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## Rock Box PCB Kit



Please read the guide in full before starting your build. If it is blatantly obvious you haven't read it and contact us for help then don't be surprised if we tell you to read the guide again... harsh I know.

## Parts List

R1	1M	R12	5K1	C1	100N	D1	9V1 ZENER
R2	1M	R13	330R	C2	22N	D1	9V1 ZENER
R3	5K1	R14	47K	C3	470P	D3	4001
R4	1M	R15	82K	C4	22N	Q1-4	BS170
R5	470K	R16	10K	C5	1UF(E)	TONE	100KB
R6	1M	R17	10K	C6	22N	VOL	100KB
R7	1M	R18	1M	C7	100N	GAIN	5KC
R8	5K1	R19	1M	C8	2N2	BOOST	5KC
R9	180R	R20	5K1	C9	2N2		
R10	1M	R21	47K	C10	100N		
R11	1M	R22	82R	C11	10U		
R12	5K1	R23	1M	C12	47U		

### Kit Specific Build Notes

- This dual foot switch build has a fair amount of off board wiring to do. The PCB also has a different layout to my standard boards.
- There are two separate pedals in one here, the distortion side, and the boost side. Both can be used independently or together.
- The distortion circuit input and output are on the bottom left. With the power inputs centrally, finally the boost side input and output is to the right.

## General Build Instruction

The first thing you must do is identify your parts from the pack. As a rule, I build from small to big – therefore step one will be to identify the resistors and any diodes inside your kit.

Each kit has a parts list at the top of the guide. So as an example, if R1 is listed as a 1M resistor then you dig out a 1M from the pack and place it on the PCB in the R1 spot. It's your call if you put one in and solder or put a few in or even put them all in and solder. I'll let you decide.

The front of the PCB is the side with the white writing on (the silkscreen)

You then need to follow the same process for all the other parts included. Working in height order mount the rest of the parts to the PCB ensuring that you solder them in place well as you go.

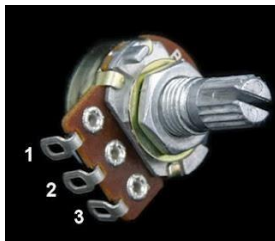
Some parts are quite heat sensitive so you must be careful when soldering them. Diodes, chips and transistors mainly. They can easily burn out by overheating.

I would then add the offboard wires, starting with nice long ones leaving them to be trimmed to length later. Finally, I add the pots either mounting them to the board or wiring them into place.

## Useful links

[Resistor calculator](#)

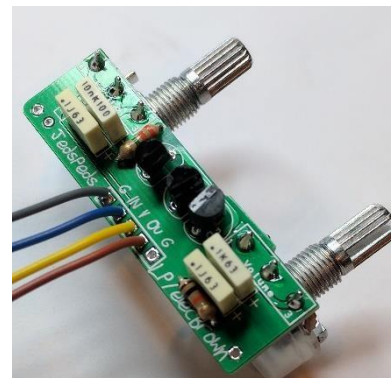
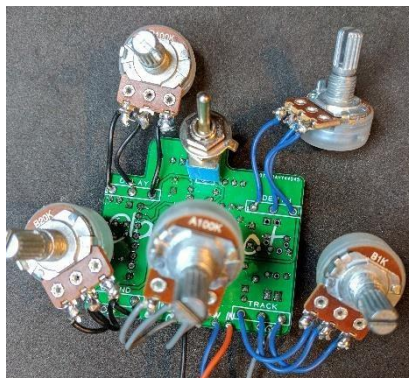
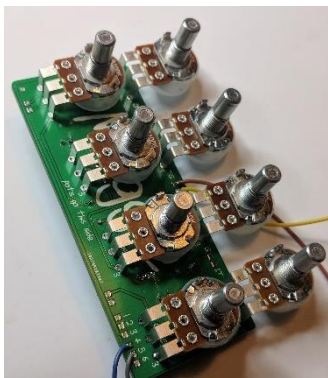
## Pots



Pin Numbers for the pots. Snap the little metal tag off before trying to put it through the holes in the box.

Some of our PCBs are now designed to use right angled mount pcb potentiometers. They mount from the rear as indicated by the pcb. We will provide right angled pots as stocked, this means that you may receive a "normal" pot on occasion and you will have to wire it. It's not that inconvenient now is it.

The other options for pots are that they are wired into place or the PCB hangs from them.

