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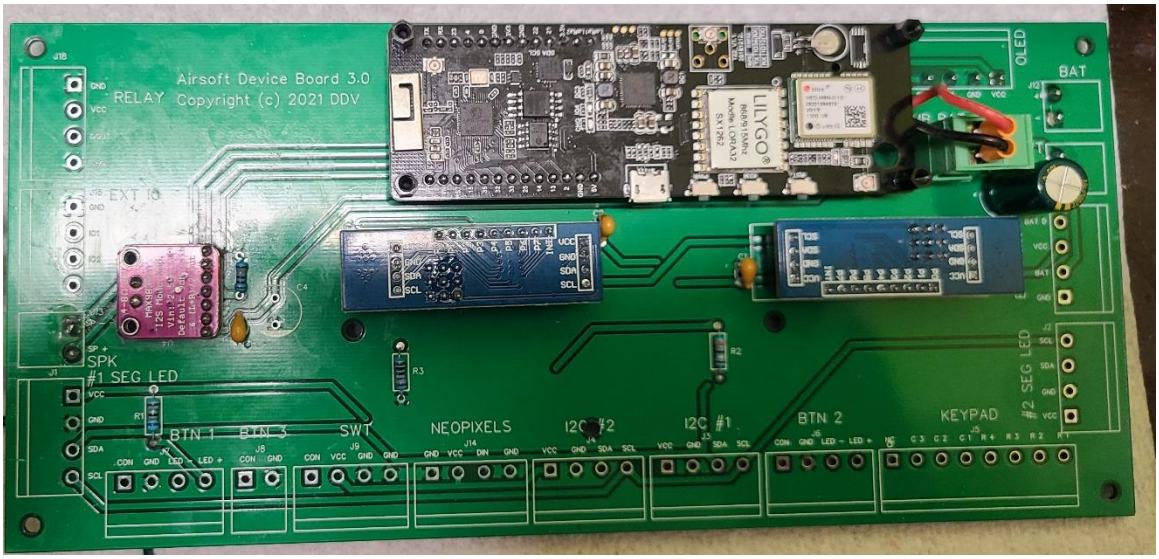
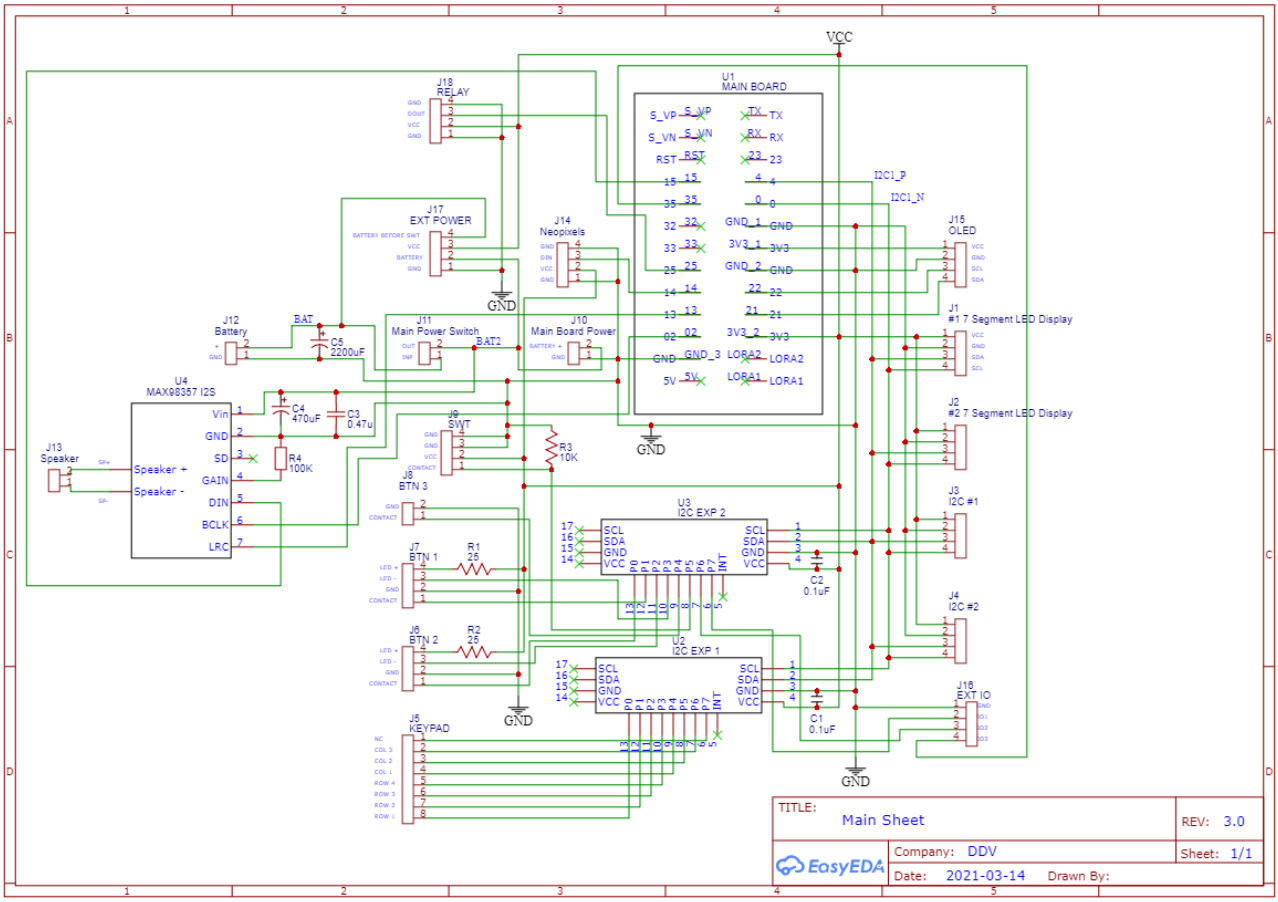
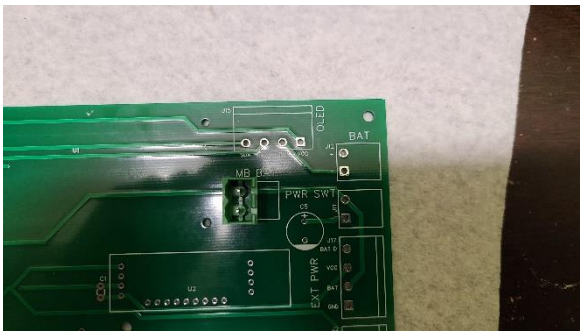
1. Main Board



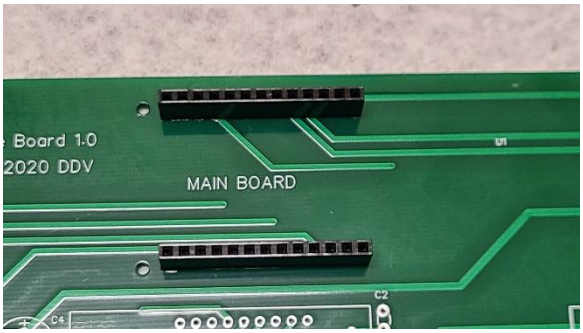
1.1. Schematic

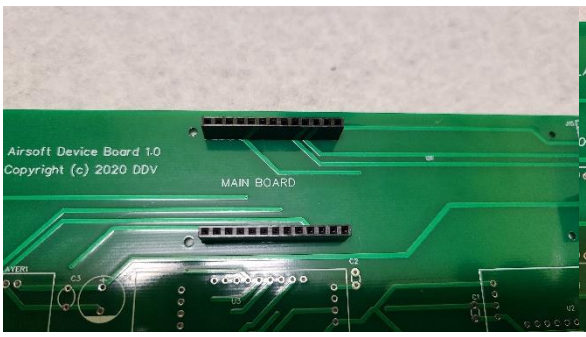


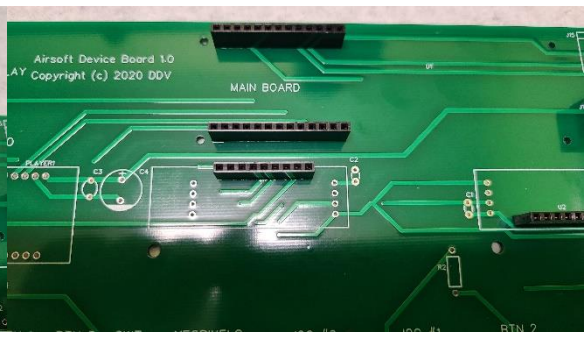
1.2. Solder MB Bat connector

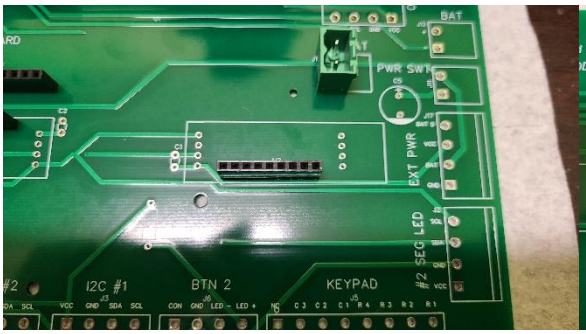


1.3. Solder CPU board & I2C Expanders connectors



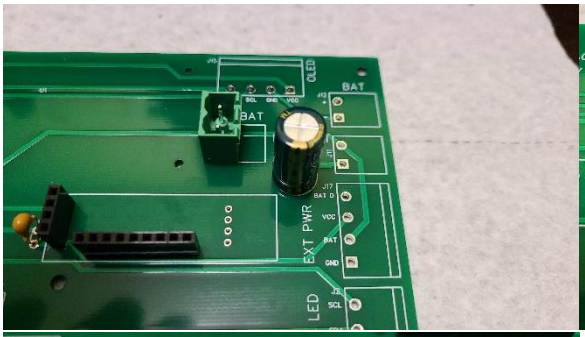


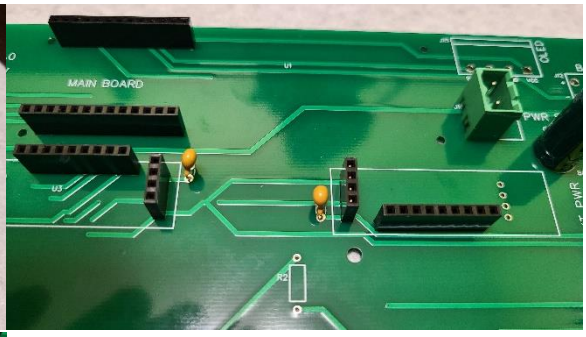


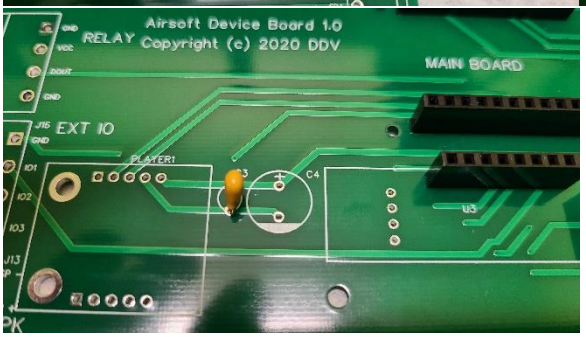


1.4. Solder Capacitors and Resistors

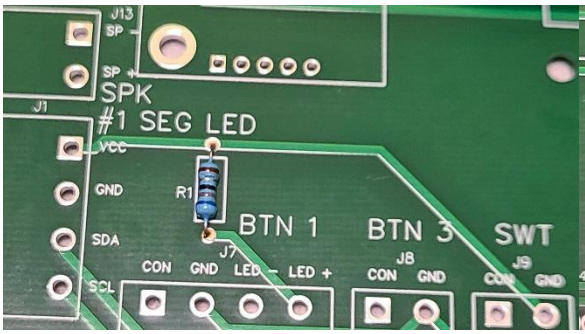
C1, C2, C3 - 474, C5 - 2200u. DO NOT INSTALL C4

