TRIMLIGHT

TRIMLIGHT INSTALL STEPS

3L LIGHT INSTALLATION

STEP #1—Determine Best Place for Main Control Box

A starting position on either end works but locations near accessible power, maintenance locations, ideal locations for users, or proximity to strong wifi signal points, etc. should be the first criteria.

You could choose A or B in this example

STEP #2—Determine any secondary power supply locations

(If Needed)

Determining locations for secondary power supplies is dependent on the amount of lights within the distance from the primary control box. The following Guide can help:

All residential lights - 100-150 lights between master controller and 2nd power supply start point on a single run from an output.

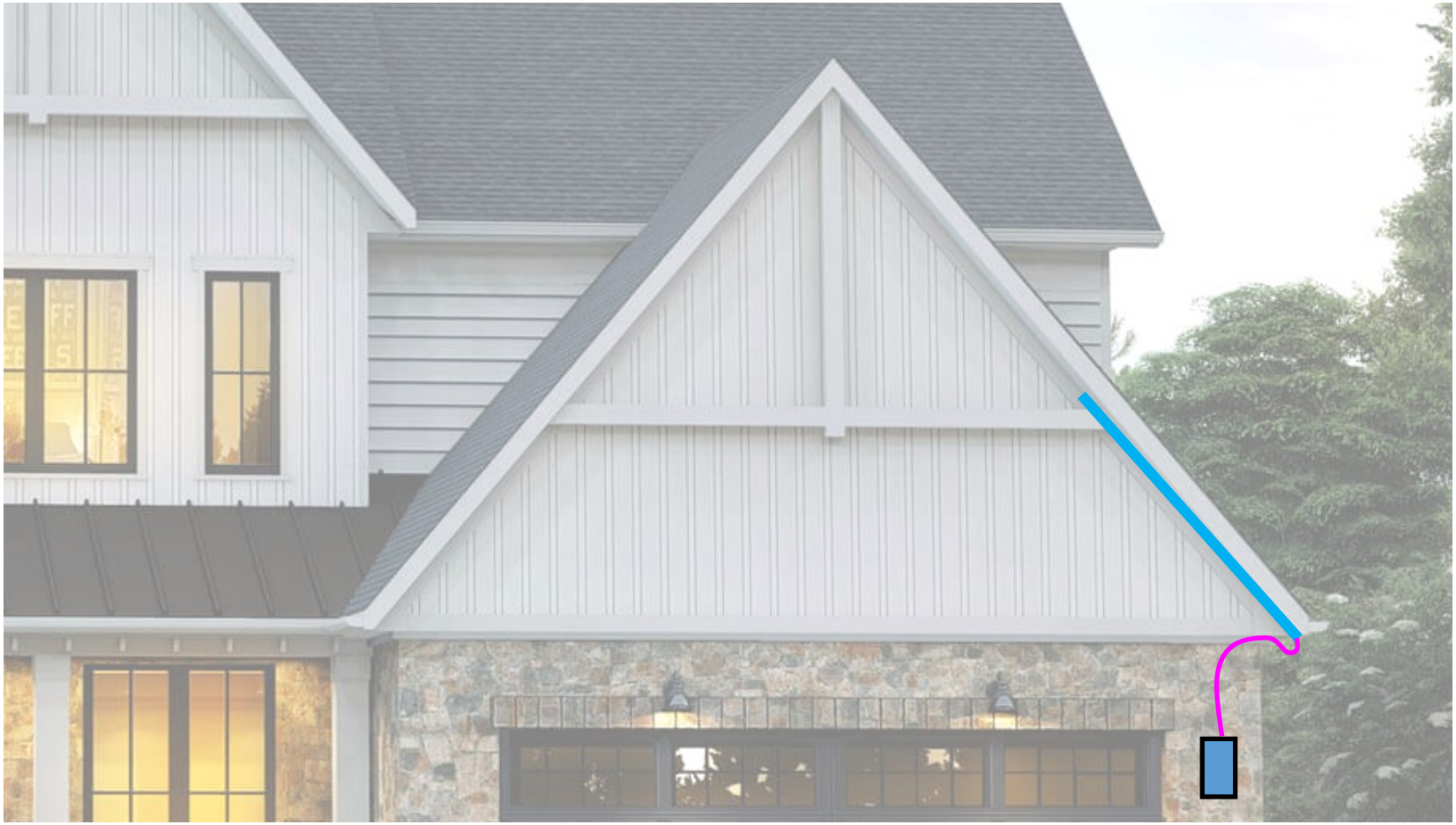
(A) = an amplification point required

(Using secondary power supplies is not common. Most projects can be designed with added amplification runs but this is a good practice on large projects.)

STEP #3—Start Hanging Channel at a Start Point

Working in one direction from the main control box location. Start hanging channel in the appropriate installation method for the type of channel.

If the pathway is available at this stage, running a signal wire from the control panel location to the starting light position is recommended. Shown here in PINK



STEP #3A—Start Hanging Channel at a Start Point

Depending on your chosen TYPE of system and architectural elements, you will hang one of the following items:

DECK CHANNEL—Flush Mount, Fascia Board, Soffitless

STANDARD RESIDENTIAL—Standard Aluminum or Vinyl Soffit and Fascia


Deck Channel as Fascia Board


Deck Channel as Flush Mount


Deck Channel as Soffit-less


Standard Residential—Aluminum Fascia

STEP #4—Input Light Strings into Channel

With as few as one or multiple sticks of channel installed. Install light string in the channel. Make sure the arrows on the back of the lights are going AWAY from the first light you installed. The arrow always points away from the controller.

STEP #5—Input Amp Wire into Channel

While installing the light strings into the channel, take the time to also run your pair of amplifier wires inside the channel. Shown in GREEN

With the limitations of low voltage lighting. The system needs to receive added voltage power every so often to counteract voltage drop and usage from each light. Using 16/2 stranded wire into the channel laying alongside the light strings that were placed in step #4.

This wire will be needed to inject needed power at every 40-50 lights. For simplicity, we will use the factor of every 50 lights in this example as that is the optimal amount.

STEP #6—Continue Hanging Channel and Lights

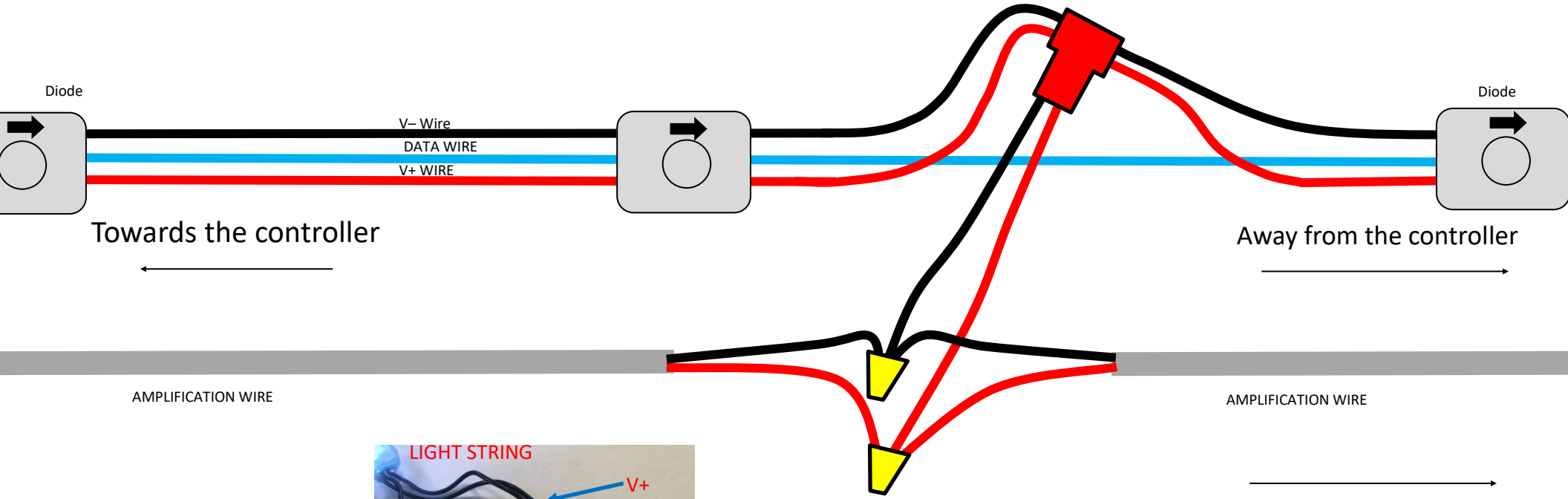
Repeat Steps #3—#5 until you arrive to the first amplification point.

