



Mace Windu **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 "Mace WIndu" 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.

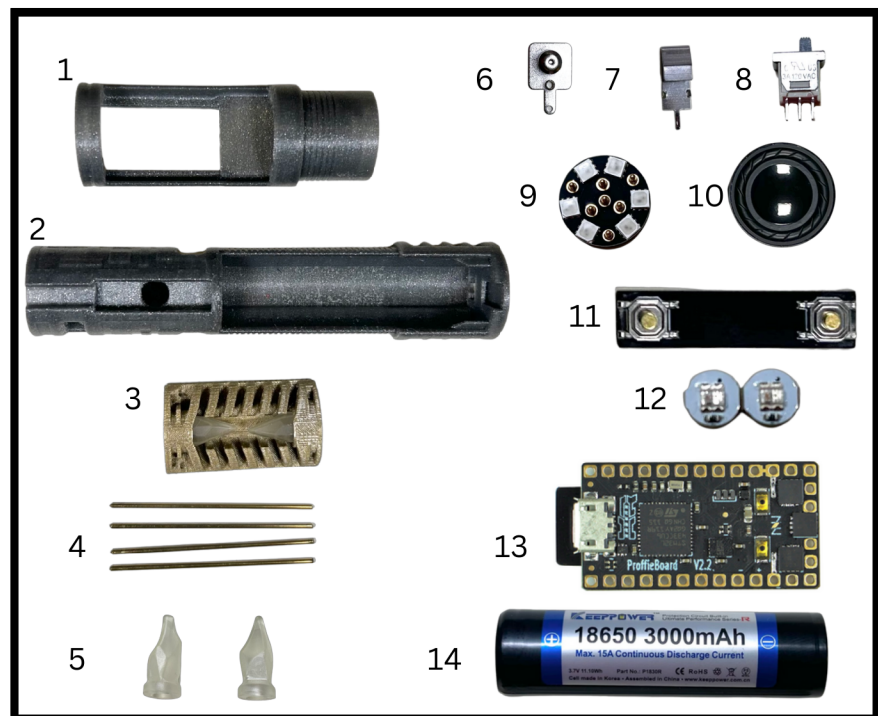
Please note: ALL IMAGES ARE PROVIDED FOR VISUAL REFERENCE ONLY. THE PHOTOGRAPHS ARE NOT SHOWN AT A 1:1 SCALE.

STEP 1 - Components and Test fit.

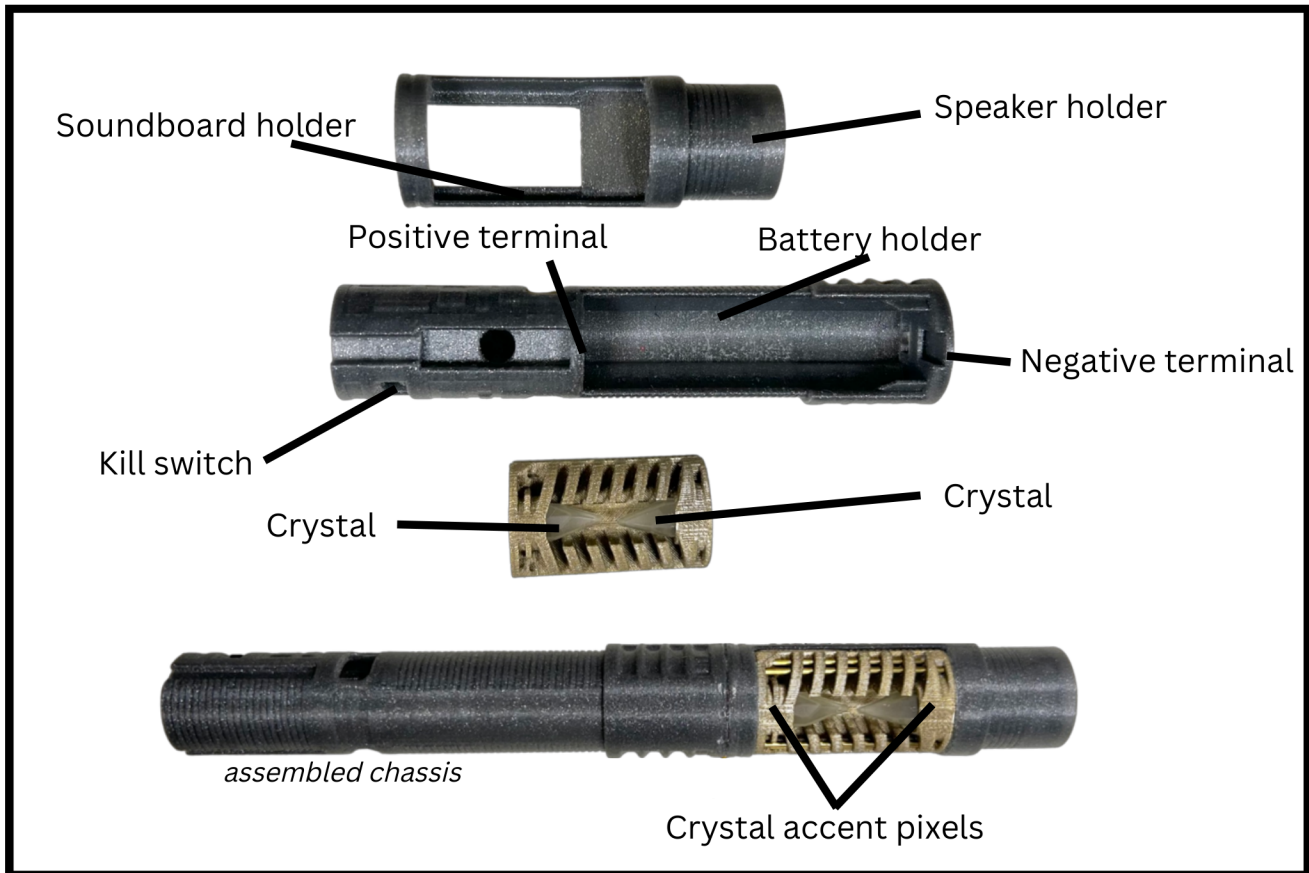
The Install kit will come with the following components.

