

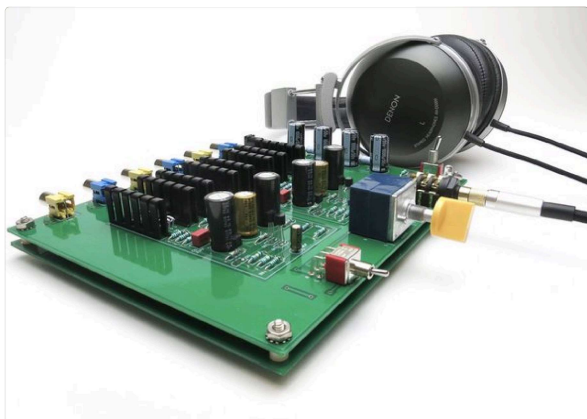
ACP+ Headphone Amp / Linestage

Written By: [6L6](#)

Comments: 9

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Completions: 10



Difficulty

Moderate

Steps

23

Time Required

Suggest a time ??

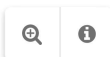
Sections

1

Flags

0

Step 1 The Pass ACP+ Headphone amp / Linestage



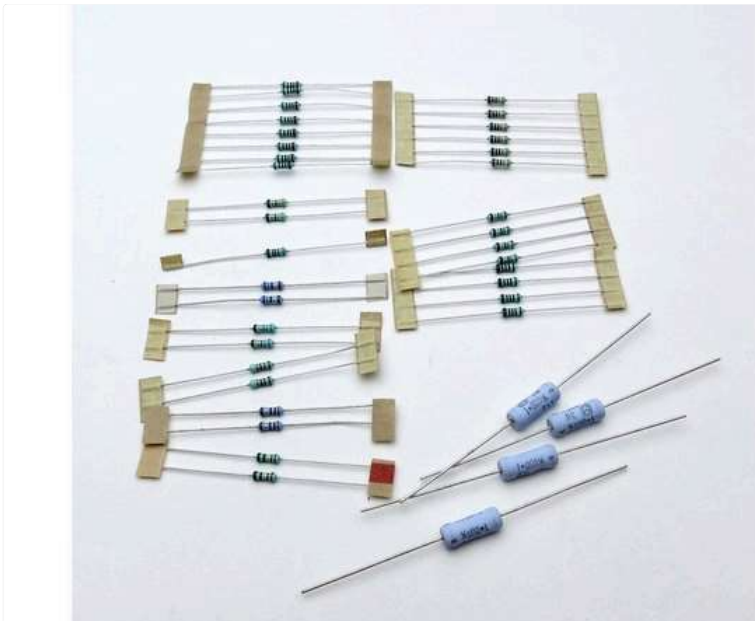
- Guide under construction.
- The body of the guide is 90% complete at this time.

Step 2 Current kit parts



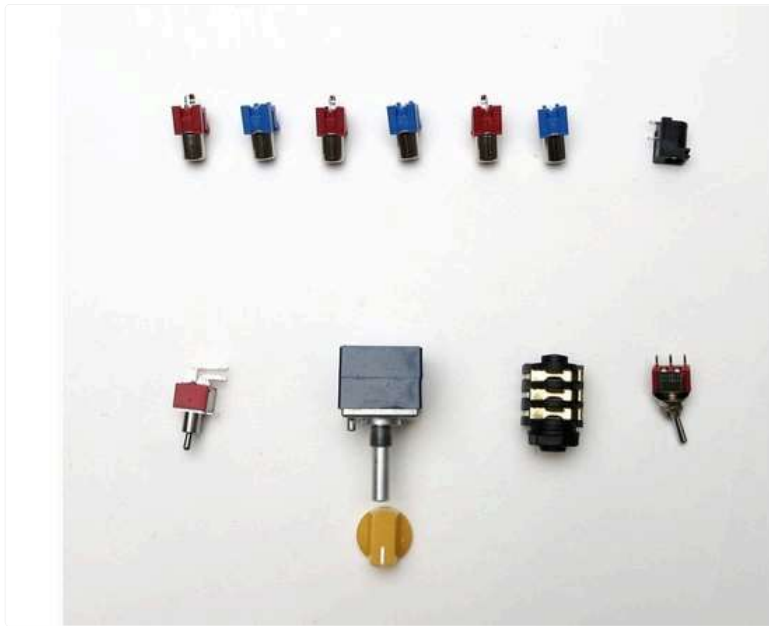
- A fantastic kit of parts available with all the components, hardware, fasteners and PSU.
- Although some of the aesthetics of the parts do not match the photos in the guide, they are electrically and qualitatively a 1:1 match.