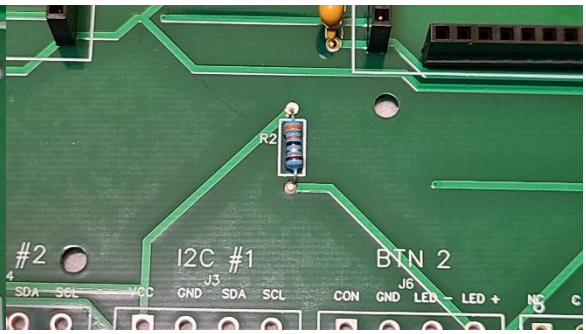




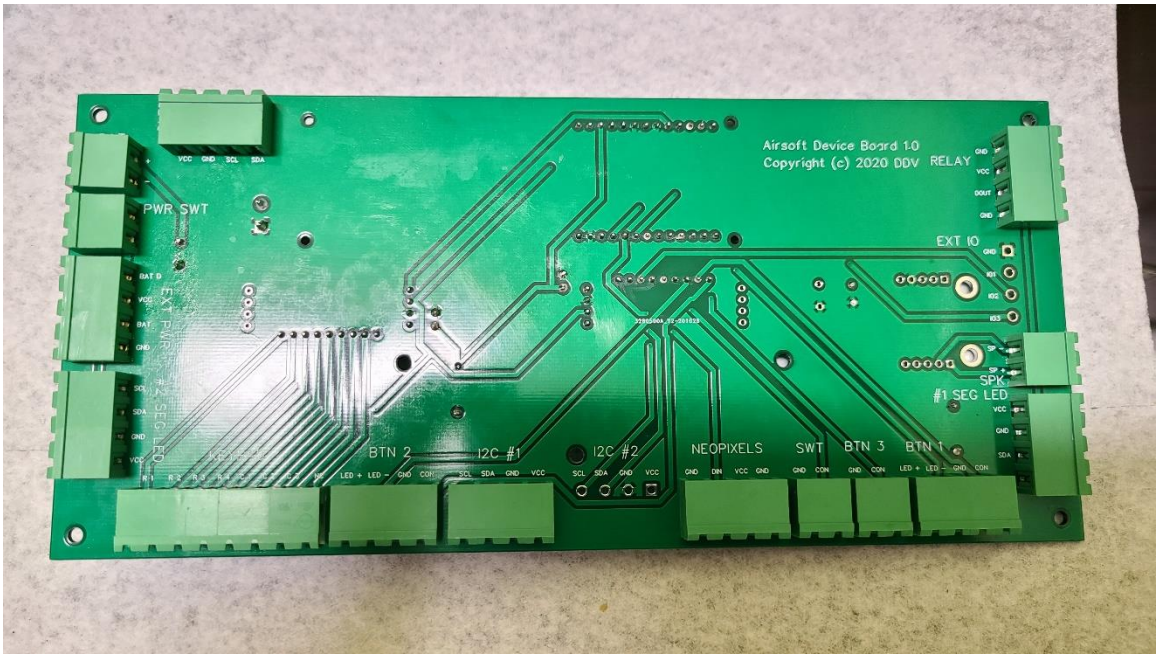


R1 (Red LED 2V) – 75 Ohm, R2 (Blue LED 3V) – 15 Ohm, R3-10K



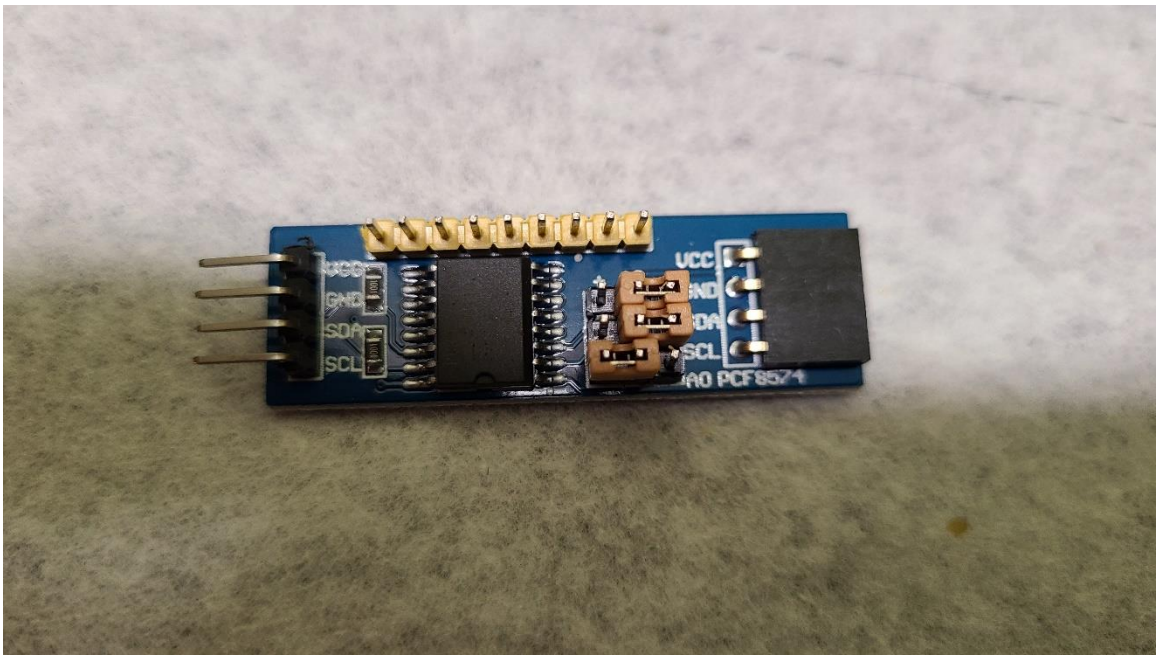


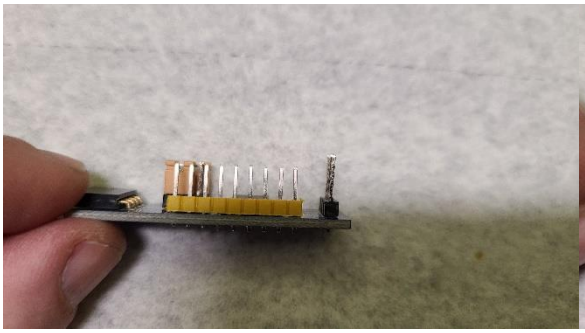
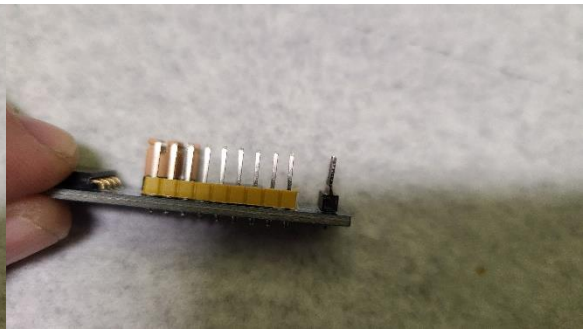
1.5. Solder all connectors on back side except I2S #1, I2S #2 , EXT IO



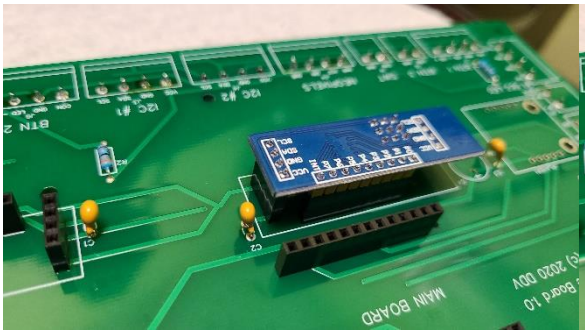
1.6. Straighten and cut pins I2C expanders U3 & U4. Insert I2C expanders.

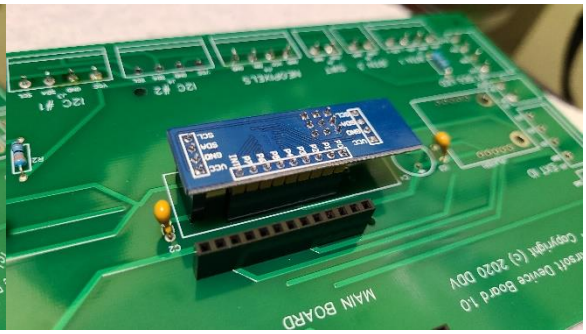
Solder A0 jumper on U3 I2C expander

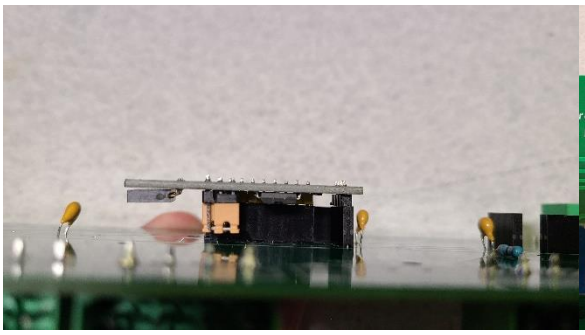
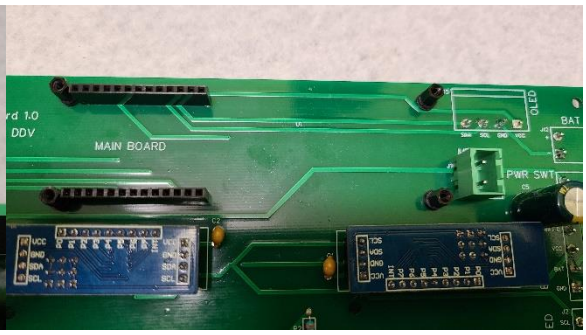


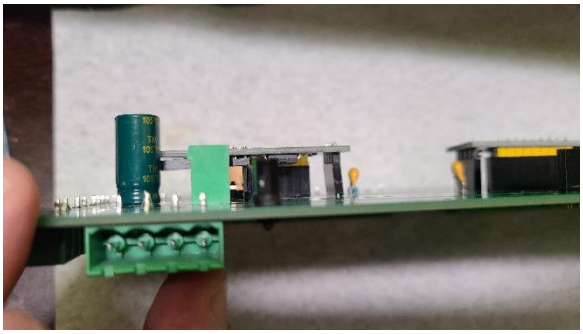



Insert I2C expanders to main board.

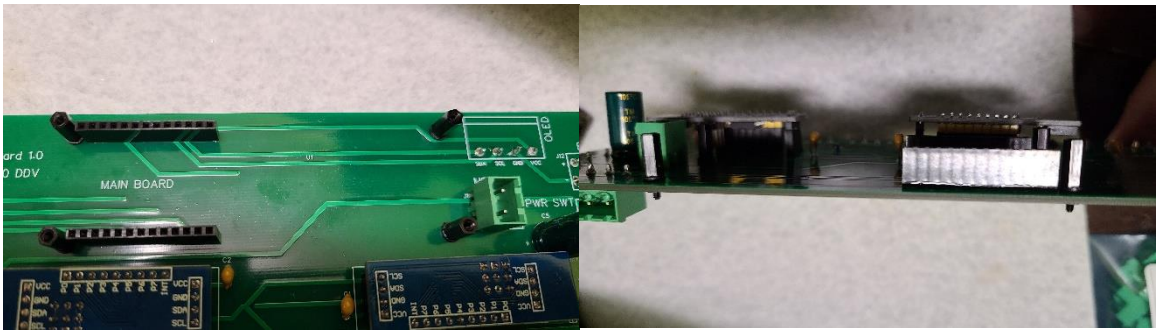




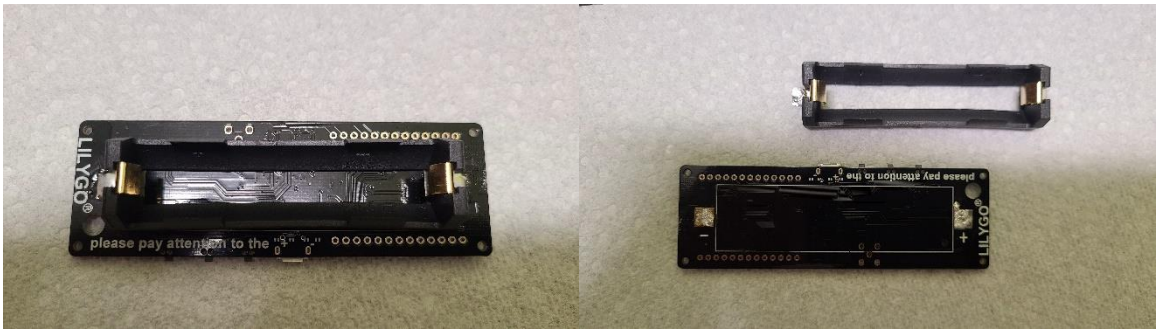





1.7. Install 9mm plastic stands + plastic washer for CPU board

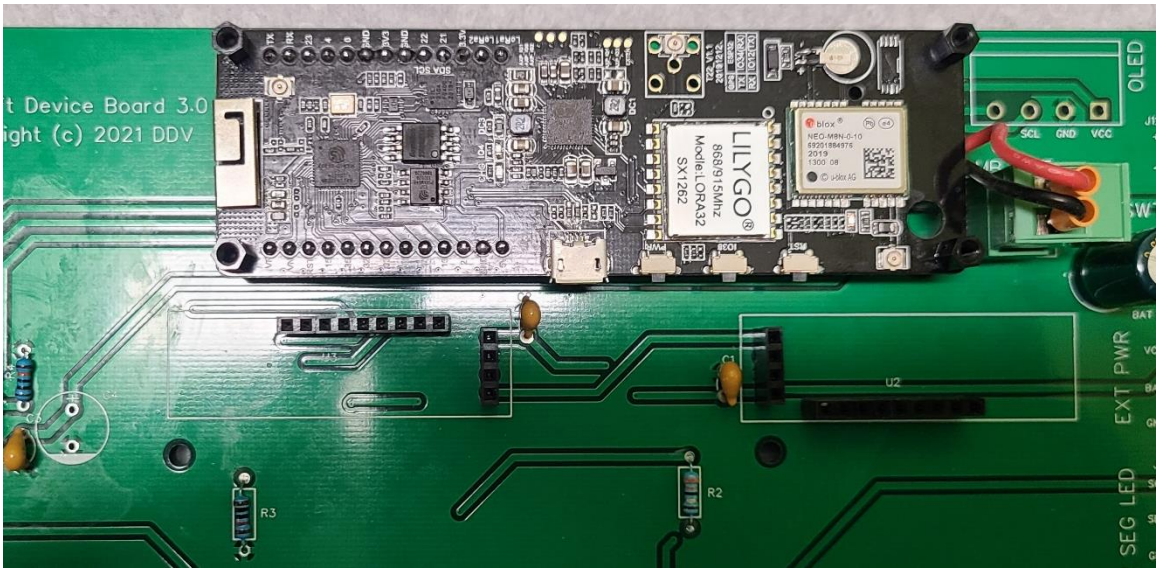


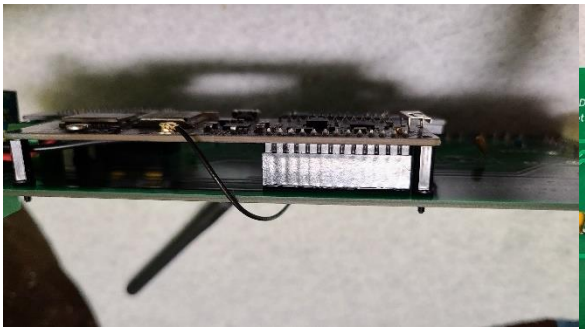
1.8. Remove battery holder from CPU board

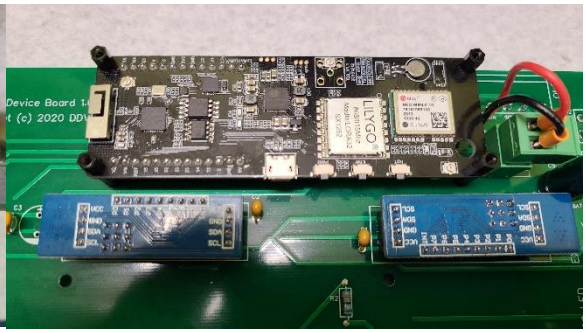


1.9. Solder + and – wires to CPU board and install 2 pin power connector.

1.10. Insert CPU board & 2 pin power connector to main board







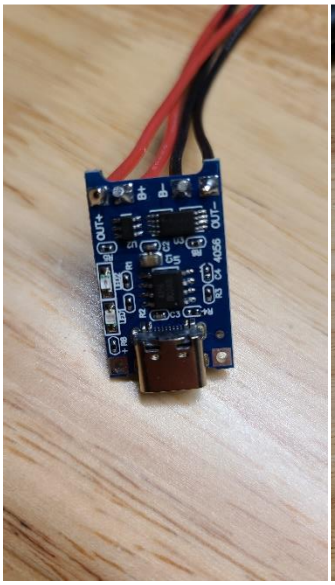
1.11. Solder U4 MAX98357 I2S

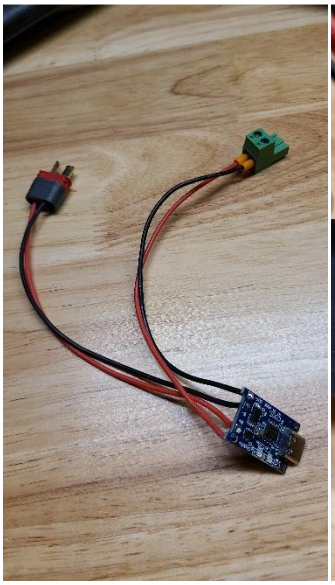
2. Periphery

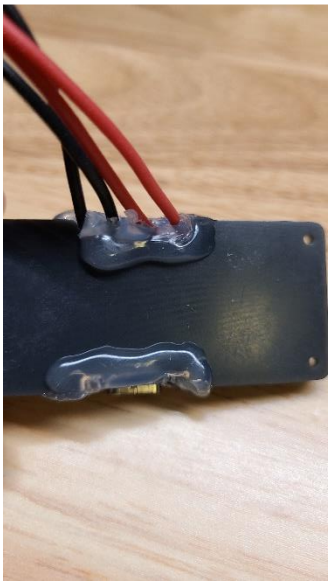
2.1. Solder Battery Charger and Glue it on adapter.

