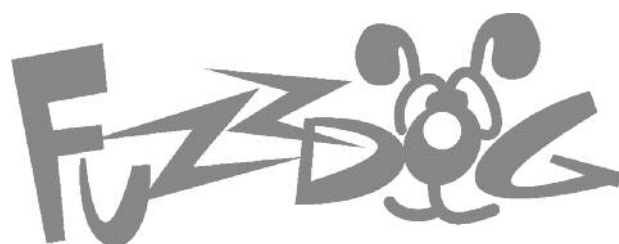
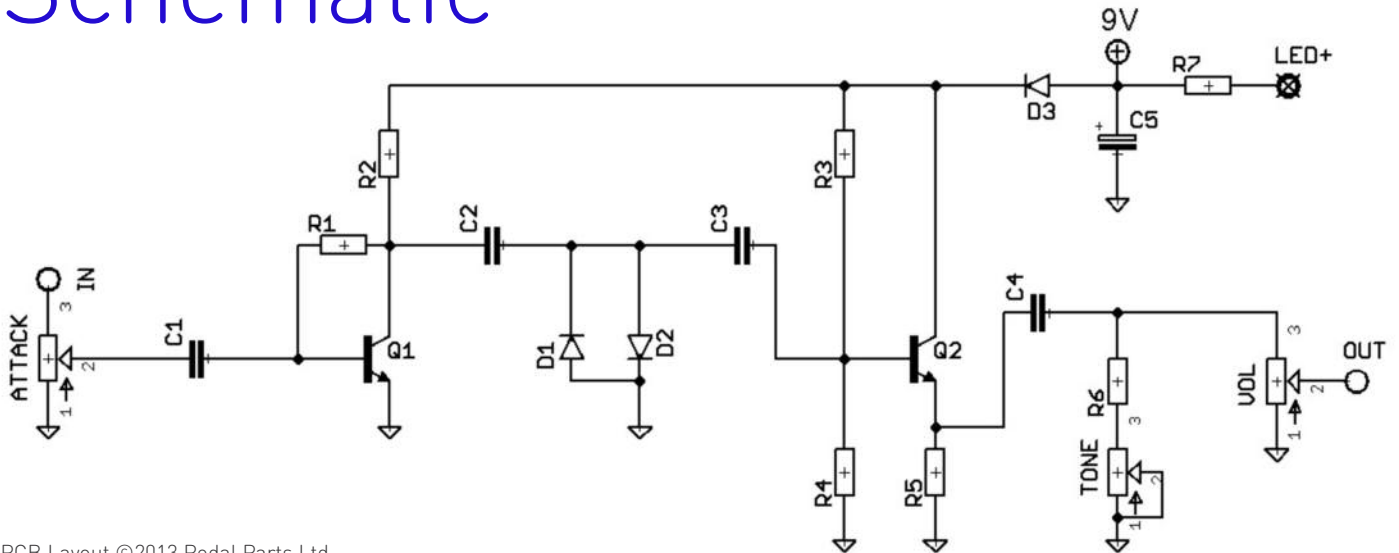


