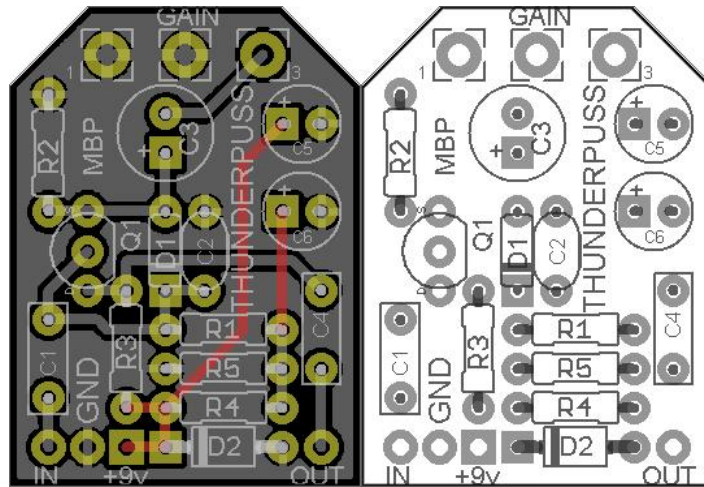


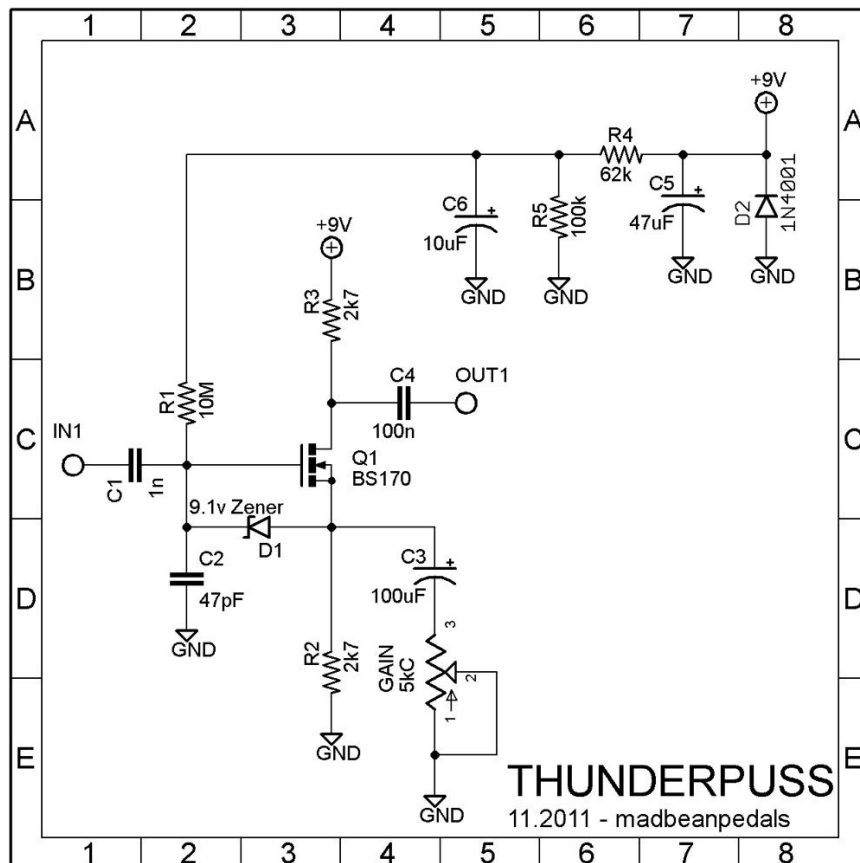
THUNDERPUSS

11.2011 madbeanpedals

PCB Dimensions: 0.9"W x 1.23"H



Resistors		Caps		Diodes	
R1	10M	C1	1n	D1	9.1v Zener
R2	2k7	C2	47pF	D2	1N4001
R3	2k7	C3	100uF	Transistor	
R4	62k	C4	100n	Q1	BS170
R5	100k	C5	47uF	Pots	
		C6	10uF	GAIN	5kC



What Is It?

The **ThunderPuss** is based on a classic DIY boost project created by Jack Orman. It features a high input impedance, low output impedance and about 35dB of gain. It offers tremendous clean boost with little coloration and is the perfect tool for driving the front end of a tube amp.

Controls

Gain – Controls the amount of boost produced by the circuit. At fully counter-clockwise, there will be a slight boost of about 3dB. At fully clockwise you should obtain around 35dB of gain.

Notes

This is a very easy project to build and is a good one for beginners. It works great on its own, but can also be placed before overdrives for added saturation, or after other effects whose signal you want to boost.

