

EASY-ORDER FULL-PERIMETER UNDER-GLOW LED LIGHT KIT

INSTALLATION SUPPLEMENT

With our EASY ORDER Under-Glow LED Light Kit each kit comes with a one page CUT SHEET. That document lists the LED strips specific to your RV's make and model. Refer to that document for placement of the LED strips.

The information in this document is specific to the Full-Perimeter LED Light kit. It is *in addition* to the information found in our RV UNDER-GLOW Installation Instructions. Please make sure you review the information in our RV UNDER-GLOW installation instructions first.

IMPORTANT! No two installation scenarios are the same. Not everyone shares the same installation quality goals. Some folks are OK with twisting wires together, others want to solder and heat shrink them. Some folks are OK with running wires where they may be seen or unprotected to save money/time, others want a tidy, clean install so they wrap plastic split-loom around all exposed cables. Some folks are OK with mounting their LED strips to whatever surface they can find, others want to take the time necessary to build out appropriate mounting surfaces to provide the best lighting effect on their vehicle and maximize the longevity of their lighting system. The point is it's not possible to provide all the materials necessary for all installation scenarios on all types of vehicles to meet everyone's quality goals. Our light kits provide the essential components needed for a high-quality, functioning lighting system. Installation of our light kit to your specific vehicle will however likely require additional items to make it look, fit and work the way you want. This is particularly the case with electrical wiring, switching functionality and mounting surfaces for the LED strips. We have created a list of additional items you may need. Here's the link: <https://www.boogeylights.com/other-items-you-might-need/>. While we offer them for sale you can also find these items locally. We urge you to review this information before starting your install.

DID WE MENTION THE IMPORTANCE OF BENCH TESTING?

If you haven't already done so, we urge you to bench test the LED controller and EACH of the LED strips you received in this kit. It's important to make sure all components are working as expected. Yes, we know it takes an extra 15 or 20 minutes but it's absolutely worth that time.

LOCATION. LOCATION. LOCATION.

Yes, it really is about the location – the location of where you’re going to mount the LED strips to your RV. It’s important to look at the bottom of your RV and take measurements around the perimeter to make sure you know which LED strip is going where. You’ll also need to figure out how you’re going to route the power leads from each strip back to the LED controller or the feeder cable connection (more on that shortly). At the end of this guide there are four diagrams; two for motor homes, two for fifth wheel trailers. Each diagram shows the approximate mounting locations for each LED strip in this kit. You need to match up the LED strips with the mounting locations on your RV. You may need to cut some of the LED strips to fit. You also need to know where you’re going to be installing the LED controller. While we strongly recommend installing the LED controller in the same location as the house batteries, nothing says you have to as long as you have access to sufficient power.

THE MOUNTING SURFACE.

Our under-glow system installation manual goes into detail about the importance of the mounting surface. We urge you to pay attention to those details. How and where you mount your LED strips will for the most part determine the longevity of your lighting system. If you mount the LED strips to smooth, clean, continuous, straight, flat surfaces as we recommend, you can expect your lighting system to last for many years. If however you try to save installation time by bending the strips around corners/curves, mounting them on uneven/split surfaces, mounting them to rusty/dirty/greasy surfaces or mounting them in locations where they’re likely to be damaged by road debris, chances are high the LED strips won’t last very long (and failures under these circumstances are not covered under warranty). If you’re unsure about this process or what is required, we offer a video on how to build out the mounting surface. It’s in our HOW TO section on our website.

Note: In almost all of the full perimeter under glow systems we install here at BOOGEY LIGHTS HQ, we have to build out some form of mounting surface using aluminum flat bar and/or angle. Most modern RVs just don’t have a smooth, flat, rust-free, continuous surface around the entire perimeter to install the LED strips any other way. You can probably get away with installing a couple of strips along each side of the RV without having to build out a mounting surface but when it comes to doing a full perimeter installation, it usually isn’t possible.

FEEDER CABLE.

Our full-perimeter lighting kits include 18awg feeder cable. How much of it depends on which kit you purchased and whether or not you’re using a Single Zone LED Controller vs Dual Zone. The feeder cable makes the installation of full perimeter lighting a little easier by allowing you to bundle the LED light strips behind the rear axles together (and front axle if a motorhome) and then, running one single feeder cable up to the LED controller. The feeder cable is a heavier gauge for this reason. It’s important however not to over-load that feeder cable with too many LEDs. We recommend that no more than 600 LEDs (each 16’ strip contains 300 leds) be bundled on a single 18awg feeder cable. All of our suggested layouts are well below this threshold.