# Astro Tone

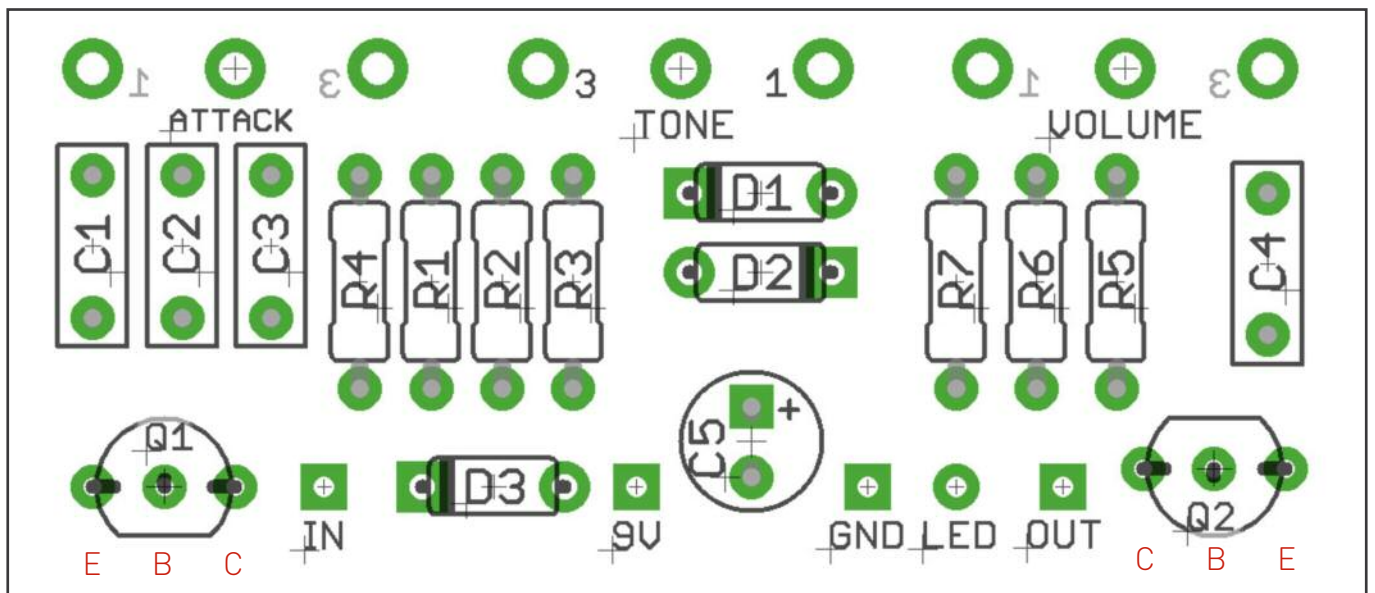
Clone of the Astro Tone Fuzz /  
Sam Ash Fuzz Box



# Schematic



PCB Layout ©2013 Pedal Parts Ltd.



## BOM

Components listed in blue are for a 'boutique' version.

R1	1M	C1	47n (470n)	D1-2	1N4148
R2	22K	C2	47n	D3**	1N4148
R3	1M	C3	47n	ATTACK	100KB
R4	470K	C4	47n (470n)	TONE	10KB
R5	1K8	C5	47u elec	VOL	10KA
R6	1K8 (470R)	Q1,2	2N2222*		
R7	CLR (2K2)				

\*any low-ish gain NPN silicon transistors can be tried, for instance 2N3904, 2N5088, BC109. Note the pinouts though. **SEE NOTE OVERLEAF BEFORE PLACING!**

\*\*D3 was in Sam Ash version, but not original. Can be replaced with a jumper wire.

# TRANSISTOR PINOUTS

Manufacturers can be very unhelpful sometimes. Different versions of 2N2222 may have different pinouts. Check your datasheet if sourcing your own parts.

If you're building a FuzzDog kit, your transistors will be one of the following:

PN2222 - these should be mounted as per the component silkscreen on the PCB, i.e. flat side of Q1 to bottom of board.

P2N2222 - these have the opposite pinout, and should be reversed.

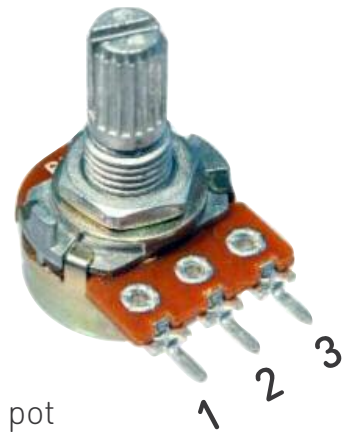
Be very careful when soldering the diodes and transistors. They're very sensitive to heat. You should use some kind of heat sink (crocodile clip or reverse action tweezers) on each leg as you solder them. Keep exposure to heat to a minimum (under 2 seconds).

Snap the small metal tag off the pots so they can be mounted flush in the box.