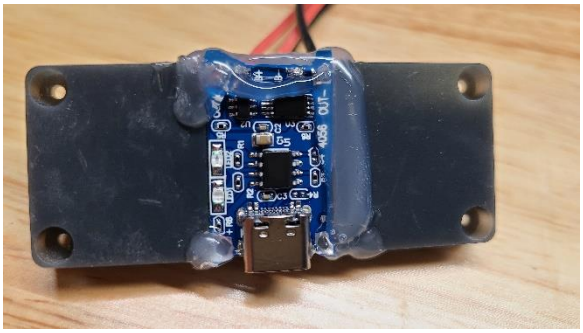
Solder T-connector to battery input and output to main board. Glue charging board on adapter.

WARNING: Ground wire (black) to Main Board should going directly from T Connector but NOT from the charging board as pictured.

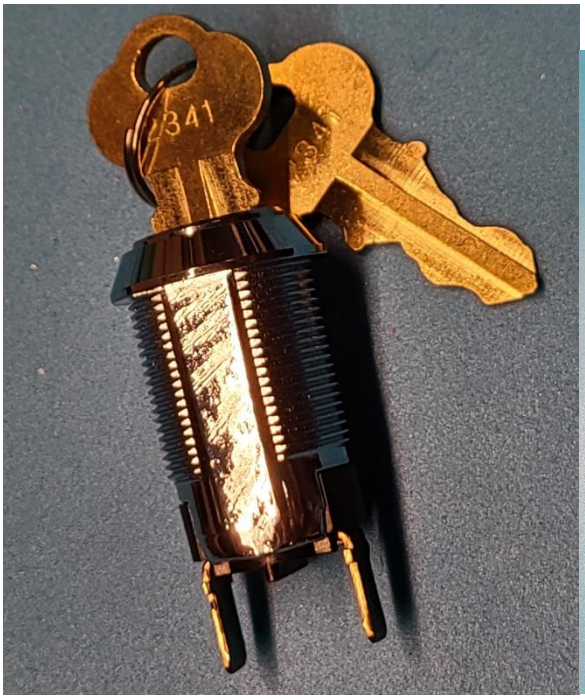


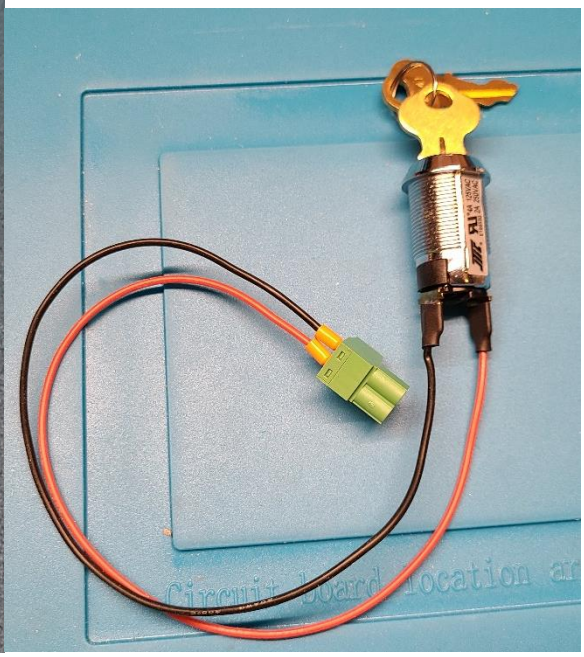




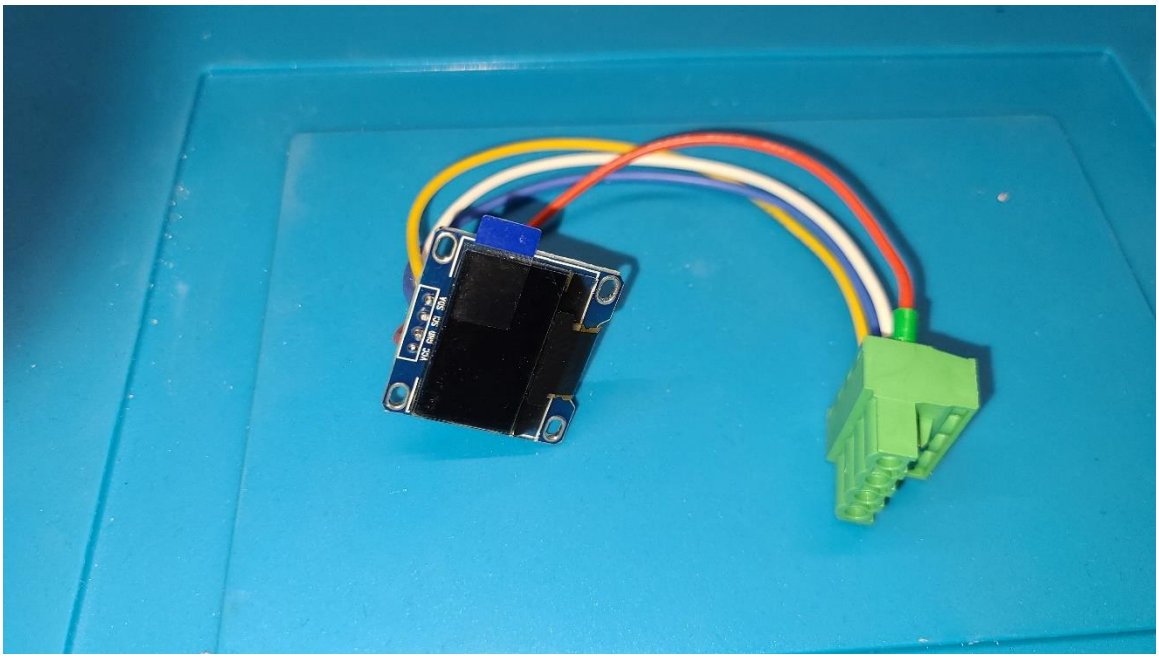


2.2. Solder Power switch

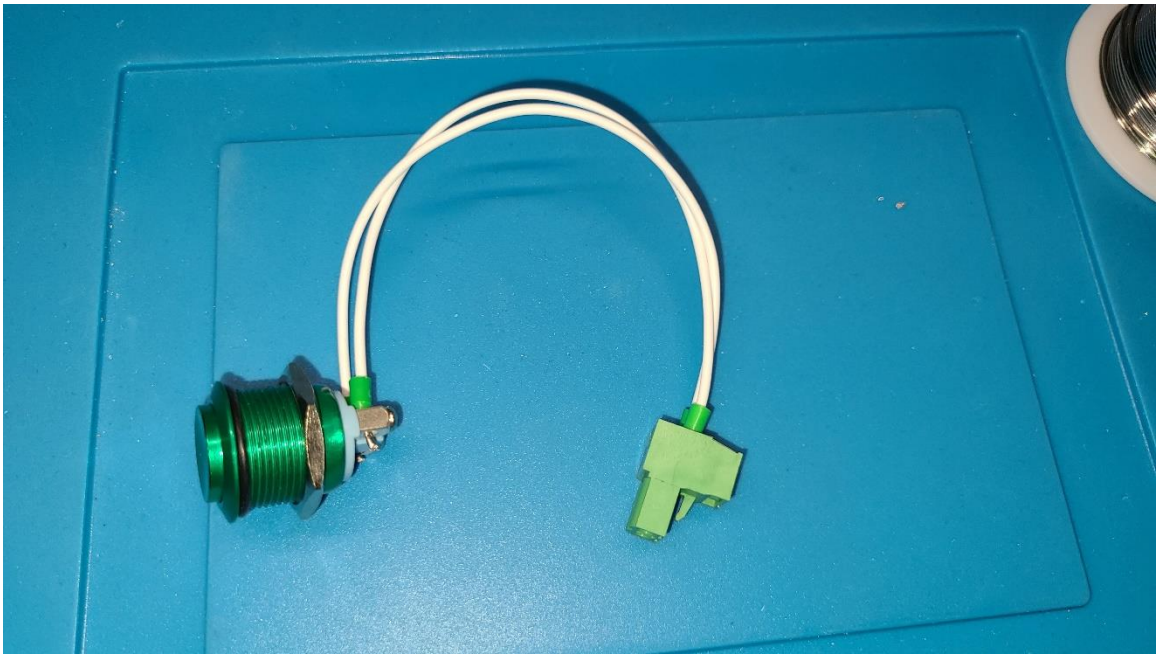




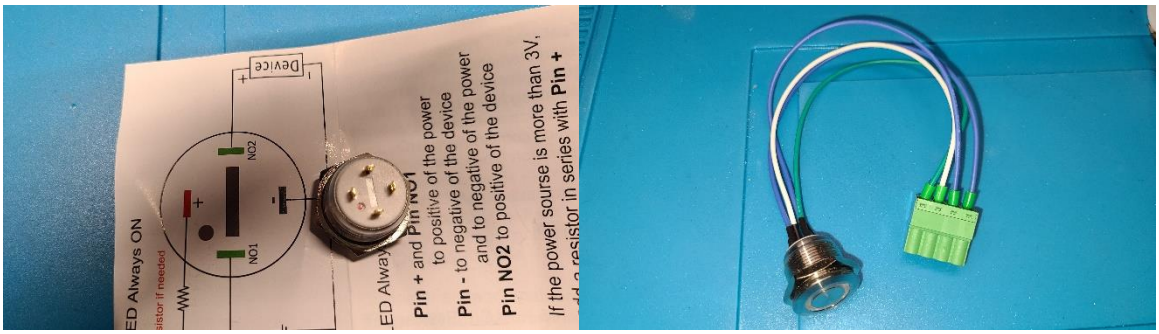
2.3. Solder OLED screen



2.4. Attach Green button

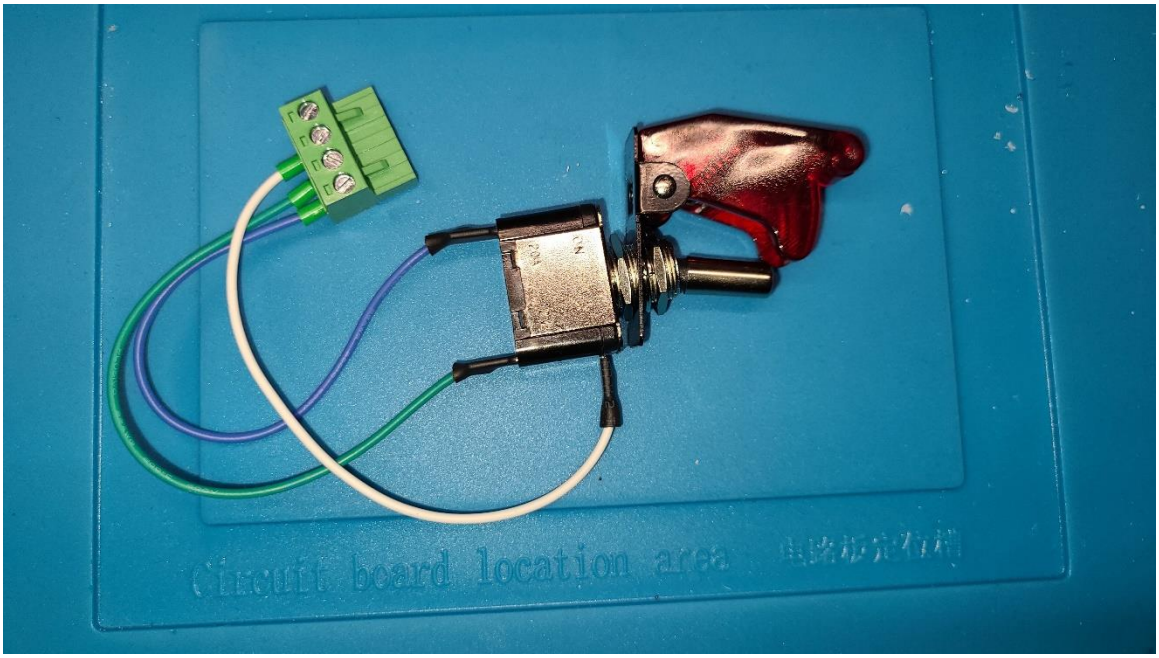


2.5. Solder Red & Blue LED buttons



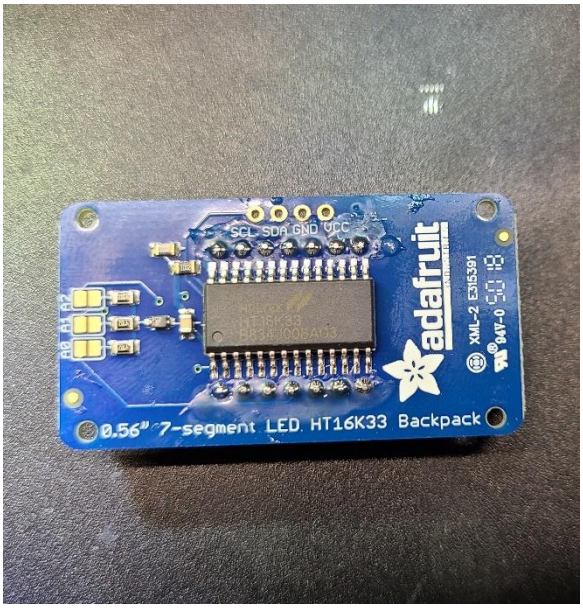
2.6. Solder Switch

OFF pin is Ground. Right pin is VCC. Left pin is output. Internal LED connected to OFF pin and output. In OFF position output not connected and grounded via R3 pull down resistor on main board, LED is OFF. In ON position output connected to VCC and LED is on.