Step 3 Components



- Photo 1 - Resistors
- Photo 2 - Capacitors
- Photo 3 - Semiconductors

Step 4



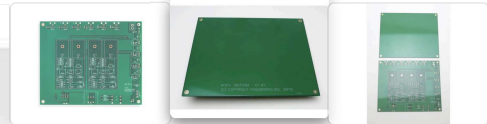
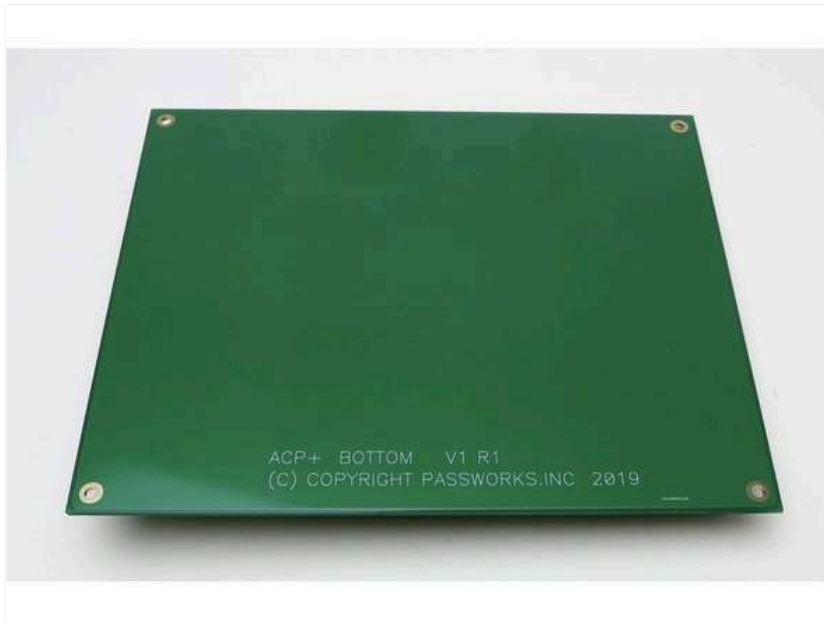
- Photo 1 - Jacks, switches, and Potentiometer. (Red are incorrect style to fit PCB , this photo will be updated)
- Photo 2 - Example 24VDC power supply with 5.5x2.1mm plug.

Step 5 Components



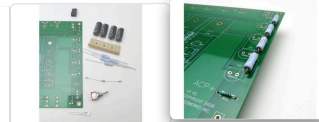
- Large - Groundplane attachment bolts Small - Mosfet attach bolts
- Heatsinks and stick-on feet

Step 6 Circuit boards



- Circuit PCB
- Ground Plane board
- Both are the same size
- Note: If you plan on building this without a chassis (I.E., as shown...) you must use the ground plane.

Step 7 Build PSU first



- Gather these components
- Stuff PCB smallest to largest, resistors, then power jack,

Step 8 PSU Capacitors



- Capacitors are polarized.
- The Negative side is marked on the can
- The positive lead is longer
- The PCB has a "+" marked for the positive lead
- Finish stuffing PSU capacitors and watch polarity.

