

Carlson SuperProbe Battery Pack Kit Assembly

First, thanks for purchasing this kit. This battery pack kit is intended to work with Carlson's SuperProbe design. You should watch Carlson's original YouTube video on the probe. I can't do better in describing its use. The primary limitation in the design is the LM4891 integrated amplifier. Because it has a design supply range of 2-5.5VDC there are certain risks in using 4 AA batteries because fresh cells may be near 1.6 VDC. This places over 6V on the amp and is not going to end well. When using 3 AA cells the amp may see 3.6-4.8VDC over the life of the batteries. This is fine. But that begs the question of rechargeable supplies. The typical Li-Ion prismatic cell is nominally rated at 3.6-3.7VDC and will be as high as 4.2VDC when freshly charged. This is perfect for the SuperProbe.

The kit includes a 720-800mAh internally protected cell and a TP4056 1A micro-USB charger module with LED indicators, along with some wire & connectors & screws. My SuperProbe implementation went into a Hammond 1593L plastic box. Yours may be different. The battery can be attached anywhere it will fit with pressure tape. The TP4056 needs to be rigidly fastened with holes for both the micro-USB connector & dual LEDs are accessible. You will need a few tools and some creativity here. **CAUTION: Do pay attention to battery polarity both in wiring the TP4056 and connecting the power supply through a switch to the SuperAmp.**

Assembly

The only real instructions here are to plan on using the TP4056 holes near the USB connector for mounting and the other two for battery and power extraction. See the attached schematic. I cut a square hole in the box top over the LEDs of the TP4056 and glued a small square of plastic scrap over the hole from the inside. It made a nice window!

Testing

Before wiring to the SuperAmp plug in the USB cable, measure the battery voltage and monitor the LEDs for proper operation.

Feedback

If you find errors, omissions, or if you have suggestions on the instructions, kit, packaging or anything else, I would be happy to receive feedback.

The easiest way to provide feedback would be by email to:

Kevin
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Parts List Included		
USBC1	1	TP4056 micro Li-Ion Charger
BT1	1	800maH Li-Ion Protected Battery
J1A	1	Male battery cable
Wire	1ft 22awg	Misc hookup
HST	4"	Misc shring tube
Screws	2 – 0-80 w/nut & lock	TP4056 fasteners

References

<https://www.youtube.com/watch?v=uVkJqqZroN0&t=2583s>

<https://www.instructables.com/Carlsons-Super-Probe/>

<https://www.hollywoodcontrols.com/phpSP/MCSP.php>