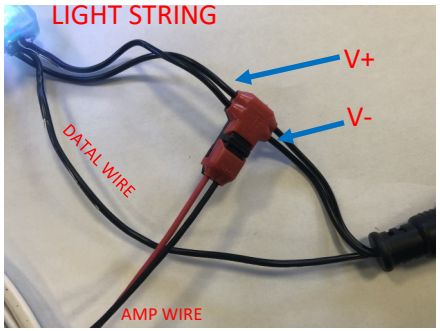
Connecting light strings during the process. Ensuring the arrow on the back of the lights is going in the direction away from the controller.

Make sure to also tuck in any extra wire into the open hem inside the channel so it is hidden from view.

STEP #6—Connect Amp Wire into Light String Wire

In the current hypothetical design layout. The amp wire needs to continue in the channel to arrive at the next Tee connection (the 2nd amp point). The signal DATA wire (on the light string) continues uninterrupted and only the V+ and V– are being amplified.





Sample of a “TEE” Connection into the diode wire on V+ and V-.

STEP #7—Continue Hanging Channel and Lights for Output #1

Repeat Steps #3—#6 until you complete the installation for the run (Output).

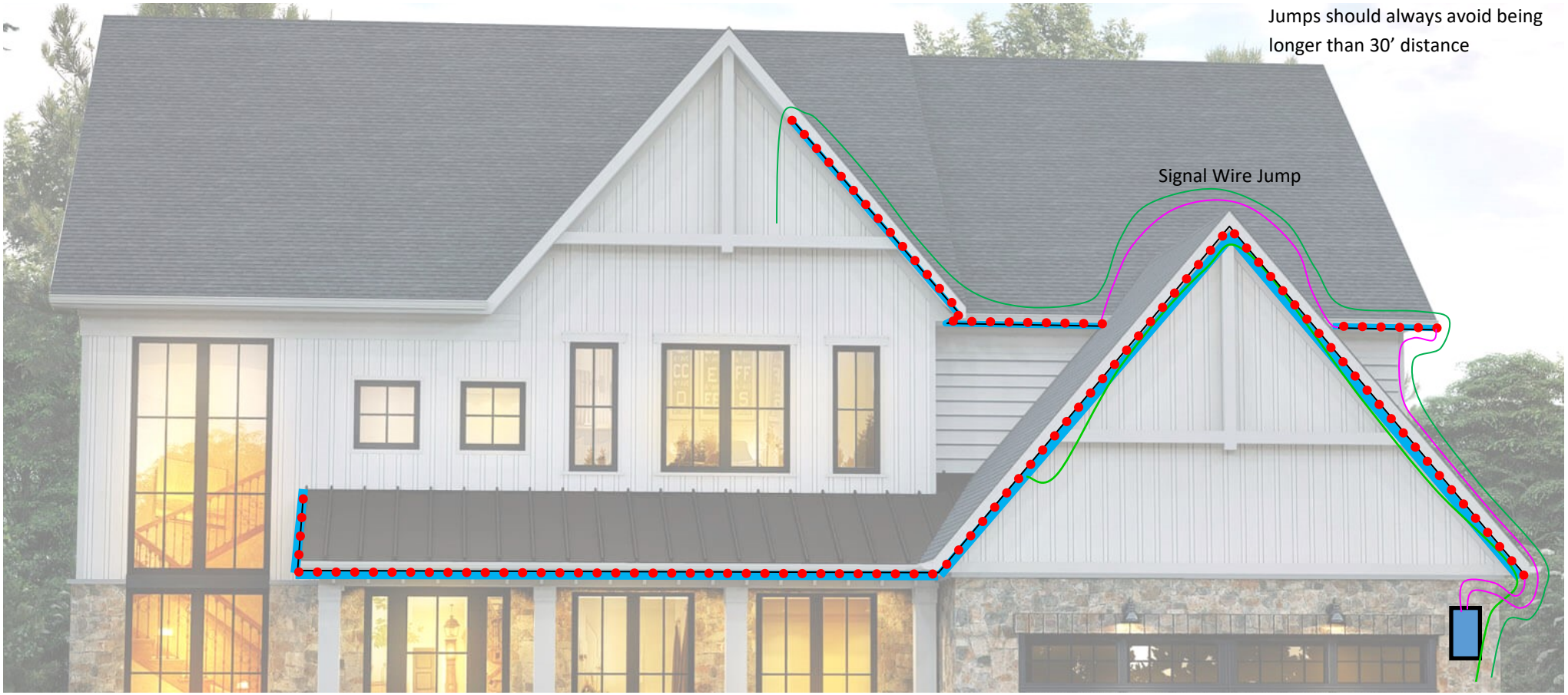
Tuck wires during the process and ensure that you add amplification every 4 strings of lights throughout the process.

STEP #8—Repeat Steps 3-7 for Output #2 (With JUMP)

In this example, there is a jump required because of the obstacle that is in the pathway of the lighting system.

This jump will require the user to cut the light string and splice signal wire to the wire and run the signal wire in the most efficient manner to bypass the obstacle to arrive on the opposite side where the lights will continue in their sequential positions.

If amplification wire is required after obstacles, then the amp wire should be included in the jump. Amp wire shown in GREEN. This jump could be installed inside the attic cavity or externally using wire cover.

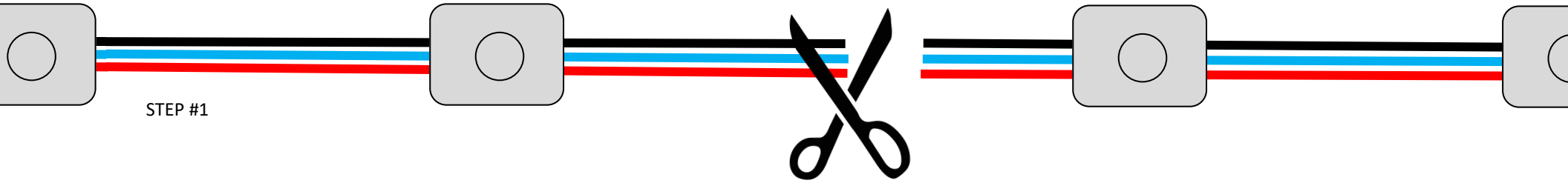


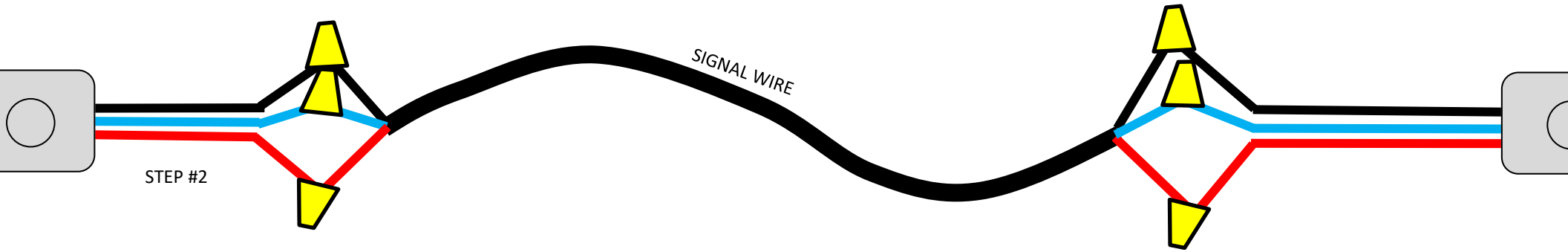
STEP #8 continued—Jumps

When an obstacle shows itself and requires the lights to stop and start on the other side of this obstacle, a **JUMP** is required. These obstacles could be an elevation change, a beam, a corbel, etc.

