



AS3 ECO CC CHASSIS INSTALL GUIDE



Chassis designed by Goth3Designs



Install Guide by Sabers Forever
November 2022

This guide will provide you with a visual index of the saber parts, along with assembly instructions for the KR Sabers "AS3" Goth3Designs **ECO CC Chassis**

You will need to possess basic soldering skills and an understanding of how to read wiring diagrams in order to complete this installation.

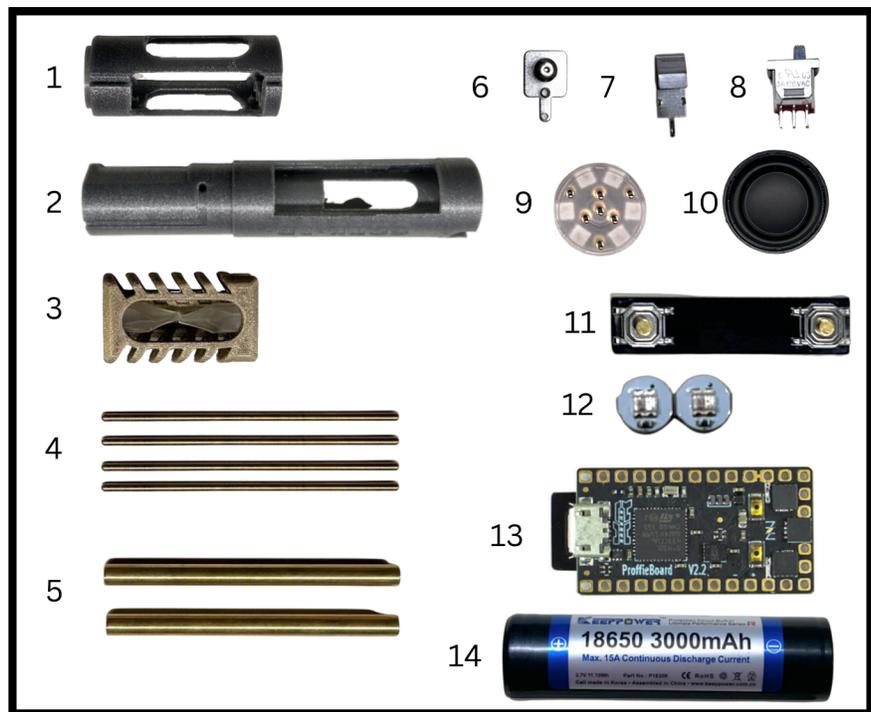
Please note: ALL IMAGES ARE PROVIDED FOR VISUAL REFERENCE ONLY. THE PHOTOGRAPHS ARE NOT SHOWN AT A 1:1 SCALE.

STEP 1 - Components and Test fit.

The Install kit will come with the following components.

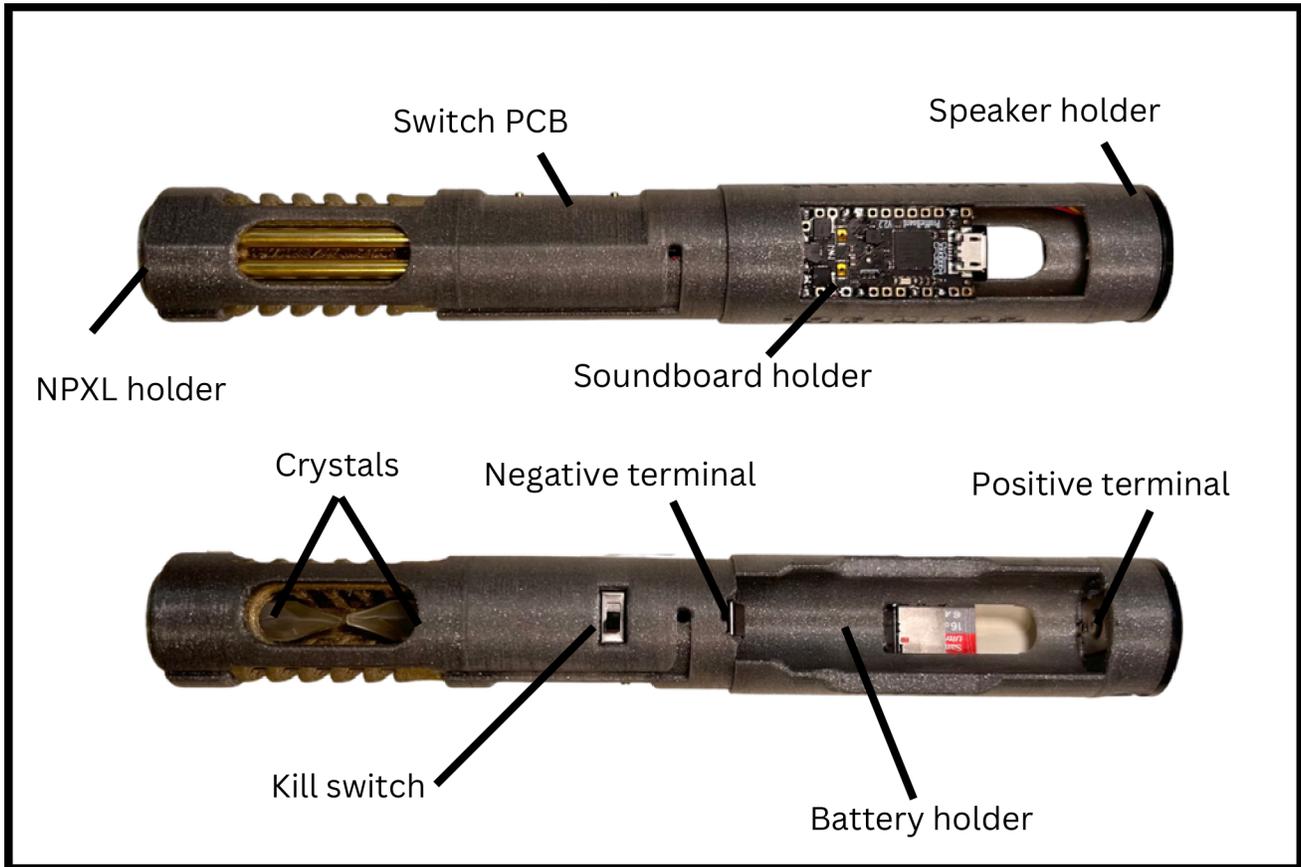
Install Kit

1. Chassis Bottom
2. Chassis Top
3. Crystals and Chamber
4. 4x 52mm Brass rod
5. 52mm brass tube
6. Positive terminal
7. Negative terminal
8. Kill switch
9. ECO NPXL w/Lens
10. 25mm speaker
11. Tactile switch PCB
12. Crystal accent pixels
13. Proffieboard
14. 18650 Li-Ion Battery

