

# Cocoon

All your 70's rock record guitar sounds in a box (maybe...)



# Important notes - DO NOT SKIP!

If you're using any of our footswitch daughterboards,

## DOWNLOAD THE DAUGHTERBOARD DOCUMENT

- Download and read the appropriate build document for the daughterboard as well as this one **BEFORE** you start the build.
- DO NOT solder the supplied Current Limiting Resistor (CLR) to the main circuit board even if there is a place for it. This should be soldered to the footswitch daughterboard. This applies to older PCBs with a pad marked LED next to the IN V G OU pads.

## POWER SUPPLY

Unless otherwise stated in this document this circuit is designed to be powered with 9V DC Tip-Negative supply.

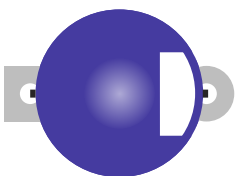
## COMPONENT SPECS

Unless otherwise stated in this document:

- Resistors should be 0.25W. You can use those with higher ratings but check the physical size of them. For kits that use 3mm resistors instead of standard 6mm, these will usually be either 0.125W or 0.4W.
- Electrolytics caps should be at least 25V for 9V circuits, 35V for 18V circuits. Again, check physical size if using higher ratings.

## LAYOUT CONVENTIONS

Unless otherwise stated in this document, the following are used:



### Electrolytic capacitors:

Long leg (anode) to square pad. Stripe indicates cathode.



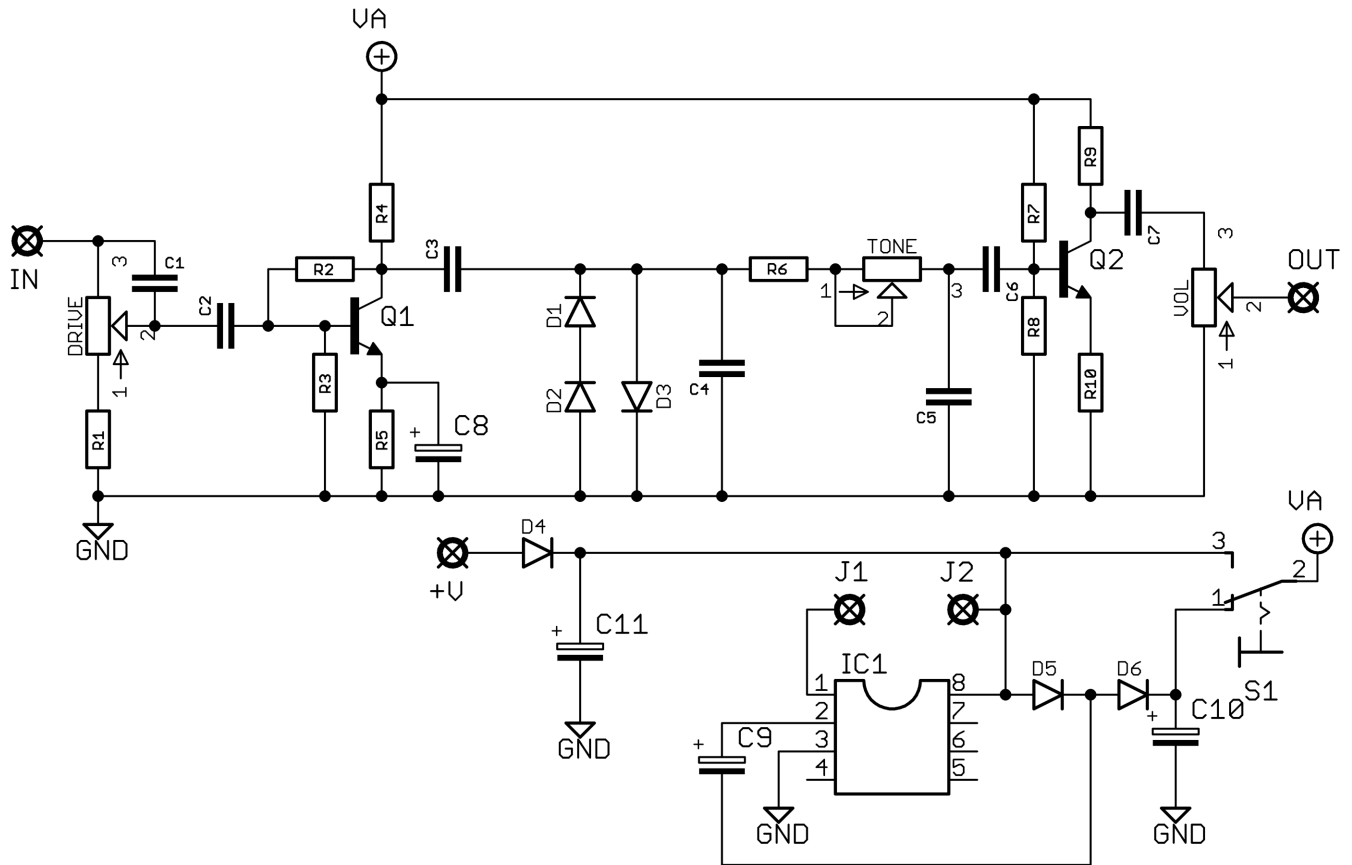
### Diodes/LEDs:

Striped leg (cathode) to square pad. Short leg to square pad for LEDs. The exception to this is with Russian germanium diodes - stripe = anode.

- **ICs:**

Square pad indicates pin 1.

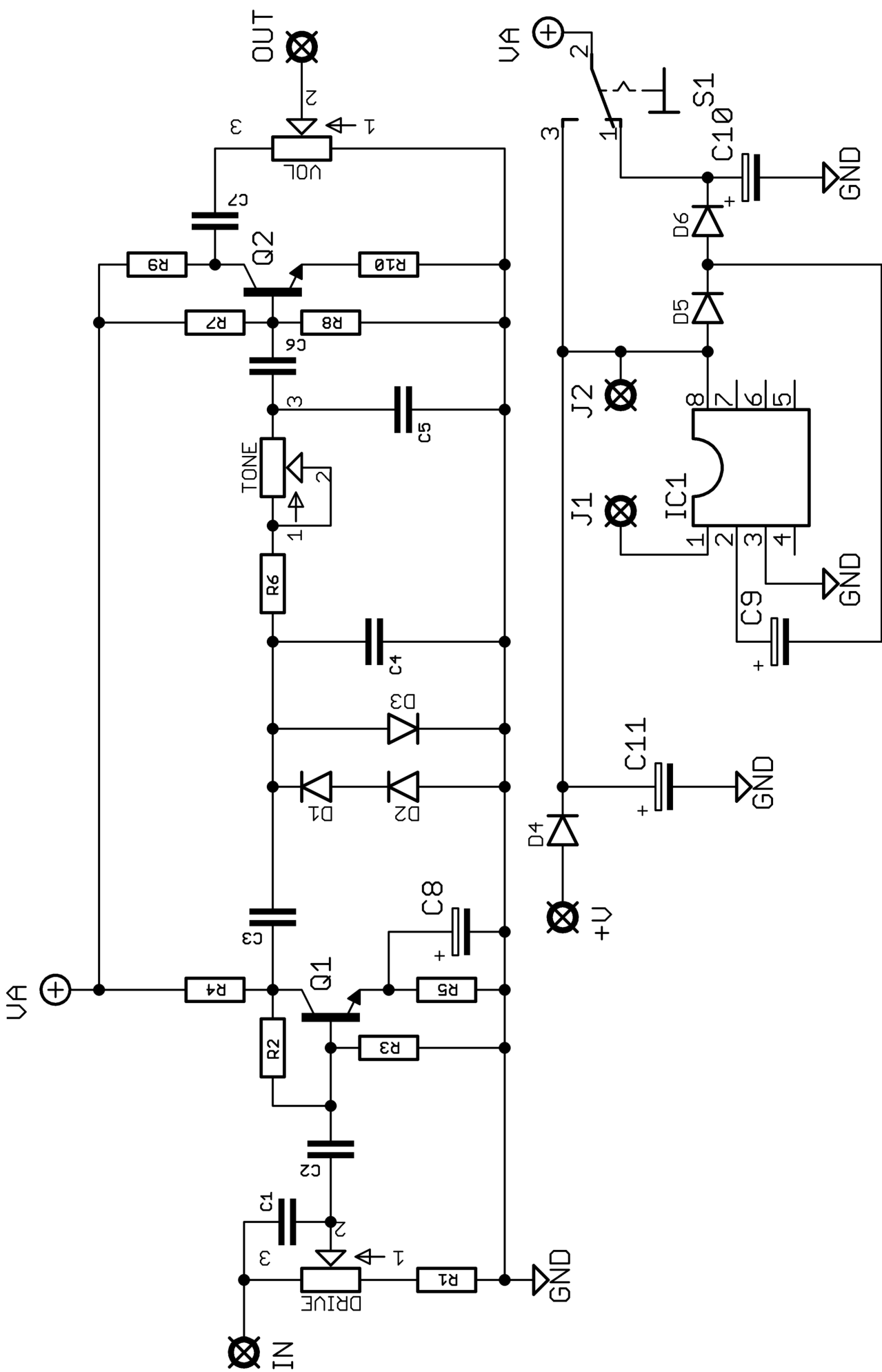
# Schematic + BOM

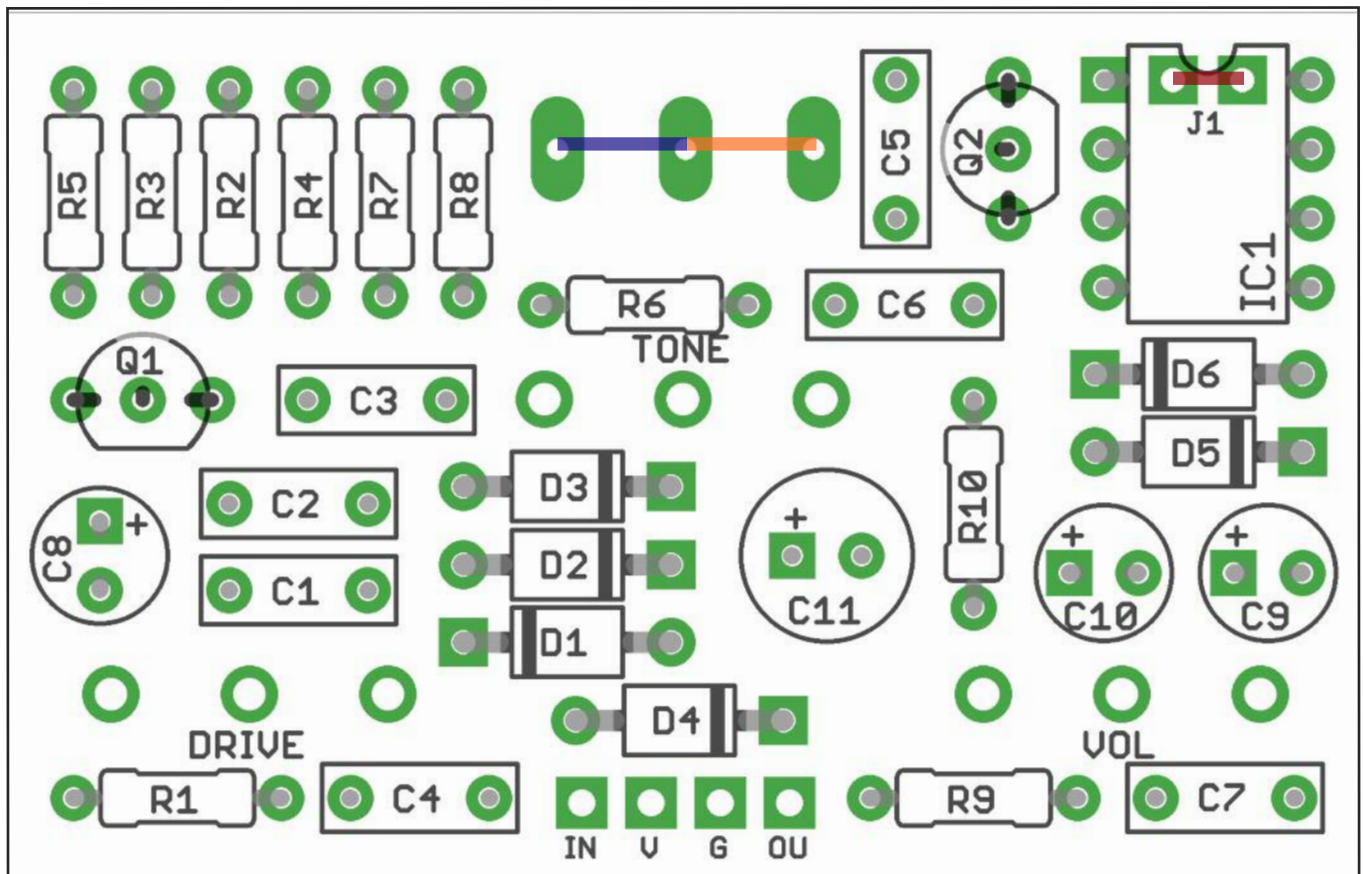


R1	4K7	C1	1n	D1-3	BAT48
R2	2M2	C2	100n	D4	1N5817
R3	2M2	C3	220n	D5-6	1N5817
R4	8K2	C4	100p	Q1-2	MPSA18
R5	470R	C5	4n7	IC1	7660SEPA*
R6	1K	C6	100n	DRIVE	50KB
R7	470K	C7	100n	TONE	25KB
R8	47K	C8	4u7 elec	VOL	50KA
R9	10K	C9	10u elec		
R10	1K	C10	100u elec		
		C11	100u elec	S1	SPDT ON-ON

\*Optional charge pump to run the circuit at 18V from a 9V supply. You can also use a MAX1044 or an LT1054. See page 5 regarding jumper depending on the part used. If you don't want to add this simply leave it out, as well as the parts shown above in blue.

\*\*Optional so you can switch between 9V and 18V.





The power and signal pads on the PCB conform to the FuzzDog Direct Connection format, so can be paired with the appropriate daughterboard for quick and easy offboard wiring. Check the separate daughterboard document for details.

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). Same goes for the IC if you aren't using a socket.

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

You should solder all other board-mounted components before you solder the pots and switches. Once they're in place you'll have no access to much of the board. Make sure your pots all line up nicely.

The best way to do that is to solder a single pin of each pot in place then melt and adjust if necessary before soldering in the other two pins.

## CHARGE PUMP

If using 7660 or MAX1044 you must add the jumper shown in red above. No jumper required for LT1054.

