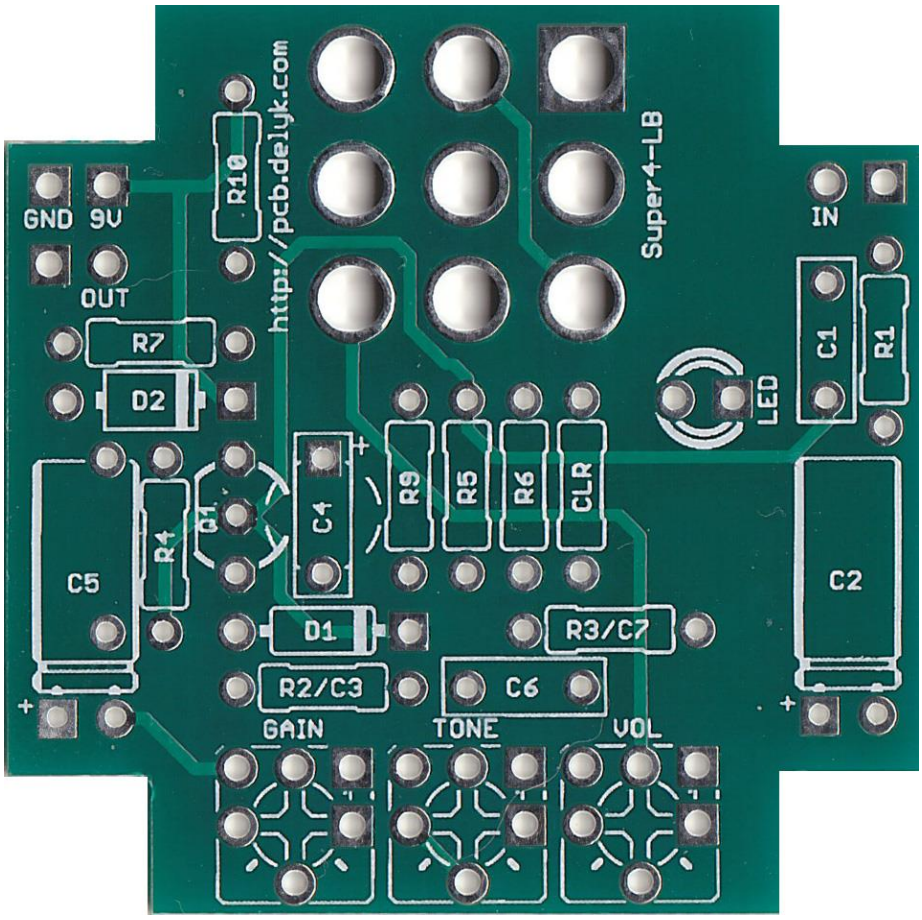


Super4-LB

Build Document

Introduction

Look guys. I **love** the AMZ MOSFET Booster by Jack Orman. LOVE it. It's one of the cleanest boosts around. However, I quickly found there are other schematics that are very similar. They all are based around the BS170 MOSFET.

After analyzing the schematics for four different pedals, I found that, with a few minor tweaks, we could use the same PCB for any of those four. This gave birth to both the Super4-A and Super4-LB.

Why the A vs. LB? Well, I love LB's. I know there's not much of a market for them; it is something many people aren't doing or offering, so I wanted to try and offer it as an option.

LB's are a scary, and if you have big feet like mine, perhaps a bit too difficult to stomp. That's why there's the A variant, too.

Bill of Materials

Resistors

P/N	AMZ MOSFET	SHO	Super 6	Deluxe 60	Notes
R1	1M	*Omit*	2M2	*Omit*	This is a pulldown resistor. Even if omitted, you can add it if needed.
R2/C3	*Cap*	10M	1M	3M3	
R3/C7	100k	*Omit*	*Cap*	*Omit*	
R4	*Omit*	10M	1M5	3M3	
R5	10M	*Omit*	*Omit*	*Omit*	
R6	62k	*Omit*	Jumper	*Omit*	
R7	2k7	5k1	3k3	3k3	
R8	2k7	*Omit*	510R	330R	
R9	*Omit*	*Omit*	*Omit*	47k	
R10	Jumper	Jumper	330R	Jumper	
CLR	6k8	6k8	6k8	6k8	

Diodes

I obtained all of my diodes from Tayda. That's what the layout was setup for.