Note that it is very common to get some pop when engaging the bypass switch with this design. The high input impedance and gain contribute to magnifying any current discharges at the input of the circuit. Use the wiring diagram below which grounds the input of the circuit when in bypass. This may eliminate the problem completely.

TIP: If you still have some pop even with the grounded input wiring you can discharge the excess current after powering up the pedal by toggling the bypass switch on and off several times in a row. Do this before turning your amp up to full volume.

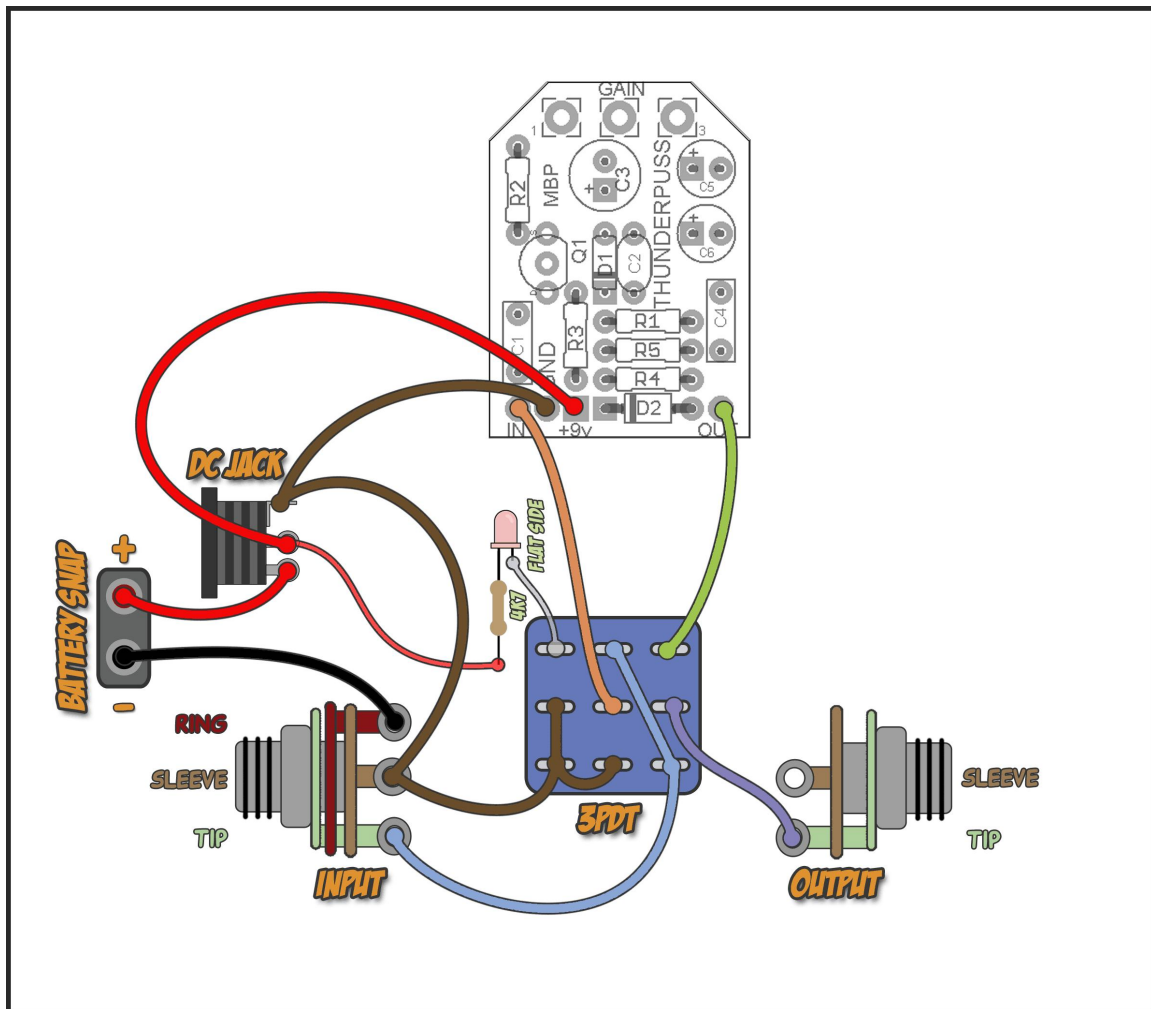
You can use a 16mm short-pin PCB mounted pot underneath the PCB to eliminate some wiring. 5kC (reverse audio) taper is ideal since it allows more finite adjustments to the gain levels in the second half of the pots rotation. If you cannot get a reverse audio pot, a linear pot will also work.