NOTE: The inner jacket colors on the 18awg feeder cable are: BLACK, RED, GREEN and WHITE. The white on the 18awg feeder cable will connect to the BLUE power leads on the LED strips and LED Controller.

POWER LEAD WIRE ROUTING.

Important to make sure you're routing the power leads along the bottom of the RV in such a way as they won't fall off, won't melt (e.g. too close to a hot exhaust) or get twisted up with other moving parts (e.g. generator drawer, wheels, drive shaft, etc.) Where possible, we like to route our power lead wires with other wiring and cabling. Some RVs have exposed areas that make this simple. However it may not always be possible particularly if your RV has an enclosed bottom. In this case you'll need to create your own mounting locations using zip tie mounts or similar. Our kit includes zip ties and zip tie mounts for this reason. Your RV however may require more zip ties or you may need another fastening method. We urge customers to take a look at the bottom of their RV before starting the installation so they can have the installation supplies on hand. BTW – make sure you're using 3M Adhesion Primer with the zip tie mounts; just like the LED strips. In some instances you may need to rivet or screw the zip tie mount to the surface so it can handle the load.

SINGLE ZONE INSTALL.

The Single Zone LED Controller installation is straight forward. One LED controller operates all LEDs regardless of placement. In this scenario all power leads from all LED strips (and the feeder cable) connect to the LED controller. The Single Zone diagram at the end of this guide shows general placement and wiring. It's pretty simple. You may need to adjust placement and/or cut some LED strips to accommodate your installation but that's about it.

DUAL ZONE INSTALL.

The Dual Zone LED Controller installation takes a little more thought and planning. The primary decision that needs to be made is determining which LEDs on the RV will be controlled by ZONE 1 and which by ZONE 2. In a Full-Perimeter install, a lot of customers will make the driver's side LEDs operate on Zone 1 and the remaining LEDs (passenger + front + rear) operate on Zone 2. This configuration can be useful if you're camping in close quarters and don't want the lights on the driver's side of your RV to bother your neighbors. There's a diagram of this configuration at the end of this guide. It is not however the only option. Some customer will put the driver's side + rear on Zone 1 and the rest on Zone 2. Also, we've done installs where we "split" the RV down the middle with Zone 1 operating the driver's side + half the front + half the rear and Zone 2 operating the remaining LEDs. This setup provides some interesting lighting effects. Lastly, we've done installs where Zone 1 operates the entire under-glow (full perimeter) and Zone 2 operates the awning lights (or under slide-outs). The point is there are lots of options. It's totally up to you. You just have to make sure you don't over-load the controller with more LEDs than what it's rated for (1500 LEDs per Zone).

Once you've decided which LEDs will go to Zone 1 and which to Zone 2, you need to identify the power lead cables (including feeder cables) accordingly. We will typically mark the ends of the power leads and feeder cables that attach to Zone 1 with a piece of red electrical tape to make sure we get the wiring right. Once all the power leads are mixed together, you won't know which goes where. If you forget this step, the only way to identify the cables will be by trial and error; lighting each one up individually to determine which power lead goes to which LED strip mounted on the RV. It can be done, but it's time consuming and frustrating. Don't ask us how we know.

WHEEL WELL LEDS: Placement, Mounting, Wiring

If you purchased the optional WHEEL WELL LED strips you'll notice these LED strips are encased in rubber. We use our HEAVY DUTY LED product for wheel well lighting due to the close proximity of the tires to the lights. Our Heavy Duty LED strips are designed to withstand the impact of a rock strike whereas our standard low profile led strips are not.

Placement

For maximum lighting effect we prefer to mount the Heavy Duty LED strip straight up from the tire and off set a little toward the outside wall of the RV. This minimizes the possibility you'll be able to see the LED strip directly and instead, only see the glow from the LEDs flooding the tire/wheel well area. You'll have to take a look at your RV to see what's possible. If you're not sure what looks best, we suggest first dry mounting a strip to see how you like the look. You can usually use duct tape to temporarily hold the LED strip in place for this purpose.