Step 9 Test PSU

- Add testing procedure

Step 10 Measure all resistors



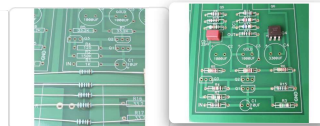
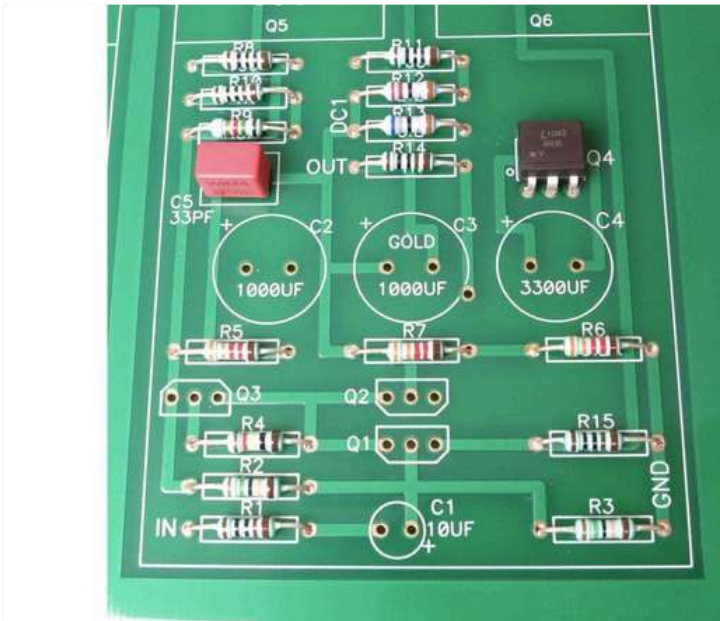
- Measure all resistors before inserting into the PCB. This greatly reduces errors during construction.

Step 11



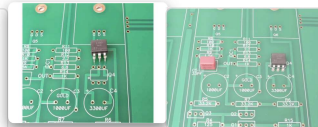
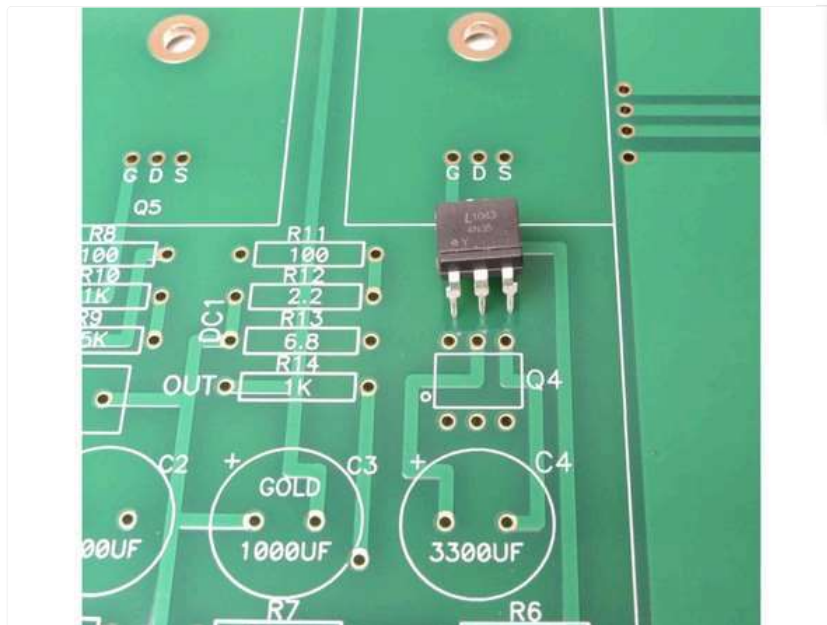
- All smaller resistors are on a 0.5 inch lead spacing. A lead bender tool is recommended.
- Remember, stuff resistors with the brown band to the right.