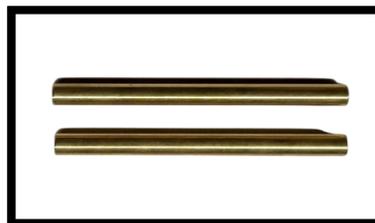
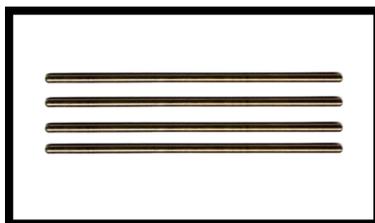


The diagram below shows the same chassis rotated 180 degrees to show both sides of the chassis.

Anatomy of the chassis



Test fit all of your components. Start by making sure the three chassis pieces all assemble and fit into your saber. You will have to roughly put together your chassis. So let's start there. Cut the Brass rod into **four** 52mm length pieces along with **two** 52mm brass tube. Some of the print holes may require some work to fit the rods/tubes. You may need to Dremel the holes a little bigger if they cannot be pushed through. Make sure the crystals sit nicely inside the chassis.



If something is too tight, use your best judgment on if the chassis or the component should be altered. For example, the NPXL PCB is easy to sand/file, where as the speaker holder might only need the lip of the holder chamfered.

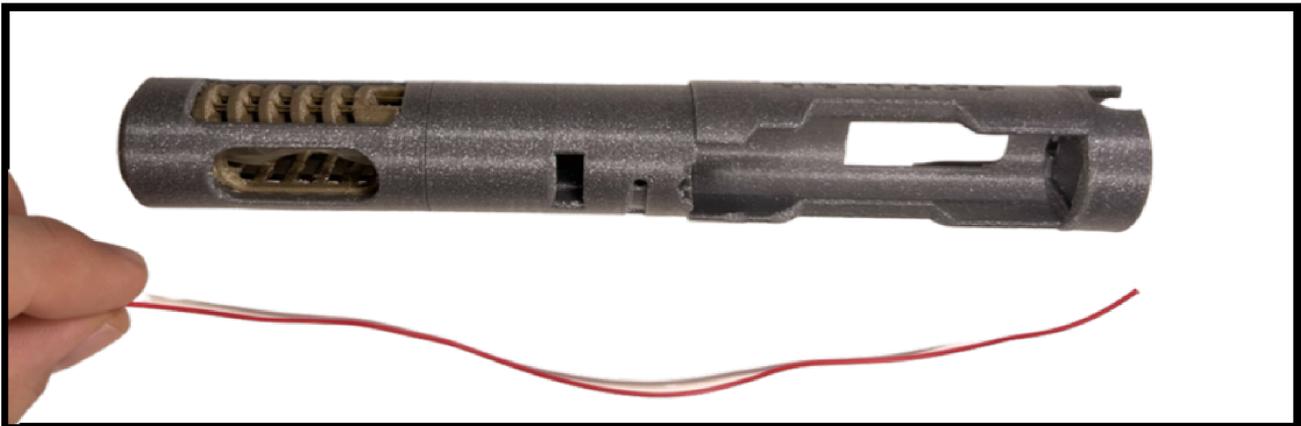


Make sure not to press anything into the chassis that you wont be able to get out. The negative terminal has barbs on it that will prevent you from being able to remove it. You may want to wait to push a component like that in before soldering it. Examine your parts!

STEP 2 - Parts prep and soldering

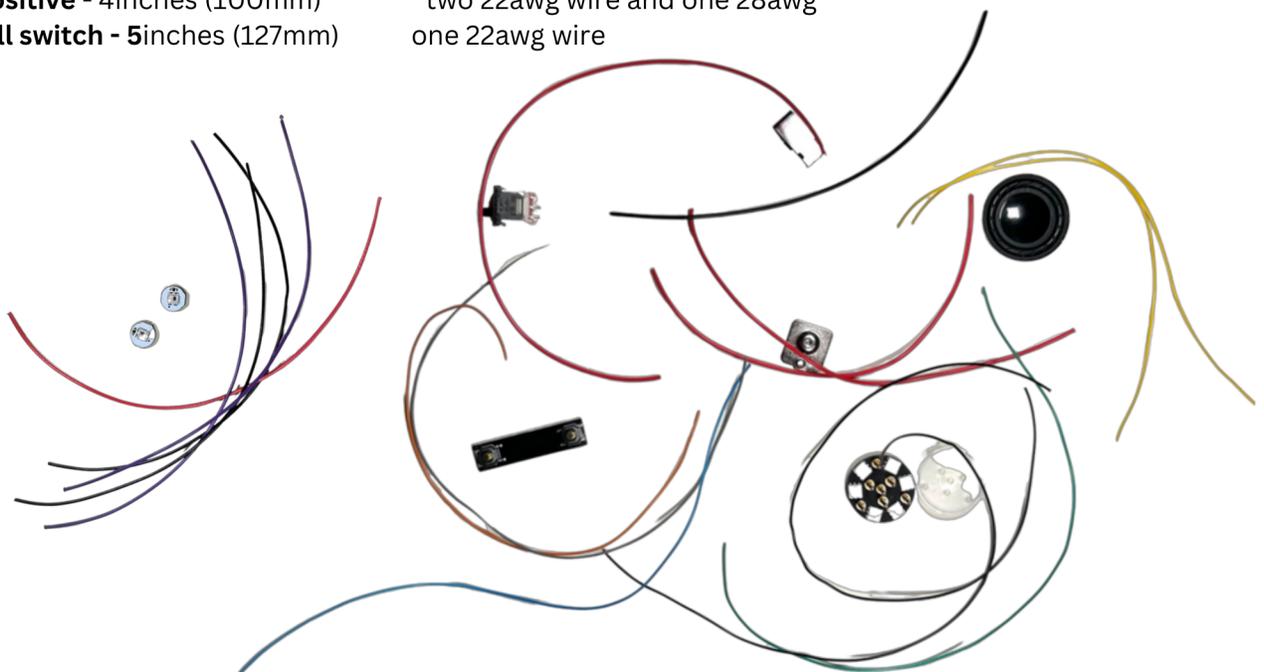
The following section will provide insight on soldering the wire leads to the components and recommended wire paths on certain parts. Wire color is not critical but to avoid confusion, it is recommended to use different color wire to identify where it is coming from when connecting each component to your chosen soundboard.