Install Kit

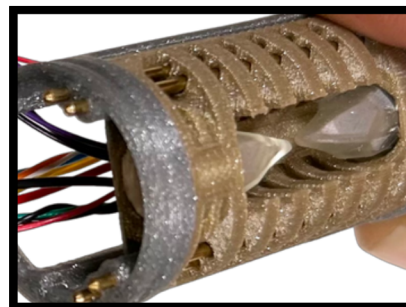
1. Chassis Bottom
2. Chassis Top
3. Crystal Chamber
4. 4x 58mm Brass rods
5. Crystals
6. Positive terminal
7. Negative terminal
8. Kill switch
9. ECO NPXL
10. 25mm speaker
11. Tactile switch PCB
12. Crystal accent pixels
13. Proffieboard
14. 18650 Li-Ion Battery



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** 58mm length pieces. Some of the print holes may require some work to fit the rods. 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.

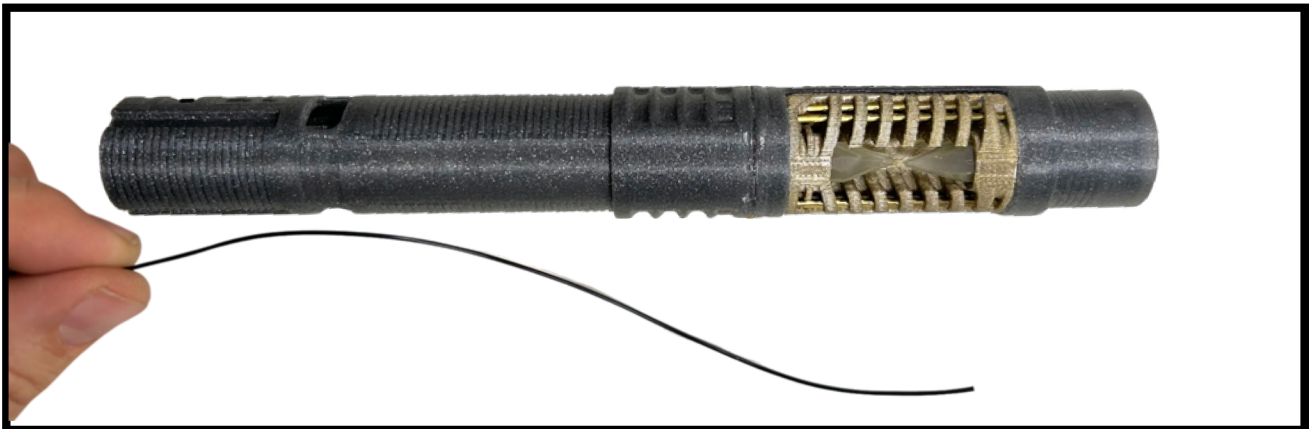


Make sure not to press anything into the chassis that you won't be able to get out. The negative terminal has barbs on it that will prevent you from being able to remove it. You may want to wait to push a component like that in before soldering it. Examine your parts!

STEP 2 - Parts prep and soldering

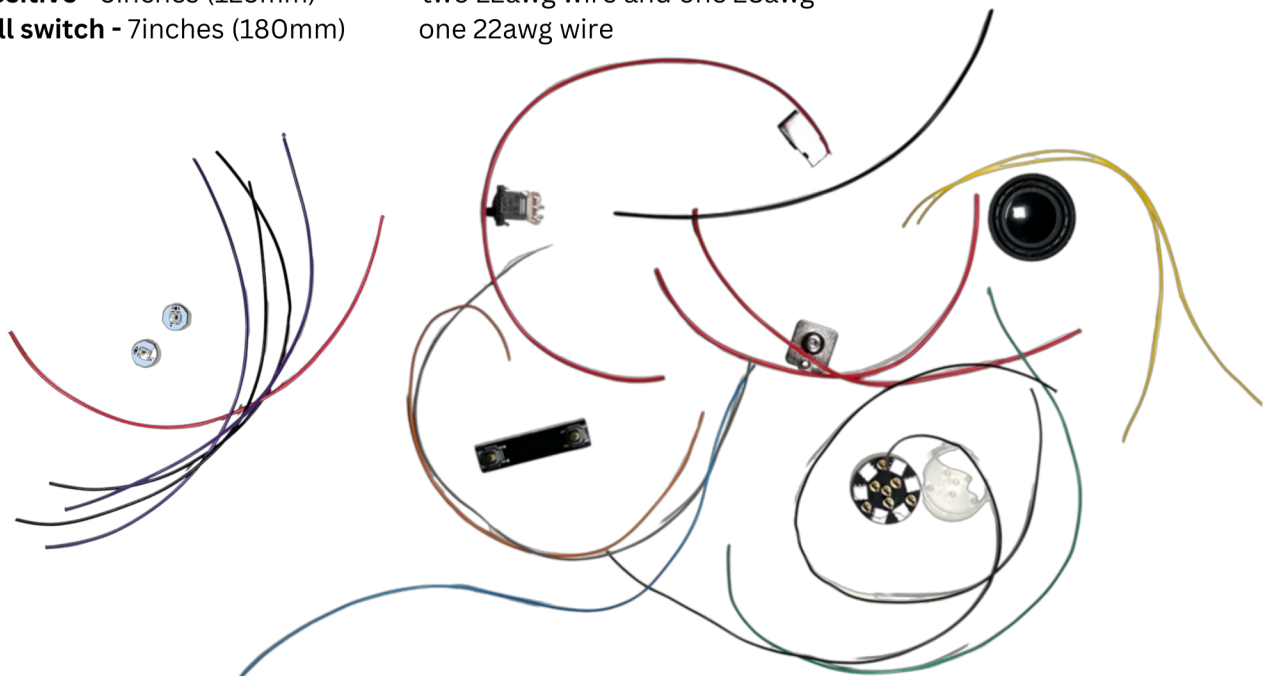
The following section will provide insight on soldering the wire leads to the components and recommended wire paths on certain parts. Wire color is not critical but to avoid confusion, it is recommended to use different color wire to identify where it is coming from when connecting each component to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



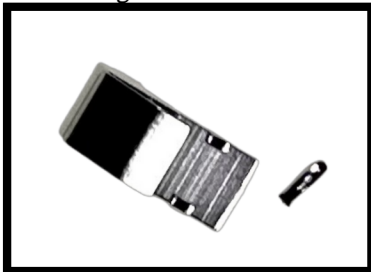
If you are unsure about wire lengths, below are recommended lengths certain component wires should be.

