

STEVE'S LEDS

Congratulations on your purchase of a Steve's LEDs Upgrade! Please read through this entire installation guide BEFORE unpacking your LED retrofit system.

This kit assumes you have a basic knowledge of electronics, such as never touching a live electrical circuit under any circumstances whatsoever, understanding polarity, wiring in series and parallel, electrical safety and handling, and the use of basic handheld tools. Consider researching the internet or asking a friend if you are unfamiliar with these terms. We are not responsible for mistakes published in this guide, or installation errors as a result of mistakes published in this installation guide, you are ultimately responsible for proper and safe installation. By proceeding with the installation, you are accepting full responsibility of the safe and proper installation of your LED upgrade system. Remember that your biggest resources are your friends that are familiar with electronic device installation. Steve's LEDs is available for [support](#) during normal business hours.

WARNING: Most of the components contain leaded solder, which has been known to cause a numerous health issues. Here it is: WARNING: This product contains lead, a chemical known to the State of California to cause neurological damage, cancer and birth defects or other reproductive harm.

LEAD IS GOOD!!! We use leaded solder because it requires a relatively low temperature to melt. The lower the temperature we can keep our electronics and LEDs, the longer they last. I have heard of many people getting very poor lifespan out of LEDs that have been soldered with lead-free solder (almost double the melting temperature of lead solder). Once installed, you will not be handling your retrofit kit regularly, so it is not a health risk for you, or your aquarium inhabitants during day-to-day usage. Frankly, if we see an LED related product that is soldered with lead free solder, we just don't buy it because there is a high probability that it will have a reduced lifespan.

This guide is just that....a guide. There are many ways to install an LED retrofit system correctly. This guide serves as an outline, based on our years of experience, of the most efficient, safest, and most economical way to install your kit.

Before unpacking your retrofit kit from the box, please be aware that mishandling the LEDs is the #1 cause of permanent damage to the system. Putting a mere 2 ounces of pressure in the wrong spot can tear apart a fragile high power LED or rip apart essential wiring. Be prepared to treat all of the components as if they are as fragile as eggs while unpacking. The unpacking process should not be rushed; take your time and ensure all items are treated with great care. Once unpacked, you can cut and remove every YELLOW plastic wire tie (zip-tie) that you see holding the bundles of wire together on the LED system, please do not cut any BLACK zip ties. We have listed the steps in detail so that even a person unfamiliar with electronic

component handling will have a safe and proper installation. Please read through all of the steps before beginning installation.

It is a good idea to test the LED system immediately upon unpackaging, to ensure there is no shipping damage.

Red Sea Max 130 LED Upgrade

List of Included Products

- 1X Drop in Fixture – Fully Assembled
- 1X Parts bag containing mounting screws and 1X Allen wrench to be used with mounting screws
- LED Controller with power plug
- Power Supply

Required Tools

Flat head screwdriver (1/4" - 3/16" width head is ideal)

Hammer

Wire cutters, or [wire snippers](#) or diagonal wire cutters

Philips head screwdriver (#1 and #2 size)

Pliers

Optional and Recommended – Silicone sealant (for sealing the cable)

Approximate Installation Time: 15-45minutes

- Remove your Red Sea Max hood and unplug ALL electrical connections that plug into wall outlets!
- This LED system may utilize a small amount of the existing wiring, so please take care to remove only what this guide recommends. We have painstakingly determined the easiest way to install this upgrade, it is highly recommended that you strictly adhere to this guide; however, you are ultimately responsible for safely installing your LED light retrofit kit. Although the steps are in chronological order, please read through the entire step before beginning the step, as the contents within each step may or may not be in order.

Installing Your New LED Upgrade:

For your convenience, we have made a short video (animated GIF) for each and every step of the process. This is provided by giving you a web link. This link **must be opened using any web browser** of your choice (such as Google Chrome, Firefox, and Microsoft Internet Explorer). These are large files, and may need several minutes to load and to begin playing properly. It may be best to open all of them in your browser in different tabs, then take a coffee break and come back in a half hour. Alternatively, you can download the complete set here:

https://www.stevesleds.com/assets/images/rsm130/rsm130_gifs.zip

Once opened in your browser, the video will load frame by frame, then begin to play in a continuous loop, automatically starting over again and again, indefinitely. This allows you to study the step and become completely familiar with it prior to actually doing it yourself.

PLEASE HANDLE THE LED FIXTURE CAREFULLY. THE LEDS WITHIN YOUR FIXTURE ARE EXPOSED AND EXTREMELY FRAGILE. SIMPLY TOUCHING THEM WITH YOUR FINGER IS ENOUGH TO CAUSE PERMANENT PHYSICAL DAMAGE TO THEM. DAMAGED LEDS ARE NOT COVERED UNDER THE MANUFACTURERS LIMITED WARRANTY. NEVER ALLOW ANYTHING TO TOUCH THE LEDS SUCH AS CABLES, TOOLS OR FINGERS. NEVER SET THE FIXTURE IN THE LED-SIDE-DOWN ORIENTATION.