When installing a jump. Using Wire Cover Channel to hide the wire or running through an attic cavity. If running the wire exterior, make sure to use appropriately colored wire cover that blends into the surface in which it is being mounted. Wire cover can hold approximately 4-6 wires.

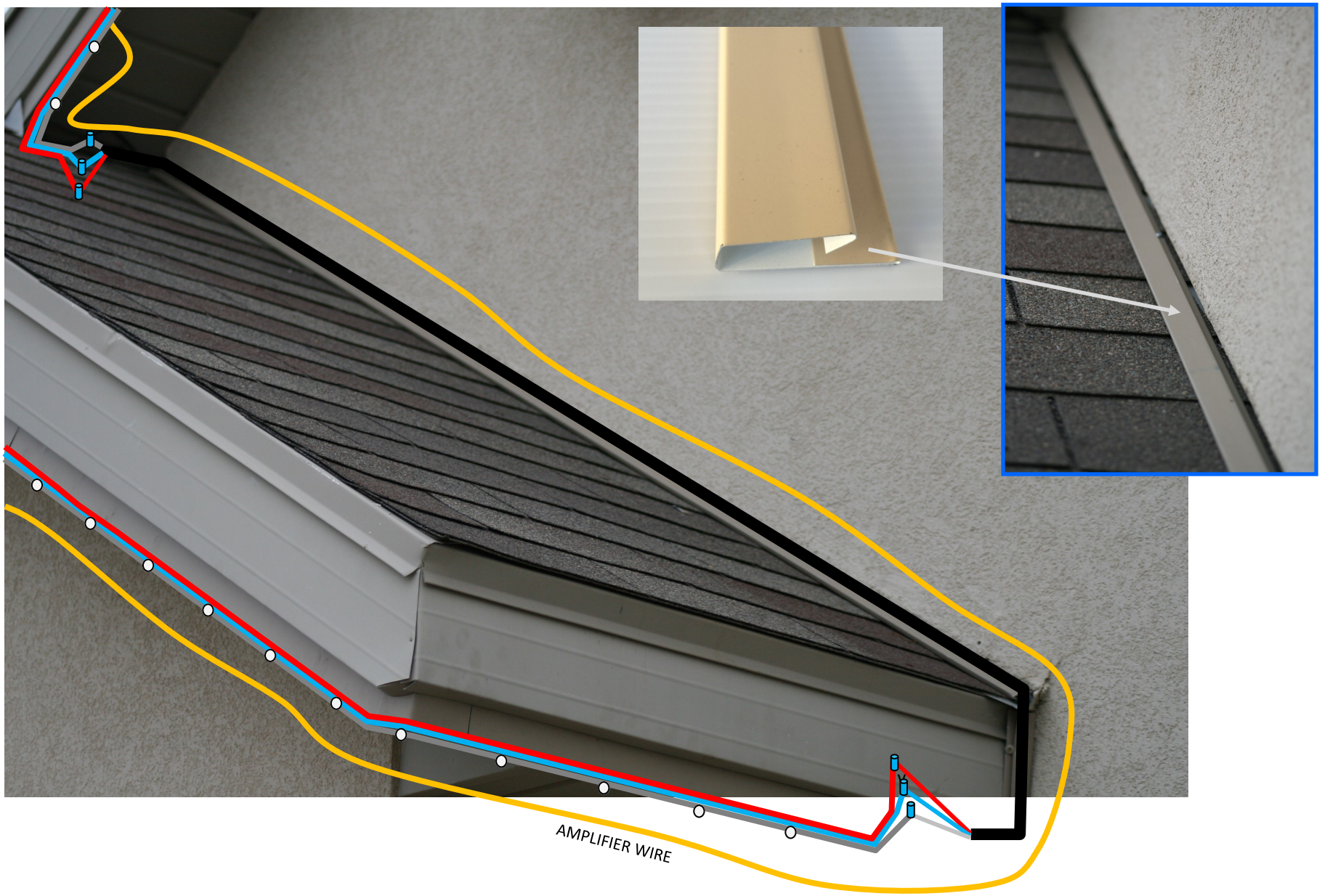
In this diagram, the blue line represents lights and channel. The installer will cut the light strings at this point and use splice connectors and then will connect a run of signal wire (In PINK) from the last light near the cut to the first light on the lower level and connect into the light string below. The Wire Cover Channel will hold the jump wire and any amp wires. The GREEN line on this diagram represents an AMP wire.





TRIMLIGHT

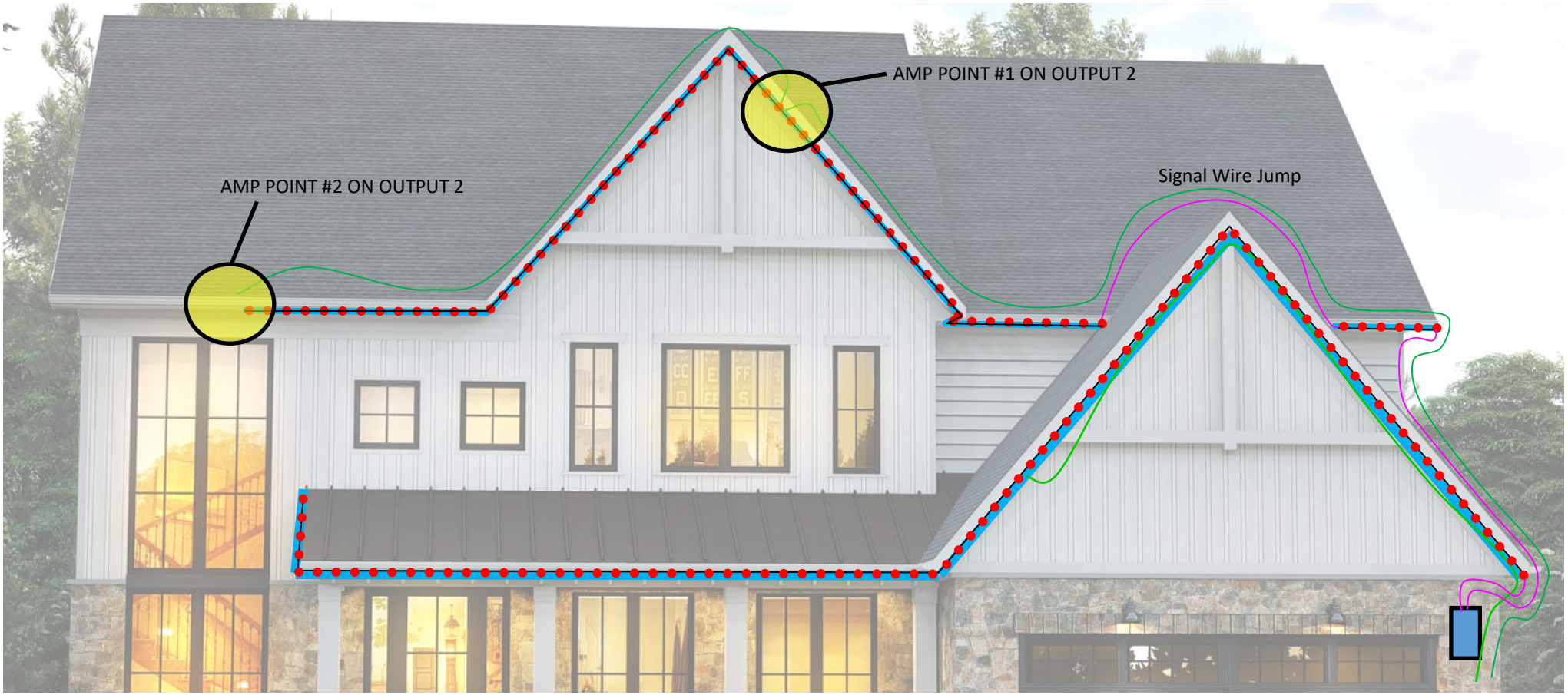
Jumper Wire Example on a IC chipped system