- | | |
|--|---|
| NPXL - 7inches (180mm) | one 22awg wire and three 28awg (1 power, 2 neg, 1 data) |
| Accent pixels - 4inches (100mm) | five 28-32awg wire (2 neg, 2 data, 1 pos) |
| Switches - 7inches (180mm) | three 28-32awg wire (1 common, s1, s2) |
| Speaker - 6inches (150mm) | two 28awg wire |
| Negative - 5inches (125mm) | one 22awg wire |
| Positive - 5inches (125mm) | two 22awg wire and one 28awg |
| Kill switch - 7inches (180mm) | one 22awg wire |

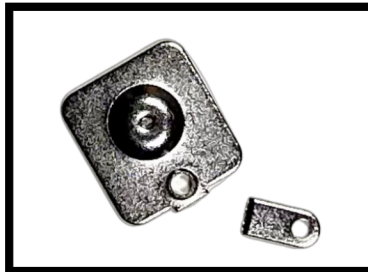


First remove the legs from the negative and positive terminals. Remove only one leg from the kill switch completely. It is recommended to remove a little less than half the length of the other two legs.

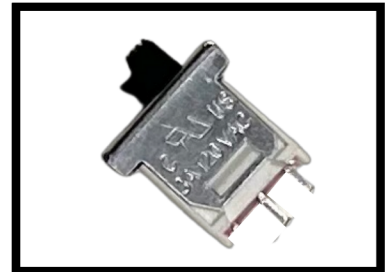
Negative terminal



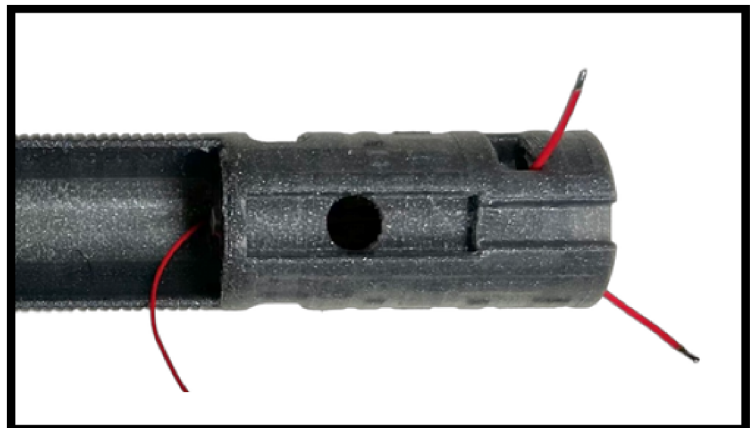
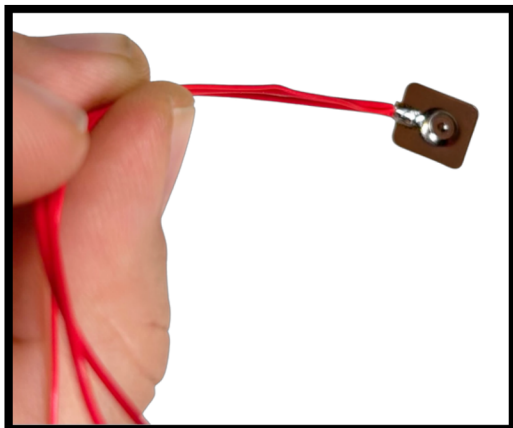
Positive terminal



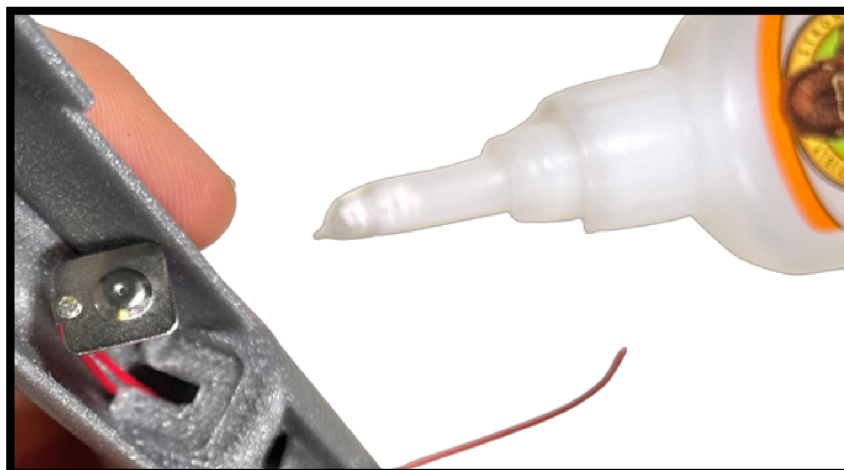
Kill switch



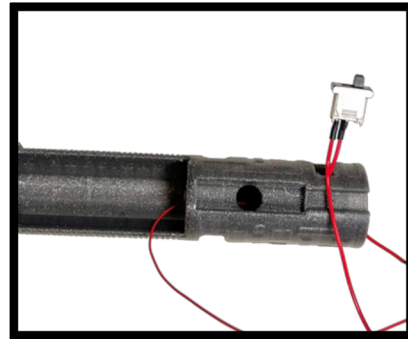
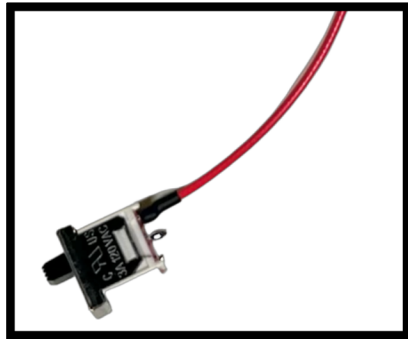
Solder Two 22awg wires and One 28awg wire to the back of the positive terminal. One of the 22awg wires is for the NPXL connector while the other is going to the kill switch. The 28awg wire is going to the bottom of the chassis for the crystal chamber. Run the wires through the hole in the chassis and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



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

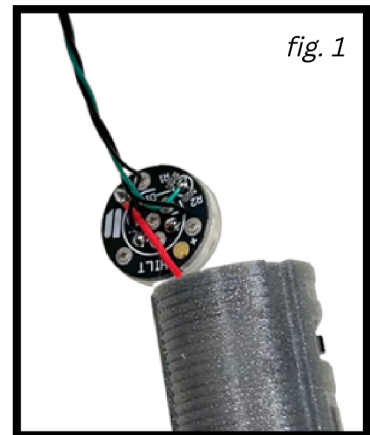
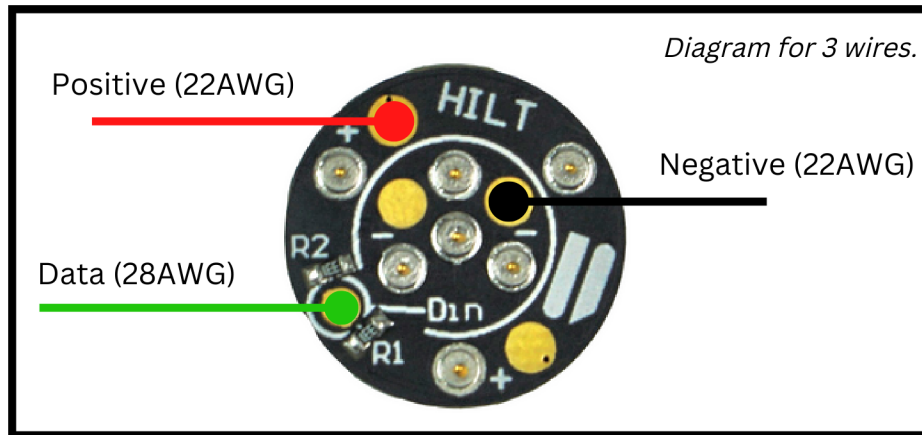


Solder one 22awg wire to one of the kill switch legs. This wire will lead to the soundboard. Feed the wire through the killswitch hole and down to the soundboard holder. Solder the wire leading from the positive terminal to the other leg of the kill switch. Press/glue the kill switch in place.