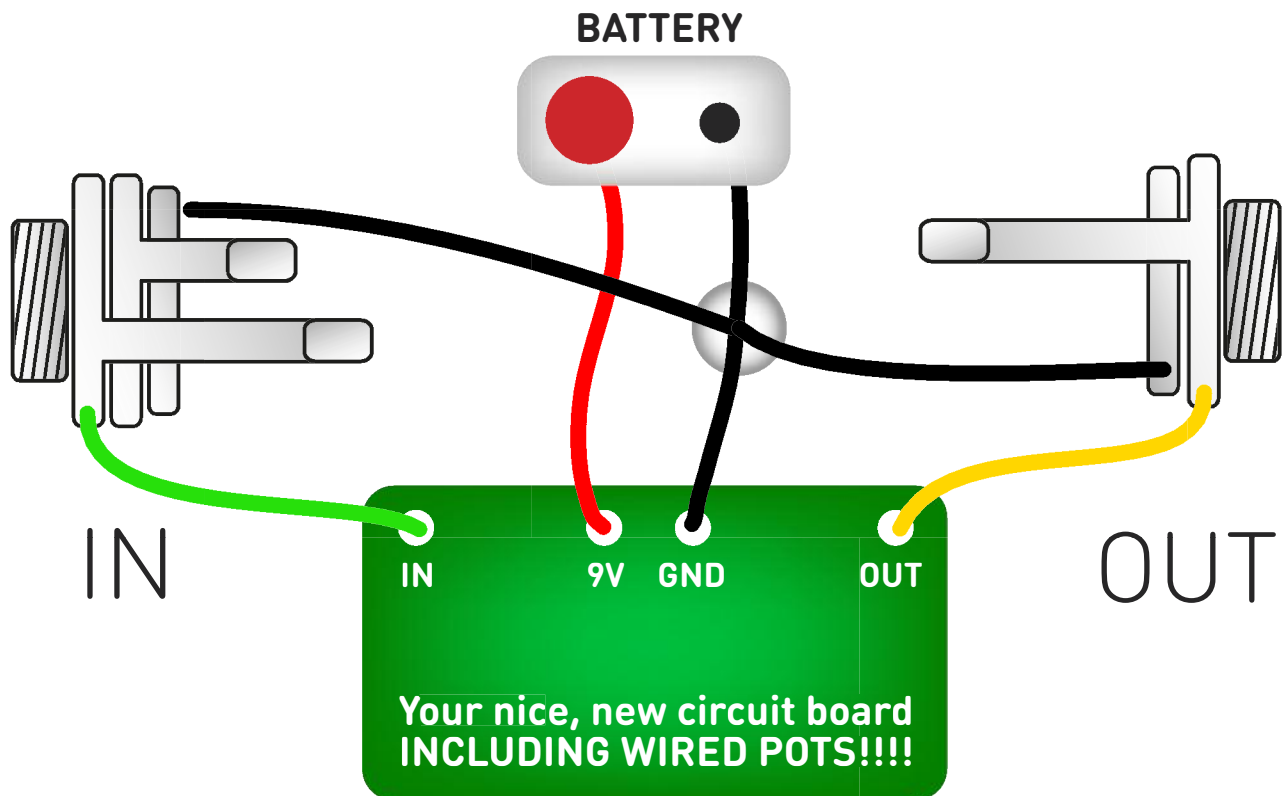
Attack and Volume Pots mount on the back side of the board, Tone pot on the same side as the components.

The striped leg (cathode) of the diodes goes into the square pad.

The long leg (anode) of the electrolytic capacitor goes into the square pad.