Mounting

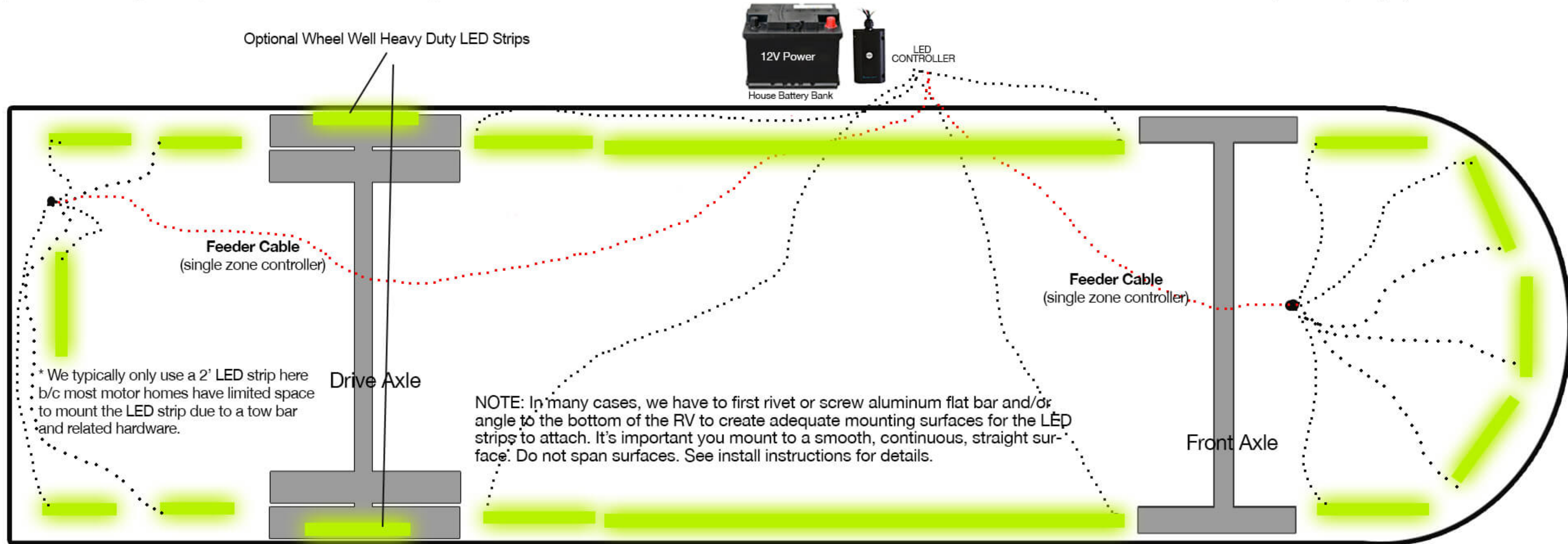
The biggest concern with mounting wheel well led strips is making sure they stay stuck. The last thing you want is for the LED strip to come lose while you're going down the road and wrap around the wheel/axel. Take a look at your RV's wheel wells. Some RV wheel wells are under-coated which can make it difficult to get the LED strips to adhere to the surface without first having to scrape the under-coating away and/or screwing the LED strip to the wheel well at each end. Others have a type of material covering the wheel well surface itself. In this case you may need to cut that material away first to get to the smooth surface beneath it. The key is making sure the surface is clean, free from grease/dirt/oil and smooth. If your RV is under-coated, we suggest scraping off that under-coating just enough to fit the LED strip. You can cover any bare metal you happen to expose in this process using Butyl Tape, Silicone or other similar substance after the LED strip is mounted. As always, make sure you prep the surface first with 3M Adhesion Primer. If you have room in the wheel well area, we also suggest adding a screw or rivet to each end of the Heavy Duty LED strip for extra holding power. It's not always possible however to do this due to the lack of space (unless of course you remove the entire wheel to do this in which case we highly suggest you add that screw or rivet to each end).

Wiring

Our Heavy Duty LED strips come with a 36" power lead. For use in the wheel well you're likely going to have to extend that power lead another 5 or 10 feet depending upon your setup. You can use the feeder cable we provide to do this. For these kind of extensions we prefer to tightly twist together the bare copper wires and then heat shrink over them to keep the connection point as thin as possible. You can however also use a butt connector or closed end crimp on connector to do it too. In most cases the Wheel Well LEDs will wire into the feeder cable connection. See layout diagram for the suggested connection point.

UNDER-GLOW FULL PERIMETER LAYOUT | MOTOR HOME

(not to scale. for general placement demonstration only)



All power leads must run back to the Boogey Lights LED controller mounted at or near the 12vdc power source. We always recommend using the house batteries as the power source. **IMPORTANT! LED strips can not "daisy chain" from one strip to the next.** NOTE: LED Strips can be cut every third LED if you need shorter lengths.