Roughly measure out wire by putting the chassis together and running wires from where components will sit and where they will need to connect to the soundboard, give yourself some extra length you can always make wires shorter, it's harder to make them longer. The wires need to sit within a small space without pinching or being pulled as the sound board and crystal chamber are set into their final position.

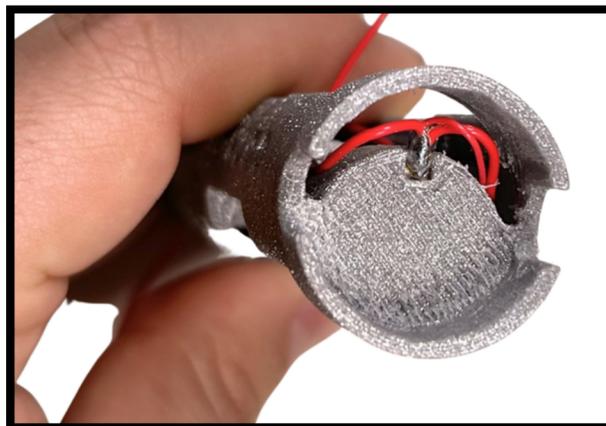
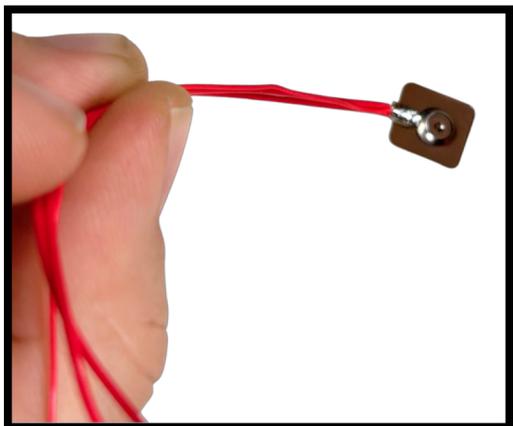


If you are unsure about wire lengths, below are recommended lengths certain component wires should be.

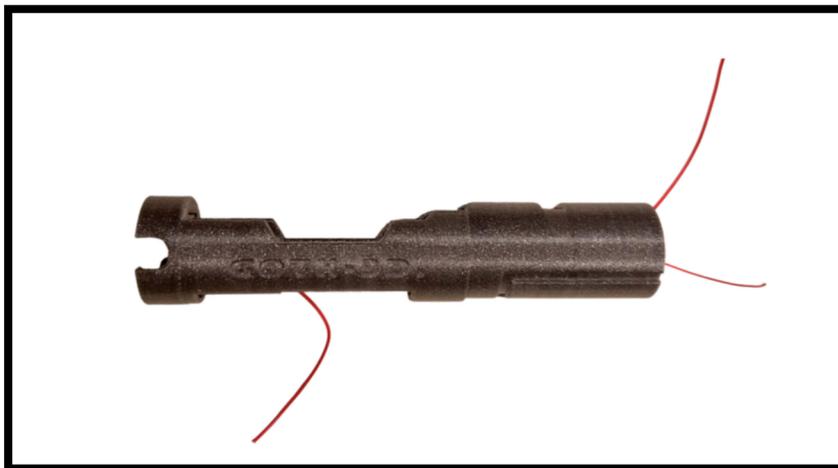
- | | |
|--|---|
| NPXL - 9inches (228mm) | one 22awg wire and three 28awg (1 power, 2 neg, 1 data) |
| Accent pixels - 6inches (152mm) | six 28awg wire (2 neg, 2 data, 2 pos)**one positive wire needs to be 8 inches** |
| Switches - 5inches (127mm) | three 28-32awg wire (1 common, s1, s2) |
| Speaker - 6inches (150mm) | two 28awg wire |
| Negative - 4inches (100mm) | one 22awg wire |
| Positive - 4inches (100mm) | two 22awg wire and one 28awg |
| Kill switch - 5inches (127mm) | one 22awg wire |



Solder Two 22awg wires and One 28awg wire to the back of the positive terminal. One of the 22awg wires is for the NPXL connector while the other is going to the soundboard. The 28awg wire is going to the bottom pixel for the crystal chamber. Run the wires through the hole in the chassis and send the wires out the open end.

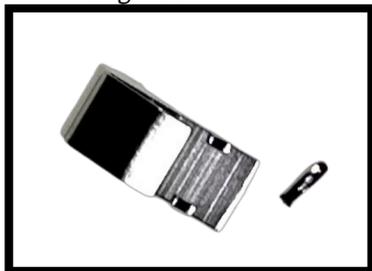


Glue the Positive terminal into place and let the glue set up. It is recommended to use Crazy glue or E6000.



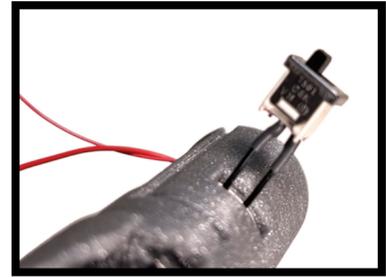
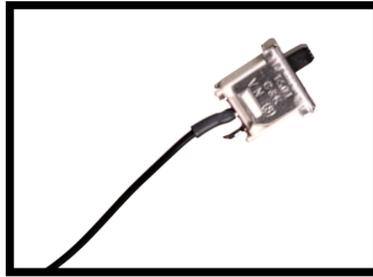
Remove the leg from the negative terminal. Remove only one leg from the kill switch completely. It is recommended to remove a little less than half the length of the other two legs. Solder a short 22AWG wire to the back of the negative terminal.