P/N	AMZ MOSFET	SHO	Super 6	Deluxe 60	Notes
D1	9v1 zener	9v1 zener	9v1 zener	*Omit*	
D2	1N400x	1N400x	1N400x	1N400x	Polarity protection.

Capacitors

I obtained all of my caps from Tayda. That's what the layout was setup for.

P/N	AMZ MOSFET	SHO	Super 6	Deluxe 60	Type	Notes
C1	1nF	100nF	100nF	22nF	Film Box	
C2	10uF	*Omit*	47uF	47uF	Aluminum Electrolytic	
R2/C3	47pF	*Resistor*	*Resistor*	*Resistor*	Ceramic	
C4	100nF	10uF	10nF	100nF	Film Box	Aluminum Electrolytic for SHO.
C5	100uF	Jumper	10uF	*Omit*	Aluminum Electrolytic	
C6	Jumper	Jumper	10nF	Jumper	Film Box	
R3/C7	*Resistor*	*Omit*	100nF	*Omit*	Film Box	

Transistors

I obtained all of my transistors from Tayda. That's what the layout was setup for.

P/N	Value	Notes
Q1	BS170	

Potentiometers

I obtained all of my potentiometers from Tayda. That's what the layout was setup for.

P/N	AMZ MOSFET	SHO	Super 6	Deluxe 60	Notes
GAIN	5k	5k	1k	*Omit*	Trimpot.
TONE	*Omit*	*Omit*	100k	*Omit*	Trimpot.
VOL	Jump 3 and 2	Jump 3 and 2 Add 100k resistor from 2 to 1 (GND)	100k	100k	Trimpot.

Other Parts

Qty	Value	Notes
1	3PDT	Get a good stompswitch!
2	Lumberg ¼"	From smallbear. If you're going to do anymore of my mini boards, you may want to get a few of these.
1	Small DC Jack	From smallbear or BLMS.

Modifications

Have fun with the SHO. Feel free to mod just about any resistor/cap.

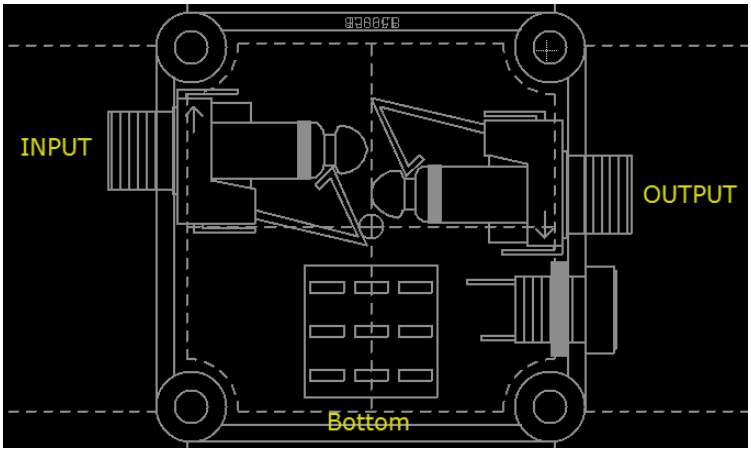
One person recommends trying the following with the Super 6:

1. R8: 390R (a bit more gain)
2. C1: 22nF
3. C4: 100nF

Build Notes

Drilling the 1590LB

Getting this into a 1590LB can be quite daunting. Just take your time, measure three times before you drill, and you should be ok.