STEP #9—Continue Install until the 2nd Amp Point

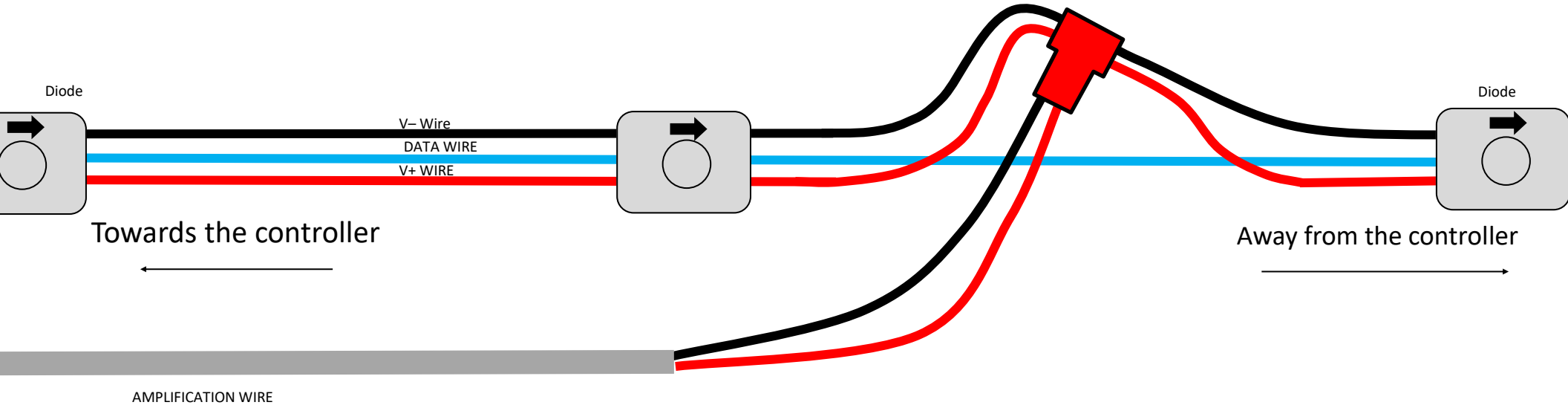
In this example, there is a final amplification point required due to the overall quantity of lights on the output.

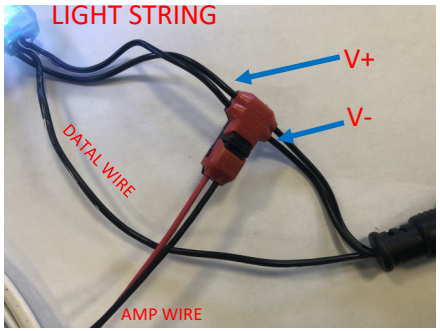
In all projects, only 2 amp points are allowed per output on a single amp wire. If future amp points are needed on an output, there are 2 options: **1.** Run another amp wire from the original power supply or **2.** Add a secondary power supply closer to the remaining amp point locations. The secondary power supply should be sufficiently sized based on the quantity of lights that will be connected to this power supply after the connection. Keep in mind that isolating the positive wire between the secondary amp point and the original run of lights is required.



STEP #9 Cont.—Connect Amp Wire End into Light String Wire

In the current hypothetical design layout. The last of the amp wire run needs to continue in the channel to arrive at the last Tee connection point for this amp wire. The signal DATA wire (on the light string) continues uninterrupted and only the V+ and V– are being amplified.





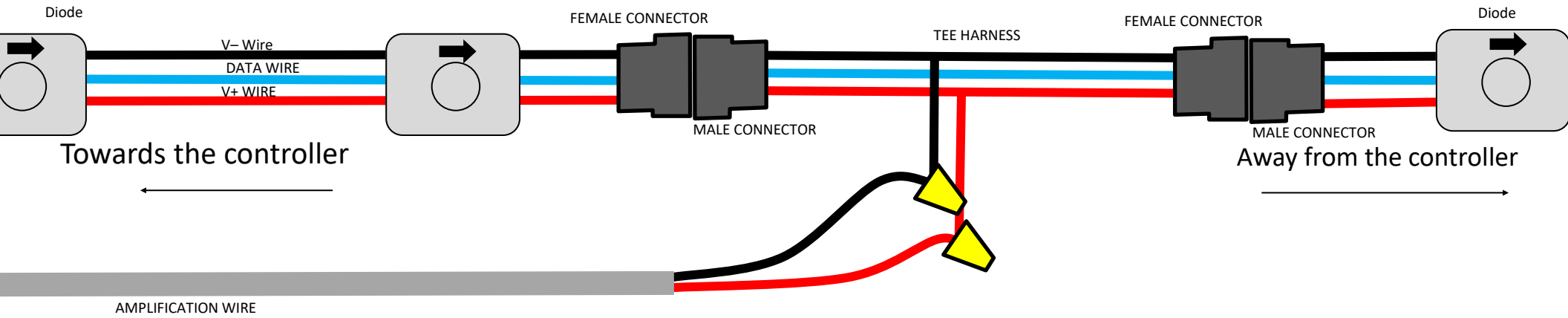
Sample of a “TEE” Connection into the diode wire on V+ and V-.

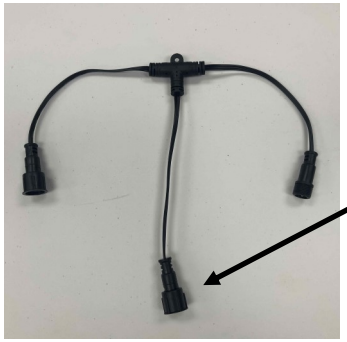
Last Amplification point should be no more than 30-50 lights from the last light on any run.

STEP #9 OPTIONAL—Connect Amp Wire End into Light String Wire

In the current hypothetical design layout. The last of the amp wire run needs to continue in the channel to arrive at the last Tee connection point for this amp wire. The signal DATA wire (on the light string) continues uninterrupted and only the V+ and V– are being amplified.

<u>This method uses a premade TEE harness</u>.