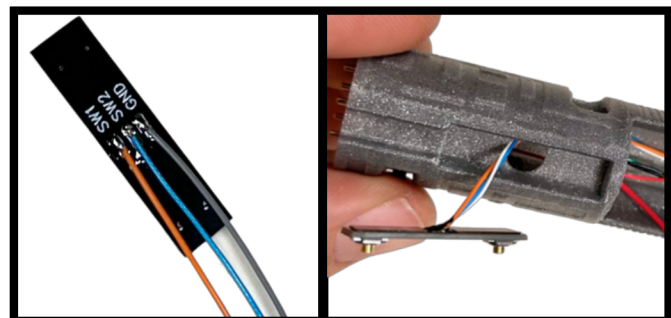
For the ECO NPXL It is recommended to use heavy gauge wire for the positive and negative wires(22AWG) and thinner(28-32AWG) for the data line.

Alternatively, you could double up on the wire and add two negatives and/or two positives with 28AWG wire. I personally like to use 1 Positive and two negatives as seen in 'Fig. 1'

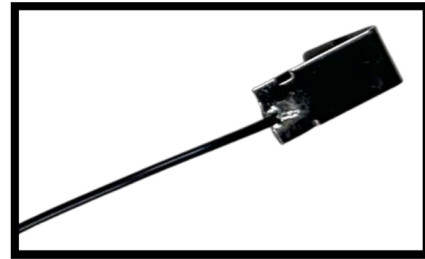


Place the NPXL in the chassis with the lens. The lens should sit flush on the top chassis. Run the wires down through the chassis and out of the chassis under the negative terminal holder.

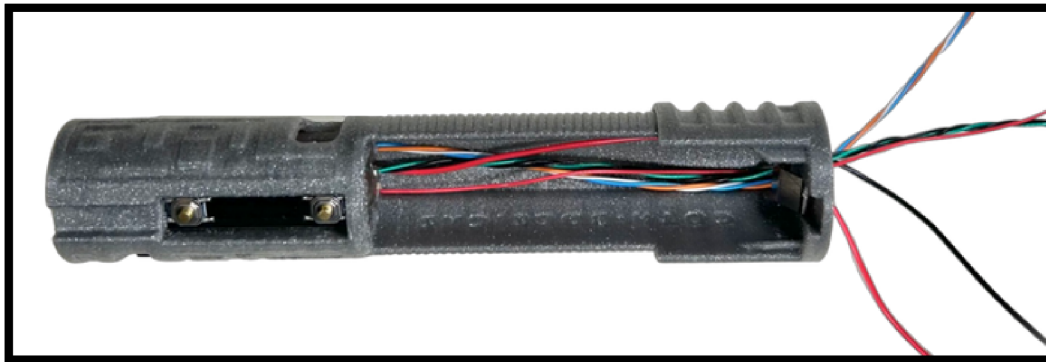
Solder three 28awg wires to the back of the switch PCB. Feed the wires through the hole in the switch PCB area of the chassis and down through the chassis to the soundboard holder. You can chose to glue the PCB in place or use double stick tape. Tape will allow easy maintenance if needed ever.



Solder one 22awg wire to the back of your negative terminal and feed the wire through the slot in the chassis. Press down firmly to seat the terminal into the chassis but take enough care as to not break the chassis.

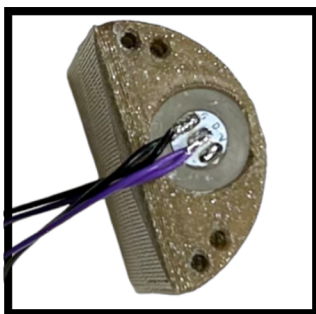
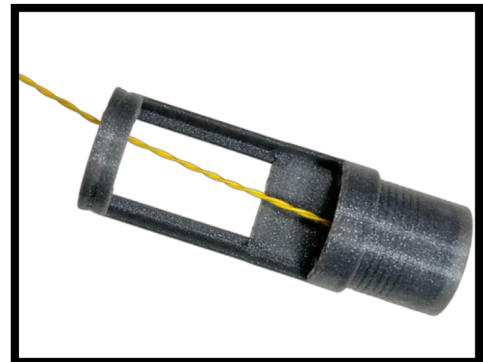


All the wires should be run down the channel at the bottom of the battery holder and out the bottom of the chassis.



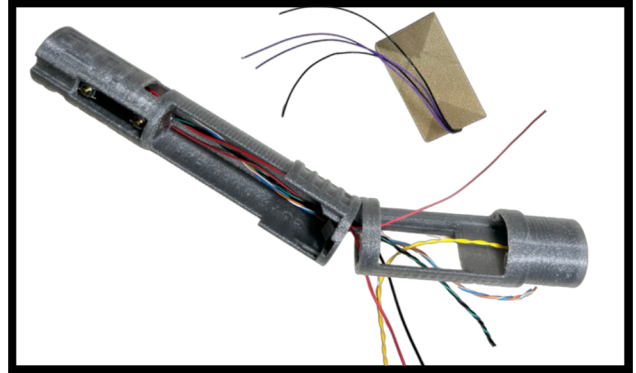
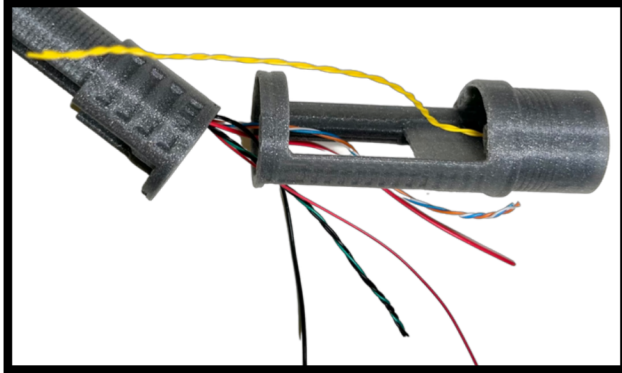
The chassis top is now ready for final assembly and we are ready to move onto the bottom chassis. Lets start with the speaker.