Step 12 Resistors



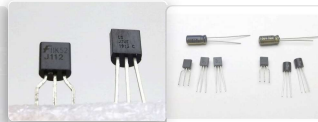
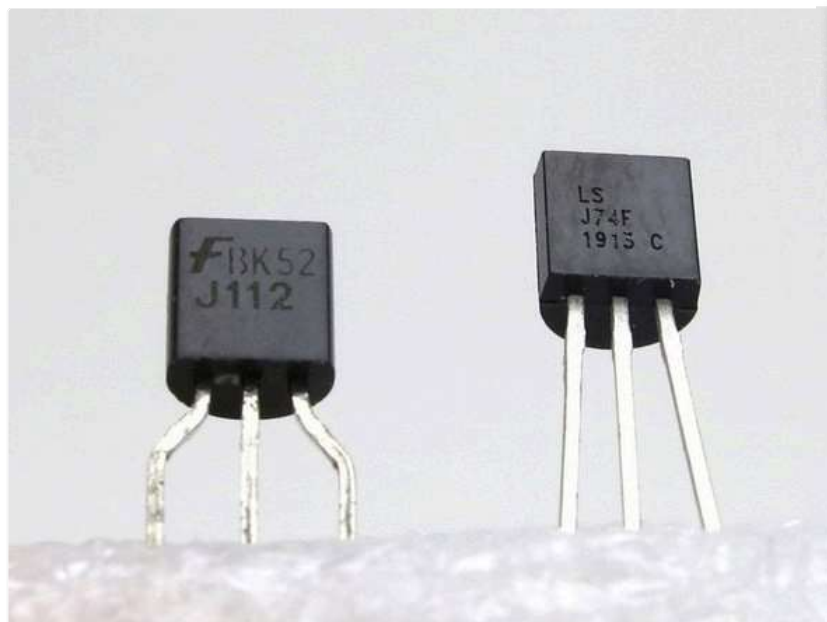
- Stuff resistors with the slightly thicker brown band to the *right*.

Step 13 Optocoupler



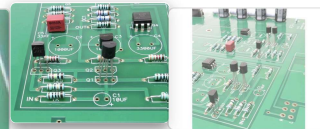
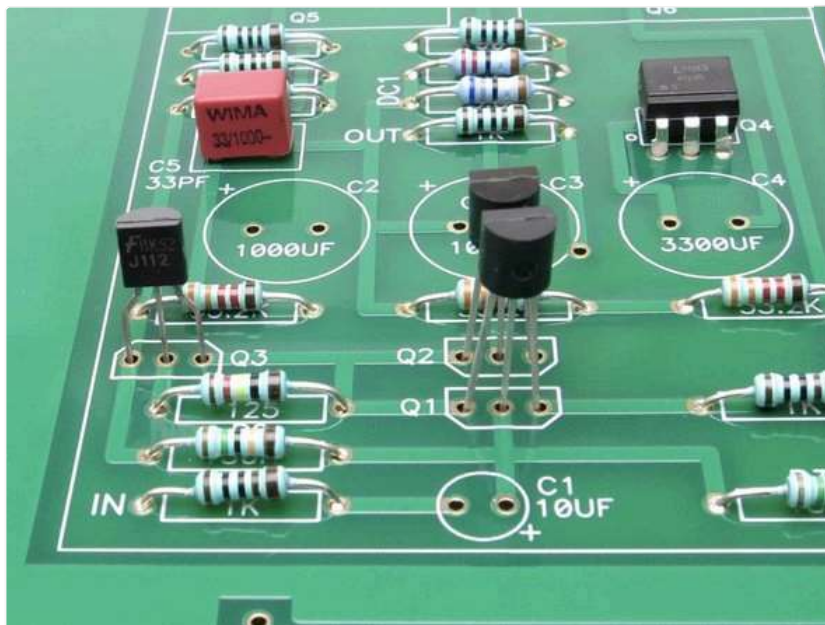
- Optocoupler has a dot at pin 1, this aligns with dot on PCB