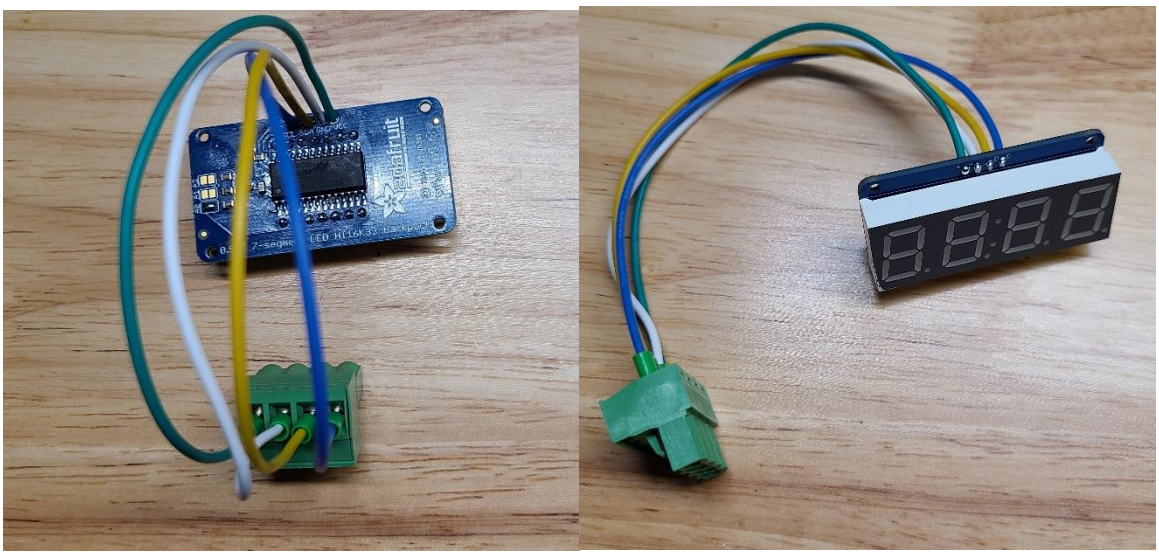


2.7. 7-Segment Displays RED & BLUE

Solder displays to I2C board.

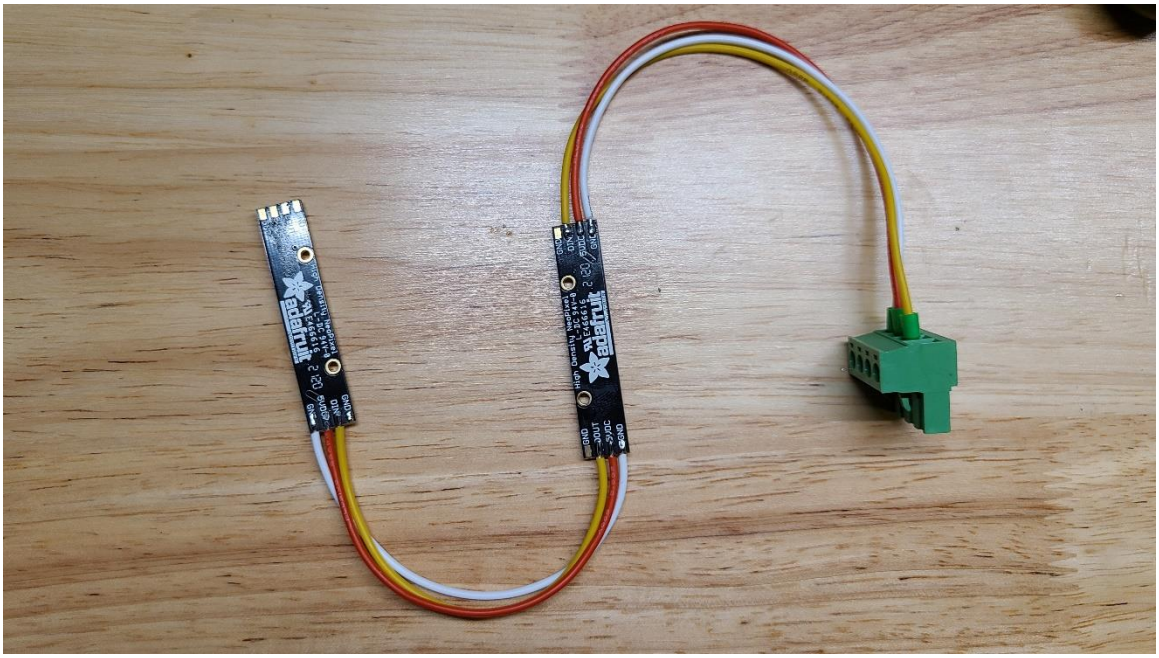


Then solder I2C wires.



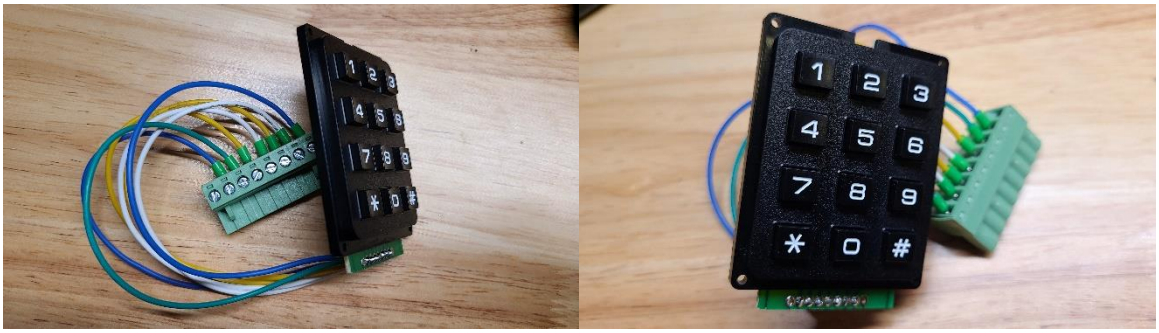
Solder A0 pad on BLUE display.

2.8. Neopixels

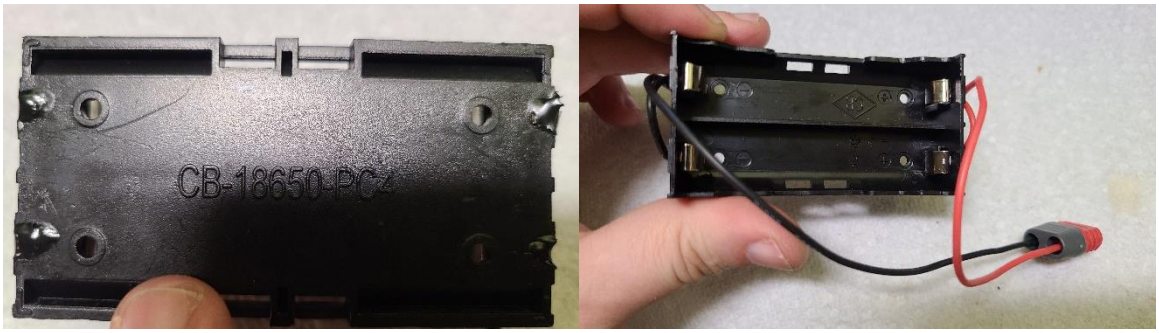


2.9. Keypad

3x4 Matrix Keypad pinout: 1-7 from left to right C2 R1 C1 R4 C3 R3 R2

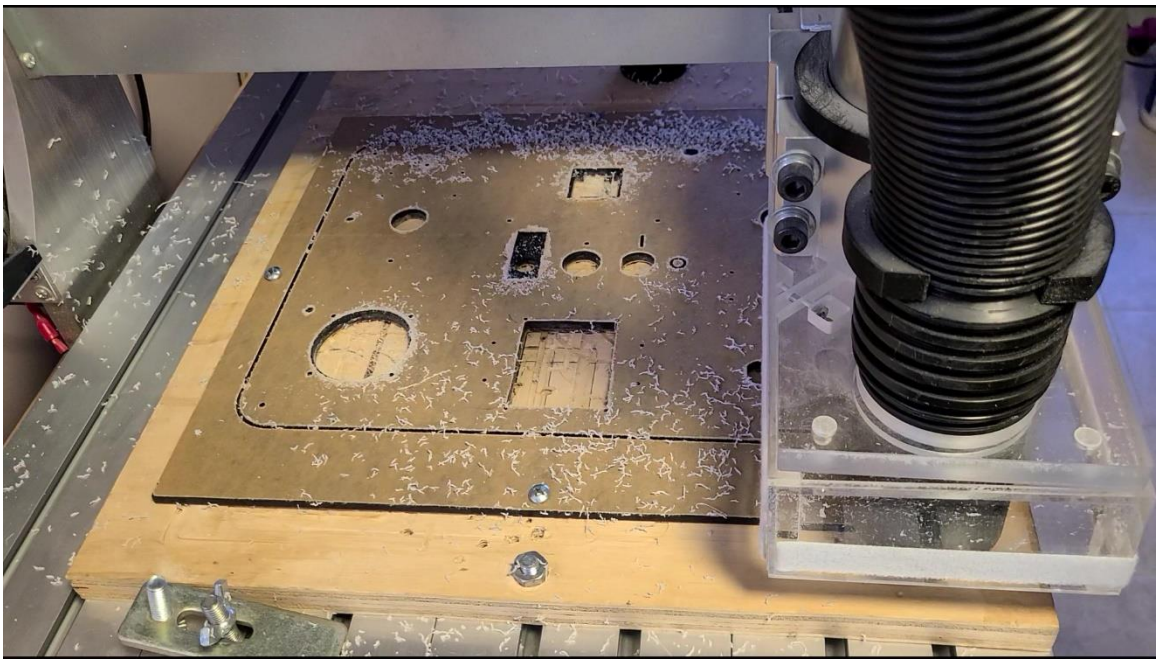


2.10. Battery Holder



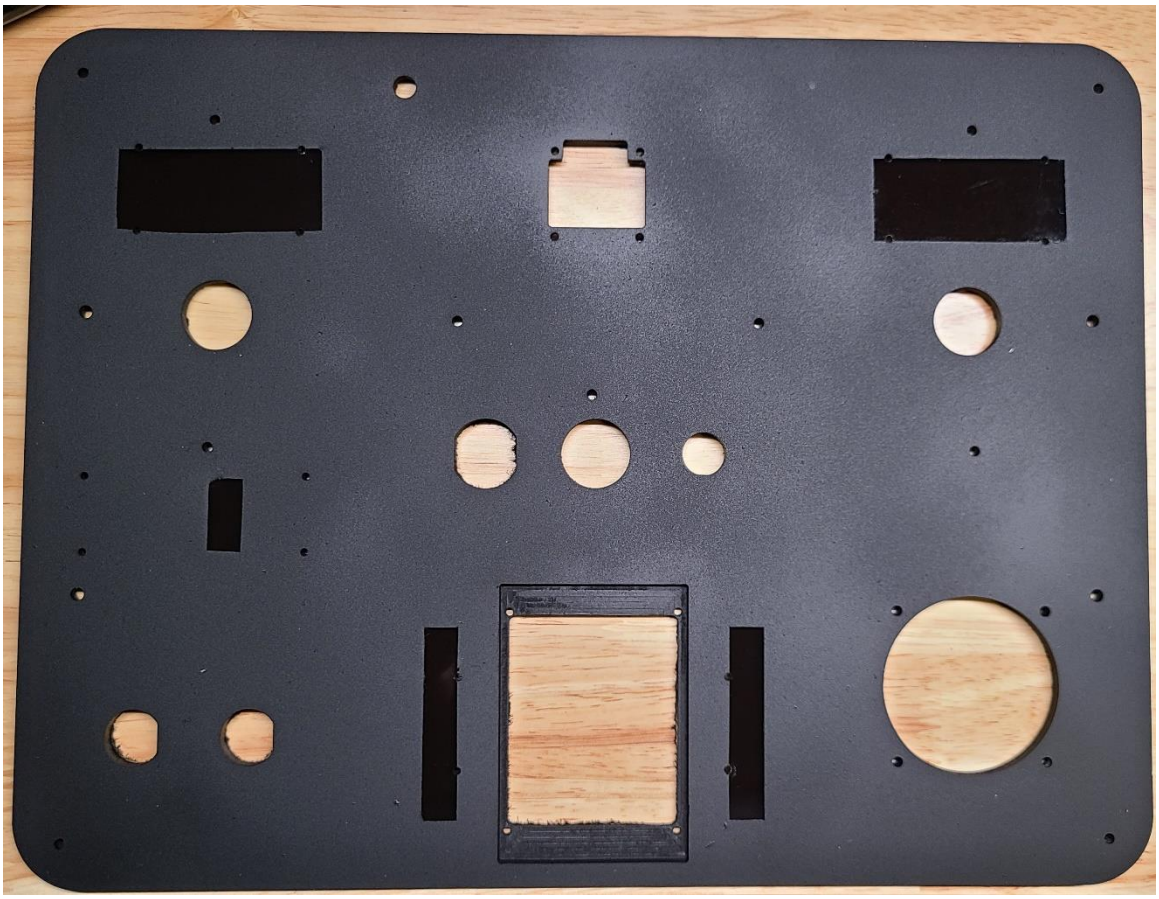
3. Top Panel

3.1. Cut top panel from ¼” dark brown Plexiglas



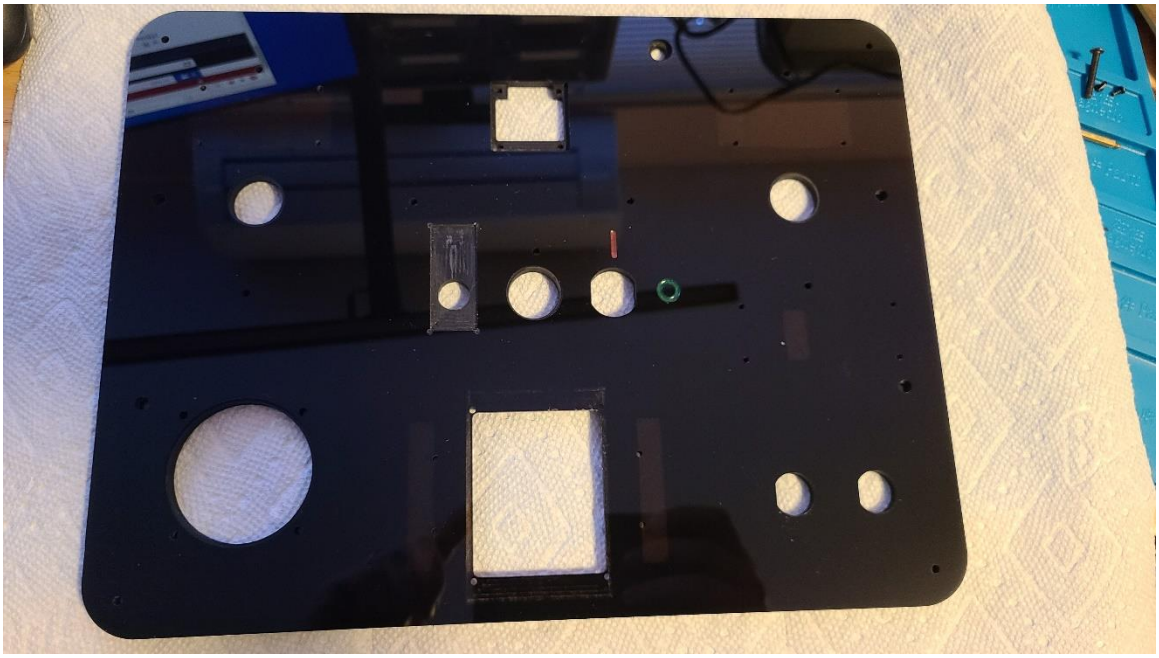
3.2. Paint backside

Mask displays (RED & BLUE 7 Segments displays, Neopixels, Charging led on charging board) by masking tape. Paint backside of panel by airbrush in deep black color. Let it dry for 48h.