1. Unplug all electrical connections from your hood. Remove the hood from your aquarium and place on your work surface. We recommend you place it on a large bath towel so your hood will not be scratched. Remove the plastic screw cover plugs.
https://www.stevesleds.com/assets/images/rsm130/step_1_remove_screw_covers.gif
2. Proceed to remove the 6 screws. Keep these for later.
https://www.stevesleds.com/assets/images/rsm130/step_2_remove_screws.gif
3. Take the hood apart, separating it into a top and bottom half.
https://www.stevesleds.com/assets/images/rsm130/step_3_taking_apart_the_hood.gif
4. Flip bottom half of the hood over to expose the wiring.
https://www.stevesleds.com/assets/images/rsm130/step_4_flip_the_hood_over.gif

5. Remove all components that are in your hood. The only item that will remain is the metal plate. All of the components and wiring that is removed can be discarded except for the timer unit.
https://www.stevesleds.com/assets/images/rsm130/step_5_removing_hood_components.gif
6. Cut 3 wires, those that are connected to the power cable that exits the hood. Be aware that the video shows all stock wiring and components being removed. This is not necessary, and was show to demonstrate the simplicity of it. If you wish to use the stock water cooling fans (recommended) just keep everything intact, it will work just as well, and will be less work on your part! You will only need to cut and remove the large power cable entering the hood.
https://www.stevesleds.com/assets/images/rsm130/step_6_cutting_three_wires.gif
7. Remove the two cables, these will be discarded. Keep the smaller black cable intact if you wish to keep the water cooling fans.
https://www.stevesleds.com/assets/images/rsm130/step_7_removing_two_cables.gif
8. Remove the 4 screws holding the reflector down, these will be discarded.
https://www.stevesleds.com/assets/images/rsm130/step_8_remove_the_reflector.gif
9. Install the LEDs using the 4 included screws!
https://www.stevesleds.com/assets/images/rsm130/step_9_install_the_leds.gif

UPDATE: If you have the older RSM130D version, turn the LED system around 180°, where the fan is opposite of the video. Then using ONLY TWO screws, mount the LED system using just 2 screws, in the holes furthest away from the fan. Once you replace the lid, it will securely hold the entire system in place.
10. Feed the LED system cable through the bottom of the hood, in the same hole where the stock cable was.
https://www.stevesleds.com/assets/images/rsm130/step_10_feeding_the_cable_through_the_hood.gif
11. Re-assemble both of the side vents. The video shows the exact order of steps to get these to fit in easily. This procedure is identical for both sides.
https://www.stevesleds.com/assets/images/rsm130/step_11_replacing_the_timer.gif
12. Close the hood back up.
https://www.stevesleds.com/assets/images/rsm130/step_12_close_the_hood.gif
13. Put the screws and screw covers back in. Careful to not overtighten.
https://www.stevesleds.com/assets/images/rsm130/step_13_putting_it_back_together.gif
14. Plug the LED cable into the power supply. Ensure the white dots are matching.
https://www.stevesleds.com/assets/images/rsm130/step_14_plug_the_power_supply.gif

15. To install the controller, just plug it in!

HurricaneX – <https://www.stevesleds.com/assets/images/hurricaneX/hurricaneX.gif>

[HurricaneX Manual](#)

16. Select the correct power supply voltage for your country.

https://www.stevesleds.com/assets/images/rsm130/step_16_voltage_selector_switch.gif

17. Make certain ALL wires and cables coming from your aquarium have drip loops. Plug the two plugs into a surge protector. Ensure the surge protector is plugged into a GFCI outlet.

18. Pat yourself on your back, and brag to your friends.

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Acclimating your new and existing corals to the brighter, and full spectrum LEDs.

Acclimating your corals to the new, brighter LEDs. To determine how much light to provide your corals with, it is very important to watch your corals and their response to the LED light. Start off at 30%, and see how the polyps respond after 5 days. If the polyps are balloon like and relatively clear, they need more light. If they are small and dark, they are getting too much light. If the corals are pure white, they likely have been bleached (blasted with too much light), and will take about 3 months to recover using a 20-25% light level. If they appear to be relatively normal, just let them adjust to the LED spectrum for another 3-5 days. After that, increase the intensity of the LEDs approx. 2-3% once every 3-4 days (or 1% every day) over the course of the next 2 months. If you rush this process, it is highly probably that you will bleach and could even kill your corals. Corals will take a minimum of 6 weeks to fully acclimatize and adjust to the new brighter LED light after you have completed the initial acclimation procedure. During this time their colors will enhance and sometimes change as they adapt. Sometimes browns will turn to blues, sometimes blues will turn to greens, etc. Every individual coral is somewhat unique and as it adapts its colors may change. When introducing new corals, you must restart this acclimation process, by bringing the light intensity down to less than half. If you rush this process, you will notice that the growth of your corals will be stunted for up to 6 months.

The final intensity settings (once the acclimation is fully complete after 3-4 months) will depend on your specific corals. If you have mostly soft corals, the intensity settings will be around 65%. If you have mostly LPS, then it will be around 75%. If you have mostly SPS, clams and anemones then it will be around 80-100%. Rarely would you need more light than both channels on 90%. If the color is too blue for your liking, simple decrease the blues channel MAX setting by 5%, and increase the white channel MAX setting by 5%. If the color is too white for your liking, simple decrease the white channel MAX setting by 5%, and increase the blue channel MAX setting by 5%. You can continue to refine until you are satisfied. Just remember to adjust both colors the same amount, otherwise you may have to re-acclimate.

To determine percentage on the HurricaneX, just divide the value you are at by 4095. For example, if you want to know what value 2040 is, then

$$2040 \div 4095 = .50 \text{ (50\%)}$$

$$1023 \div 4095 = .25 \text{ (25\%)}$$

$$3071 \div 4095 = .75 \text{ (75\%)}$$

If you have any difficulties, suggestions, comments or ideas, please feel free to contact us during normal business hours at Techsupport@StevesLEDs.com or 985-789-6604 (USA, CST).