Negative terminal

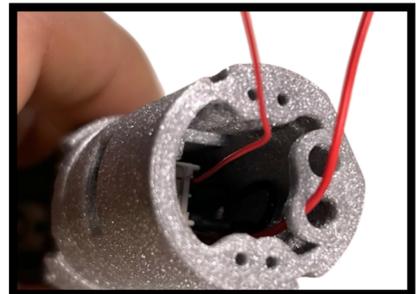
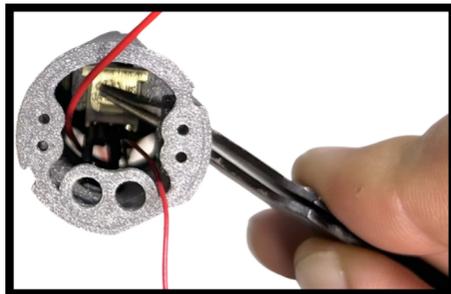


Kill switch

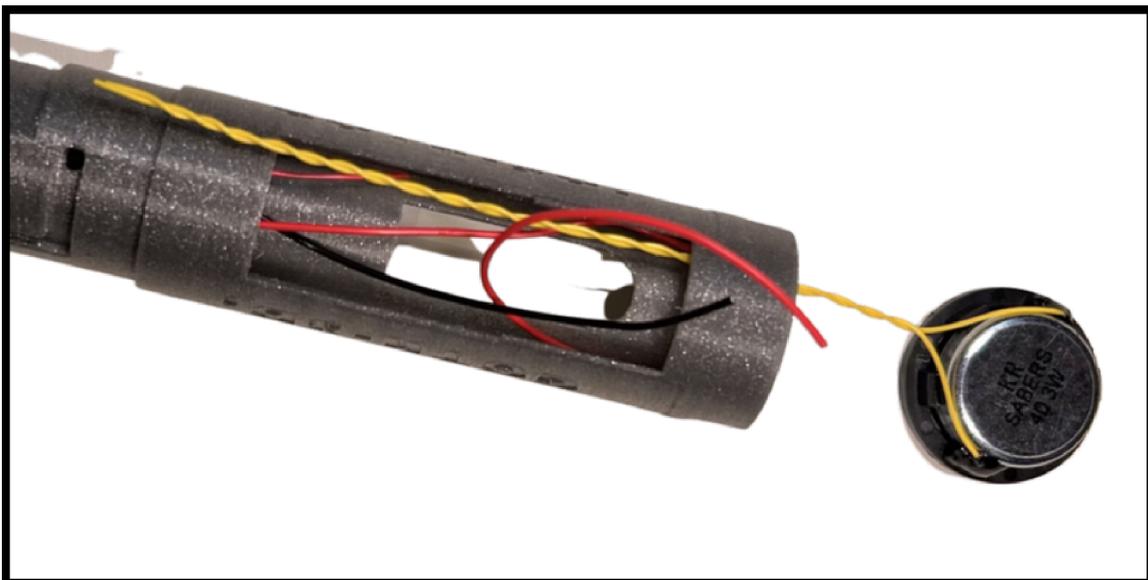




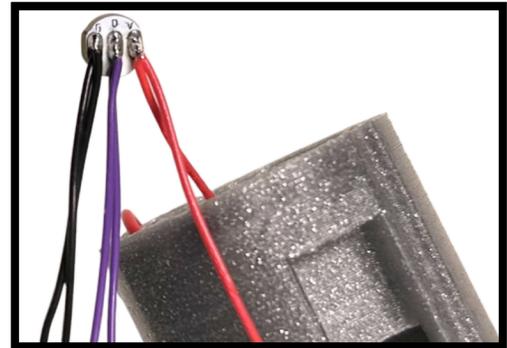
Solder one 22awg wire to one of the kill switch legs. This wire will lead to the soundboard. Feed the wire through the killswitch hole and down to the soundboard holder. Solder the wire leading from the Negative terminal to the other leg of the kill switch. Press/glue the kill switch in place. Lastly, run the one 22awg positive through the brass rod holder of your choosing.



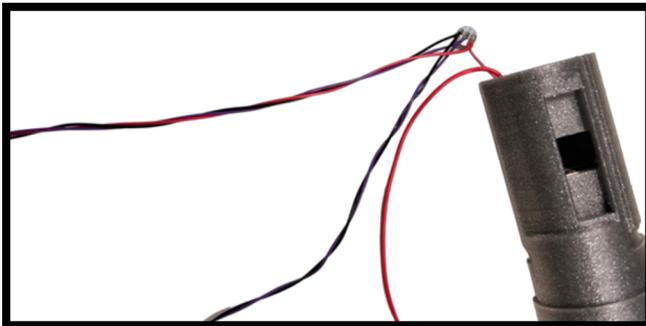
Solder 28awg wires to your speaker and feed the wires through the back of the chassis into the soundboard holder. You may choose to glue in your speaker now or wait until after the install to confirm it is working.



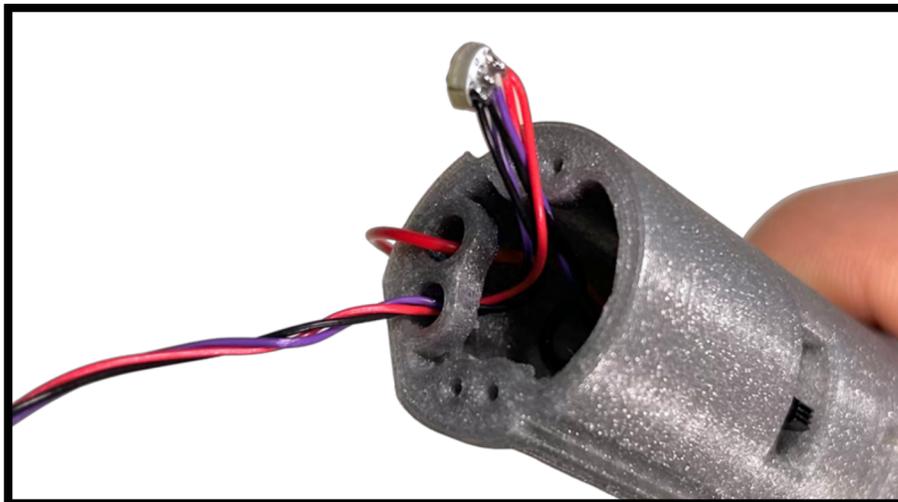
twist together 2 negative wires and two data wires and solder them to the back of the first accent pixel. Twist on a second positive wire to the single 28awg wire sticking out of the chassis, then solder it to the positive pad on the accent pixel.