Sample of a “TEE Harness” Connection into the diode strings

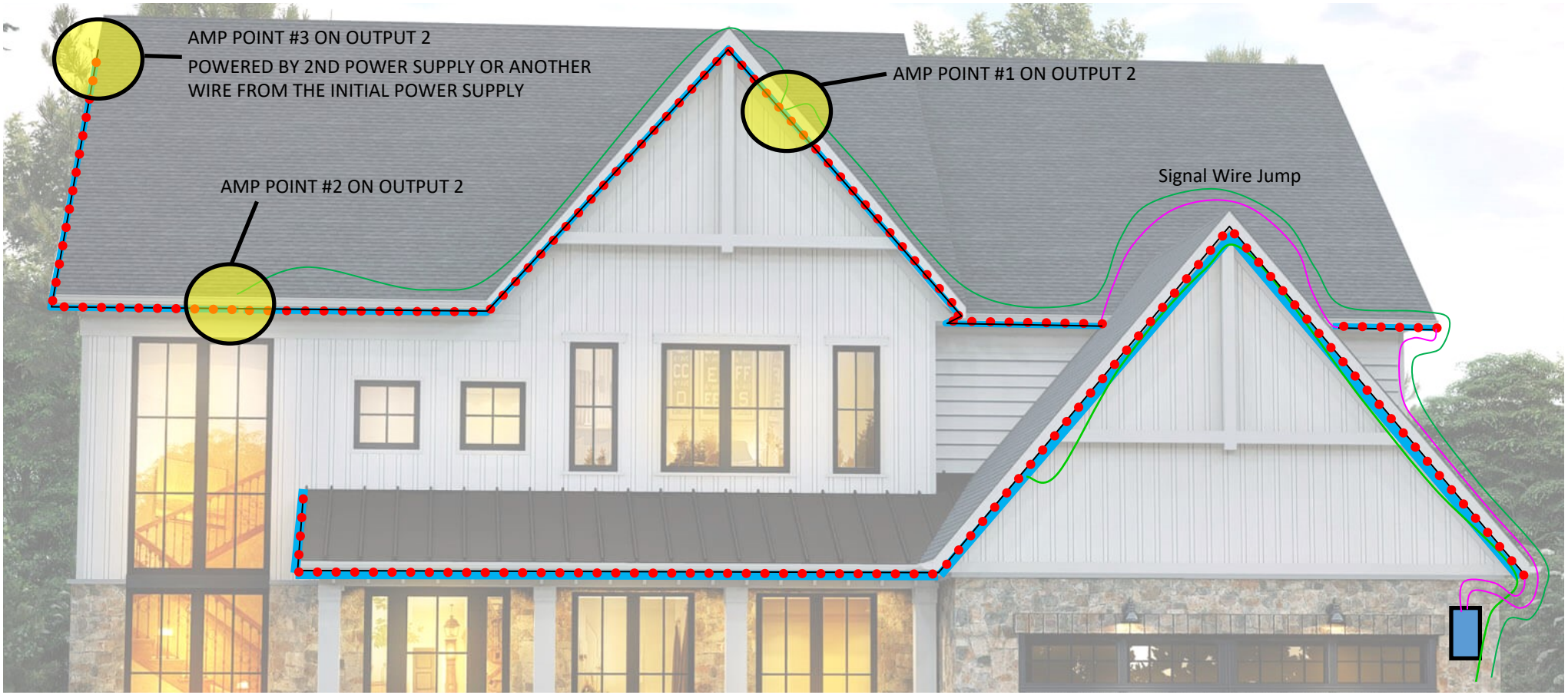
Bottom Connector REMOVED to allow for a wire connection to amp wire. Protect the unused Data Wire on the wire after removing the connector.

STEP #10—Secondary Amp Point (If Needed)

The first 50 lights *(1-50)* are powered from the initial signal wire. The 1st amp connection (Detailed in Step #5) is powering the next 50 lights *(51-100).* The 2nd amp point is powering the next 50 lights *(101-151).*

If using 12/2 wire, this will be the last connection point allowed on this amp wire. Because this is the last connection from the amp wire, the connection should look like the next page diagram.

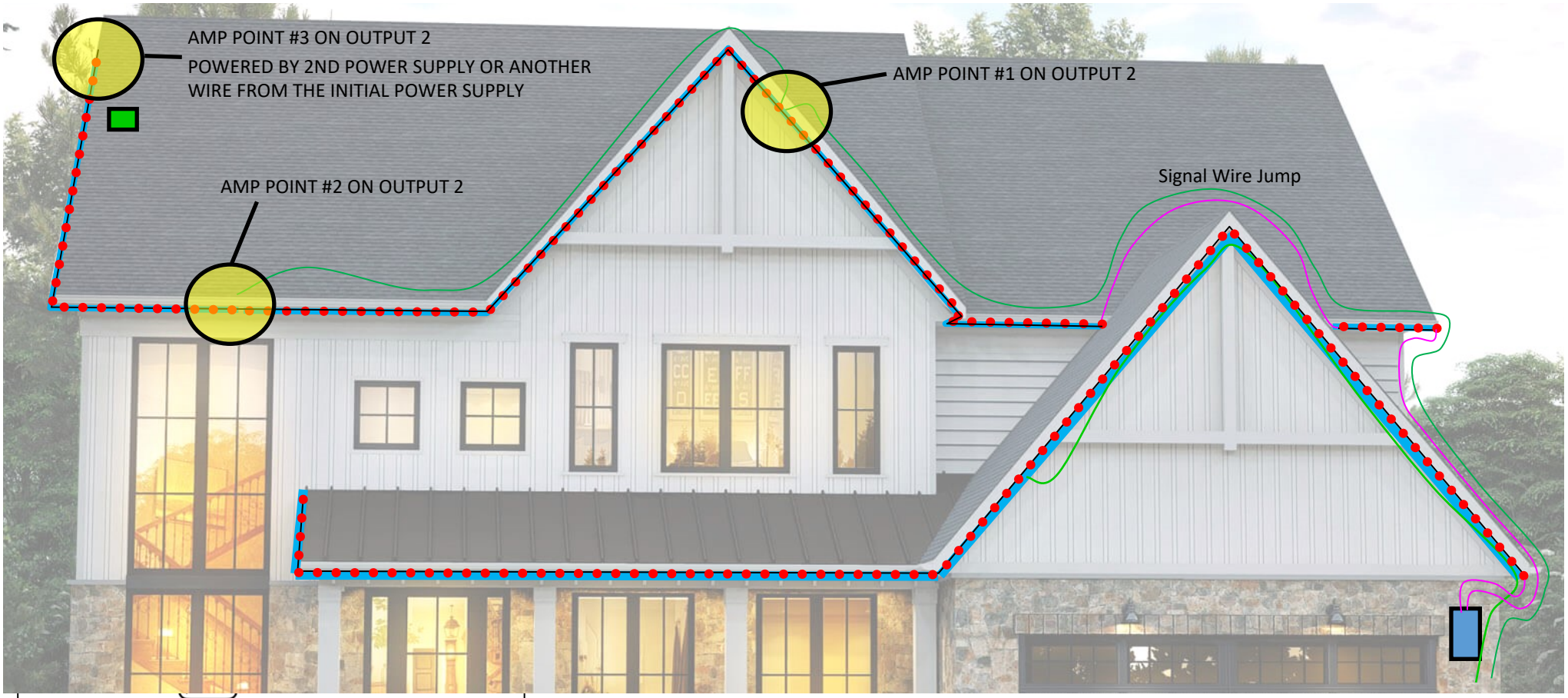
If more amp points are needed, you will need to run a 2nd amp wire in the channel from the previous power supply **OR** add a secondary power supply on the system as shown in Step #11.