3.3. Color the On and Off signs

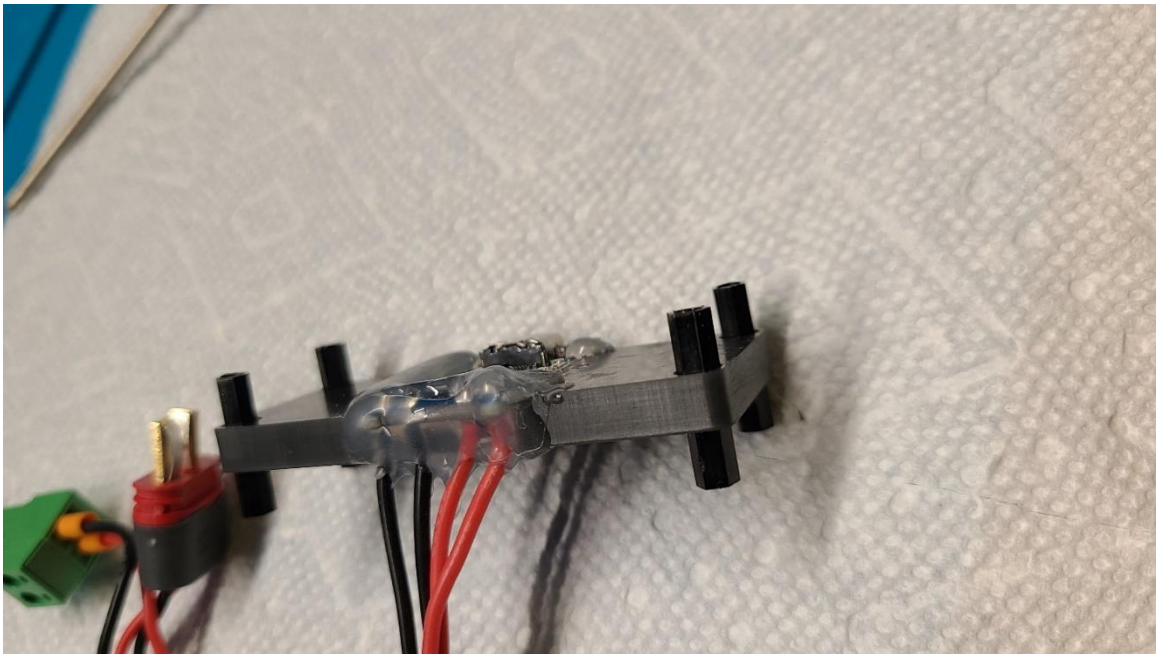
Use acrylic paint or colored resin.



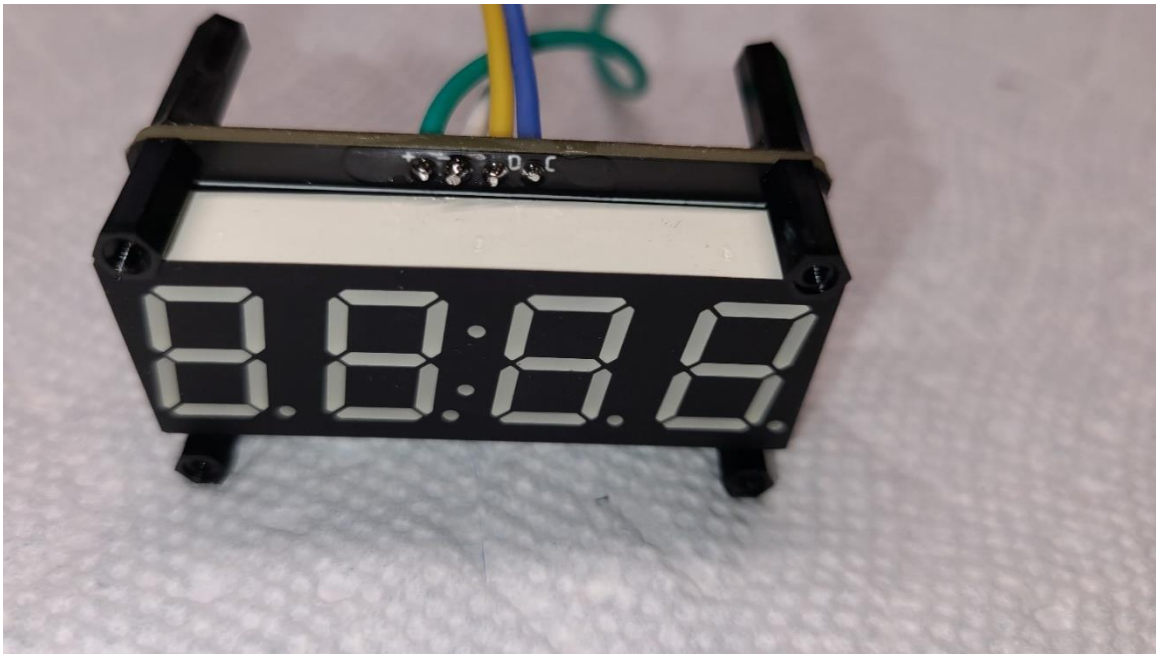
3.4. Attach spacers to periphery

Attach periphery using M2 Nylon Hex Spacers.

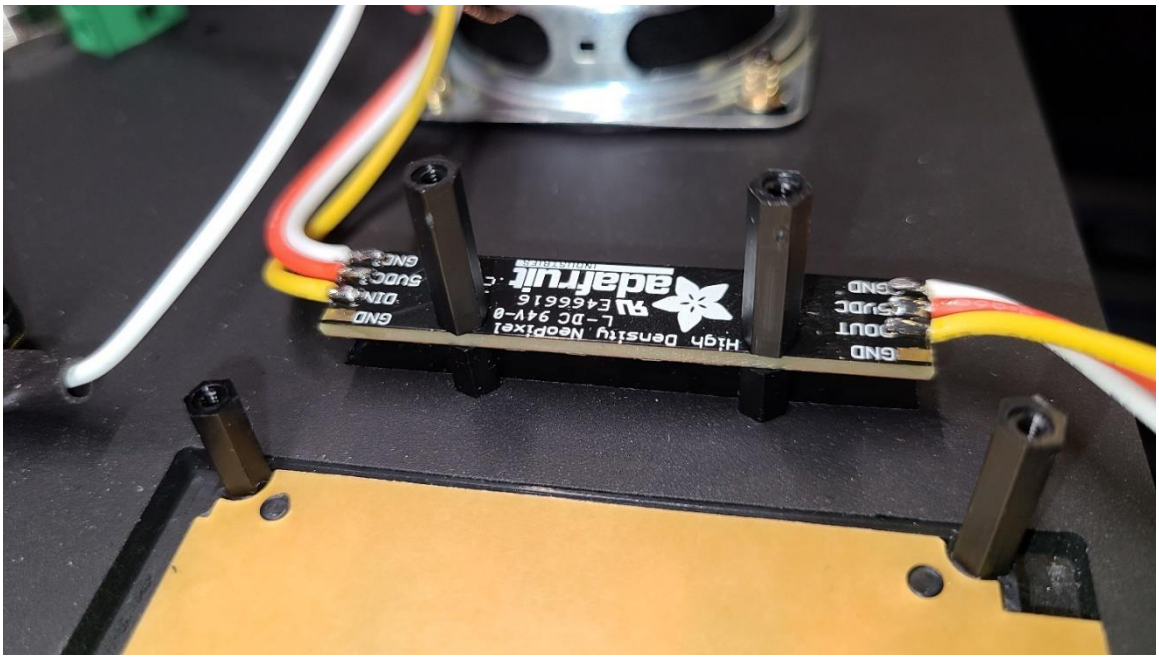
Battery Charger board - 4xM2 6mm + 4xM2 10mm