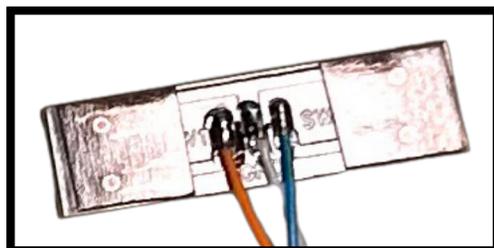
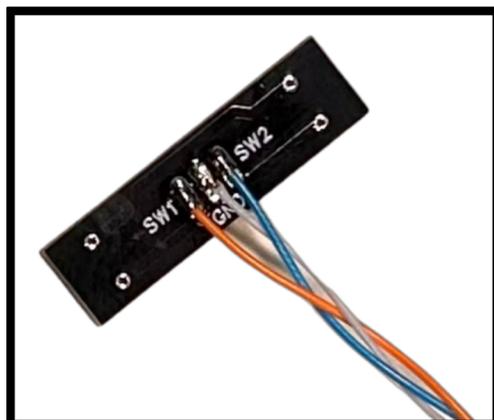
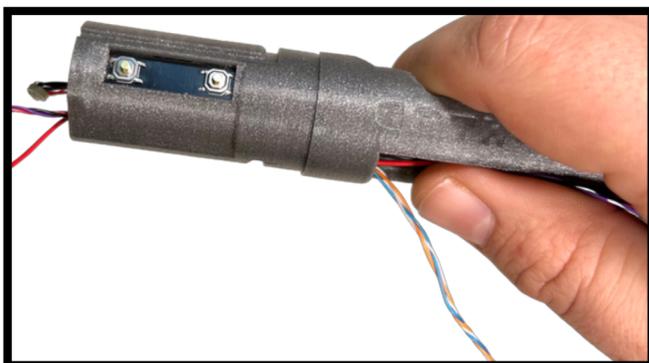
Twist together two separate groups of wires. Pair up a data and a negative and a set of positive, negative and data. Send the negative and data down the chassis to the soundboard holder.



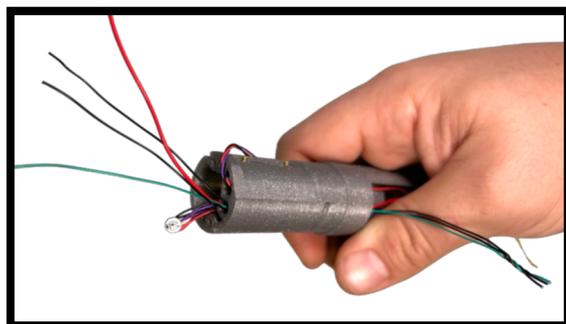
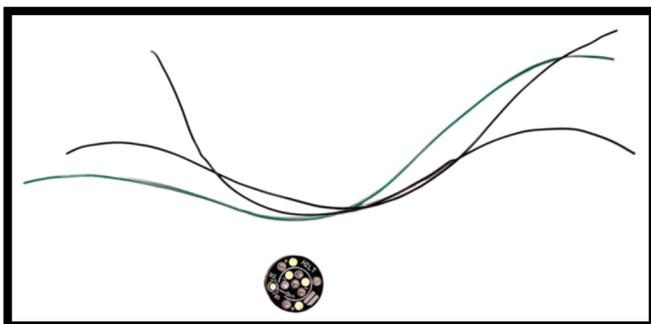
The positive, negative and data grouping are being threaded through the bottom of the brass rod holder. Ideally the one that doesn't have the positive wire through it already.



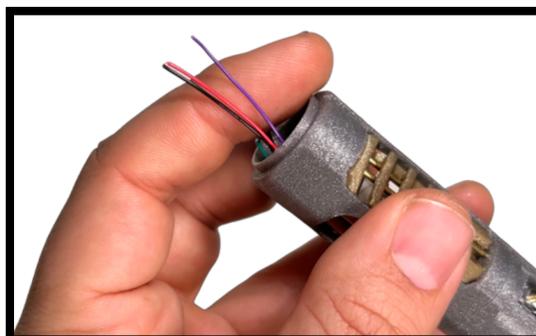
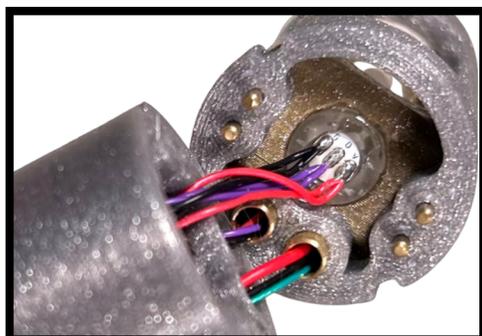
Wire your switch PCB and keep note of which colors you make SW1 and SW2. The PCB fits into the chassis either direction, so you can easily decide if you want power on top or bottom of the activation box once assembled. You can choose to glue or use double stick tape to secure the PCB in the chassis.



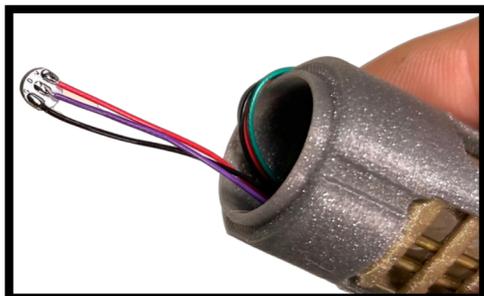
At this time, I recommend cutting the lengths of 28awg for your negative and data wires for the NPXL connector and sending them through the chassis opening where the accent pixel is coming out and exiting through the soundboard holder.