Solder two 28awg wires to the speaker. One on each side. Twist the wires together and feed into the bottom part of the chassis. You can choose to glue in the speaker now or after you have tested it when the install is complete.

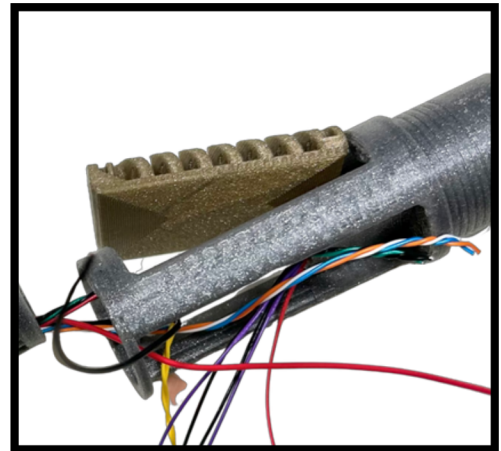
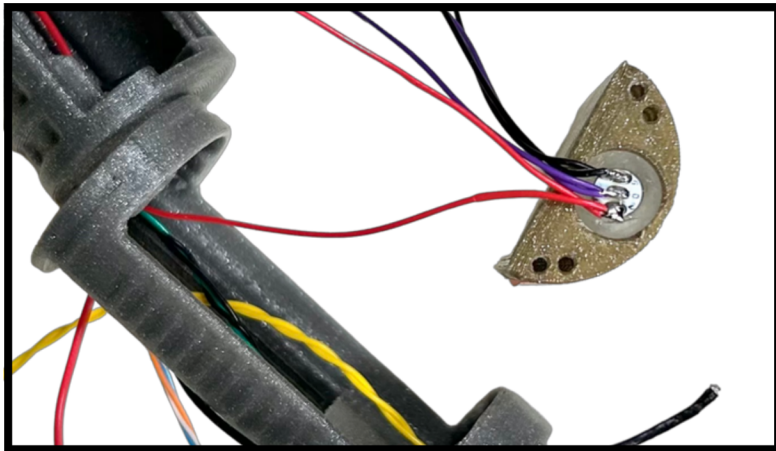


The first pixel should be wired with 2 of each wire with the exception of the positive. We will need to solder the 28awg wire from the positive contact which requires the chassis to be assembled further. At this time, you should glue in your crystals and your accent pixel once it is wired with the two negative and two data wires. The pixel should be glued onto the side of the crystal chamber closest to the speaker.

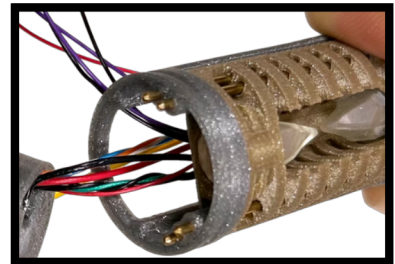
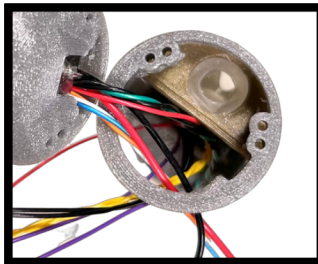
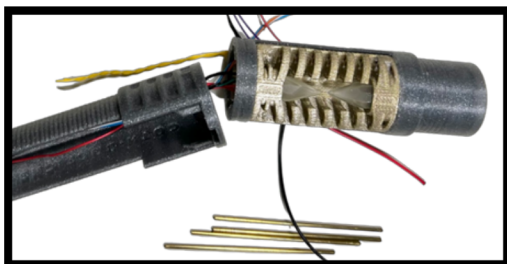
Feed all of the wires from the top chassis through the bottom chassis opening where the two halves meet. The wires should all come out through the soundboard holder in the bottom chassis. Feed the 28awg positive wire through the other side of the bottom chassis for the crystal chamber pixel.



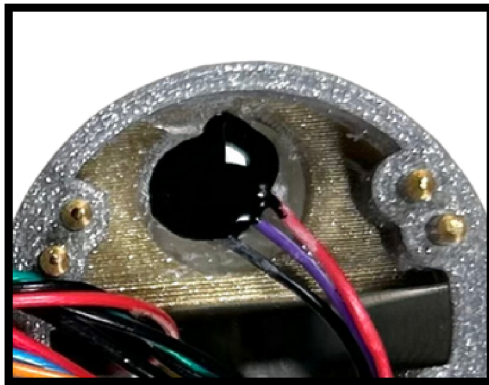
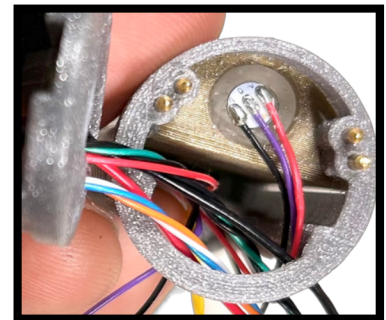
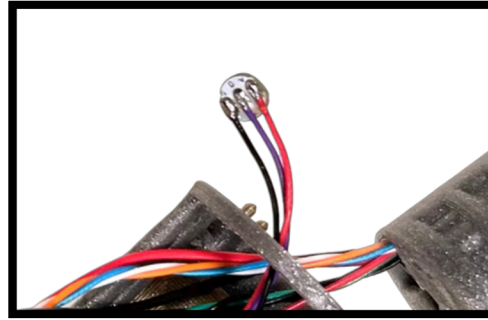
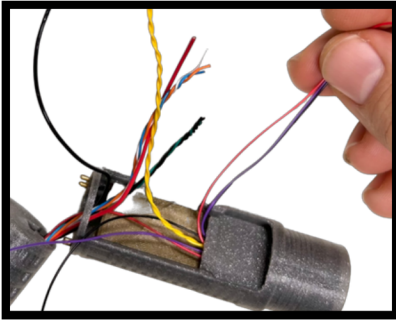
Make sure to twist together another wire to the 28awg positive before soldering it to the accent pixel. These three extra wires are to be soldered onto the other accent pixel for the other crystal. Once the first accent pixel is glued in place, we need to rock the crystal chamber into the bottom chassis starting by inserting the wired side of the chamber first.