Links

Jack Orman's page about the Mosfet Boost: <http://www.muzique.com/schem/mosfet.htm>

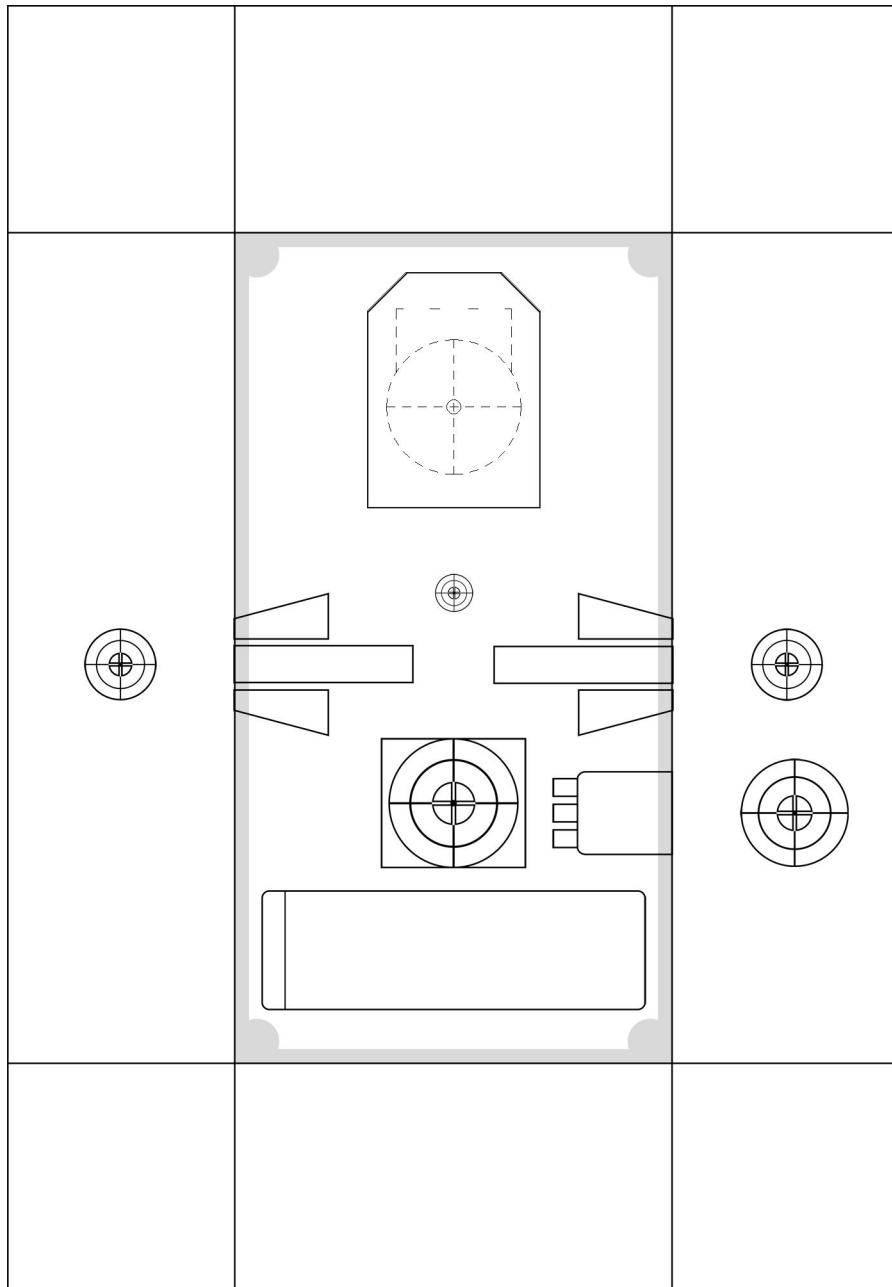
My goofy article about the Mosfet Boost being one of my first builds:
<http://www.madbeanpedals.com/builds/reports/mosfet/index.html>