It is now time to join the two chassis pieces. Feed all the wires through the corresponding brass tube and glue in your accent pixel. Once the glue has set, you can choose to glue the chassis halves together now or after you can confirm everything is working. All of your wires should now be coming out of the top of the chassis.

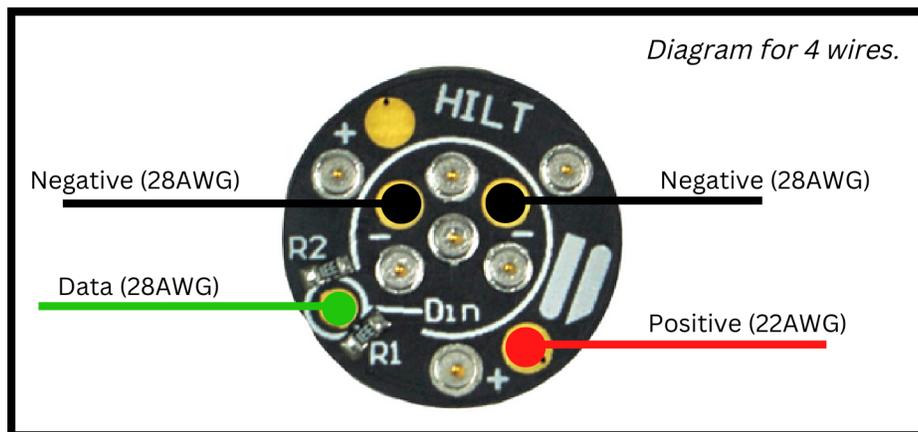


Solder the wires from the first accent pixel to the other one and glue it into the other crystal.

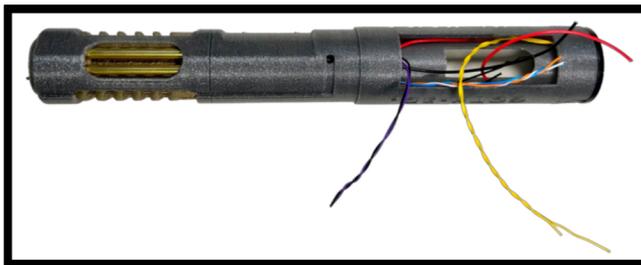


For the ECO NPXL It is recommended to use a 22awg wire for the positive and 28AWG for the negative wires and data line.

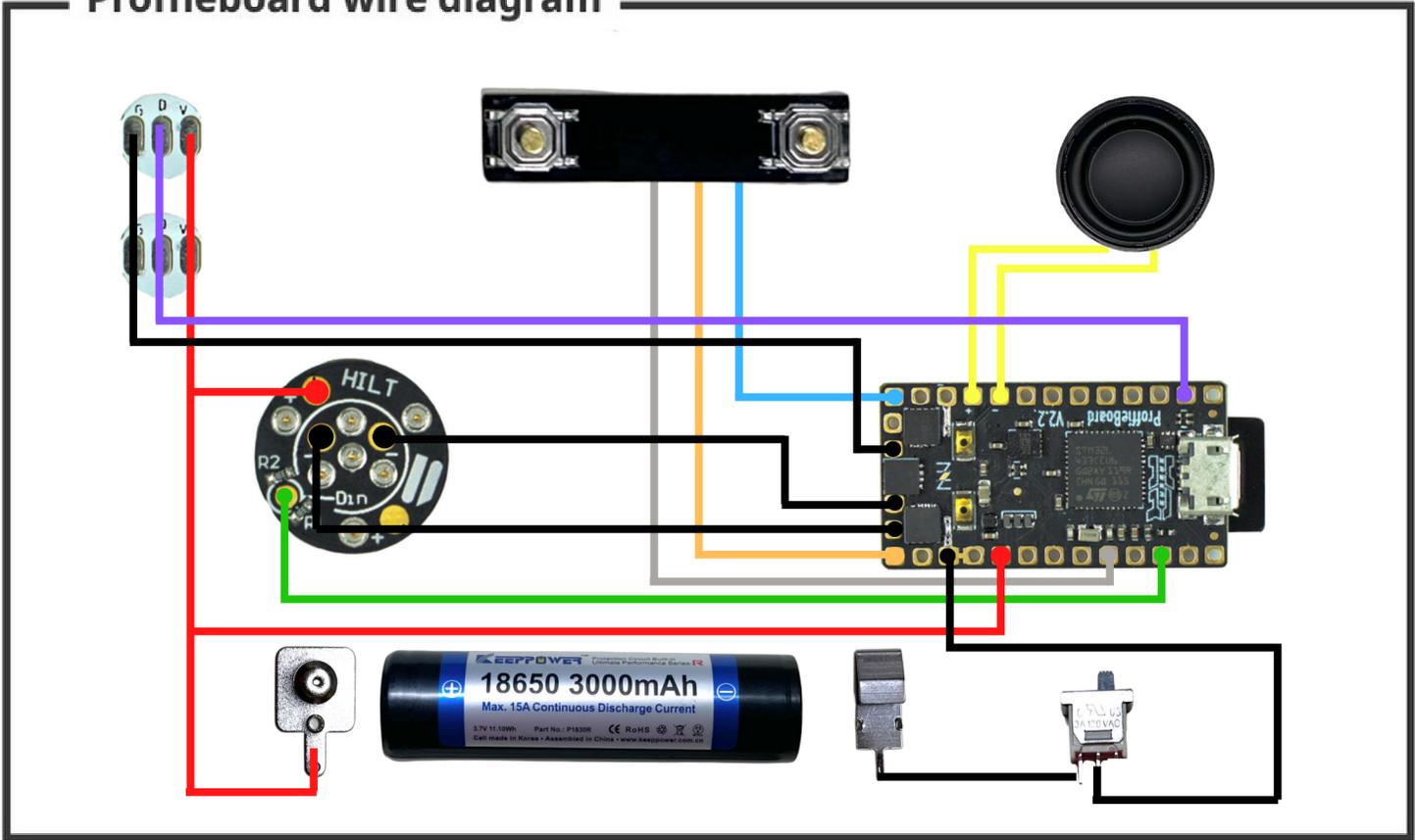
Alternatively, you could use a single 22 awg wire instead of two 28awg negative wires. This will require you to bridge pads on the soundboard later to get the required voltages.