STEP #11—Secondary Power Point

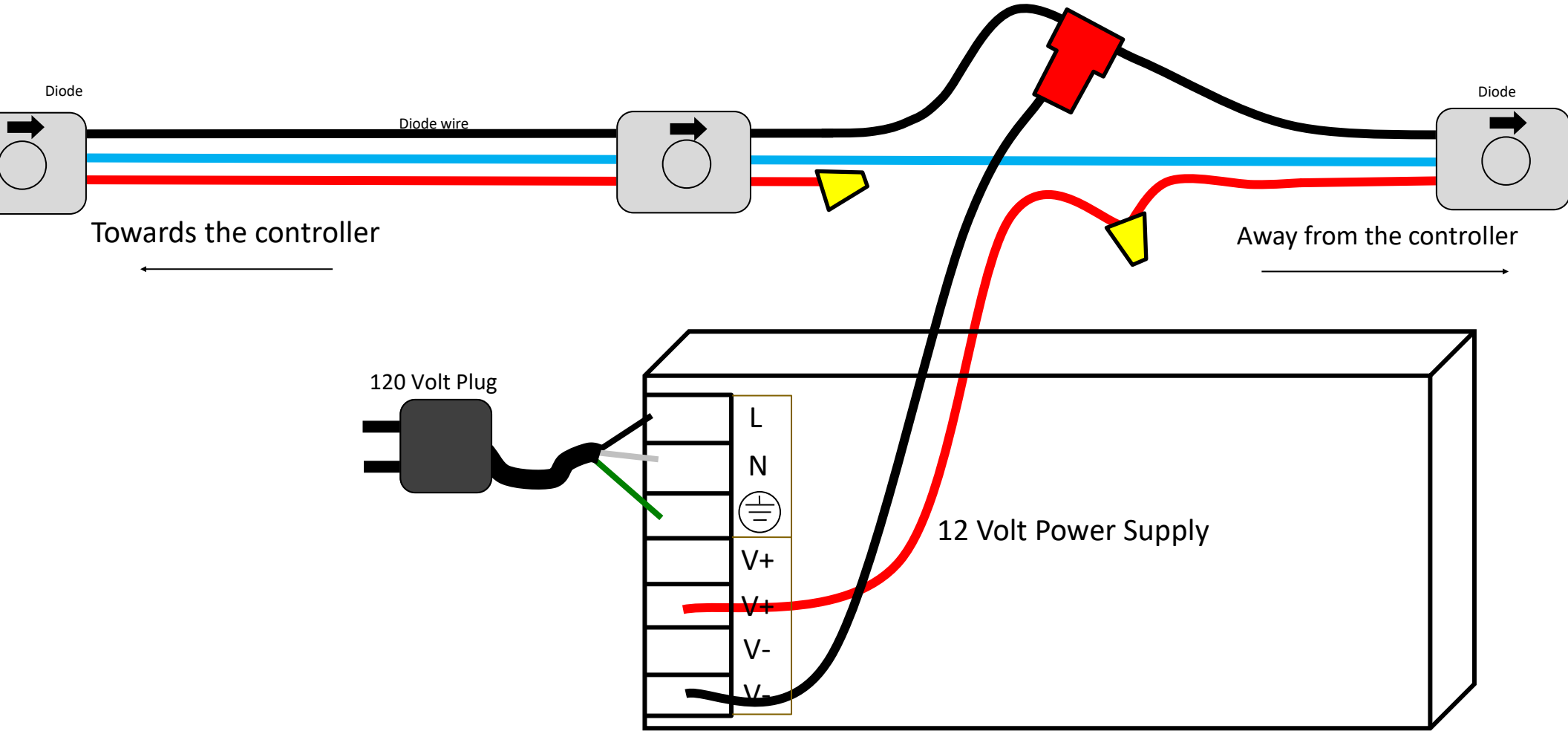
Eventually, the available power that is carried in the amp wire will be depleted and needs to be boosted from another power source. In this diagram, The green box indicates a potential location for another power supply that will then be connected to another 120 volt outlet. Wiring diagram for the secondary power supply on the next page.

A secondary power supply must be sized appropriately based on the amount of lights that will be connected and powered by the secondary power supply.

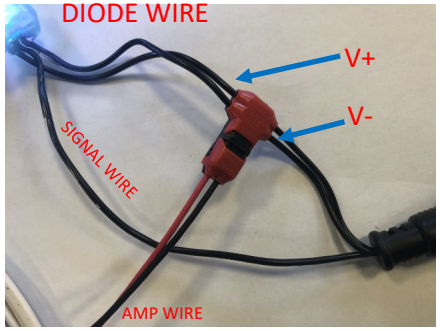


STEP #11—Wiring Diagram if using a secondary power supply.

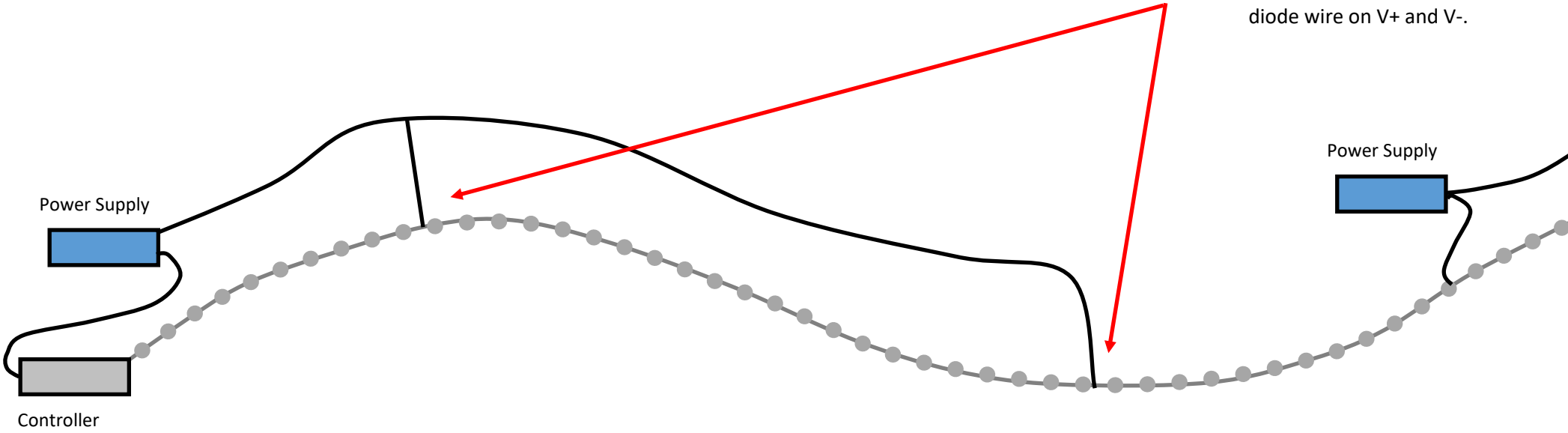
In the current hypothetical design layout. The lights need to continue further along the project and need added power but the original power supply is too far away to be connected. Wiring the secondary power supply like the following method will allow more lights to get appropriate power with minimal voltage drop. The signal DATA wire (on the light string) continues uninterrupted and only the V+ from the previous section is terminated. The new V+ from the power supply continues to the new lights and V– are all connected together.