Wiring



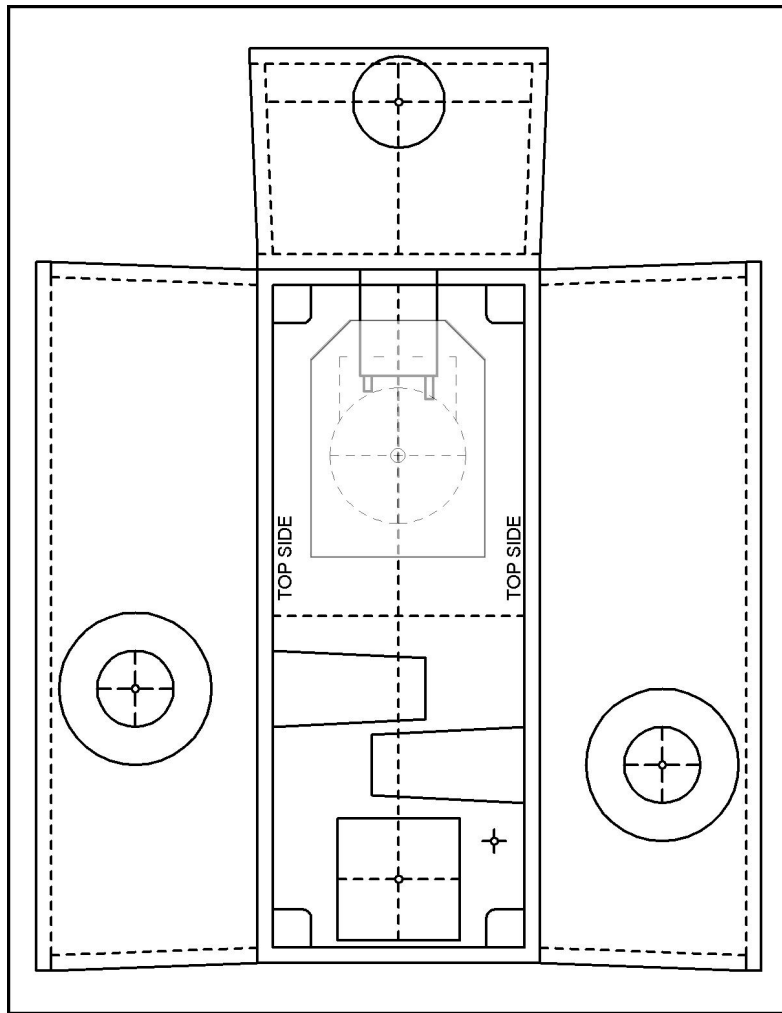
Drill Template 1590B

4.64"W x 6.69"H @ borders



Drill Template 1590A

4.096"W x 5.22"H @ borders



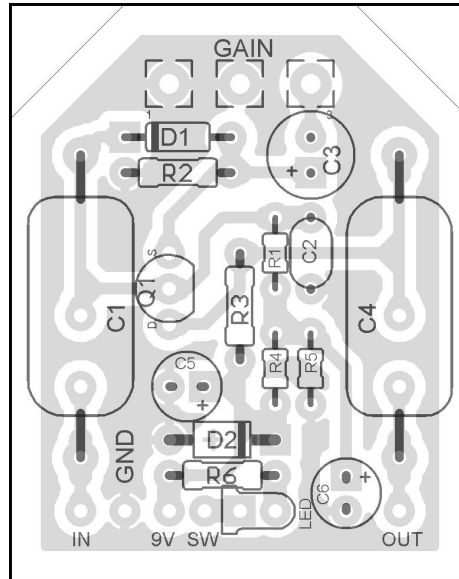
This template is untested. Please check carefully before drilling. Adjustments may be needed in PCB placement. A 9mm Alpha pot will be much easier to fit than a 16mm PCB mounted pot. An external DC jack is also a good choice. Both are available at smallbear.

Licensing

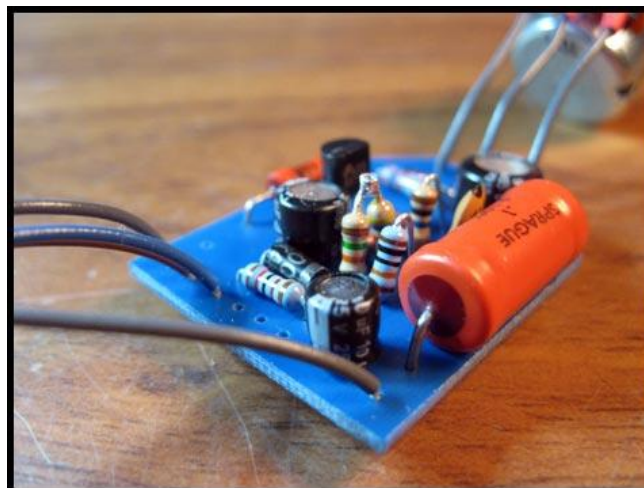
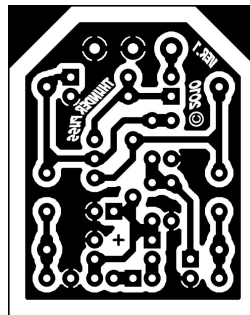
*The user may utilize a purchased **ThunderPuss** PCB from madbeanpedals or a self-made (etched) PCB for DIY/non-commercial purposes. You may not use the artwork to sell your own version of the PCB design or as part of a "kit" or similar commercial product.*

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Single Sided etching layout



1.29"W x 1.62"H @ borders



Note the single sided layout lets you use axial or radial caps for C1 and C4. R6 is an on-board current limiting resistor for the LED connections,