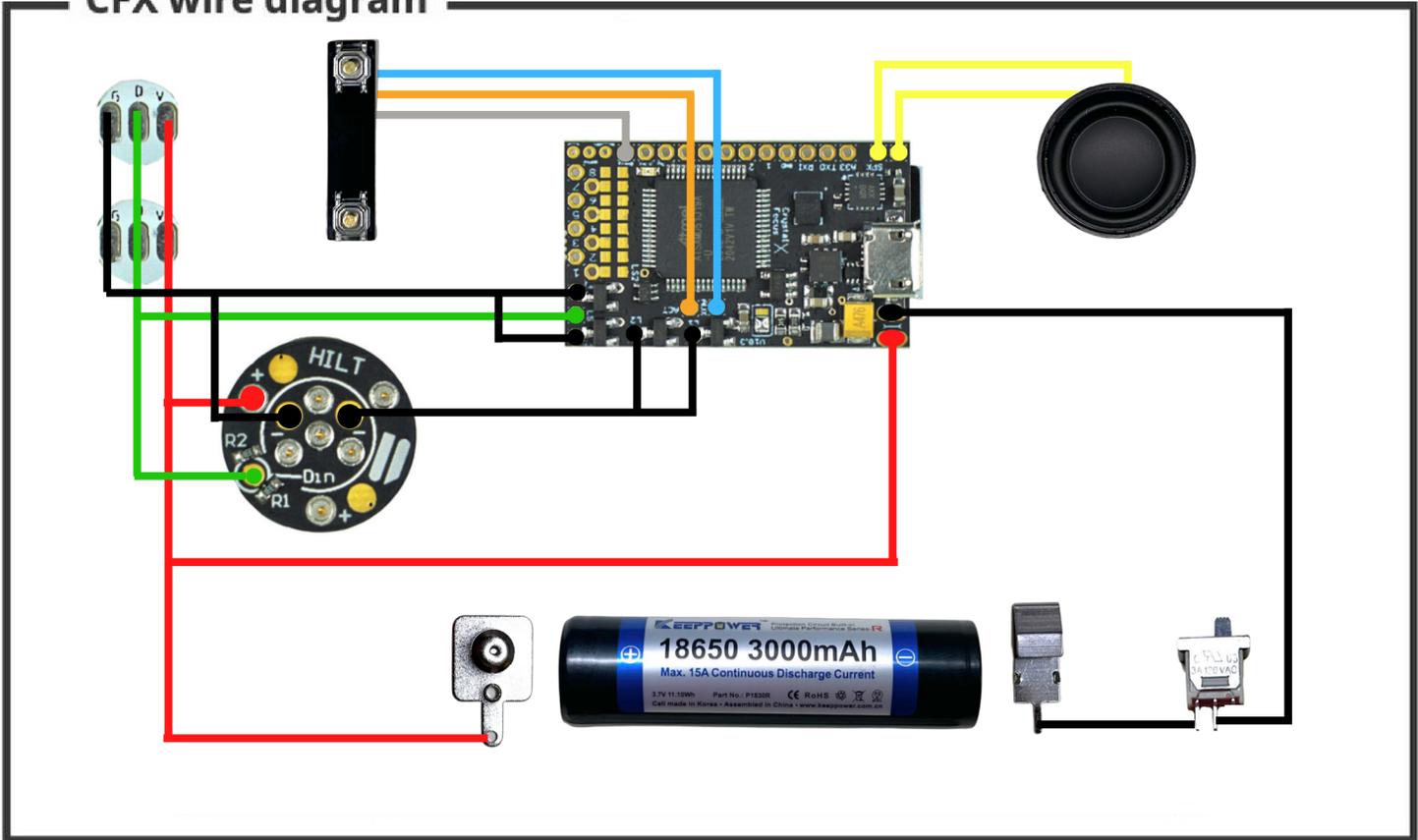
Place the NPXL in the chassis with the lens. The lens should sit flush on the top chassis. Run the wires down through the chassis and out of the chassis under the negative terminal holder. You should now have a mess of wires coming out of your soundboard holder. Please select the wiring diagram for your selected soundboard to continue.