LEDs - 4xM2 10mm + 4xM2 any size as nuts

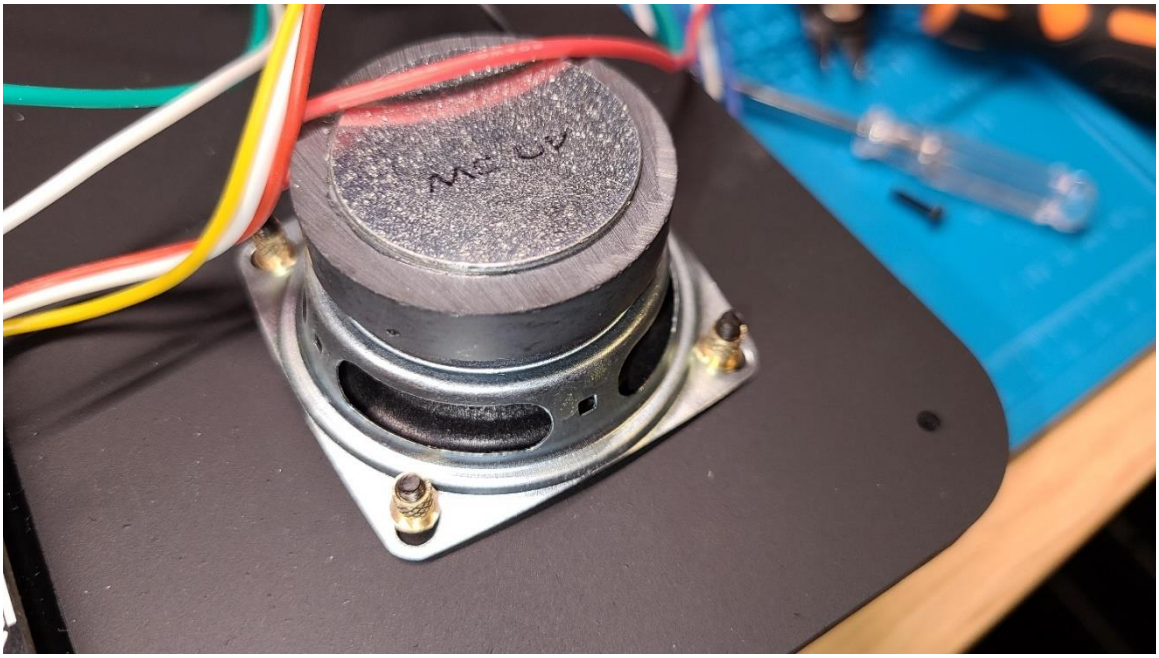


Neopixels - 4xM2 6mm + 4xM2 any size as nuts

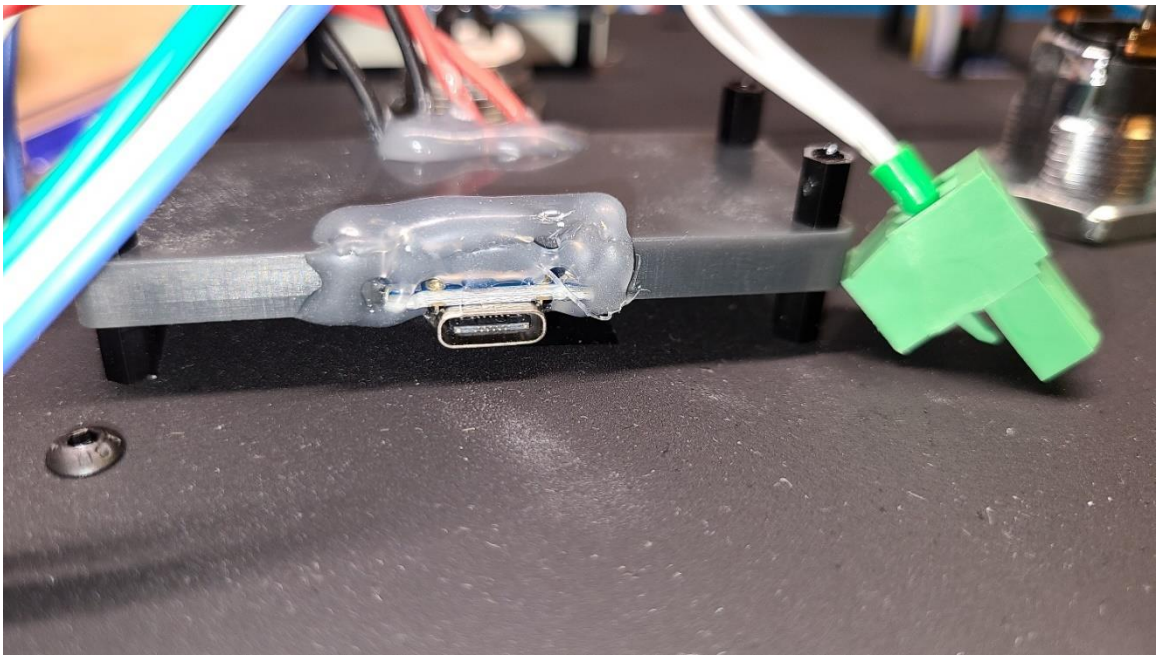


3.5. Attach periphery to Top Panel

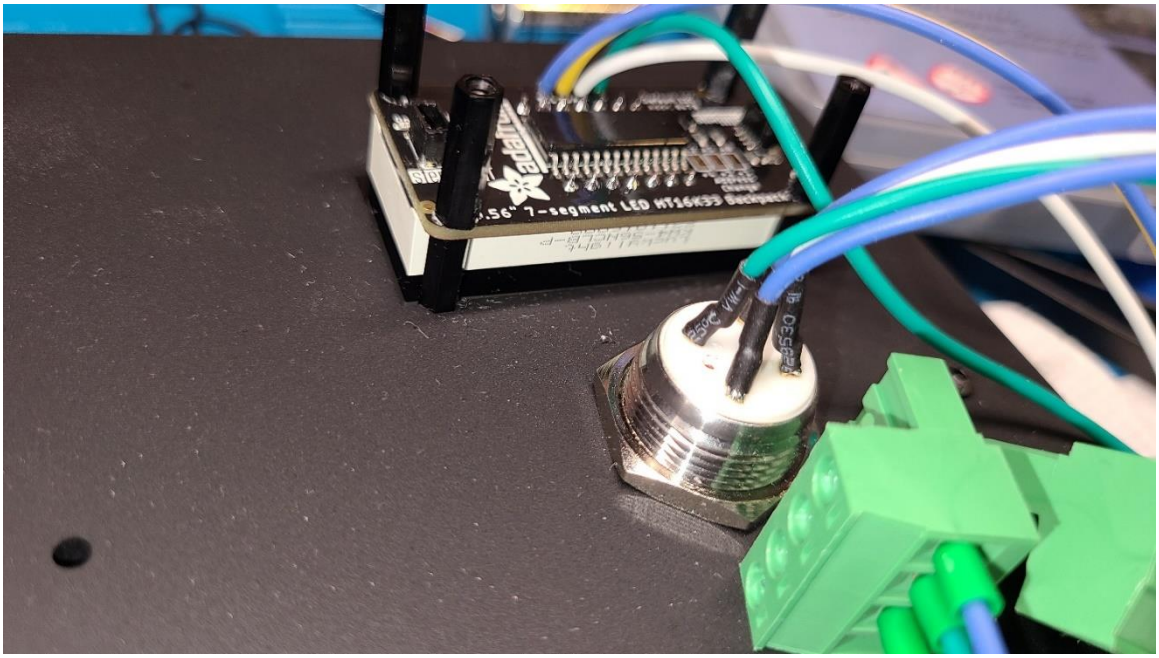
Attach speaker using M3 screws

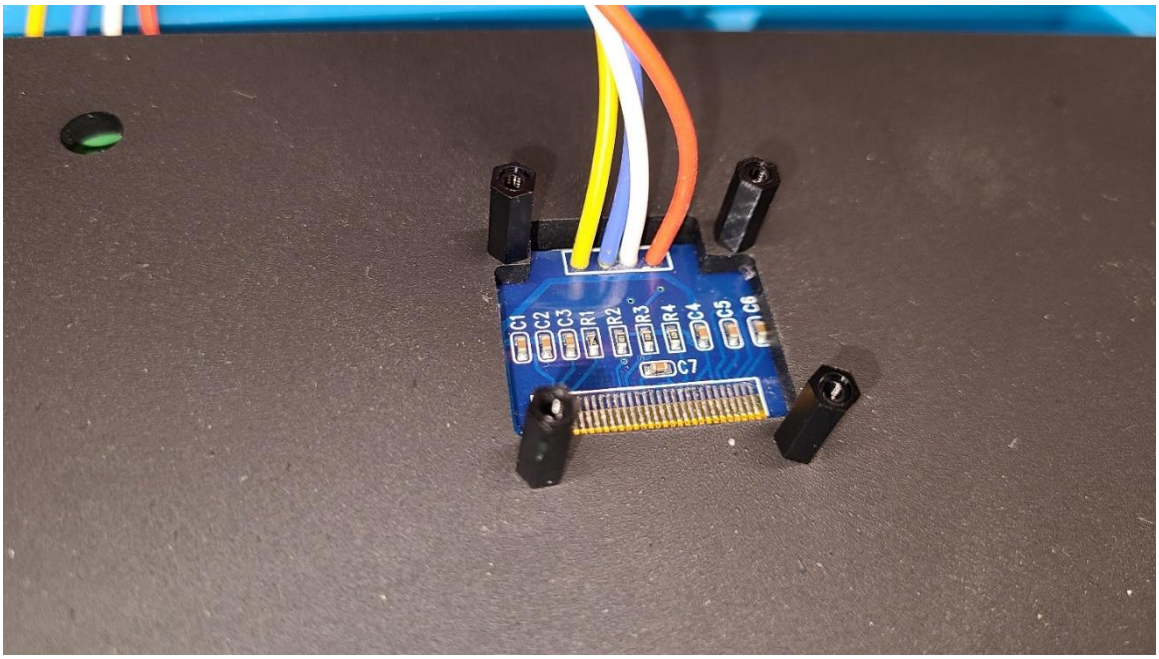


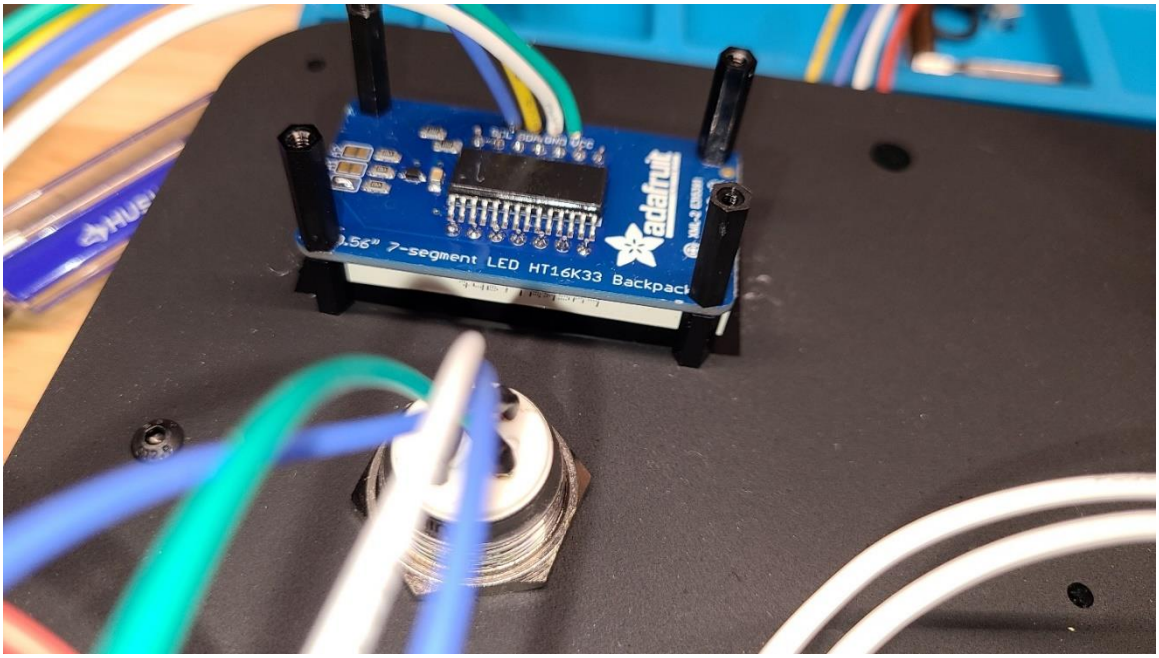
Attach Battery Charger board using M2 nylon screws