Once the chamber is fully inserted into the bottom chassis you should insert your 52mm brass rods to finish assembly of the chamber into the bottom of the chassis. The rest of the work can be completed on the other accent pixel from the opening.

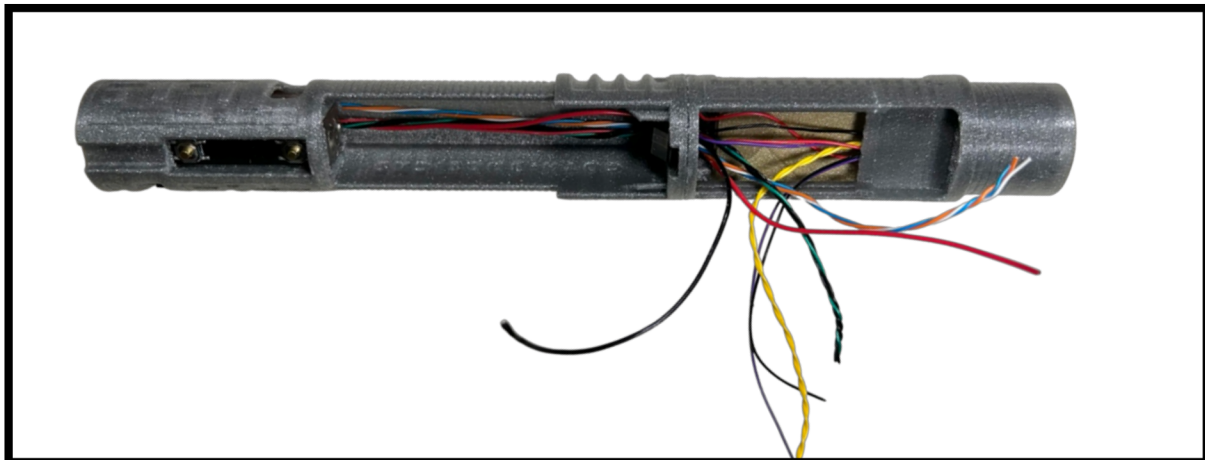


Solder the remaining 3 wires from the first accent pixel to the other accent pixel and glue the pixel into place with the crystal(if it isnt glued in already)



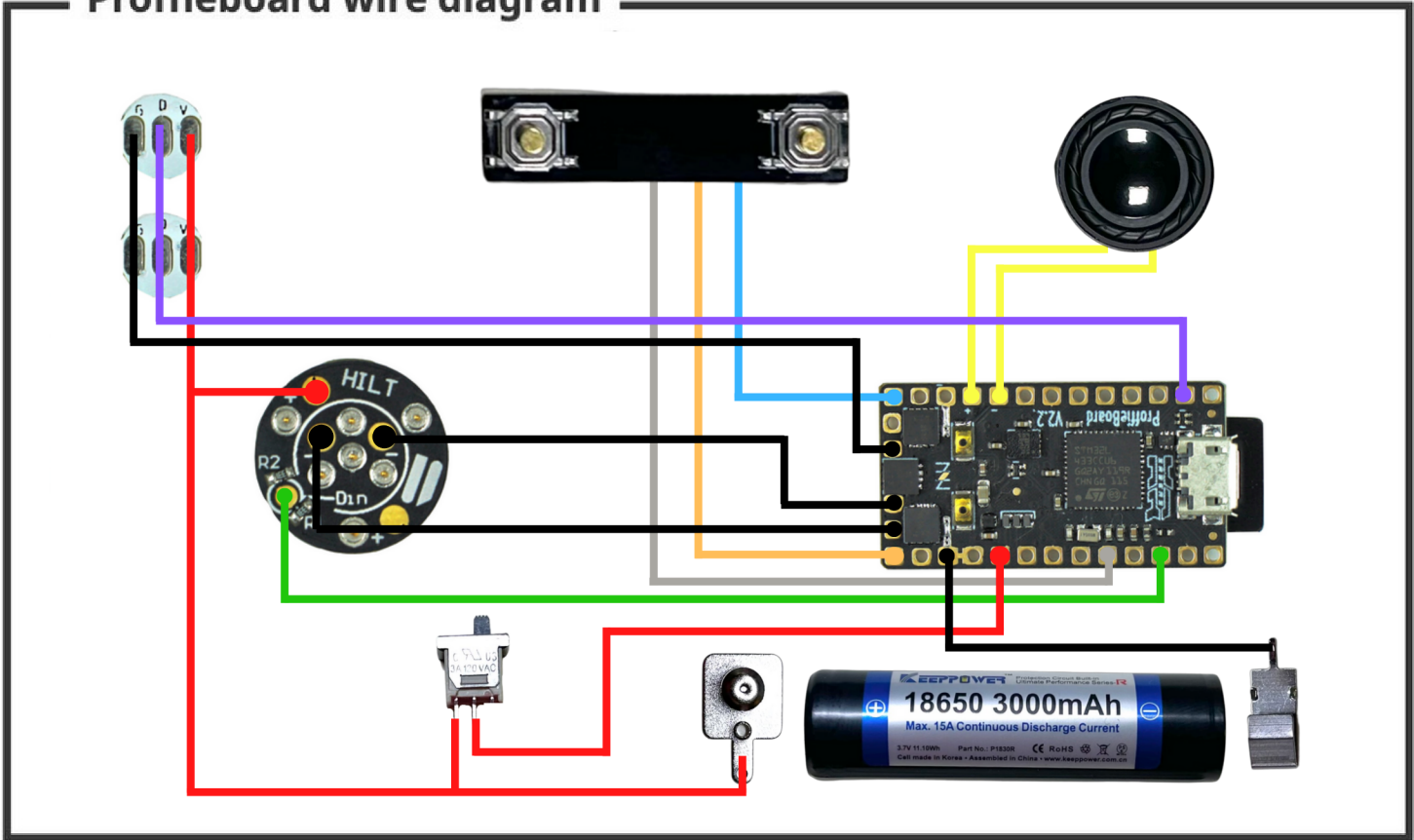
It is good practice to use some sort of shielding. You could use a piece of electrical tape or invest in some liquid electrical tape to dab on awkward places like this accent pixel.

With all of your remaining wires coming out of the soundboard holder area, it is now time to join the two chassis halves. You can choose to glue them together now or wait till after the soundboard is soldered to make sure everything is working and wired correctly.