### If you don't want to add the switch....

**To run the circuit at 9V,** leave out the charge pump components and add a jumper as shown in blue.

**To run the circuit at 18V,** include the charge pump parts and jumper as shown in orange.





# Test the board!

**Check the relevant daughterboard document for more info before you undertake this stage.**

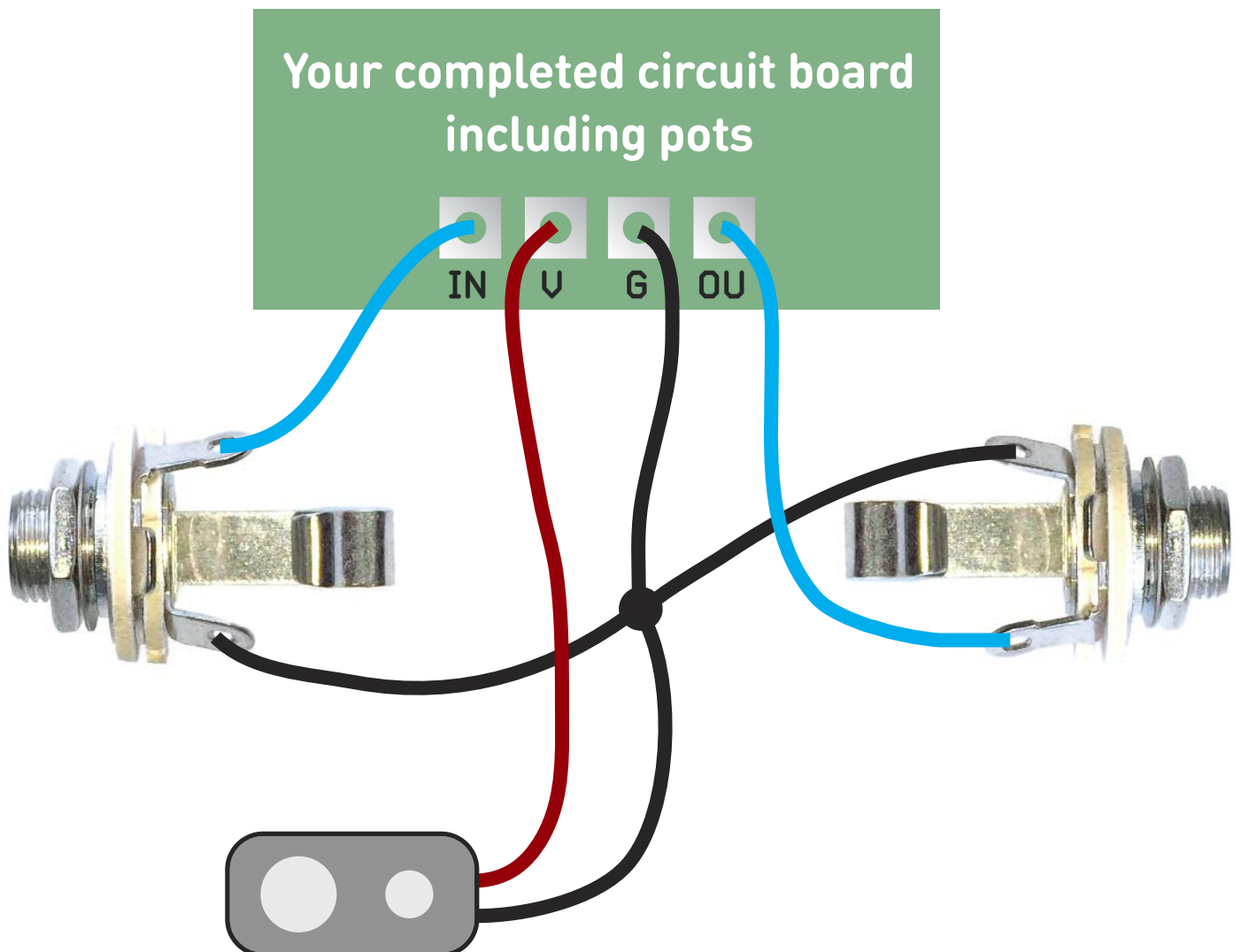
**UNDER NO CIRCUMSTANCES will troubleshooting help be offered if you have skipped this stage. No exceptions.**

Once you've finished the circuit it makes sense to test is 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 you're using a ribbon cable you can tack the wires to the ends of that. It's a lot easier to take them off there than it is do desolder wires from the PCB pads.

If it works, carry 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.



Now's the time  
to refer to the  
daughterboard  
document for  
your chosen  
bypass method.

Enjoy your pedal!

