Subject: PCB Hardware RFQ for Magfest 2025 Swadge October 11, 2024

To: Roy@elecrow.com

Summary of Request:

Qty 2450 pcs assembled, flashed and tested with acrylic piece, two identical PCBs except solder mask color, specified below.

Please quote ENIG finish.

Please use existing inventory from the 2024 swadge order first from the 015-Magfest warehouse and deduct the cost of materials accordingly.

PCB Properties:

1. Two layer board
2. Two-side assembly
3. 1.6mm FR4
4. Qty 725 **RED** solder mask
5. Qty 1275 **BLACK** solder mask
6. White silkscreen on both
7. V-groove where possible, avoid sharp edges wherever possible. We want to approve tooling locations
8. 1oz Copper
9. Silkscreen should be sharp, not splotchy

Acrylic Properties:

1. One piece of acrylic per-PCB, mockup image is shown below in Assembly section
2. Matte Transparent (P422)
    a. “Winter Melon White”
    b. Edge should be matte, not clear
3. 3mm thick
4. No engraving

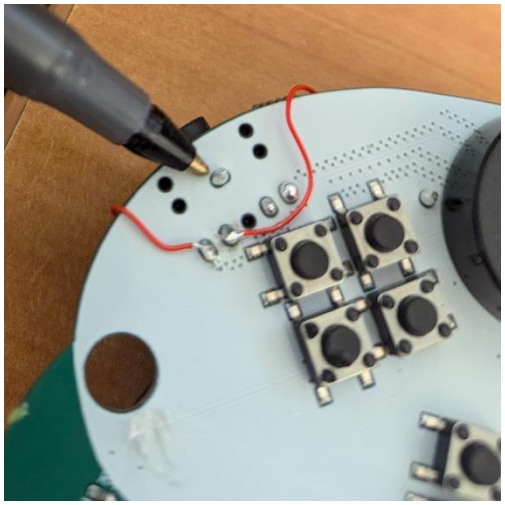
To: Roy@elecrow.com

Assembly Information:

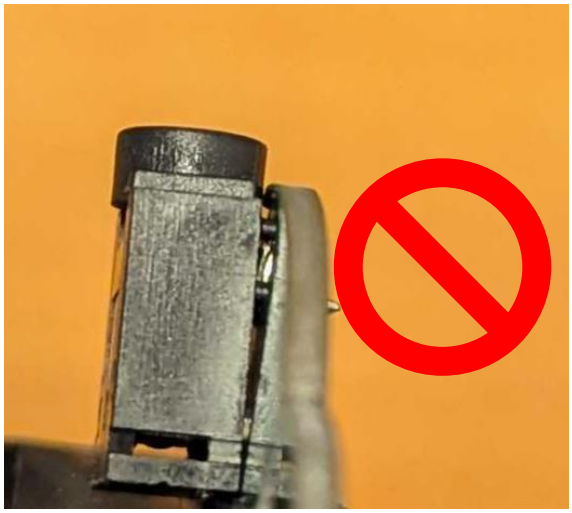
There are 7 THT parts. These parts shall have their leads clipped close to PCB. See notes below; photos are of prototype and may not represent final location in assembly and should therefore only be used for reference related to the notes provided.

Through hole leads shall not be sharp.

1. 3x AA holder -> BT1, BT2, BT3
    a. Be sure that there are no cold or partial solder joints. There have been issues in the past with these joints.
2. 1x Headphone Jack -> J2
    a. Sufficient clearance has been designed in the acrylic to fit pin 1, shown below. Excess solder or an unclipped lead can result in fitment problems with the acrylic. It is recommended to trim this lead flat.



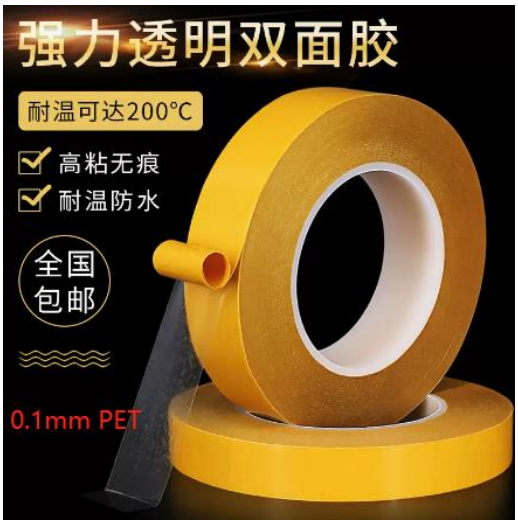
    b. The jack has a lip that should overhang the pcb. Example of one that doesn't is shown below. This should overhang correctly and sit flush.