Step 14 Jfets



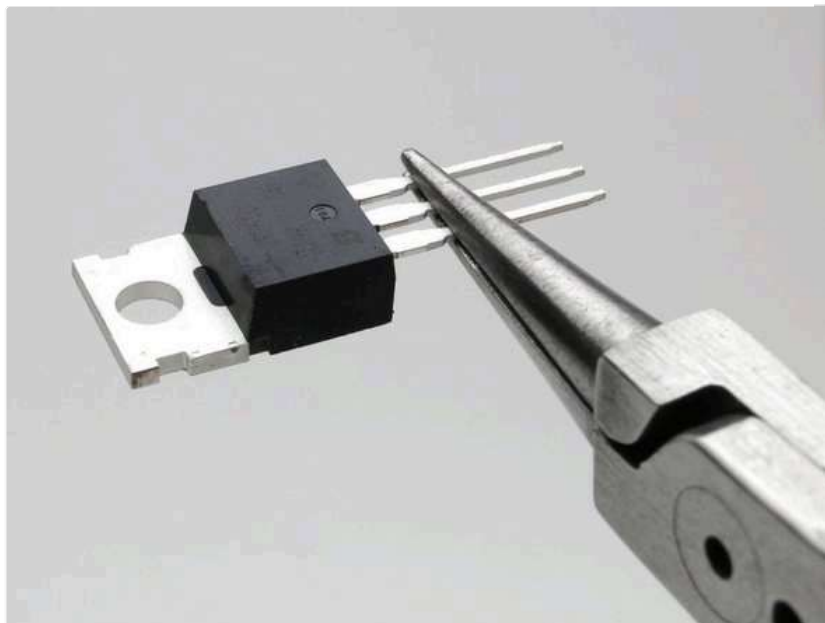
- Left side J112.
- Right side LSJ74.
- J74s in this circuit need to be matched.

Step 15 Jfets



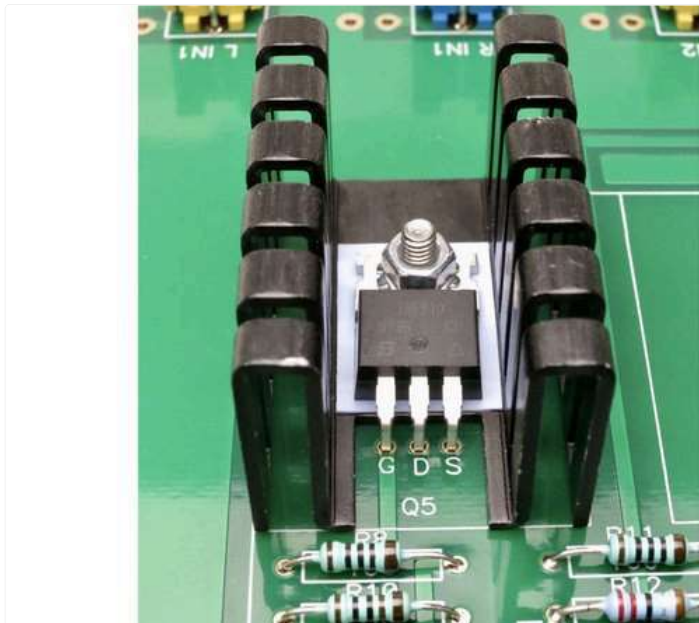
- The flat of the transistors aligns with the flat of the transistor mark on the silkscreen.
- Q2, Q2 are a matched pair of LSJ74
- Q3 is a J113 selected for V_p of 2.5v, $\pm 1v$

Step 16 Mosfets



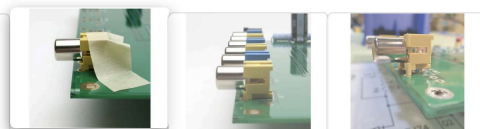
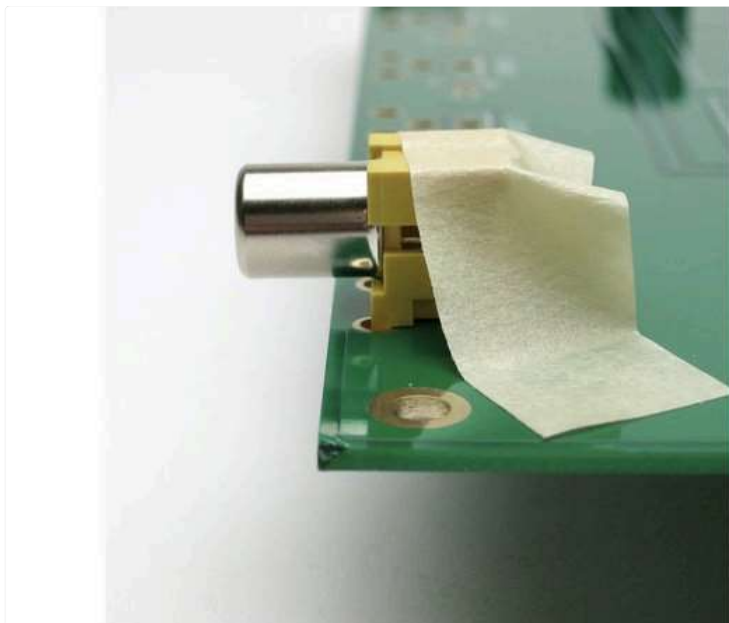
- Bend legs down at point shown.