# Test the board!



**UNDER NO CIRCUMSTANCES** will troubleshooting help be offered if you have skipped this stage. No exceptions.

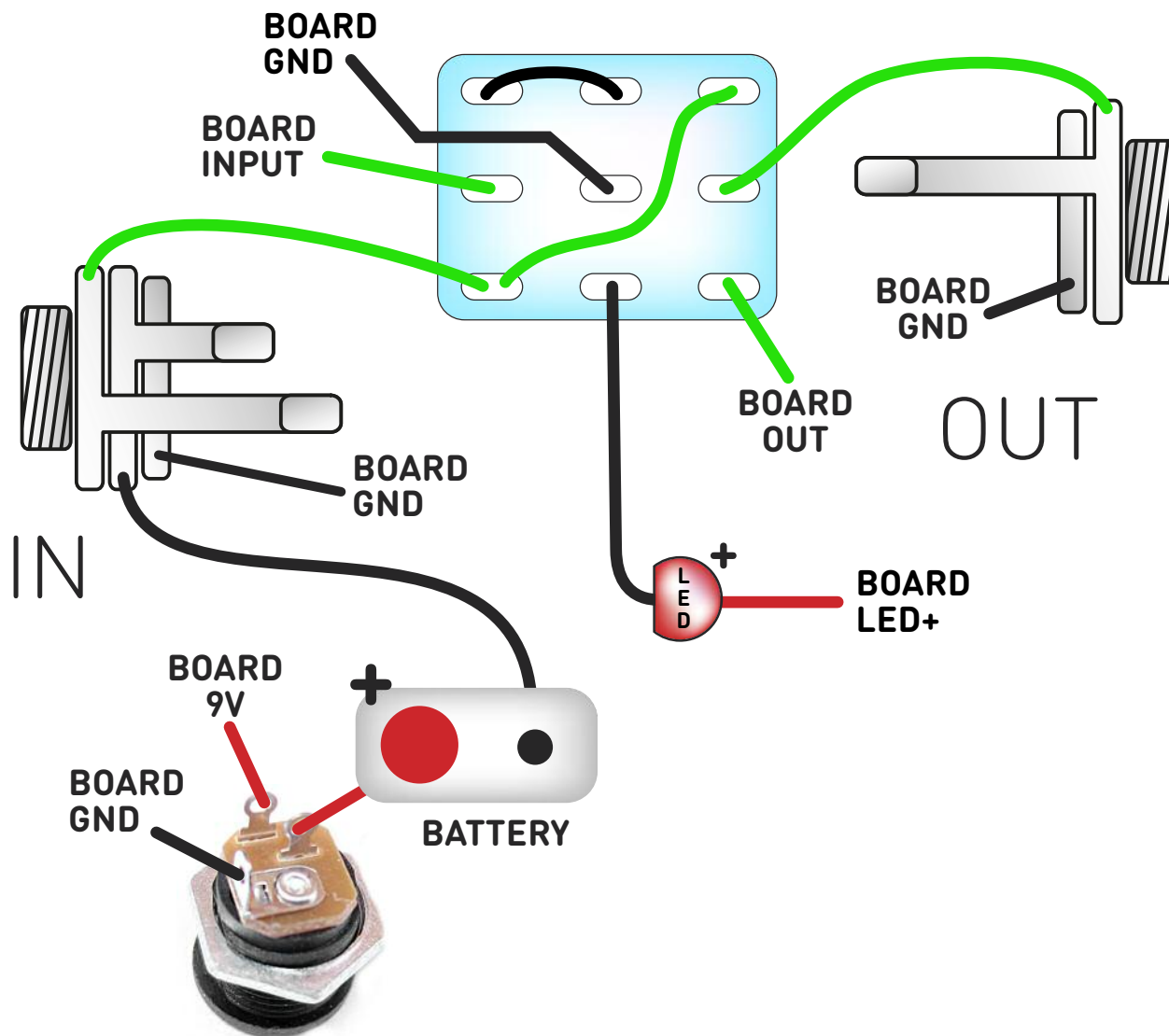
Once you've finished the circuit it makes sense to test it before starting on the switch and LED wiring. It'll cut down troubleshooting time in the long run. If the circuit works at this stage, but it doesn't once you wire up the switch - guess what? You've probably made a mistake with the switch.

Solder some nice, long lengths of wire to the board connections for 9V, GND, IN and OUT. Connect IN and OUT to the jacks as shown. Connect all the GNDs together (twist them up and add a small amount of solder to tack it). Connect the battery + lead to the 9V wire, same method. Plug in. Go!

If it works, crack on and do your switch wiring. If not... aw man. At least you know the problem is with the circuit. Find out why, get it working, THEN worry about the switch etc.