3. 1x Speaker -> U9
    a. Speaker leads are polarized; + hole is clearly marked on both sides of the board silkscreen and must be oriented correctly.
4. 1x Switch -> SW6
    a. No specific notes for this component
5. 1x 3x2 Pin Socket -> J1
    a. No specific notes for this component

Screen Assembly:

LCD shall be taped down using double sided tape to PCB. Please use clear, thin, double-sided tape like this 0.1mm PET:



LCD should not touch the speaker.

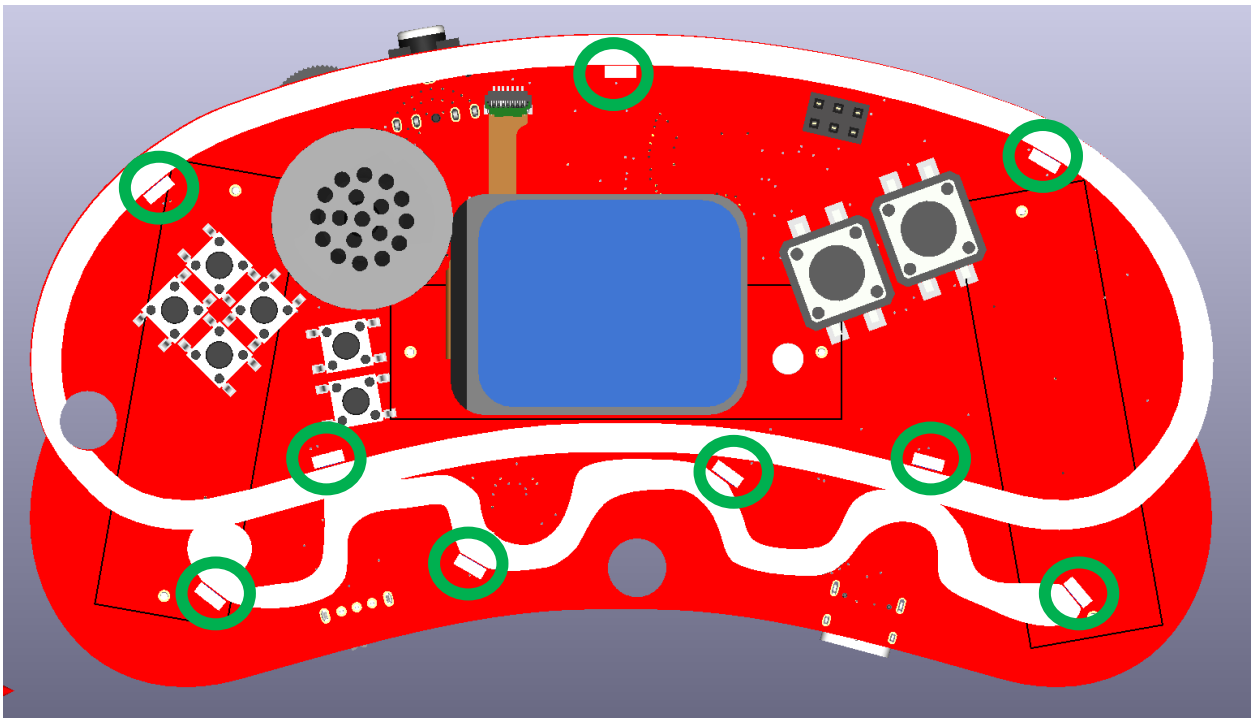
Acrylic Assembly:

Acrylic must have protective paper peeled off and taped to PCB using the same double sided tape as the display.

