatible LED products only requring data connections, no receiver is required as the Duet controller can be hard wired directly to the DMX LED products.

B) Using RGB-W products requiring DMX connections

When using DMX compatible LED products requring RGB-W five wire connections, the 4 Channel DMX to RGB-W Controller is required. Please refer to the user manual titled "4 Channel DMX to RGB-W LED Controller Manual" located on the web site for the 4 channel receiver to correctly pair the controller with the receiver.

C) Using RGB-W products with a wireless connection

When using the wireless mode to connect to LED products with RGB-W connections, the WIFI LED Receiver must be used.

Learning Key Button Location

Color Wheel Location

1   Make sure the LED zone(s) and power supply are turned on and correctly connected. On the receiver, push the Learning Key button once. On the Duet Controller, push around the color wheel until the lights on the LED fixture(s) flash. The flash indicates the receiver and the dimmer are paired. This should happen within the first five seconds. The Duet Controller is now ready to work.

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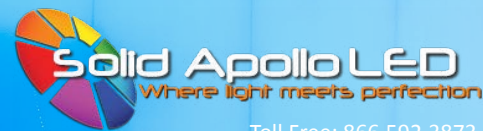
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Operating the Duet Controller

This section will show you how to use your new Duet Controller. Note: The buttons are highlighted with a color matching the description color.

1 To turn the lights on or off, push the center on/off button once and the lights will gently on or off.

2 Color Wheel: Touch any color on the color wheel to select the light color.

3 Pure Green, Pure Blue, Pure Red Buttons: Touch one of the three top buttons to select pure green, pure blue, or pure red. When selecting another pure color, first hit the previously selected pure color then select the next pure color (example: if Pure Red was choosen, touch Pure Red again before choosing Pure Blue) otherwise the colors will mix (example: if Pure Red is chosen, then Pure Blue is chosen, the red and blue will mix to turn a shade of Purple).

4 White Button: Touch to turn the separate white color on or off, and hold to increase or decrease brightness.

5 Color Brightness Button ("sun symbol"): Touch this button to change brightness level, from 20% to 100%, may vary depending on lighting fixture.

6 White Colors Button: 3 white colors, touch once to get either warm white, daylight white, or pure white.

7 Play button: includes built in color changing programs. To activate, touch play once to select the first program, then touch again to pause. For the next program, touch the play button again for next the program. To change the speed of the program, hold down the play button, this will increase or decrease the speed. The type of built in programs are listed below:
   1) Basic Fade Multi-Color
   2) Warm Colors Fade Multi-Color
   3) Basic Fade Plus White Multi-Color
   4) Quick Switch Multi-Color
   5) Fade Off Multi-Color
   6) Fade On Multi-Color
   7) Flash Pure Colors
   8) Cool Colors Fade Multi-Color

8 S1, S2 and S3 buttons – saved color selections – saves exact color and brightness level.
To save a color on S1, first choose the color on the color wheel, then touch and hold the Brightness Button to select the exact brightness level, then press and hold S1, until the light fixture blinks white once, and then back to the selection, this means the color is now saved. Repeat the previous step for saving to S2 and S3 buttons.

Troubleshooting

This section will show you how to troubleshoot the Duet Controller.

1 If you are having problems with the lights responding to the Duet Controller, first turn off the power to the lights and the controller. Make sure the wires are securely connected and are connected in the correct order. If they are not secure or not correctly connected, review the previous sections matching your controller setup for correct installation procedure.

2 If using the RGB-W wireless option, check that the Duet Controller is within range of the receiver (50 feet maximum).

3 If there is power going to the controller (and optional receiver if used) and the lights do not shine when turned off and on, the Duet Controller could be dimming the lights. Press and hold the brightness button until the lights brighten, then let go of the button when the lights have reached the desired level of brightness.

4 If using a receiver and the lights are on (and within range for wireless control), the Duet Controller may need to be re-paired with the matching receiver. If using the RGB-W Wireless option, follow the next steps. If using the 4 channel DMX to RGB-W receiver, please refer to the user manual titled "4 Channel DMX to RGB-W LED Controller Manual" located on the web site for re-pairing the 4 channel receiver.

A On the receiver, hold the Learning Key button down for 10 seconds. This will reset the system to its default setting.

B Push the Learning Key button once, then touch the color wheel until the lights blink. This should happen within the first five seconds and will indicate that the Duet controller is paired with the receiver.

Technical Information

Duet Controller
- Control of DMX lighting fixtures, Wireless Control of RGB-W lighting fixtures, or Both Simultaneously
- DMX 512 Compatible
- 4 Channel RGB Control
- Input 12V - 24V DC
- Maximum Power - RGB: 360W@24V DC, 180W@12V DC