Step 17 Mosfet mounting



- Thermal interface (pad or paste) not strictly required, but not a bad idea.
- Mosfets do not need to be electrically isolated from the heatsinks.
- Make sure heatsinks are aligned and do not touch each other.

Step 18 RCA jacks



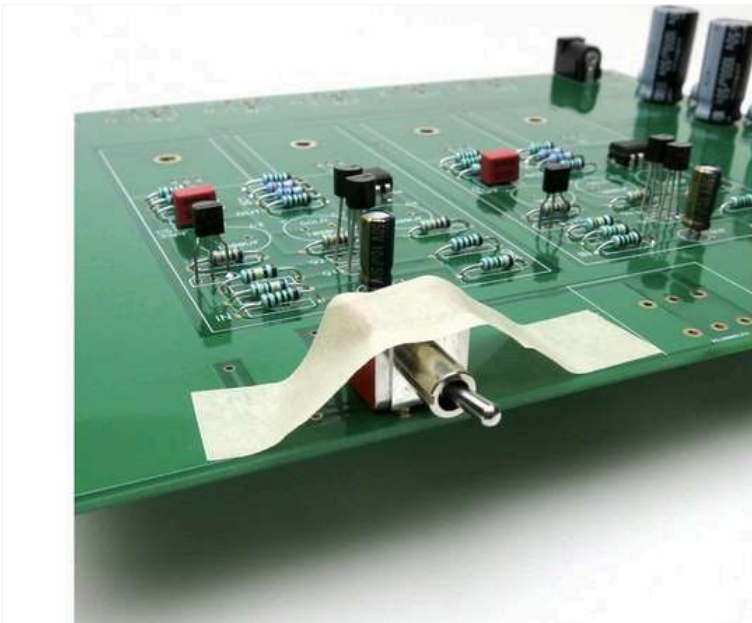
- A bit of tape will hold the jack completely flat on the PCB for soldering.
- Photo 3 - Improper alignment. Make sure the jack is entirely flat on the PCB before soldering.

Step 19 Potentiometer and Headphone Jack



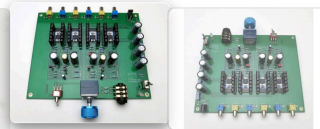
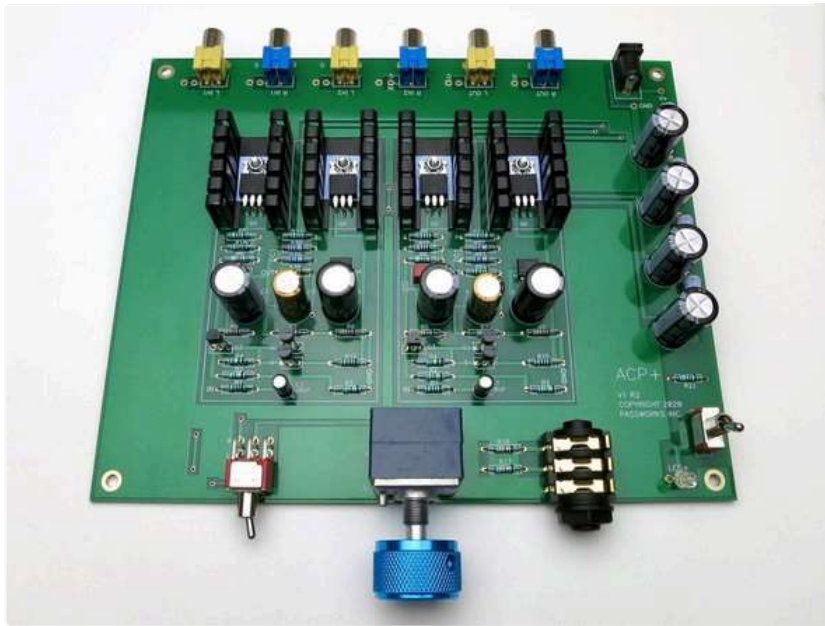
- Make sure potentiometer is flat on the PCB before soldering.

