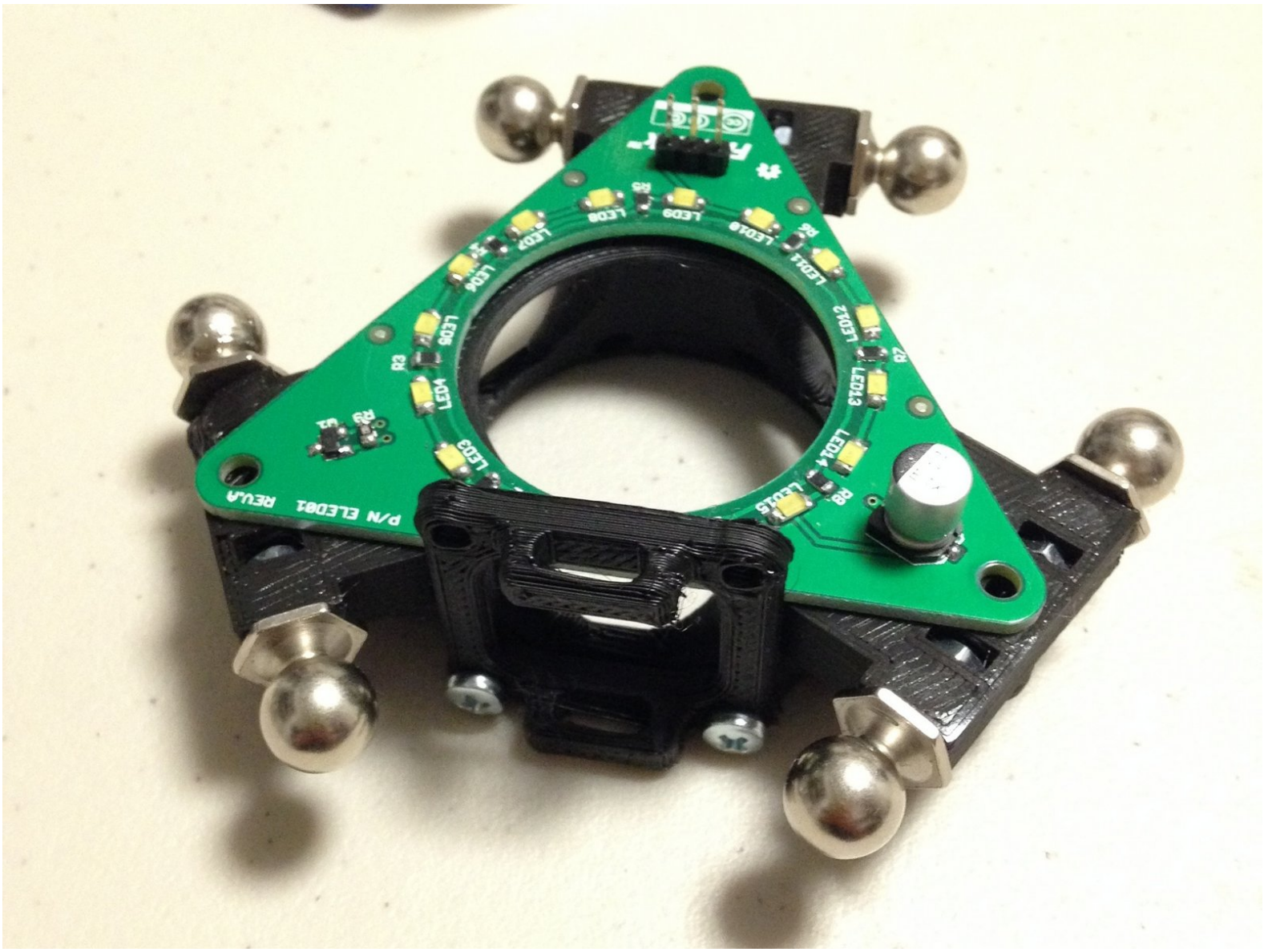
firepickdelta

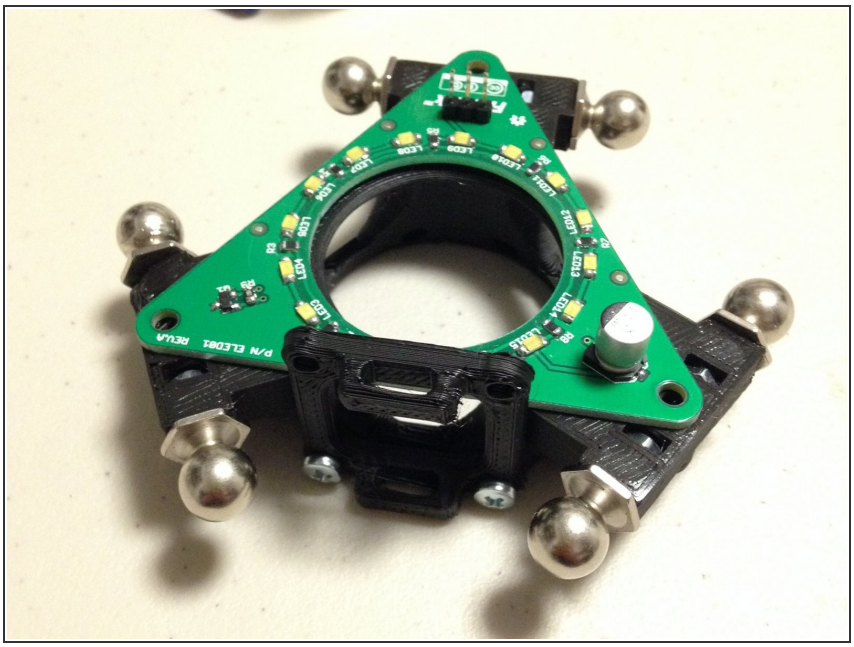
Assembling the ELED01 PCB

Assembly instructions for the ELED01 PCB. This guide only covers the assembly of the PCB; not the ATC hub or other parts that the ELED01 connects to.

Written By: Neil Jansen

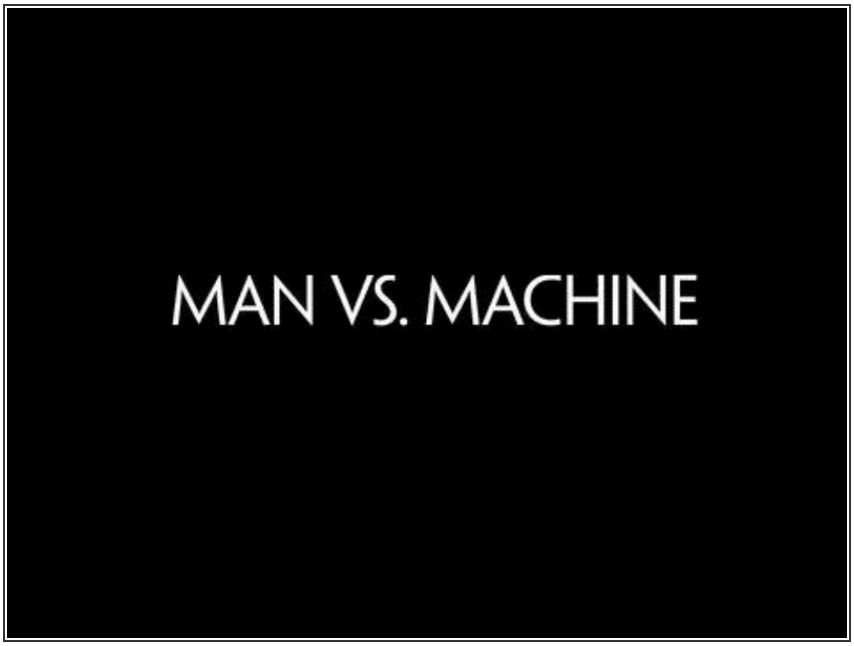


Step 1 — Purpose



- The purpose of the ELED01 PCB kit is two-fold:
- (1) It functions as an LED ring light for the end effector. This provides illumination for the camera.
- (2) It is intended to be an **PnP Practice Kit** for FirePick Delta. It is the perfect test-piece to get familiarized with OpenPnP and the rest of the system!