Single Zone LED Controller: One feeder cable (shown above in red) runs to the front. One feeder cable runs to the back.

Dual Zone LED Controller: Two feeder cables run to the front; one for each zone. Two feeder cables run to the back; one for each zone. With the dual zone configuration you'll need to mark the feeder cables so you know which is which. Connect the LED strips you want to work on Zone 1 to the feeder cable attached to Zone 1. Repeat the process for the LED strips for Zone 2.

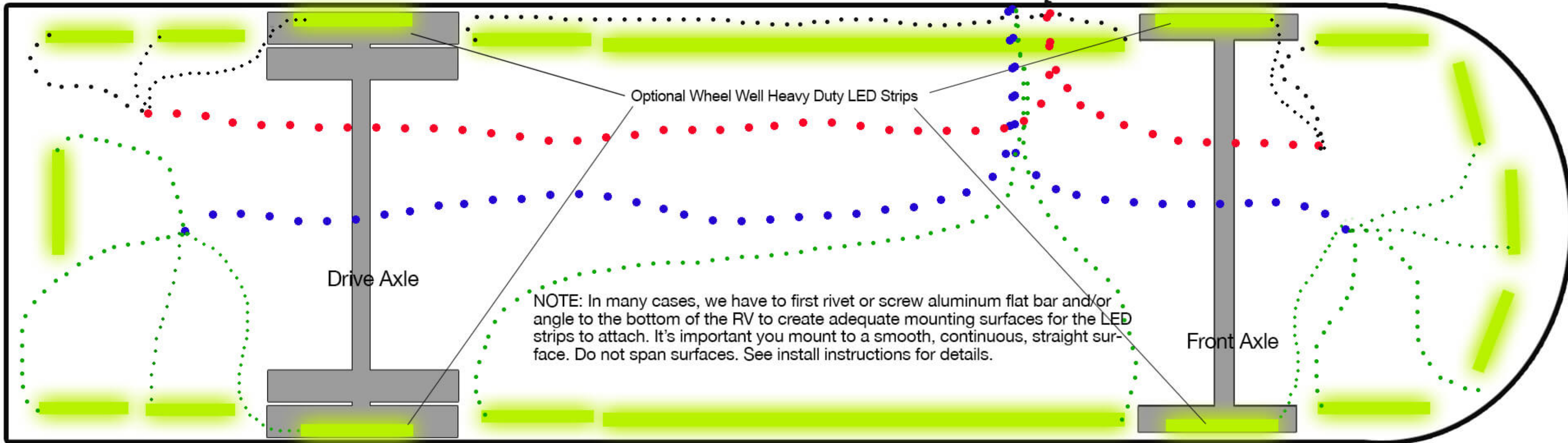
UNDER-GLOW FULL PERIMETER LAYOUT | MOTOR HOME



(not to scale. for general placement demonstration only)

2 Zone Example

In this example, ZONE 1 operates the DRIVER'S side LEDs and ZONE 2 operates the PASSENGER'S SIDE, the FRONT and the REAR.



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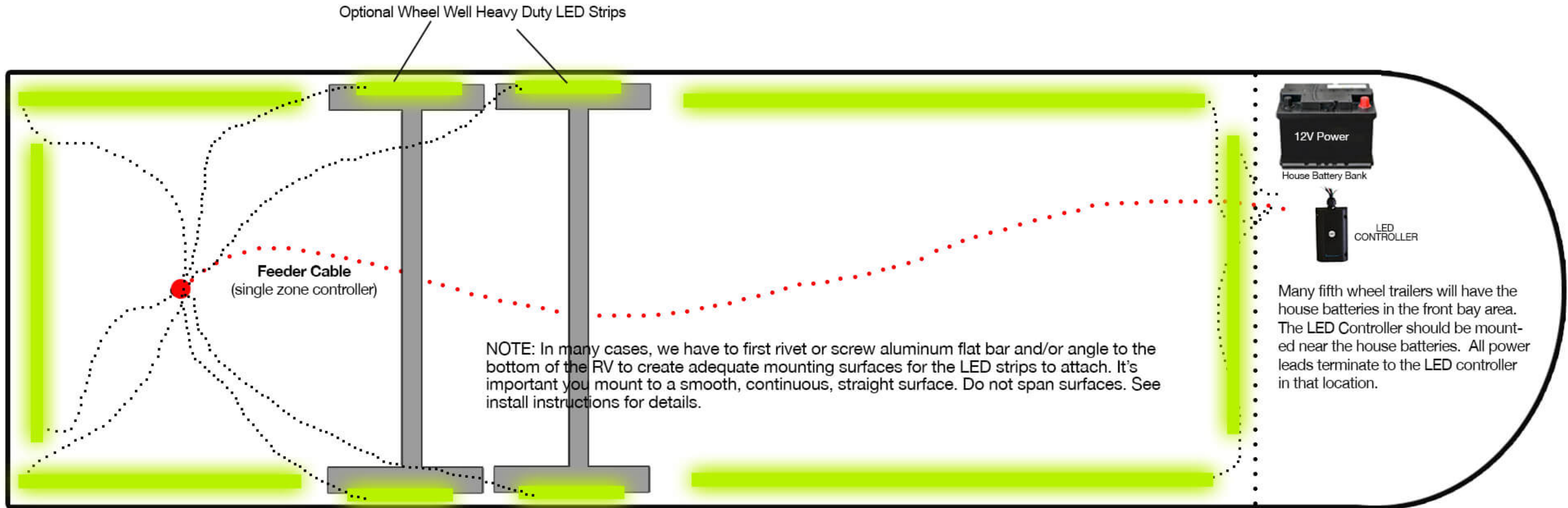
Single Zone LED Controller: One feeder cable runs to the front. One feeder cable runs to the back.