Step 20 Select Switch



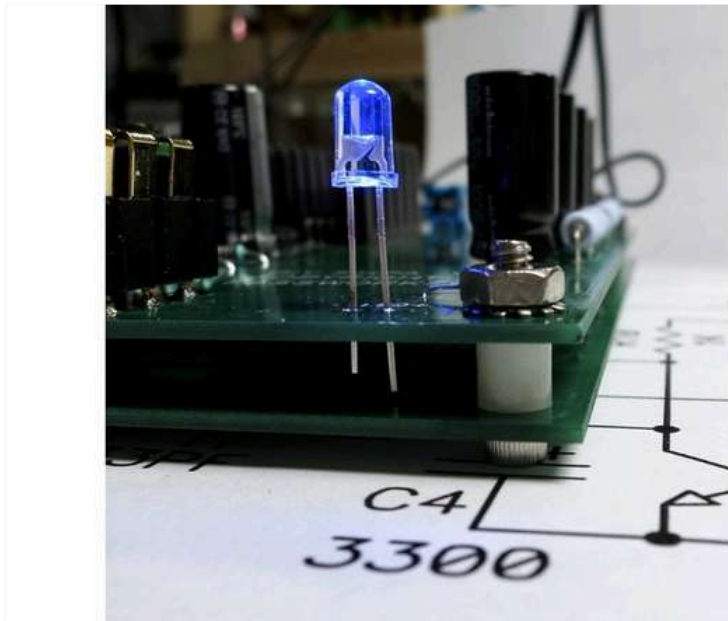
- Make sure the switch is flat and flush with the PCB before soldering

Step 21 Final overview



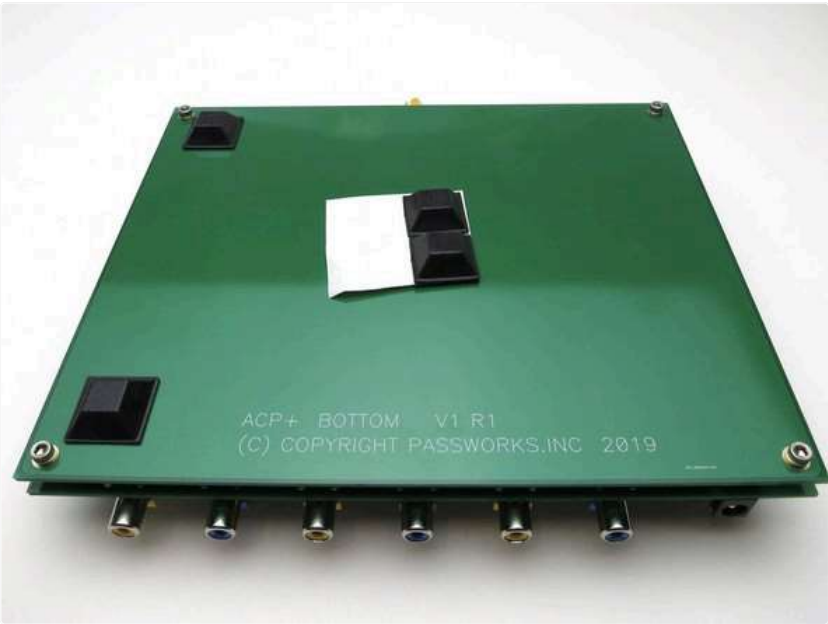
- Insert wisdom here.

Step 22 Mounting ground plane board



- Screw from bottom, spacer in-between, nut on top.

Step 23 Stick-on feet



- Place as shown

🚩 FINISH LINE

✓ Complete Guide

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