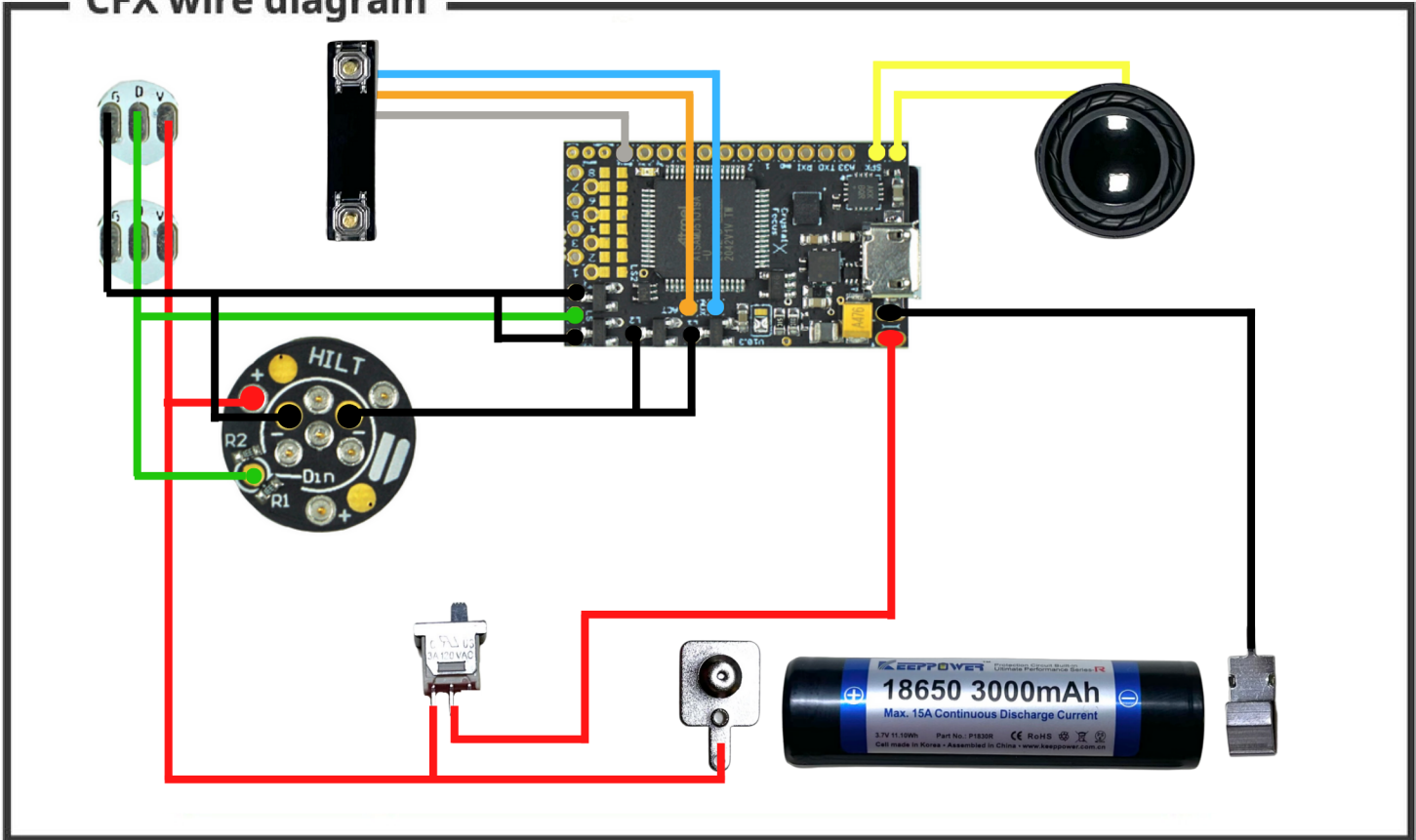


Now you are ready to start soldering the wires to the soundboard. Depending on which soundboard you chose will determine the wiring diagram you should follow.

