

FuzzPups v2

Lovely little boxes of joy with a standardised build pattern



Contents of this document are ©2022 Pedal Parts Ltd. No reproduction permitted without the express written permission of Pedal Parts Ltd. All rights reserved.

IMPORTANT - READ ME FIRST

As of May 2022 we have introduced a new system. All future FuzzPup boards will be exactly the same size and have all offboard wiring pad positions in the same place. Pots and toggle switches can be mounted on a daughterboard and fixed to the main PCB with header pins if desired.

If you have one of the older boards with pads on the sides for jack connections, please close this document and download the original FuzzPup version instead.

Cheers!

What's a FuzzPup?

It's our system for building 1590A pedals with a standardised format for all the non-PCB components, and a connection system common across every single circuit.

What's this document?

A general guide for building these beauties that applies to each and every one. That way we don't have to include this information in every single document for every single circuit. "Why? It's a PDF - it doesn't cost anything." If we decide to change any aspect of this standard in future we only need to change this single document.

Before you start

Due to the nature of these builds, i.e. there's a lot going on in a very confined space, they are fiddly to complete. You should only attempt these builds if you have patience, a light touch and are comfortable with tight spaces.

Read the full document that applies to the circuit you're building as well as this one. There may be some specific requirement of that particular build which isn't covered by the information contained within this PDF.

General, but very important tips

Get your components as close to the PCB as possible. There isn't much height clearance when boxing up, so any film caps that are sitting even a couple of mm off the board could mean the difference between a successful build and a disappointing failure. If you're confident enough to solder ICs rather than use sockets, do.

Keep your soldering neat, and ensure you cut your component legs as tight to the solder joints as possible. Anything sticking too far out of the bottom of the PCB will stop it getting right down onto the body of the jacks, and your lid won't fit on the box.

Electrolytic capacitors - long lead (+) to square pad.

Diodes - lead nearest to the stripe (-) to square pad.

LEDs - short leg (-) to square pad.

Assemble the main board

There's a specific document for each individual kit. Check that and come back.



Solder in your header pins

It's very important to get them absolutely 90° to the PCB.

Use the pads marked below. Do one pin of each and melt/adjust until you're happy with it before soldering in the other two.



Solder in the pots

Make sure they're on the other side of the PCB to the header pins!

You'll have to check against the main PCB to see which control goes where, as the pot daughterboard is not kit-specific.



OK, ready to piece it all together...

Jacks and Footswitch

You'll have a pair of mono 1/4" jack sockets (Lumberg KLBM3) and a 3PDT footswitch. Get them in place and tightened up as shown

All mounted and tightened up? Good. Next...



Mount the pots onto the main PCB

Push the header pins of the pot daughterboard through the corresponding pads of the main PCB. Now drop the whole thing down into the enclosure, pots sitting in their holes. The main board should be resting on the jacks. You can, if you like, leave a little space between the PCB and jacks for the final assembly by placing a piece of card in between jacks/board at this stage as a spacer.

It's a good idea to hold the pots in place by fastening one of them to the enclosure.

Ensure the main PCB is sitting flat and solder one of the outer most pot header pins to the main board. Do the same with the one on the other edge of the PCB so the boards are held securely at both sides. You can now undo the nut and remove the boards from the enclosure. Check the boards are parallel with each other. If not, melt one of the joints and adjust by eye. Once you're happy all is straight, solder the rest of the header pins in place.

The boards are now ready for testing before doing your final assembly.

If you want to wing it you can just join the two boards together, leaving 6.5mm gap between them. If you've followed the drilling guide correctly this will be spot on.



Pot daughterboard in-situ

You should have an assembly that looks just as nice as this. Satisfying.



Testing

If you have one of our simple tester units you can simply drop the four pins onto the Direct Connect sockets and test as with any other circuit. The headers are too thick to actually go into the sockets, but if you hold them firmly together that should suffice. If you prefer a more secure pairing you can get a good connection by cutting an 8-pin DIL socket in half and using that to connect the two units.

If you don't have a tester it's a little more fiddly and will involve some desoldering after testing is complete.

You'll need to tack wires to the tips of the header pins at the base of the main PCB. These wires should connect to your jacks and DC as shown below. You can use a battery snap instead of the DC socket if you prefer. Just ensure all your ground connections are linked together.



Testing complete - let's assemble - Wire the daughterboard to the jacks

Add wires to the jack lugs. Don't leave yourself short here, as you'll have to have some wiggle room to get the main PCB header pins into the footswitch daughterboard.

Around 5cm is good for the input jack signal wire, 3.5cm for both ground wires, 3cm for the output signal.

Final assembly is easier if you attach the signal wires through the top of the PCB as shown below.



Let's assemble - CLR / LED

Don't forget your CLR and LED at this stage. It'll be a pain to get everything out of the box once assembled if you need to get at them.

Ensure the CLR is soldered in place. Put your LED legs into the footswitch daughterboard (long leg to round pad), push all the way through and bend the legs out slightly so it doesn't slip out.



Let's assemble - Get everything in position

The final stage is difficult to illustrate as it's a case of manoeuvring everything into place at the same time.

Lift up the front edge of the footswitch daughterboard so it's well clear of the footswitch. Now slot the header pins of the main PCB into the four remaining pads of the Direct Connect strip of the daughterboard. With these two together you can now carefully drop the whole assembly down into the enclosure, locating the pots into place and slipping the daughterboard onto the footswitch lugs.

Ensure your wiring is not trapped between the jacks and the PCB. There's plenty of clearance either side to run them safely.

Once in place, secure the pots with their washers/nuts.

Now press the daughterboard down onto the footswitch. There shouldn't be any stress between the main PCB and daughterboard. If there is, allow the daughterboard to come further up the switch lugs a little and solder one lug in place.

If you're happy everything is sitting nicely, solder the header pins to the footswitch daugtherboard, then the remaining switch lugs.

Push your LED into place, locating it in the hole in the enclosure, then solder that in.

Finally, mount your DC socket and solder your power wires to that. The long pin is +.

That's it. Your pedal is complete.



Drilling guide

This is a guide only. If you're drilling your own enclosure please double check everything before starting.

Recommended drill sizes:

Jacks	9mm
Footswitch	12mm
DC Socket	8mm
Pots	7mm