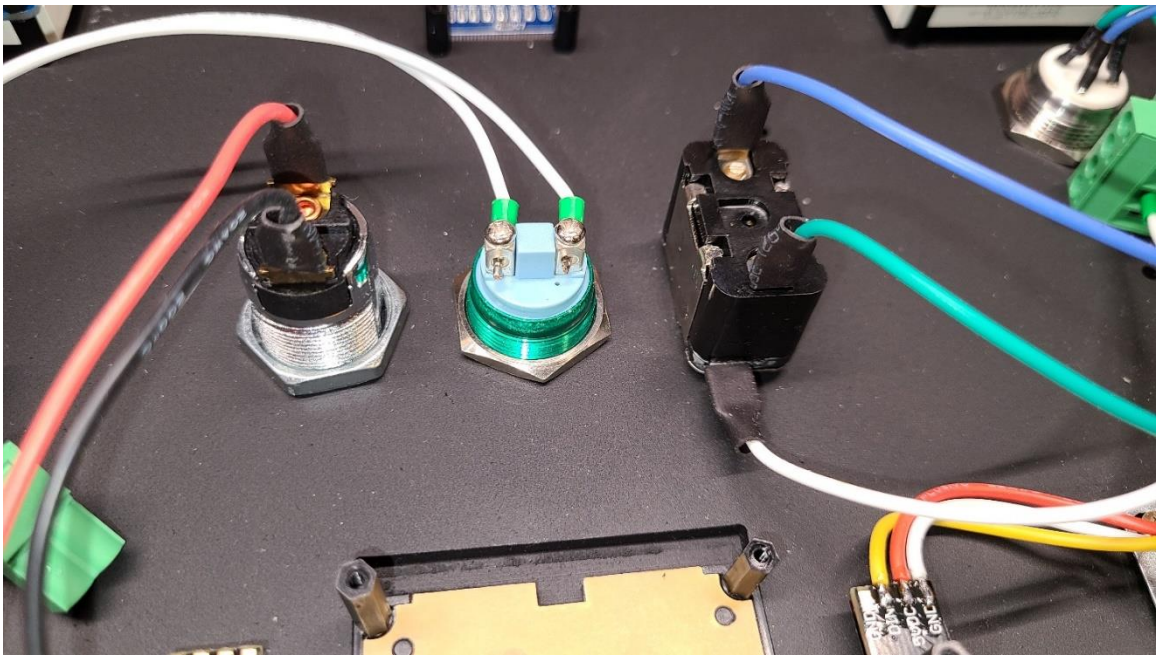
Attach LEDs using M2 nylon screws


.56" 7-segment LED HT16K33 Backpack

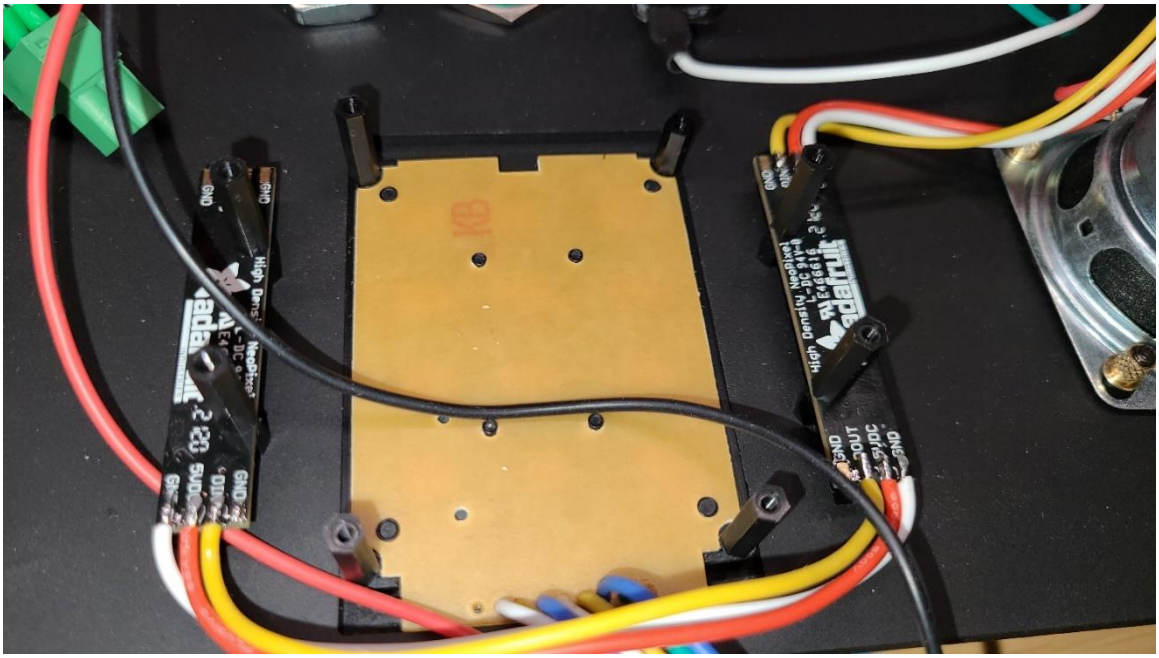

C1
C2
C3
R1
R2
R3
R4
C4
C5
C8
C7

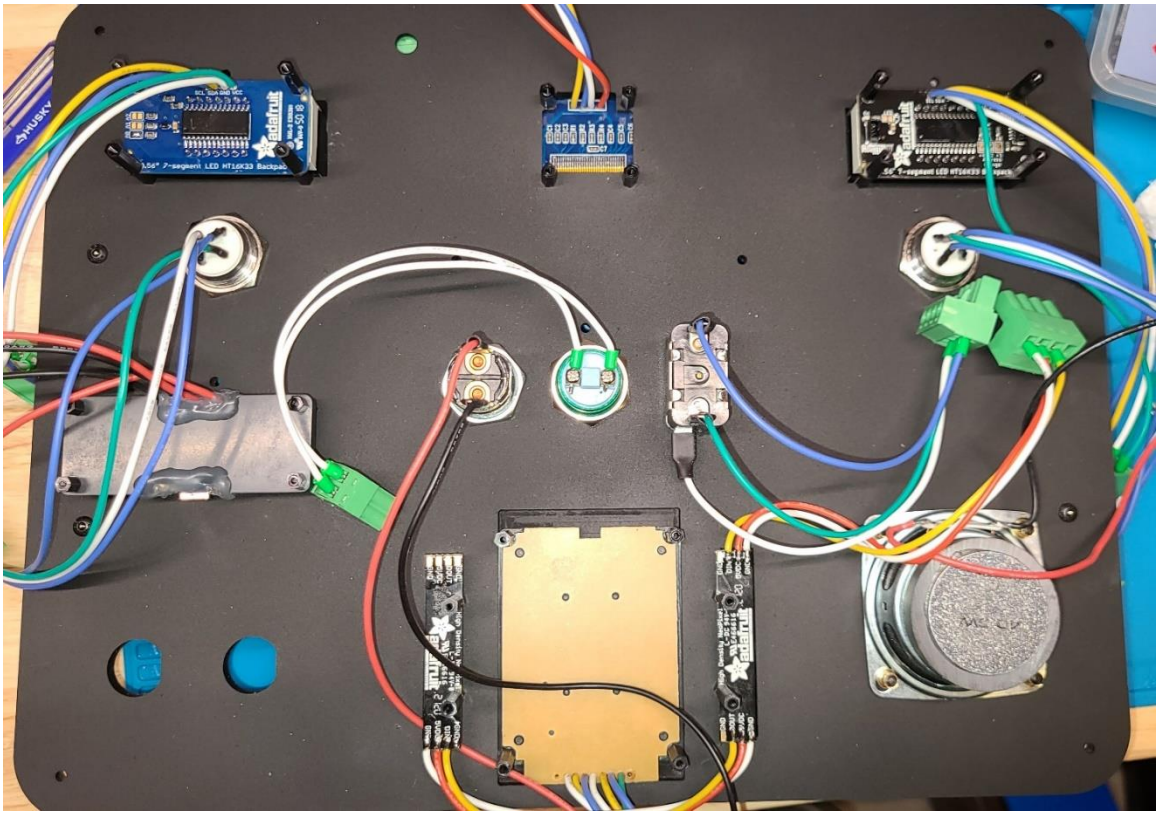


Attach buttons and switch



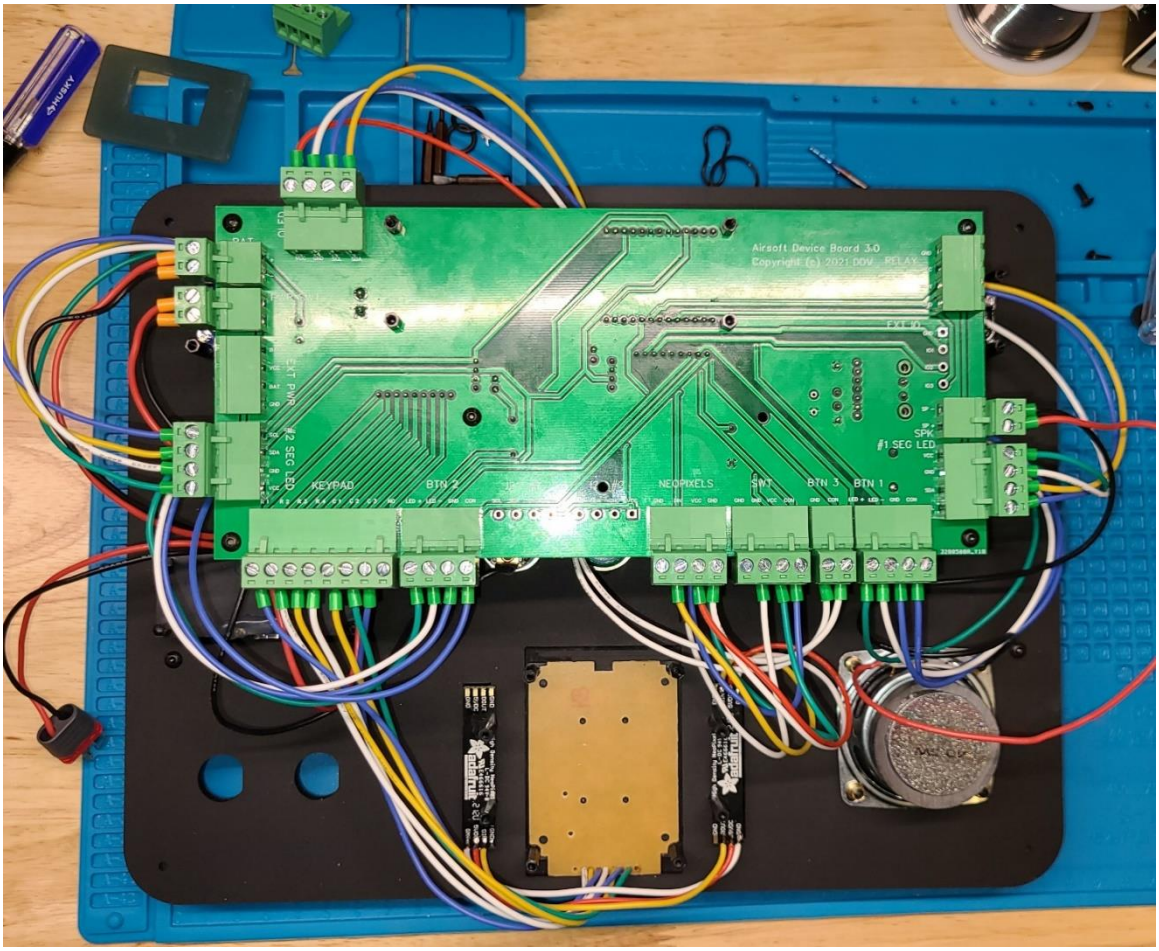
Attach Neopixels and Keypad using M2 nylon screws





3.6. Attach Main Board

Attach Main Board using 50mm metal stands


Airsoft Device Board 3.0
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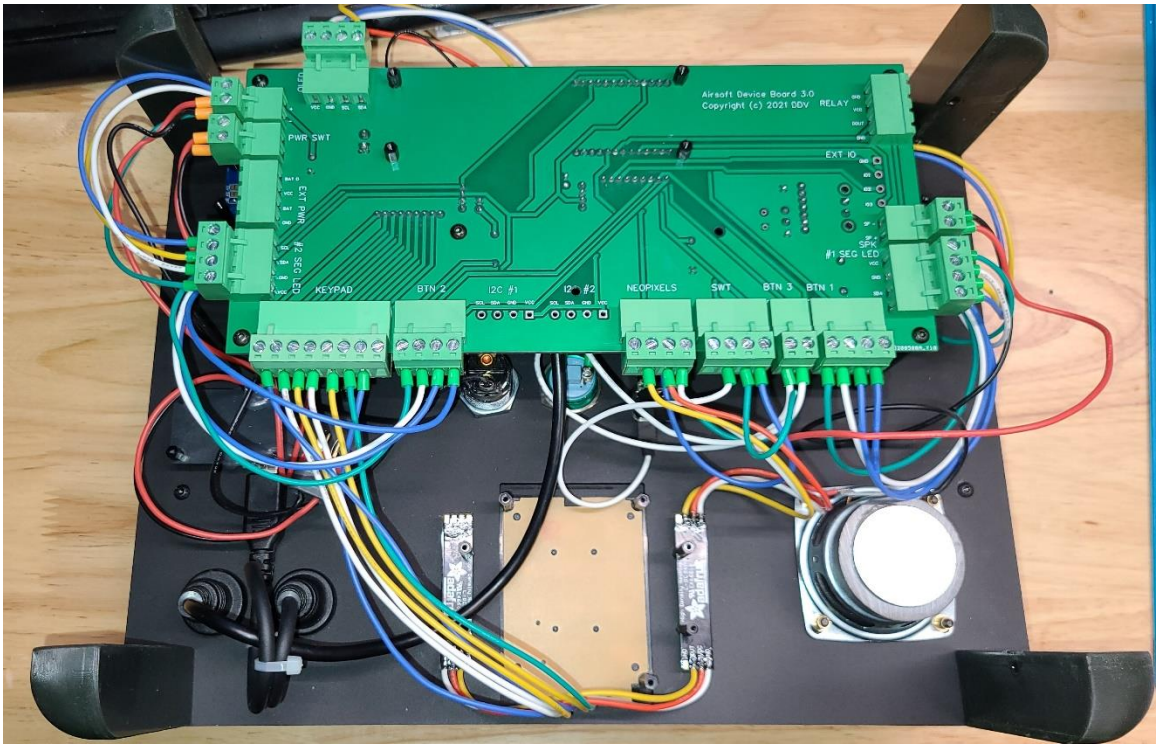
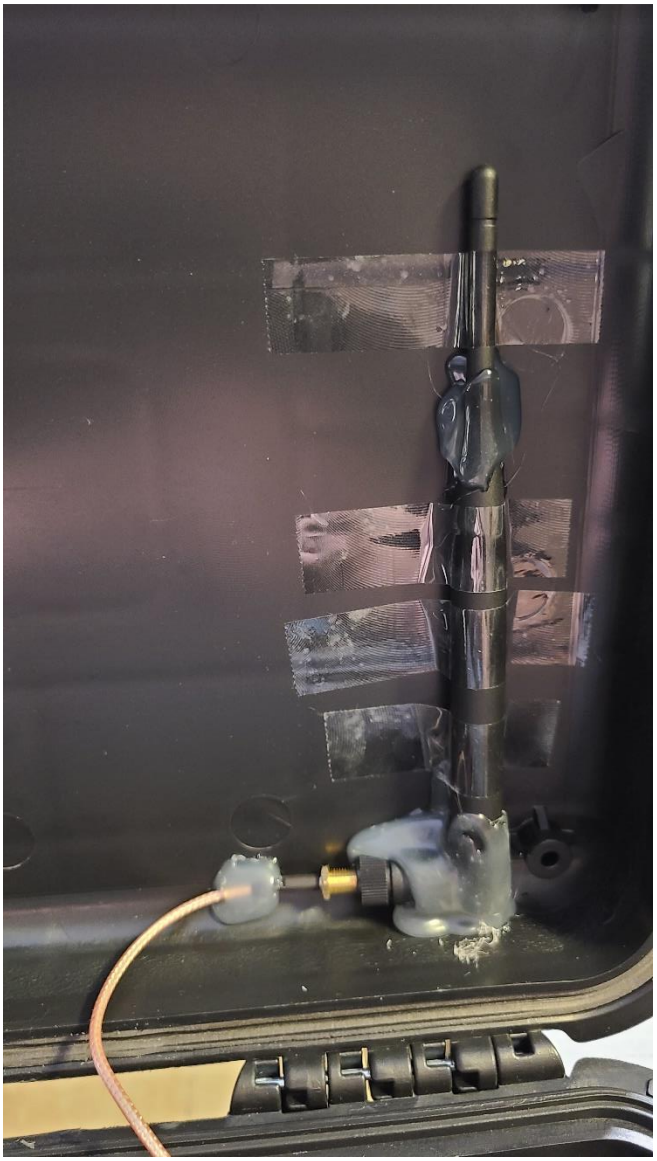
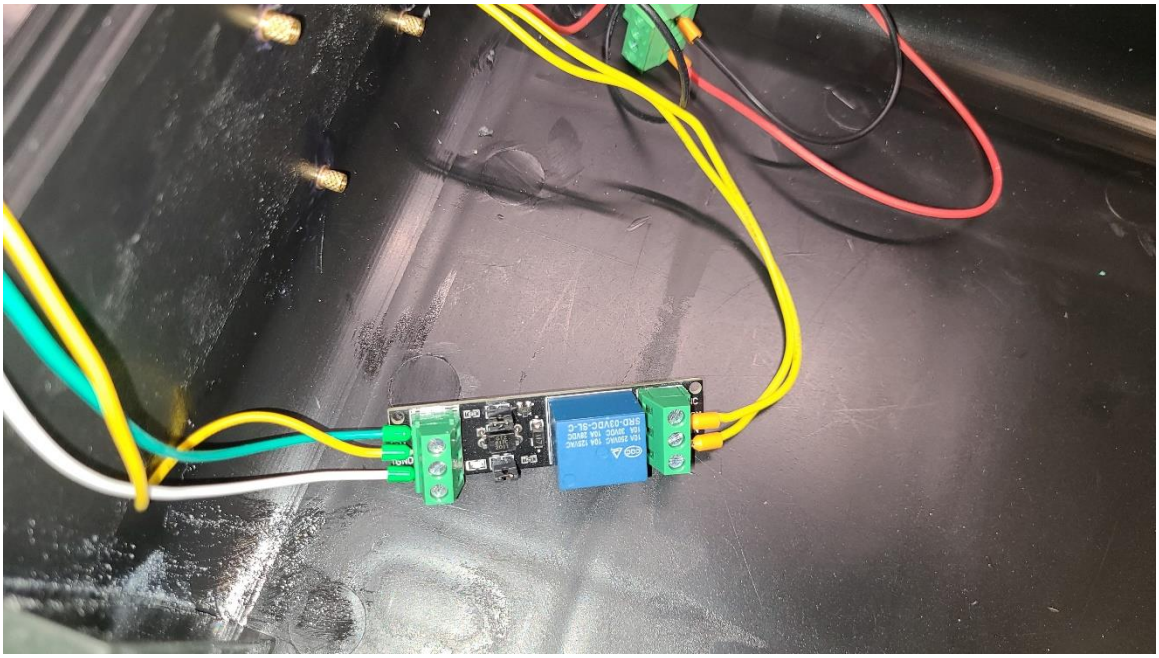
KEYPAD
BTN 2
NEOPIXELS
BTN 3
BTN 1
SPK
EXT PWR