Dual Zone LED Controller: Two feeder cables run to the front; one for each zone (Red = Zone 1. Blue = Zone 2 in the diagram above). Two feeder cables run to the rear; one for each zone (Red = Zone 1. Blue = Zone 2). With the dual zone configuration you'll need to mark the feeder cables so you know which is which. Connect the LED strips you want to work on Zone 1 to the feeder cable attached to Zone 1. Repeat the process for the LED strips for Zone 2.

UNDER-GLOW FULL PERIMETER LAYOUT | FIFTH WHEEL TRAILER

(not to scale. for general placement demonstration only)

DOUBLE AXLE



All power leads must run back to the Boogey Lights LED controller mounted at or near the 12vdc power source. We always recommend using the house batteries as the power source. **IMPORTANT! LED strips can not "daisy chain" from one strip to the next.** NOTE: LED Strips can be cut every third LED if you need shorter lengths.

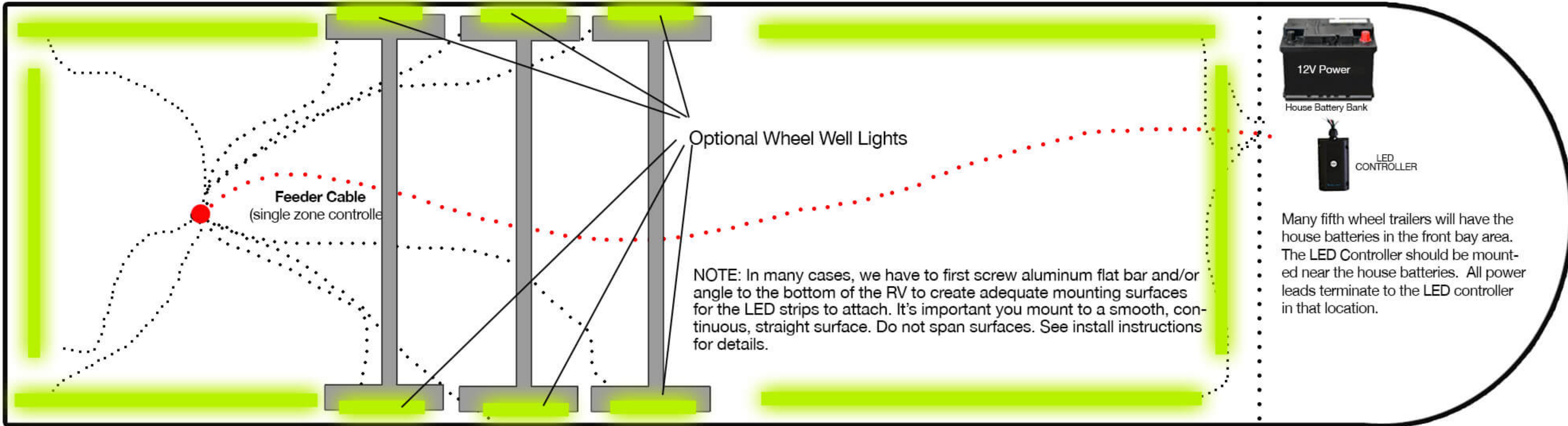
Single Zone LED Controller: One feeder cable (shown above in red) runs to the rear.