Step 2 — SMT Assembly - Options

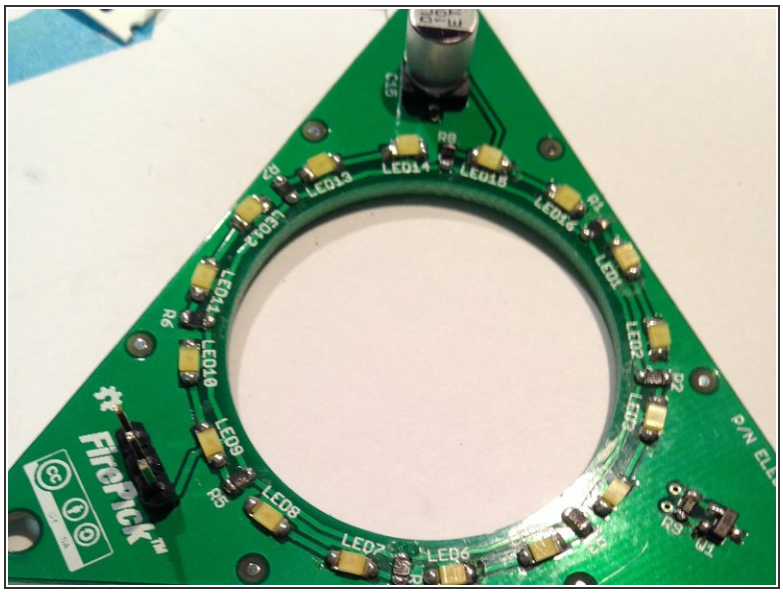


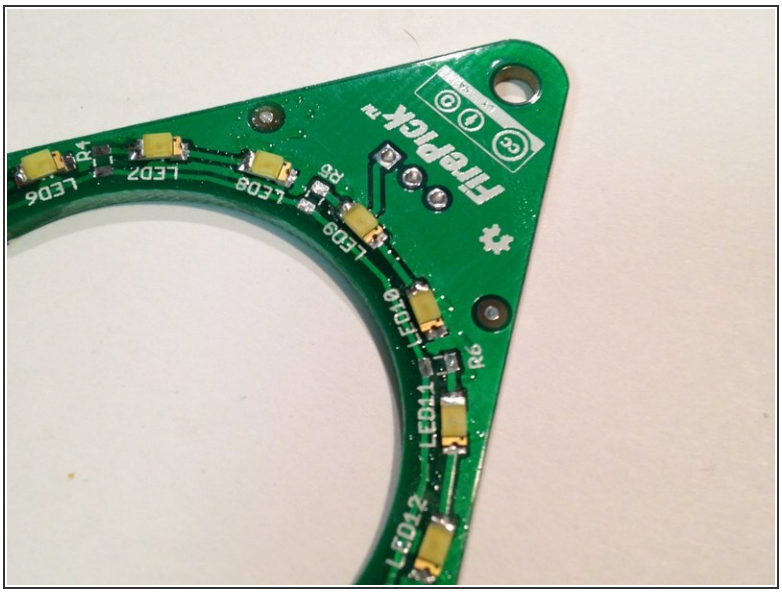
- Depending on your needs, you may do any of the following:
  - (A) assemble the bare PCB into the end effector and save the assembly work for later. **If this is the case, your're done! You can exit this guide.**
  - (B) Assemble it manually with a solder iron, tweezers, and optionally a stereo microscope. **If this is the case, continue on to step 3.**

- (C) Use your FirePick Delta and OpenPnP to place the SMT parts on this board. **If this is the case,**

stay tuned, we'll have a guide for this up soon.

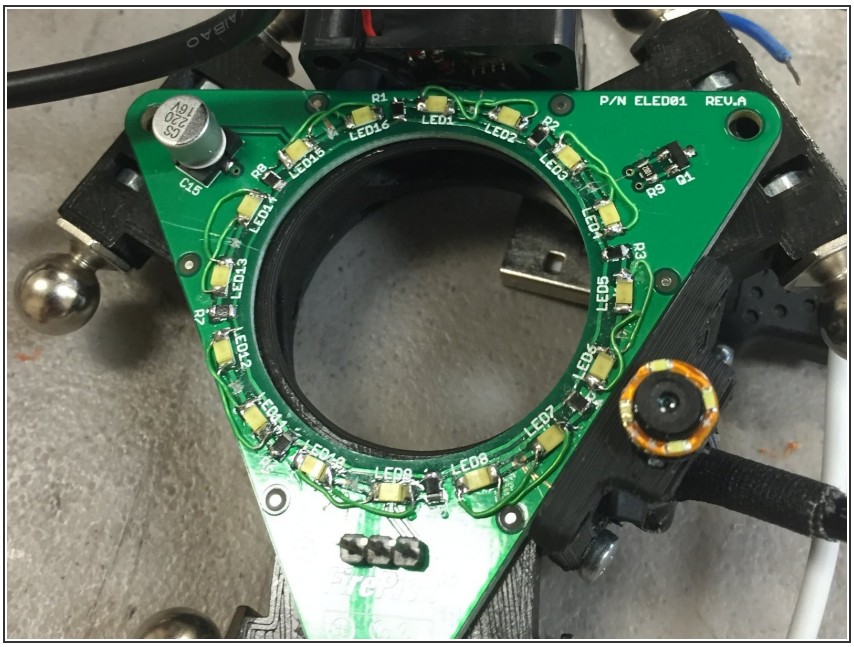
Step 3 — Manual Assembly





- Solder LEDs, then resistors, then FET and capacitor
- Refer to the [schematic and PCB layout posted to Github](#).
- Ensure that the LEDs are oriented correctly; They are polarity sensitive. The green stripe must be on the cathode side.

Step 4 — Experimental Rework



- Greg Smart has proposed an experimental rework step that allows for the LEDs to be the correct brightness. The modification involves cutting the traces between LED1 & LED2, LED3 & LED4, etc, and adding rework wires to connect them in parallel instead of in series.
- This is technically not great for the life of the LEDs, as some forum members have pointed out, however it does work in a pinch.