# Wire it up - with battery

(if using a daughterboard please refer to the relevant document)

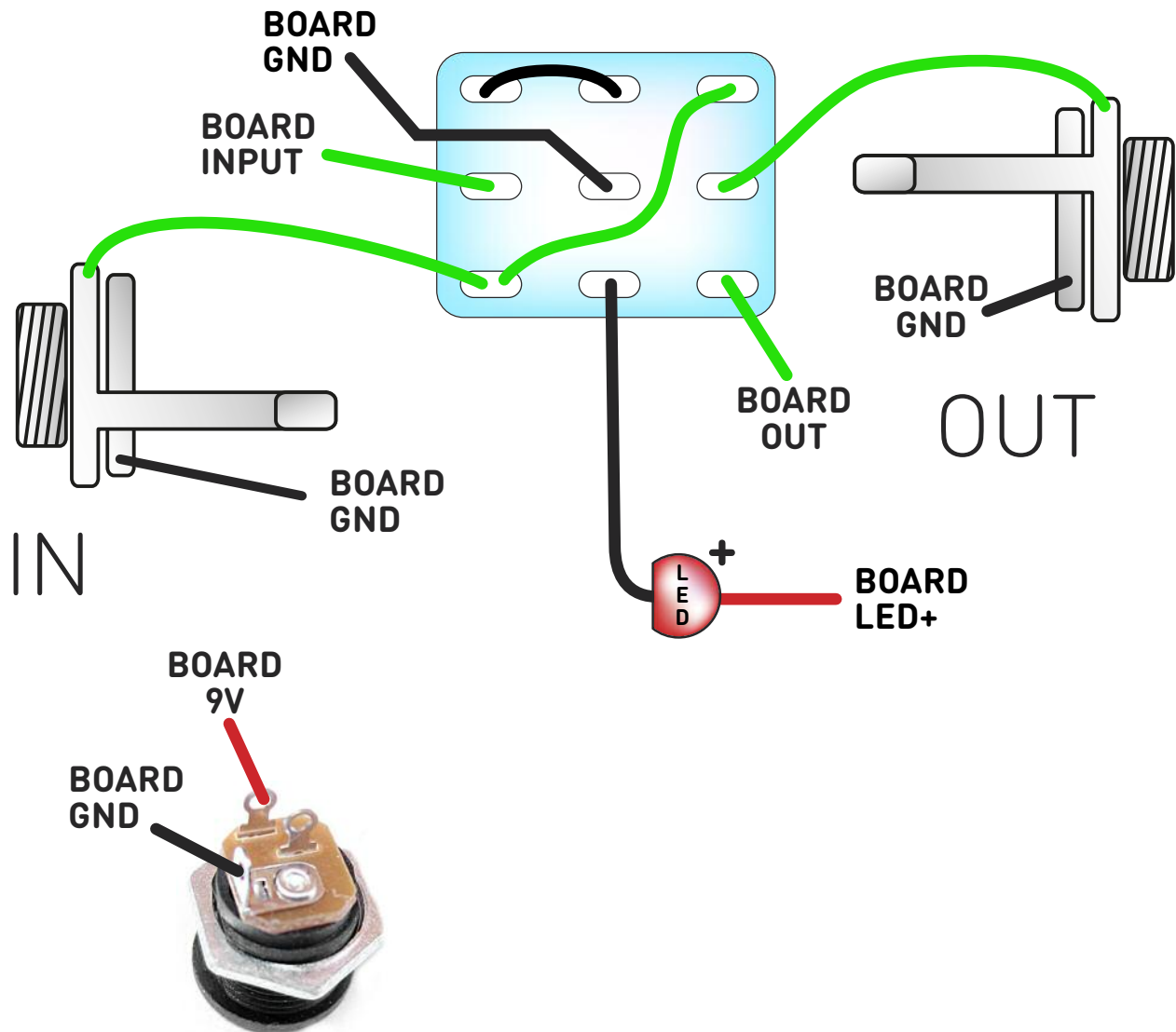


This circuit is standard, Negative GND. Your power supply should be Tip Negative / Sleeve Positive. That's the same as your standard pedals (Boss etc), and you can safely daisy-chain your supply to this pedal.

The BOARD GND connections don't all have to connect to one point. They can be daisy-chained around the circuit, using larger connection points (such as jack socket lugs) for multiple connections. As long as they all connect together in some way.

# Wire it up - DC only version

(if using a daughterboard please refer to the relevant document)



This circuit is standard, Negative GND. Your power supply should be Tip Negative / Sleeve Positive. That's the same as your standard pedals (Boss etc), and you can safely daisy-chain your supply to this pedal.

The BOARD GND connections don't all have to connect to one point. They can be daisy-chained around the circuit, using larger connection points (such as jack socket lugs) for multiple connections. As long as they all connect together in some way.

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