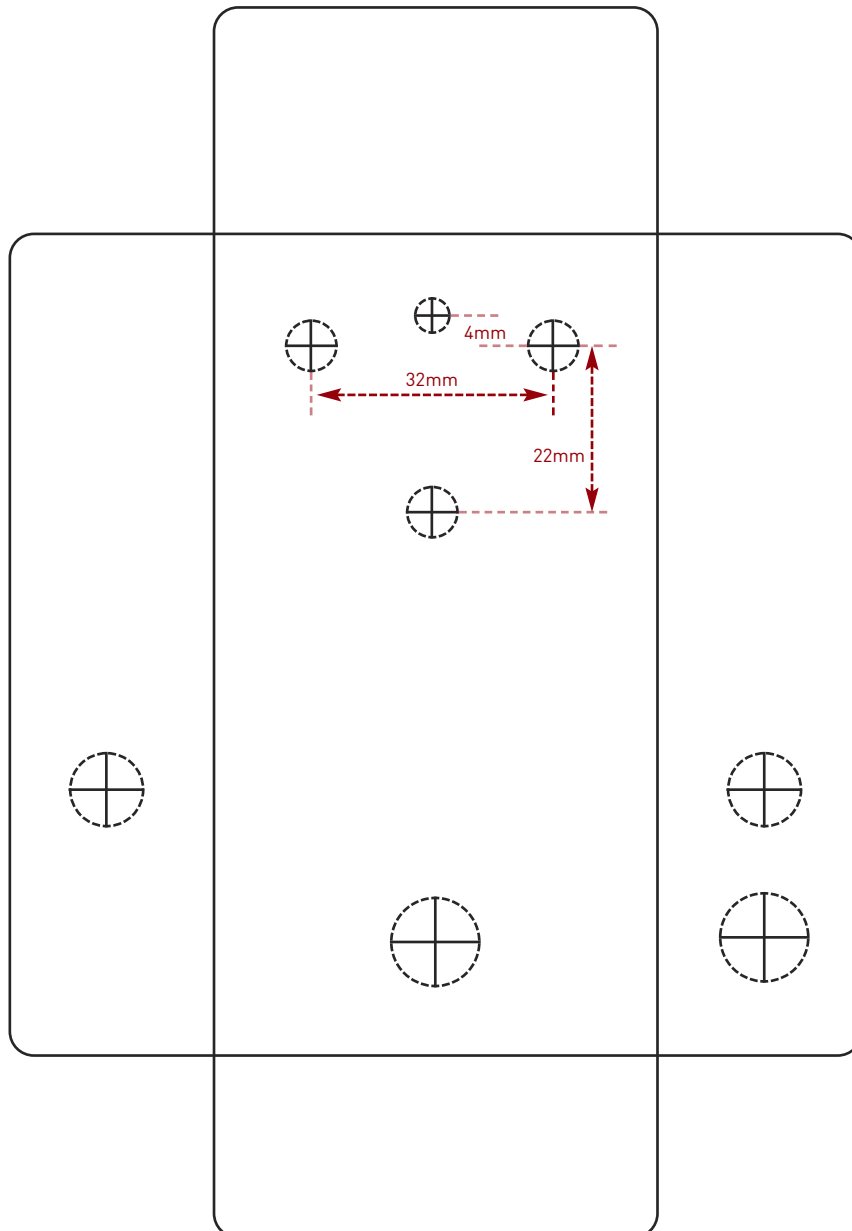
# Drilling template without battery - side DC

Hammond 1590B - 60 x 111 x 31mm

It's a good idea to drill the pot and  
toggle switch holes 1mm bigger if  
you're board-mounting them.  
Wiggle room = good!

Recommended drill sizes:

Pots	7mm
Jacks	10mm
Footswitch	12mm
DC Socket	12mm
Toggle switches	6mm



This template is a rough guide only. You should ensure correct marking of your enclosure before drilling. You use this template at your own risk.

Pedal Parts Ltd can accept no responsibility for incorrect drilling of enclosures.

FuzzDog.co.uk