Correct Wiring for long runs



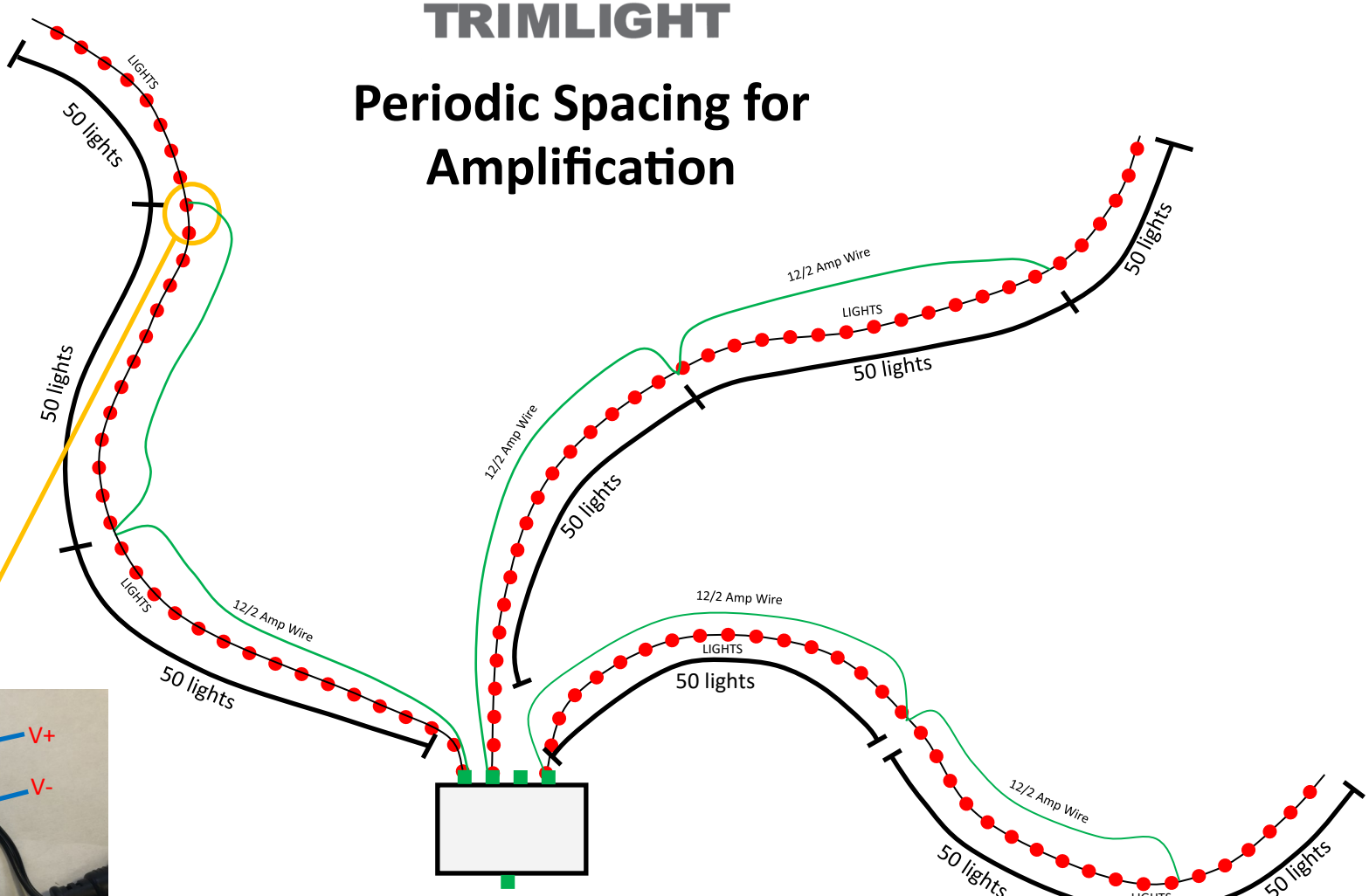
Sample of a “TEE” Connection into the diode wire on V+ and V-.

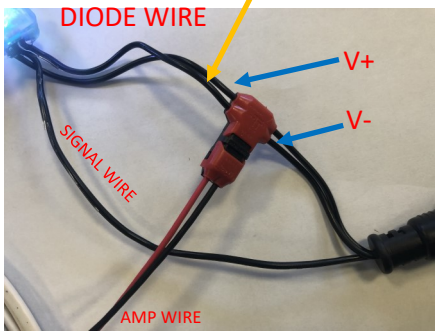


With **LARGE 12/2**

Gauge Amp wire

Periodic Spacing for Amplification





Sample of a “TEE” Connection into the diode wire on V+ and V-.

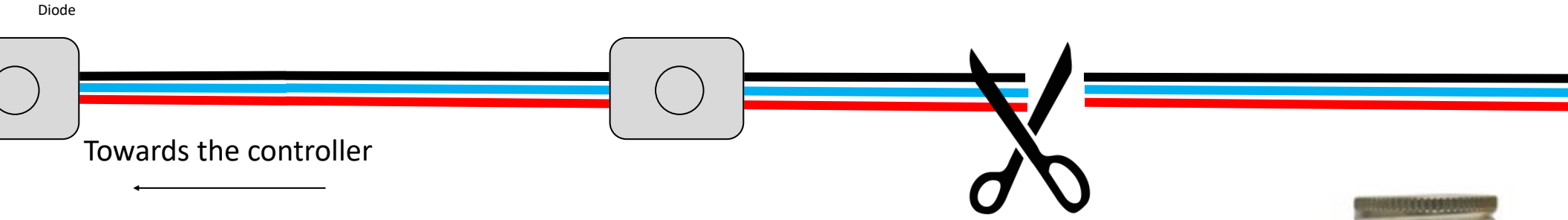
Running Single Runs per Output (Maximum 150 pixels)

With 12 Volt and <u>12/2 Amplifier wire</u>

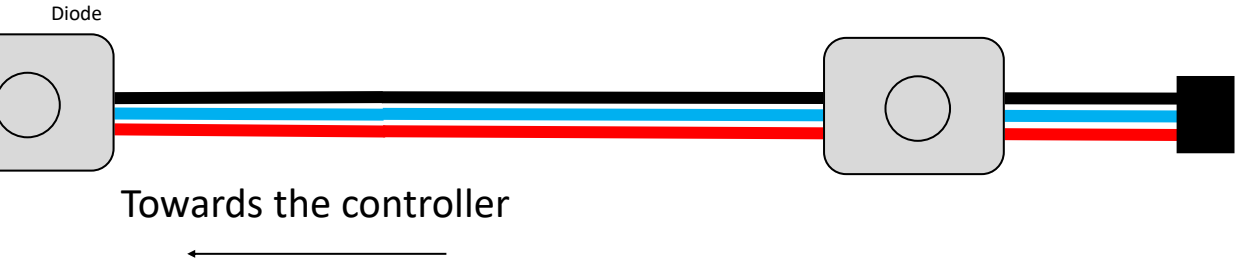
STEP #12—ENDING A STRAND

When finishing a run. Cut the diodes that are not needed from the end and seal the end with liquid tape. Any exposed end should be sealed properly.