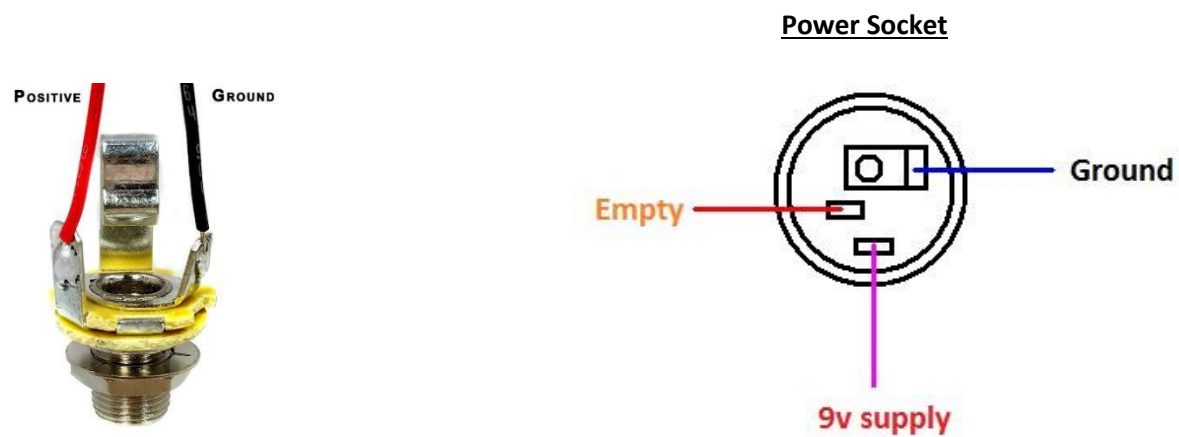


## Hooking up the Jacks

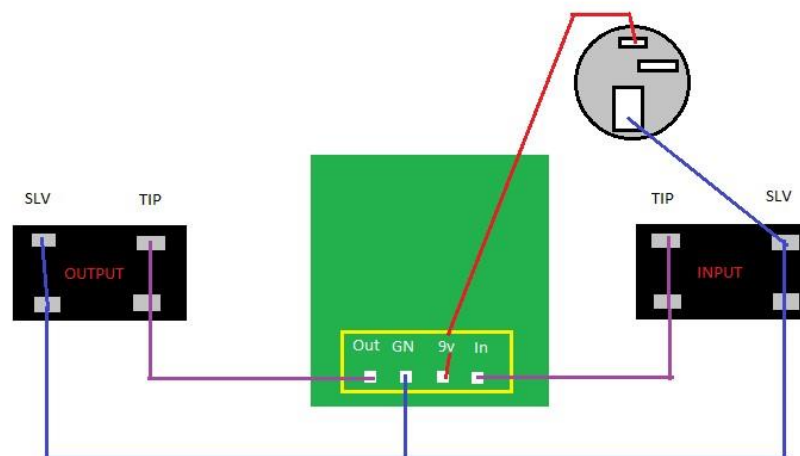
Our kits come with mono jacks. They have two connections, a positive or the tip connection. And a negative, or sleeve connection.

The tip connections will connect to the 3PDT as shown later in the guide unless there are instructions otherwise.

The sleeve connections are ground points, all grounds throughout a build must connect. The Jack socket will then connect to the enclosure and ground the case.



## TEST THE BOARD



When you get to the stage with the board and pots wired you need to test the board before you add the foot switch. Firstly, don't put it in the box – I see people building inside a tiny enclosure and I wonder why. Some PCB's are tight enough as it is without reducing your workspace to 6cm wide!

Connect Input pad to TIP of Input jack. Same with output. Then connect the power to the 9v pad. Connect all grounds together (board, jack sleeves and 9v) If your board is working at this point then you can start work on the switch! If not...get double checking! If you email asking me why your pedal isn't working the first thing I will ask is... "did it work without the switch?", so make sure you follow this step.

If your PCB is working you are ready to connect the board to the footswitch! Follow the next stages meticulously and all being well by the end of it you will have a lovely finished pedal!

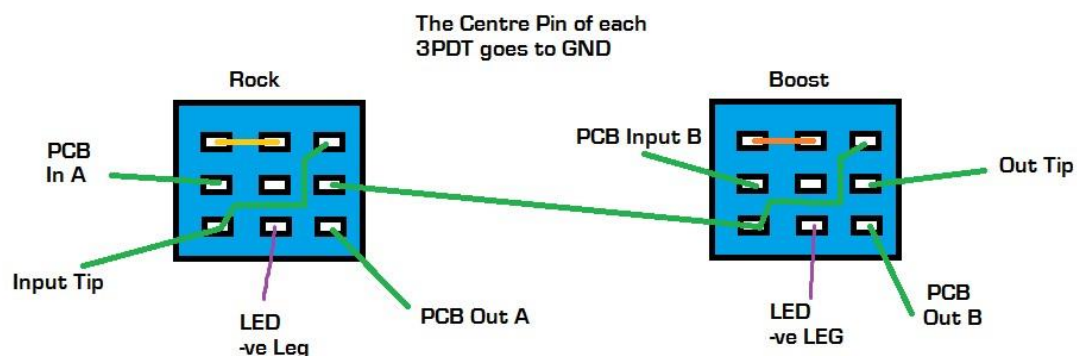
The next step involves undoing the tip wires from the PCB as they will now move to the 3PDT.

If its not working at this stage then you need to find out why. Do not continue beyond this point until you get it working. Adding a footswitch will not magically make a circuit work.

Troubleshooting is a necessary evil at times.

### The Footswitch.

Have a look at the footswitch. It has 9 pins. The orientation of the switch is crucial. If you do it wrong your switch will not work, you might ruin it and you will certainly have to un do it.



The spare resistor within the kit is used to limit the power between the 9v and both LED's.

Good luck and happy soldering!

### PCB Design Notes



1. All PCBs are designed by ourselves, and tested before sale.
2. Box caps are shown with a + polarity mark on the silk screen, this is irrelevant as the box caps are non-polarised so can go either way.
3. Spare ground points may be provided on the PCB layout, use them if you wish but there is no requirement to.