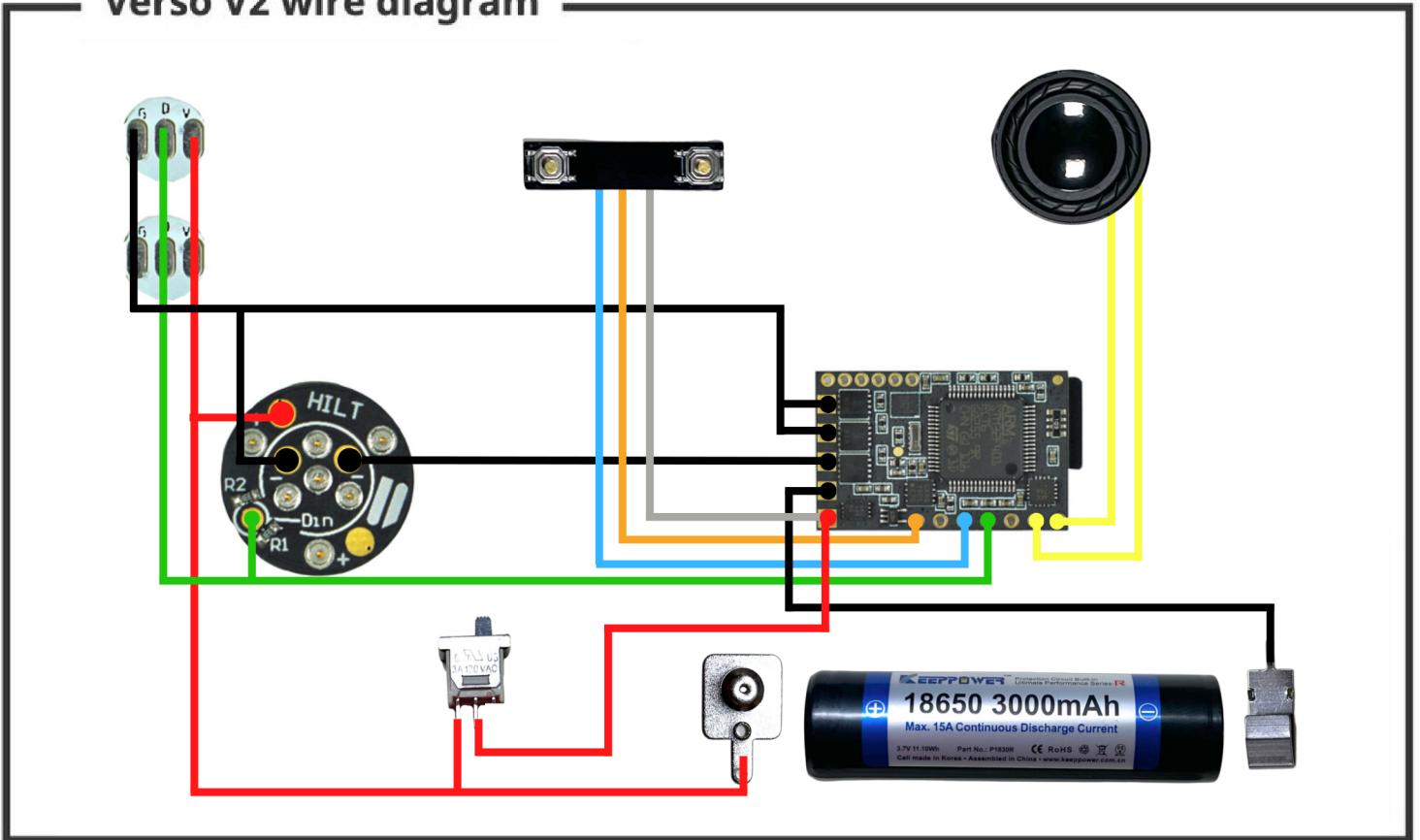
Proffieboard wire diagram



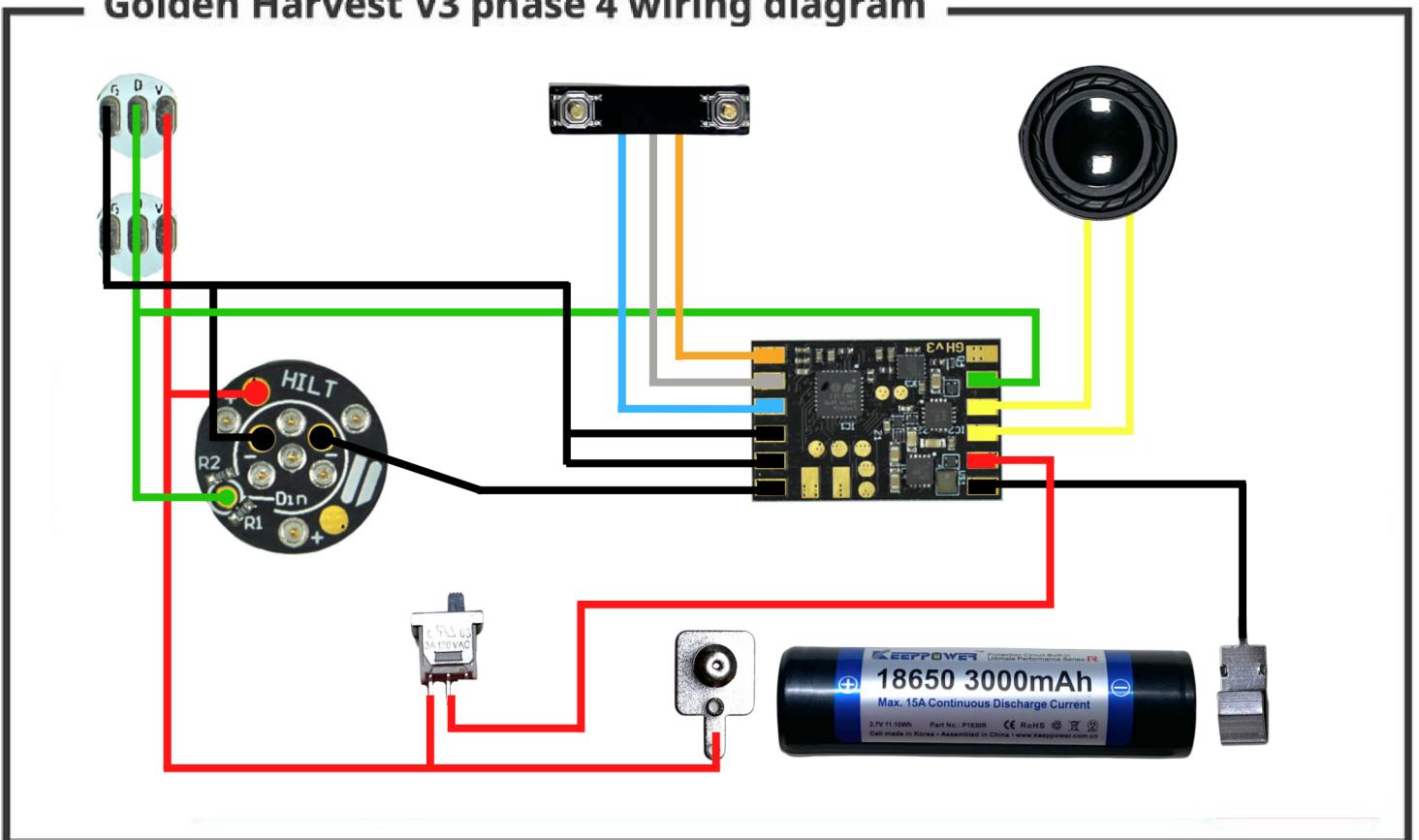
CFX wire diagram

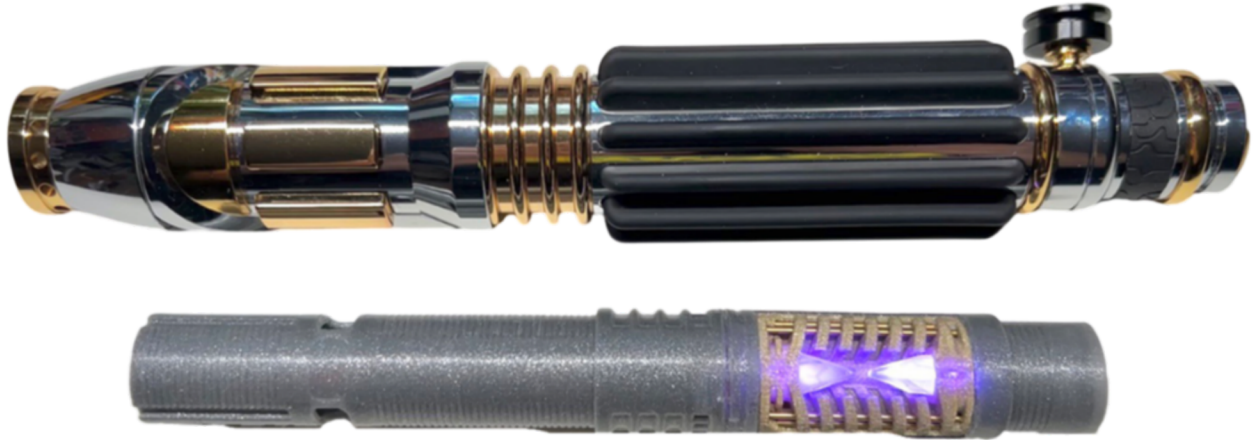


Verso V2 wire diagram



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.