STEP #1



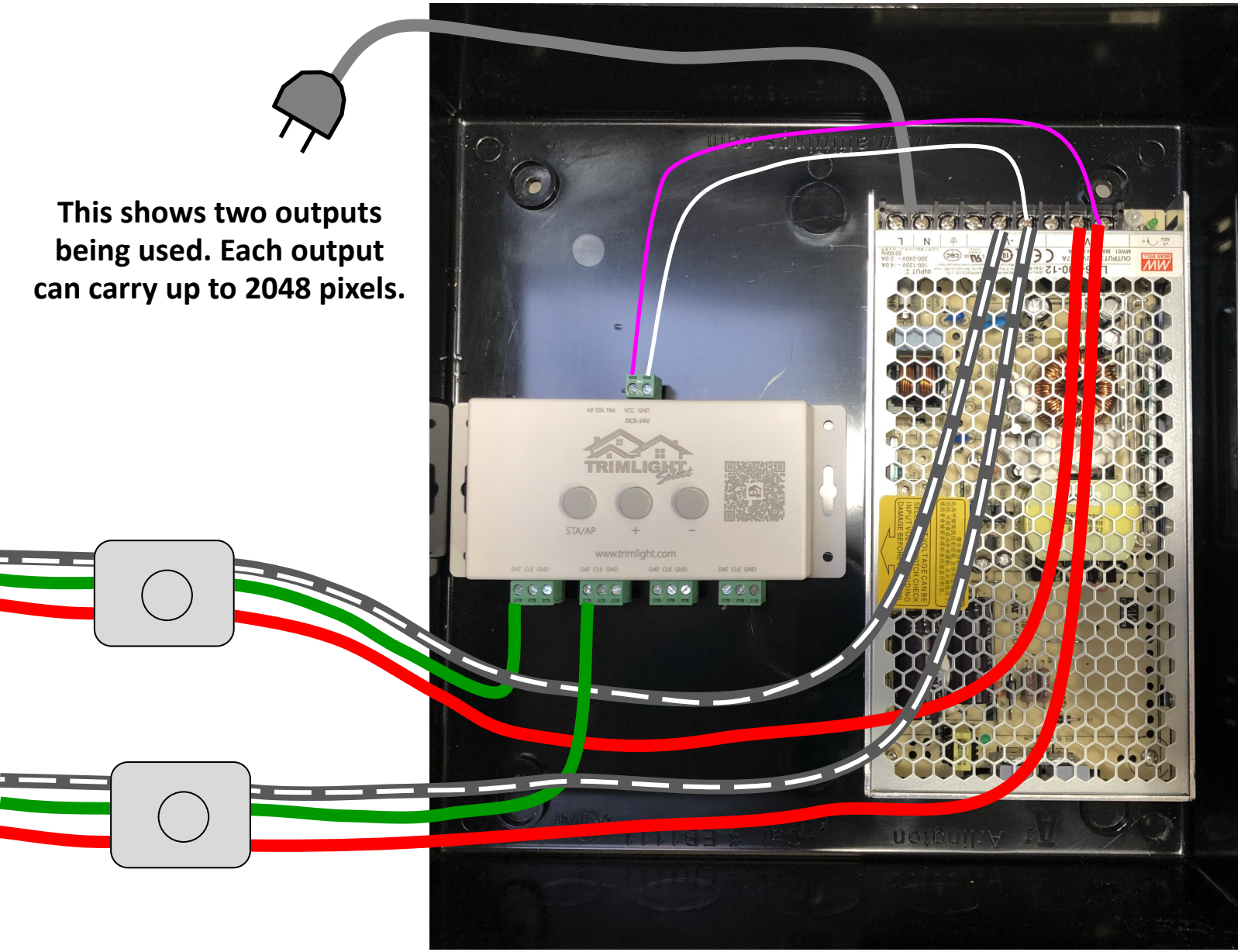
STEP #2



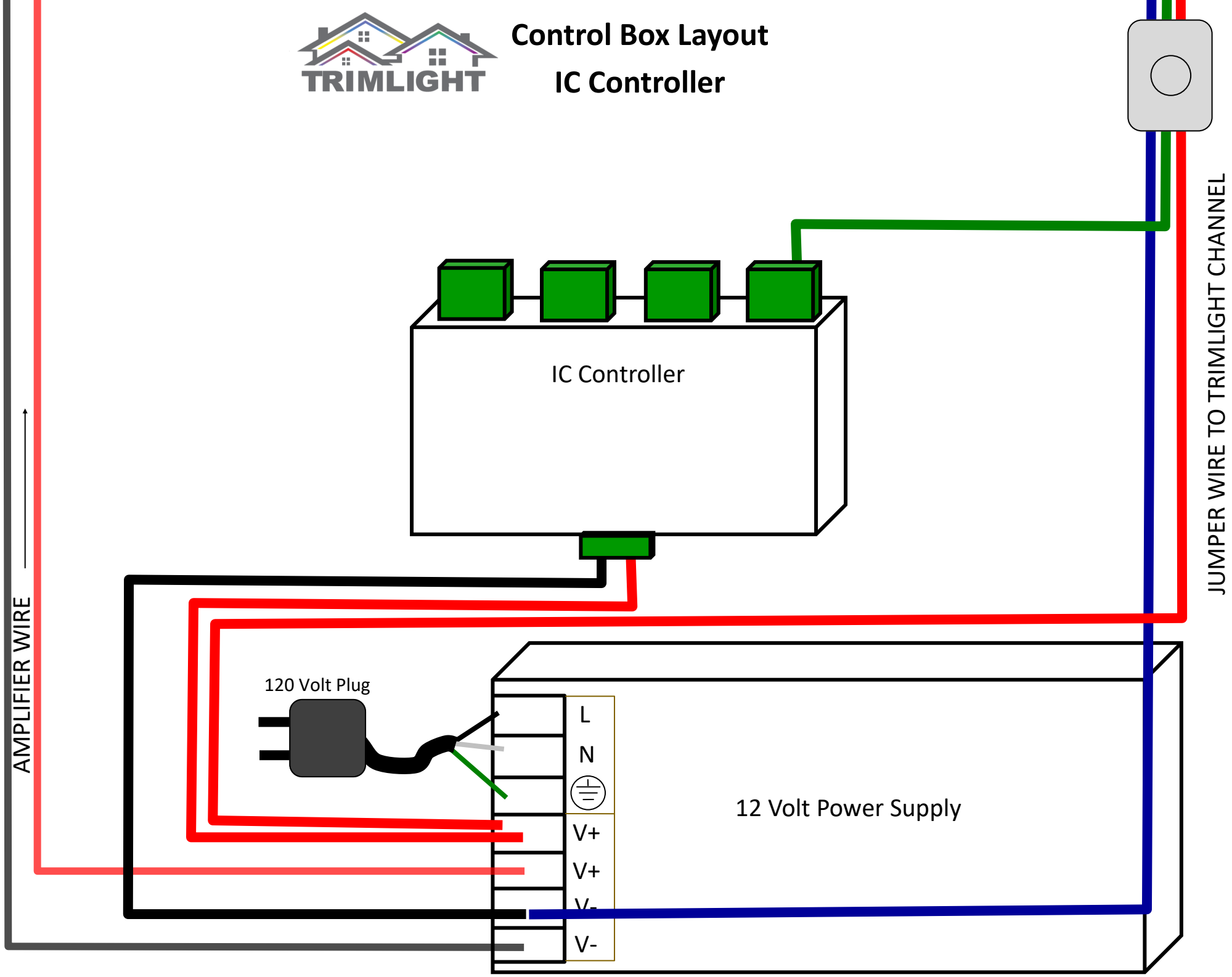
Coat the ends with Liquid Tape for proper sealing around all wires and conductors

Wiring the Master Control Panel

This shows two outputs being used. Each output can carry up to 2048 pixels.



Control Box Layout
IC Controller



STEP #13—Power on and use the controller

Now that you have the system finished or a portion of the system finished and you want to test the system to ensure all bulbs are working properly. You will need to control the lights. You can use the + or - button on the controller to cycle through a few preset programs to test the lights OR you can log into the back end

1. Download the app.
2. FOR TESTING—Ensure the Blue light is highlighted on the Trimlight controller
3. Connect to the TRIMLIGHT signal via the wifi settings in your phone.
4. Turn on the app and connect to the controller.
5. Make sure the diode count on the pixel addresses is sufficient for the amount of lights on the system. <u>As the app comes out of the package ready to control 600 lights per output.</u>
6. Test system and check all the lights to ensure they are all working properly before leaving the site.

For more visual help. Go to TRIMLIGHT.COM for more help