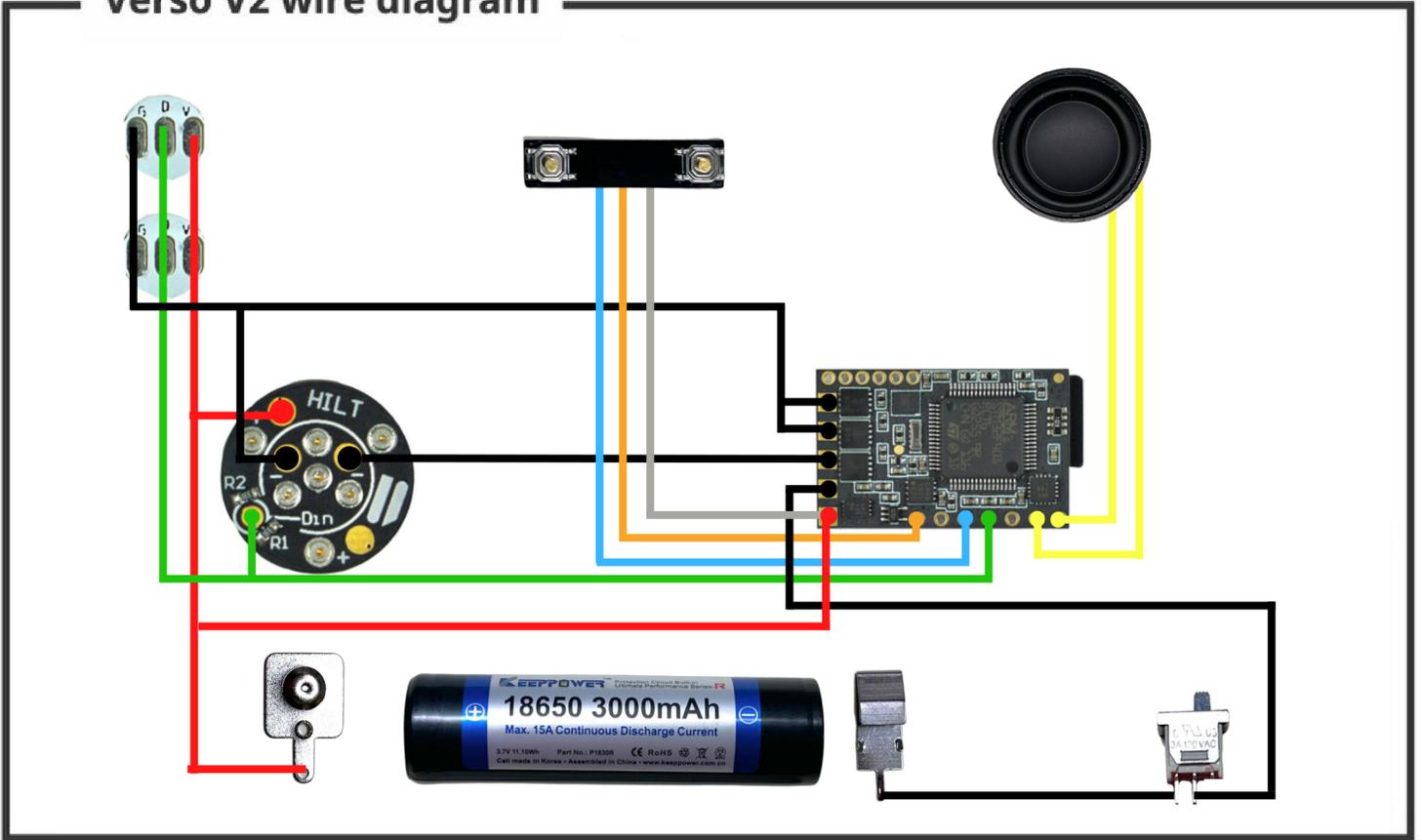
Proffieboard wire diagram



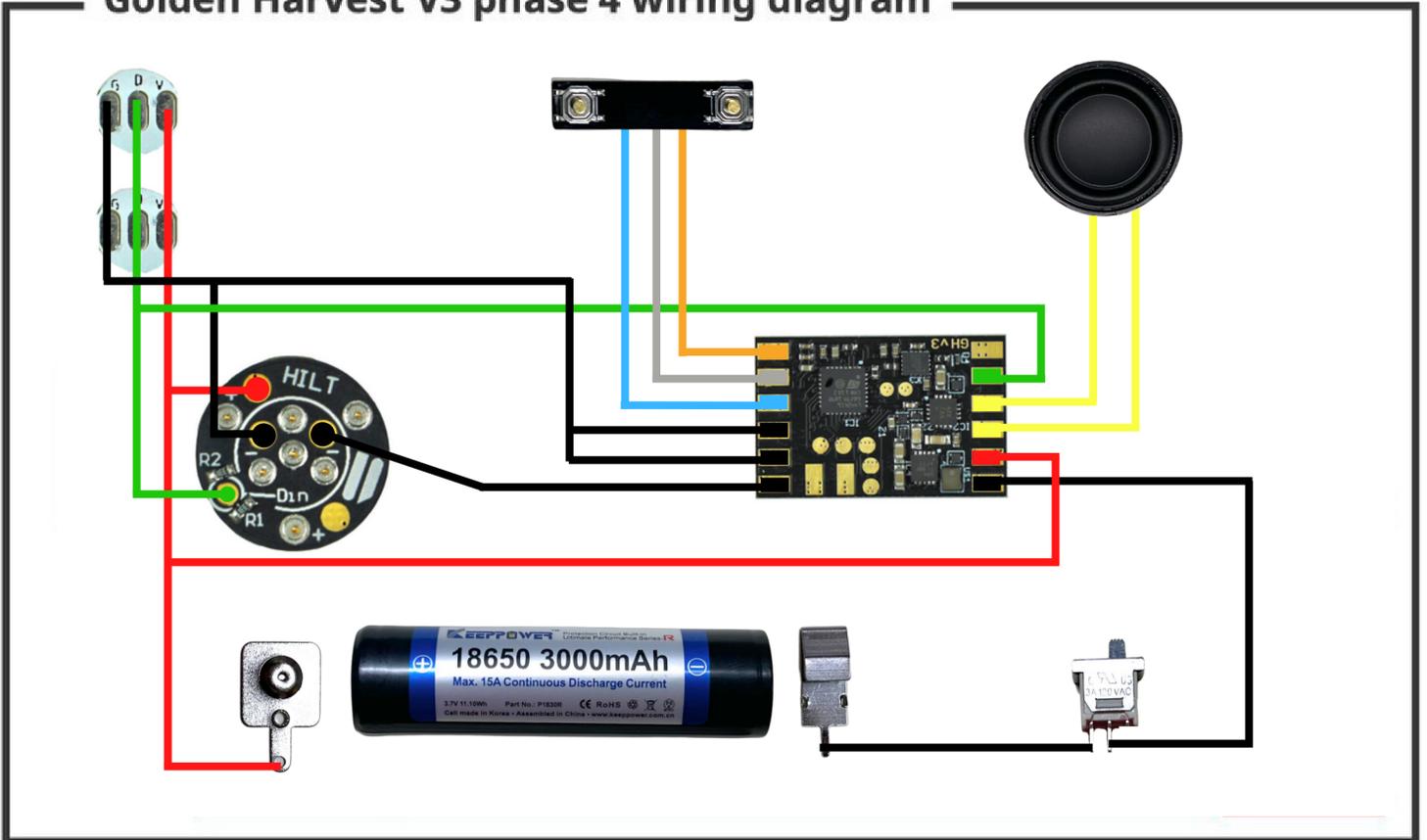
CFX wire diagram



Verso V2 wire diagram



Golden Harvest V3 phase 4 wiring diagram





Congratulations on completing the installation of your saber!
We hope you had much success with this guide.

May the force be with you.