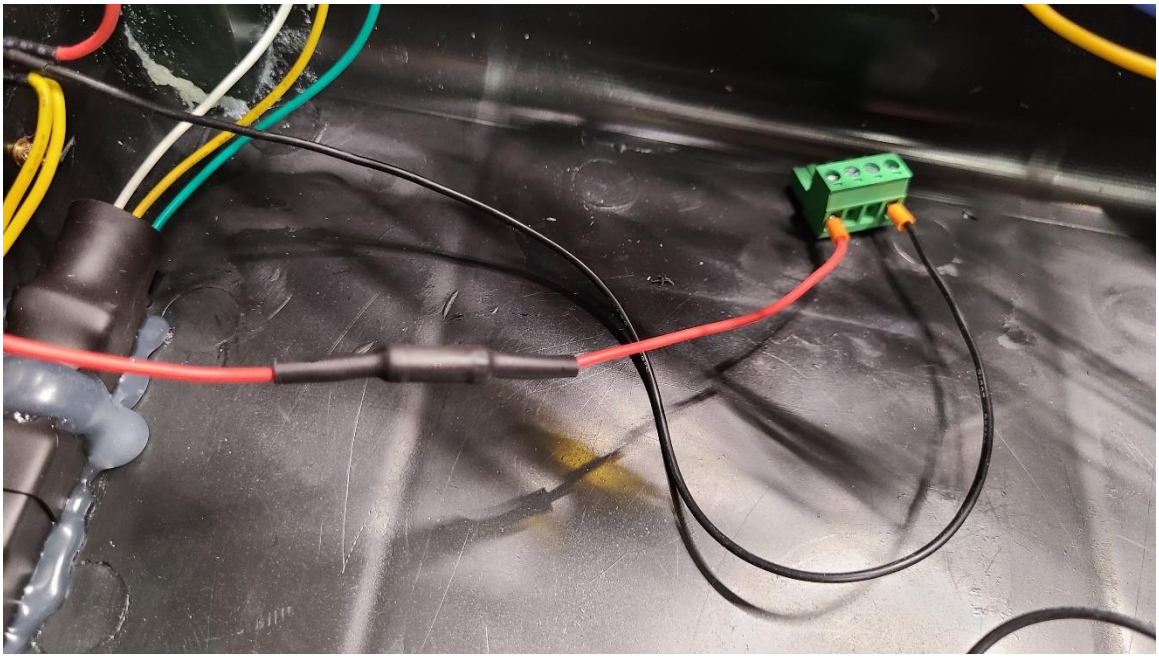

Airsoft Device Board 3.0
Copyright (c) 2021 DDV
PWR SWT
EXT PWR
#2 SEG LED
KEYPAD
BTN 2
I2C #1
I2C #2
NEOPIXELS
SWT
BTN 3
BTN 1
RELAY
EXT IO
SPK
#1 SEG LED

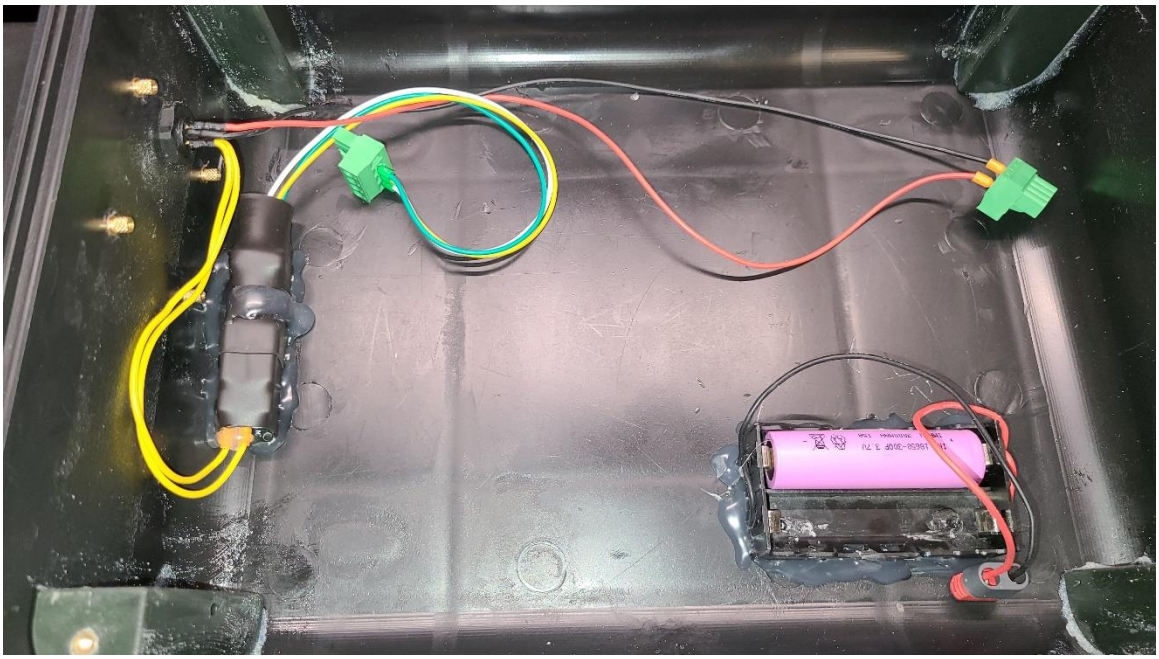


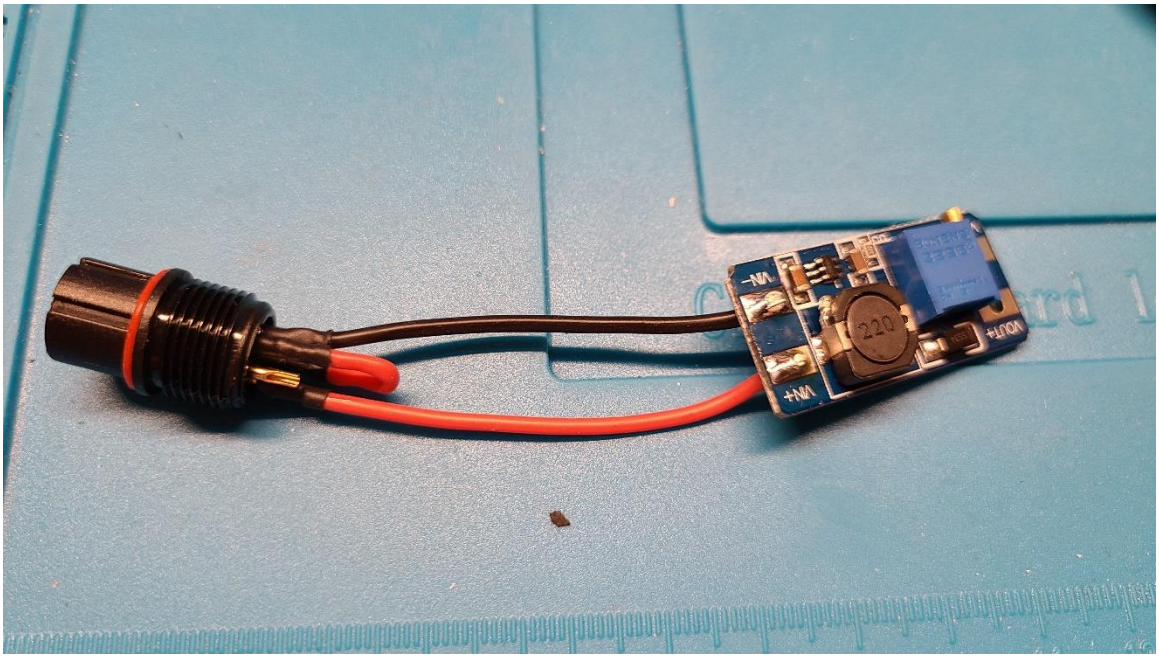

3M
Scotch-Weld
Structural Adhesive
Structural Plastic Adhesive
DP 8005 Off-White
45 mL / 1.52 fl oz
• 3 minute work life
• Structurally bonds polyolefins without surface treatment
• Medium viscosity

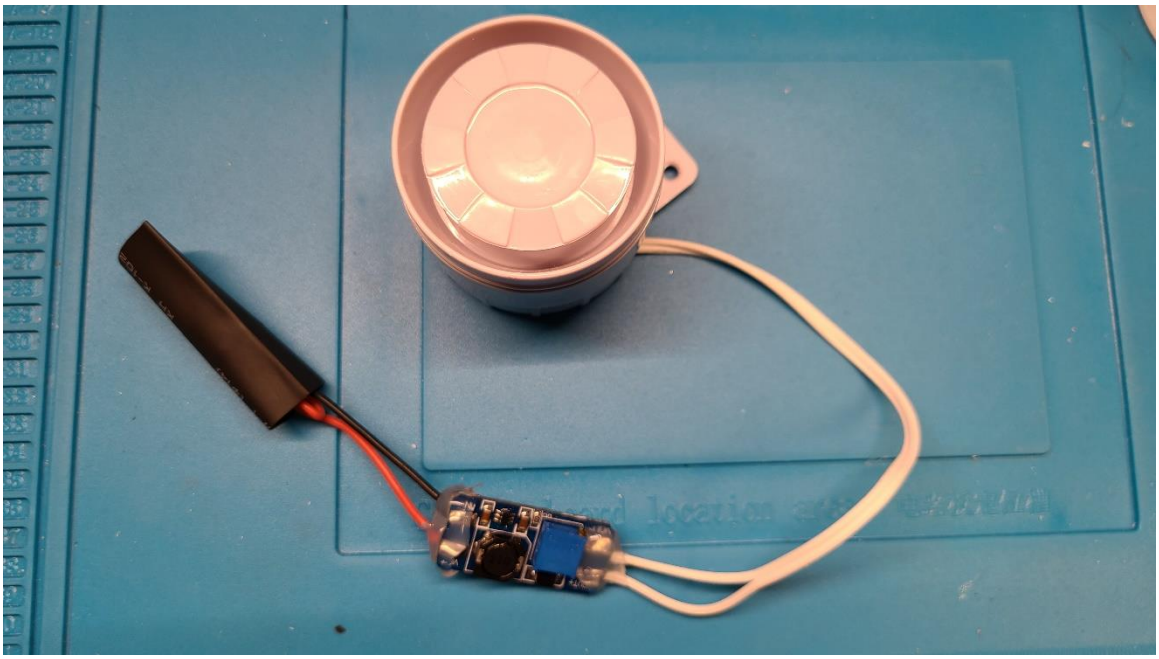

PRINTING
ade alarm case.qcode
5%
1h 26m
Tune
Pause
Stop
ade alarm case.qcode
18.24mm
12.10mm
0.47mm
100%
100%
0%
205/205°C
50/50°C

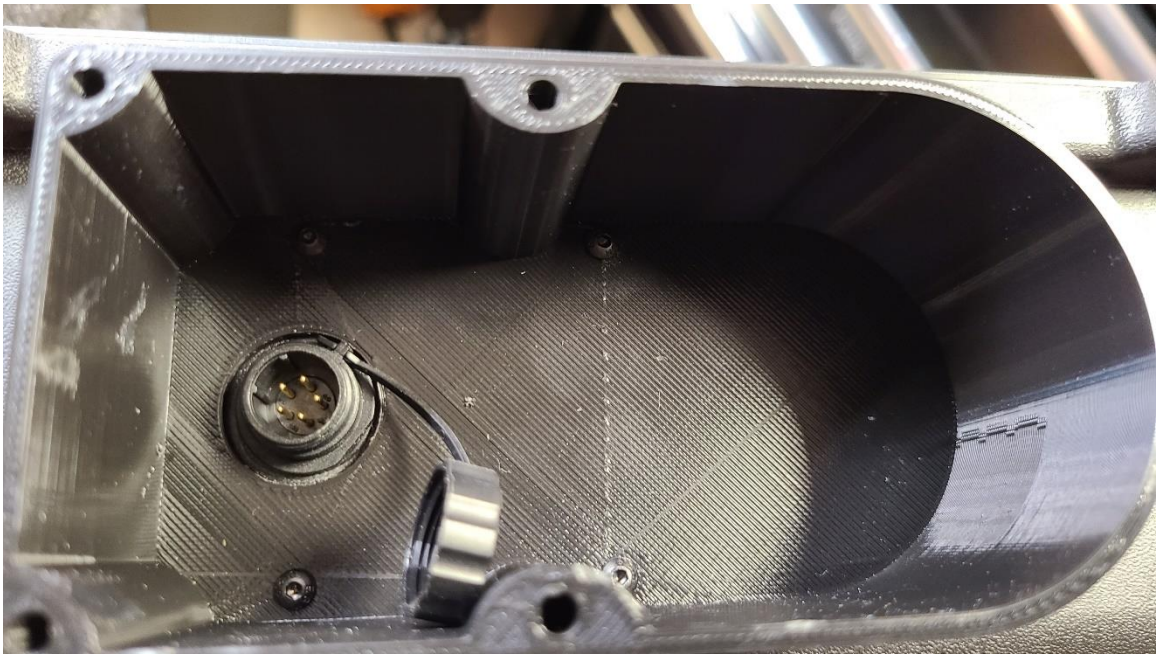


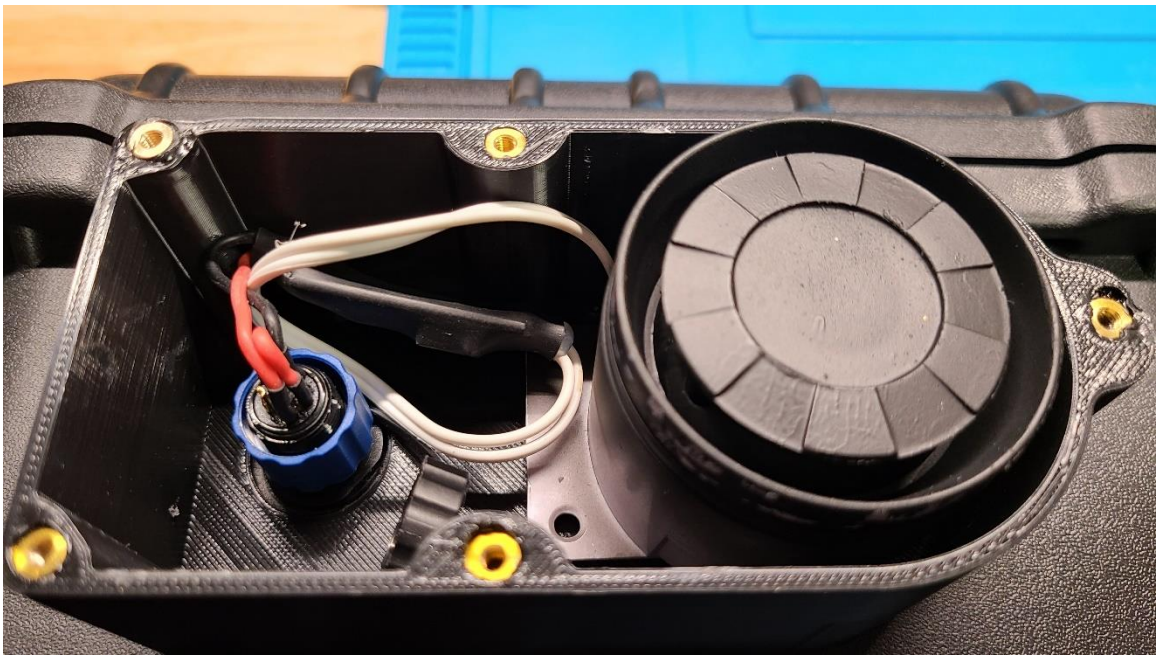





220
VOUT+
VIN-
VIN+








0939
10:00