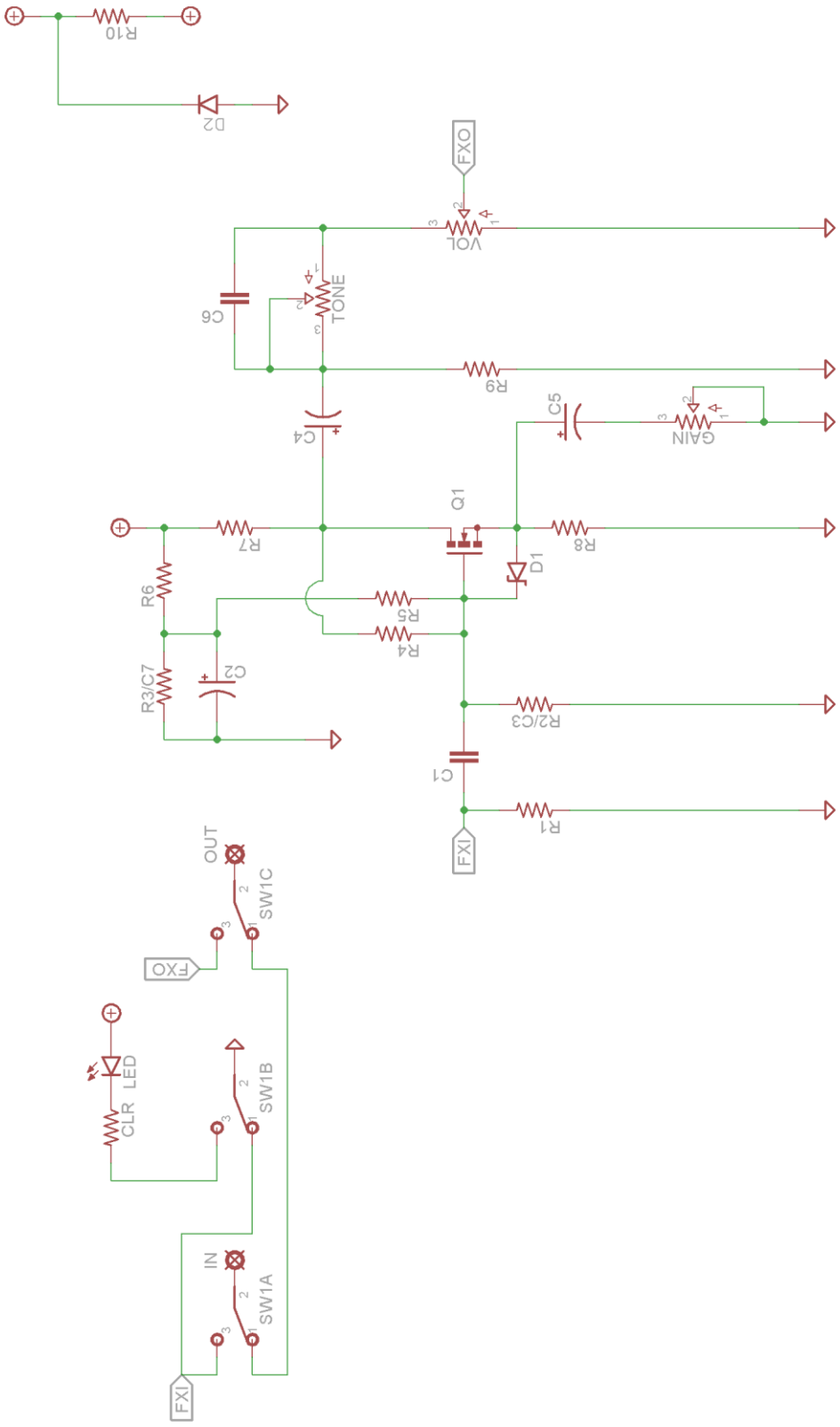
I don't have a drill template for you. Try to follow these steps to help out.

1. Put the unpopulated board on top of the enclosure and mark the center of the 3PDT. Keep it as CLOSE to the "bottom" edge as possible.
2. Try to mark a good place for the onboard LED. This is kind of freehand. (There is a drill template to help assist with this.)
   (*Suggestion from a friend*: Use a small piece of graphite to mark both holes of the LED, then drill right between them.)
3. Carefully measure. Put the INPUT jack as close to the top of the enclosure as you can. Those Lumbergs can 'sit' on the metal because the plastic of the jack is a buffer. Do the same with the OUTPUT jack, but offset it from the INPUT slightly (move it closer to the bottom). You'll notice that in a 1590LB, two 1/4" jacks ***can*** touch, but moving them VERY slightly will not make the tips touch.
4. Put the DC jack as close the OUTPUT jack as possible. Be sure to keep enough room for the metal nut.
5. Keep those wires short. Wire it all up and test. Maybe this should be an early step.
6. Put everything in their appropriate hole, being delicate. Use a small screwdriver or something to move the LED into its hole.
7. I added a couple holes on the bottom so I could get to the trimpots.

Suggested Solder Order

Coming soon.

Schematic



Images