Dual Zone LED Controller: Two feeder cables run to the rear; one for each zone. With the dual zone configuration you'll need to mark the feeder cables so you know which is which. Connect the LED strips you want to work on Zone 1 to the feeder cable attached to Zone 1. Repeat the process for the LED strips for Zone 2.

UNDER-GLOW FULL PERIMETER LAYOUT | FIFTH WHEEL TRAILER

(not to scale. for general placement demonstration only)

Triple Axel



All power leads must run back to the Boogey Lights LED controller mounted at or near the 12vdc power source. We always recommend using the house batteries as the power source. **IMPORTANT! LED strips can not “daisy chain” from one strip to the next.** NOTE: LED Strips can be cut every third LED if you need shorter lengths.

Single Zone LED Controller: One feeder cable (shown above in red) runs to the rear.

Dual Zone LED Controller: Two feeder cables run to the rear; one for each zone. With the dual zone configuration you'll need to mark the feeder cables so you know which is which. Connect the LED strips you want to work on Zone 1 to the feeder cable attached to Zone 1. Repeat the process for the LED strips for Zone 2.

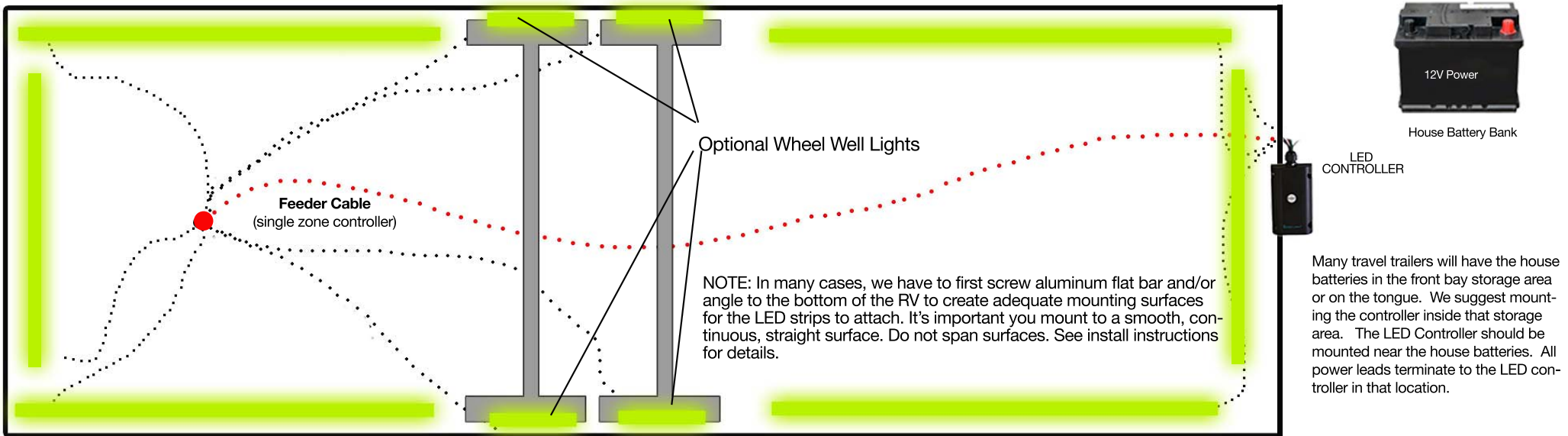
UNDER-GLOW FULL PERIMETER LAYOUT | TRAVEL TRAILER

(not to scale. for general placement demonstration only)

Double Axle



The wiring plan for a travel trailer is the same as a fifth wheel trailer. What can be different is the location of the house batteries. Some travel trailers have the battery stored on the tongue of the trailer vs in a storage compartment. The LED controller should be mounted inside the trailer regardless.



All power leads must run back to the Boogey Lights LED controller mounted at or near the 12vdc power source. We always recommend using the house batteries as the power source. **IMPORTANT! LED strips can not "daisy chain" from one strip to the next.** NOTE: LED Strips can be cut every third LED if you need shorter lengths.

Single Zone LED Controller: One feeder cable (shown above in red) runs to the rear.

Dual Zone LED Controller: Two feeder cables run to the rear; one for each zone. With the dual zone configuration you'll need to mark the feeder cables so you know which is which. Connect the LED strips you want to work on Zone 1 to the feeder cable attached to Zone 1. Repeat the process for the LED strips for Zone 2.

1 Nov 2023