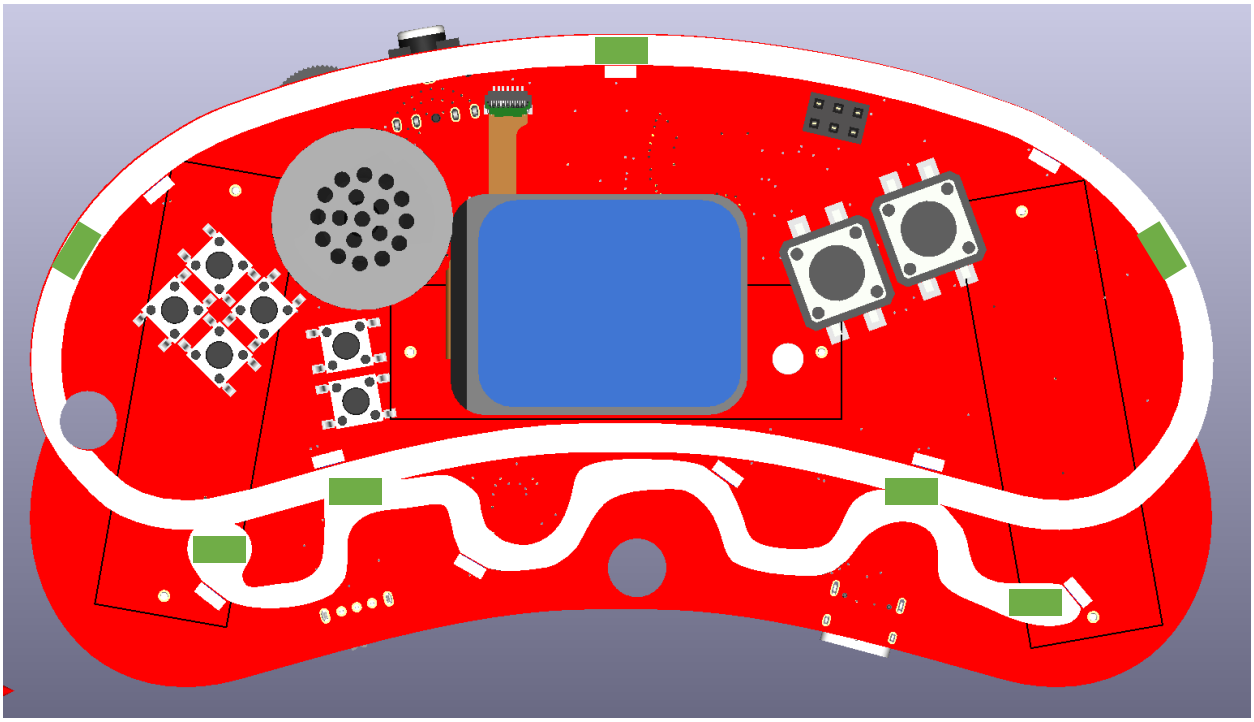
To: Roy@elecrow.com

Acrylic will be approximately flush with the top board edge.

Image of Acrylic, note organic shape. LEDs are adjacent to the acrylic in the circled locations:



It is recommended to apply tape in the following general locations underneath the acrylic, shown as rectangles in green:



To: Roy@elecrow.com

Programming:

1. A Python programming script will be provided.
2. The boards connect with USB-C and do not require external programming hardware
3. The programming script can program many units in parallel
4. Each unit is programmed in ~15 seconds

Instructions will be provided.

Testing:

1. Each unit will be tested after programming.
2. Testing involves pressing all buttons and validating the display and LEDs.
3. We also have an IMU calibration step which requires the device be held on its face, then its back for 5 seconds each. Then held upright, and upside down for 5 seconds each.

Detailed instructions and video will be provided.

Subject: PCB Hardware RFQ for Magfest 2025 Swadge October 11, 2024

To: Roy@elecrow.com

Schedule:

~~September 23, 2024: SZLED delivered qty 25,000 of 4020RGB LEDs to Elecrow~~
~~October 4, 2024: RFQ Submitted by MAGFest to Elecrow~~
~~October 10, 2024: Quote completed and returned to MAGFest.~~

- ~~Both variants, quote includes difference between HASL and ENIG~~
- ~~Upon Receipt of quote or prior: MAGFest will submit final gerbers and properties to Elecrow~~

October 15, 2024: Due Date of RB017A1505A-CG01A LCD display shipped to Elecrow
October 17, 2024: MAGFest will pay Elecrow for samples and full order.
October 17, 2024: Elecrow will purchase components for a full 2450 order.
October 22, 2024: MAGFest will provide **basic** test firmware for boards.
November 7, 2024: Elecrow will send MAGFest QTY 10 PCBs as samples, via DHL ASAP.

- Please do not use reshipper
- If possible for a small order Elecrow, can flash early test firmware to boards.
- To avoid delays, any components that could not be sourced in time may be unpopulated, we have spares in the USA. Please check with us first

November 20, 2024: MAGFest will provide any feedback needed and will approve the final order of 2450.
December 11, 2024: MAGFest will provide FINAL firmware to be flashed to all units.

- Elecrow will flash and perform test on full order during this time.

December 30, 2024: Elecrow will ship MAGFest full 2,450 order via DHL ASAP.

- Please do not use reshipper
- Expect delivery in Maryland, USA on or prior to January 8 2025