# RSERIES LOGIC ENGINE V8 KIT

**For full instructions see rseries.net/logic**

## PARTS

### Electronics
(1) WREACTOR32 Board
(1) Rear Logic LED Board
(2) Front Logic LED Boards
(1) 3pin 30cm cable
(1) 4pin 20cm cable
(1) 3pin 15cm cable
(1) 3pin 10cm cable

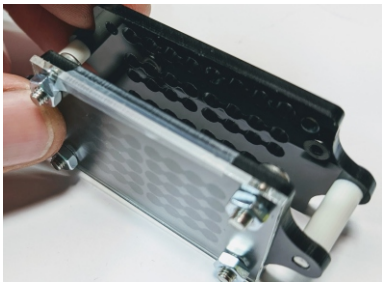
### Plastics
(1) Rear Inner Bezel (black 1/8" acrylic)
(1) Rear Outer Bezel (black 1/8" acrylic)
(1) Rear Inner Screen (clear 1/16" acrylic)
(1) Rear Outer Screen (clear 1/16" non-glare)
(2) Front Inner Bezel (black 1/8" acrylic)
(2) Front Outer Bezel (black 1/8" acrylic)
(4) Front Screens (clear 1/16" non-glare)

### Hardware
(8) M3 18mm Screws
(20) M3 8mm Screws
(8) 1/2" spacers
(2) M3 Hex nuts
(2) Nylon Washers
(1) 2mm Hex Key

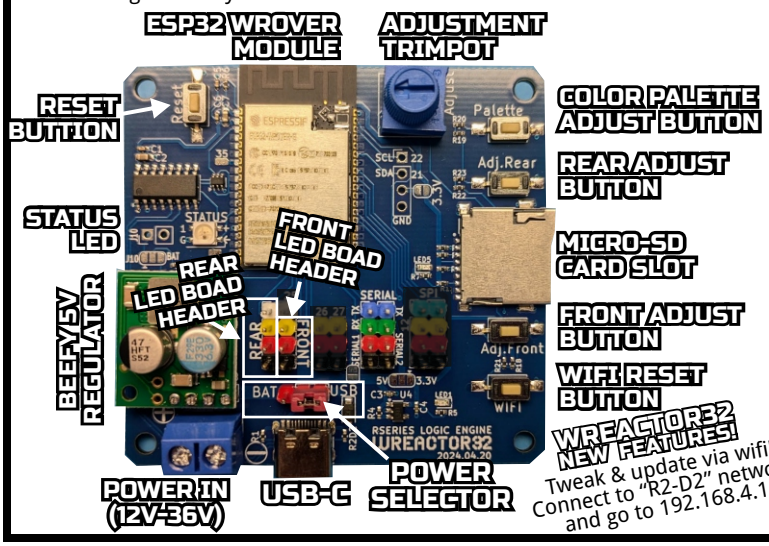
### Curved RLD Note
Additional 4-40 hardware is included for use with Philip Wise's curved rear logic display (four 1.25" screws, two 0.375" screws, nuts, washers). **The instructions below do not cover curved RLD assembly.**

## ASSEMBLY

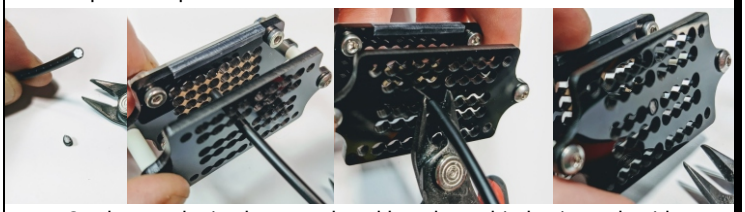
### Before Assembly...
Test your PCBs by connecting the LED boards to the Reactor's Front & Rear LED headers using the 3 wire (front) and 4 wire (rear) cables. Carefully connect your battery to the Power In screw terminal. Now witness the marvel of fully operational blinkies!


### Assembly


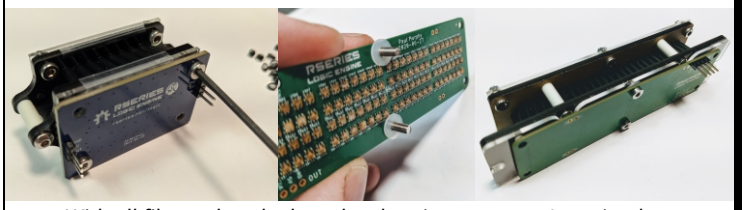
- Remove any protective film or paper from plastics.
- Note that due to the nature of laser cutting, holes of the bezels have a slight taper - so holes are a hair larger on one side. Ideally we want the outer bezels smaller holes to face out.
- Insert 18mm screws through the corresponding holes of the inner bezel. Place spacer on each screw and use the hex key to secure the screw to the outer bezel. Each front assembly gets two screws & spacers, the rear assembly gets four.
- Position outer screen in place (with non-glare side facing out) and secure to the outer bezel using 8mm screws and nuts (four for each front assembly, six for the rear). Later these nuts will be removed (so the assembly can be attached to your dome's logic surrounds), so we add small pieces of clear tape to help keep the bezel and screen together during assembly.



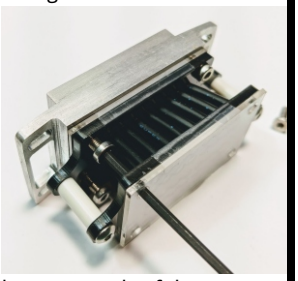

### The Fiber-Optics
- Clip the end of the fiber-optic cable with a flush-cutter. Ensure the end is relatively round and not pinched.
- Insert the fiber-optic cable through a hole in the iner bezel and push it into the corresponding hole in the inner bezel.
- With a sharp flush-cutter flush with the surface of the inner bezel, clip the fiber-optic cable.
- Repeat this process until all holes have been "fibered".



- On the rear logic, the outer bezel has three thin horizontal guides to help keep fibers in place. These may be snapped off if you prefer to have a more screen-accurate, slightly non-uniform fiber pattern.



- With all fibers placed, place the clear inner screen (tape in place to aid assembly/disassembly).
- The LED board then secures to the assembly using two 8mm screws. The rear LED board mounts via the two center screws and should have a nylon washer on each screw, between the LED board and the inner screen. Take care not to over tighten or otherwise stress the LED boards.
- When it's time to mount the assemblies to the logic surrounds inside your dome, remove the LED boards. Then remove the hex nuts, leaving the 8mm screws in place. The screws can then be fastened to your logic surrounds by passing the hex key through the LED board mounting holes.



### The Tweakening
If you don't want to go with the standard colors or speeds of the default logic patterns, they can be easily adjusted as follows.
- Hold Front or Rear Adjust button for a second to enter Adjustment Mode for each display. Short pressing the button again will cycle through Brightness, Color, Fade and Pause adjustment modes.
- Use a small screwdriver to turn the trimpots to adjust settings:

**BRI** : Adjusts overall brightness of the logic (clockwise = brighter).
**COLOR** : Shifts hue of the color palette through the color spectrum.
**FADE** : Adjusts the speed at which a color fades to the next.
**PAUSE** : Adjusts the hold time of each LED as it reaches a key color.

- Pressing the Palette button cycles the selected logic display through some pre-defined color palettes.
- Hold the Adjust button for a second again to save. Power off and on again to verify that your settings persist.

### Advanced Features
See the "RSeries Logic Engine sketch updates" forum thread for the latest firmware updates.

Questions? Email Paul Murphy at joymonkey@gmail.com