



## Big Knob

What do you get when a One Knob collides with a Big Muff? Ok Ok, let's keep this adult. It's going to be difficult but I'll try.

The Big Knob is based on the Colorsound One Knob Fuzz, a very well balanced and articulate silicon fuzz. I've always thought a big improvement to this effect would be some sort of tone control to shape the sound of the output. The Big Muff Tone Control stack seemed like the obvious choice and after much experimenting has proved to marry very well with this fuzz circuit.

### Bill of materials

Resistors		Transistors	
<b>R1</b>	1M	<b>Q1</b>	BC109
<b>R2</b>	10k	(any low gain silicon – 2n3904, s9013, etc)	
<b>R3</b>	82R	<b>Q2</b>	BC108
<b>R4</b>	2.2k	(any low gain silicon – 2n3904, s9013, etc)	
<b>R5</b>	150k	<b>Q3</b>	2N5088
<b>R6</b>	1k		
<b>R7</b>	39k	Capacitors	
<b>R8</b>	47k	<b>C1</b>	1uf (105)
<b>R9</b>	430k	<b>C2</b>	220pf
<b>R10</b>	100k	<b>C3</b>	10nf
<b>R11</b>	15k	<b>C4</b>	10uf
<b>R12</b>	3.3k	<b>C5</b>	22nf
		<b>C6</b>	220nf
		<b>C7</b>	220nf
Potentiometer			
<b>Volume</b>	100ka (Logarithmic)		
<b>Tone</b>	100kb (linear)	Diode	
		<b>D1</b>	1n4001

## Notes for assembly

### Transistors

The BC transistors were used in the original units. These can still be sourced but are somewhat expensive. In truth a lot of low gain NPN silicon transistors will sound good in this circuit. A few to try are 2n3904, S9013, PN2222A, etc. Socket these 2 transistors and experiment. Q3 is part of the big muff tone control recovering stage and does not need to be changed.

### 82R Resistor

Replacing this resistor with a 1k trimmer may act a bit like a bias control (confirmed)

### 430k resistor

This resistor is an odd value, I have it stock on my webstore ([stock before release](#)). If you have trouble sourcing it, replace it with a 390k, this will have little effect on the biasing of the big muff recovery stage or solder a 390k and 39k resistor in series will get you in the ballpark.

## Tip for soldering 9mm Alpha Pots

The 9mm Alpha potentiometers that are included in our kits can be soldered directly to the PCB saving the hassle of connecting them with wires. Pay close attention to the pinout of the pot (1, 2, 3)



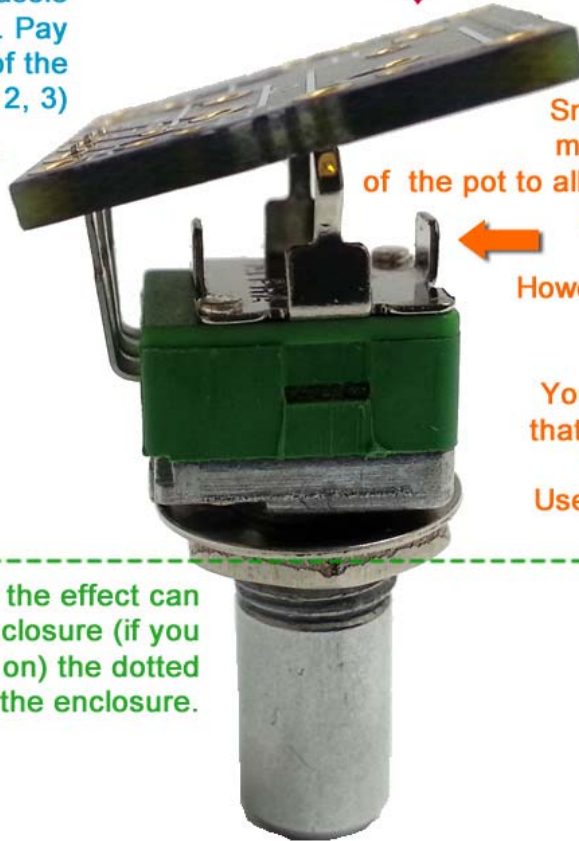
This is the component side of the pcb



Snip off or bend these four mounting lugs on the back of the pot to allow the pcb to be lowered closer to the back of the pot for soldering. However DO NOT remove the entire plate from the back of the pot. You will also need to ensure that the back plate of the pot does not touch anything. Use some double side tap to insulate it from the pcb

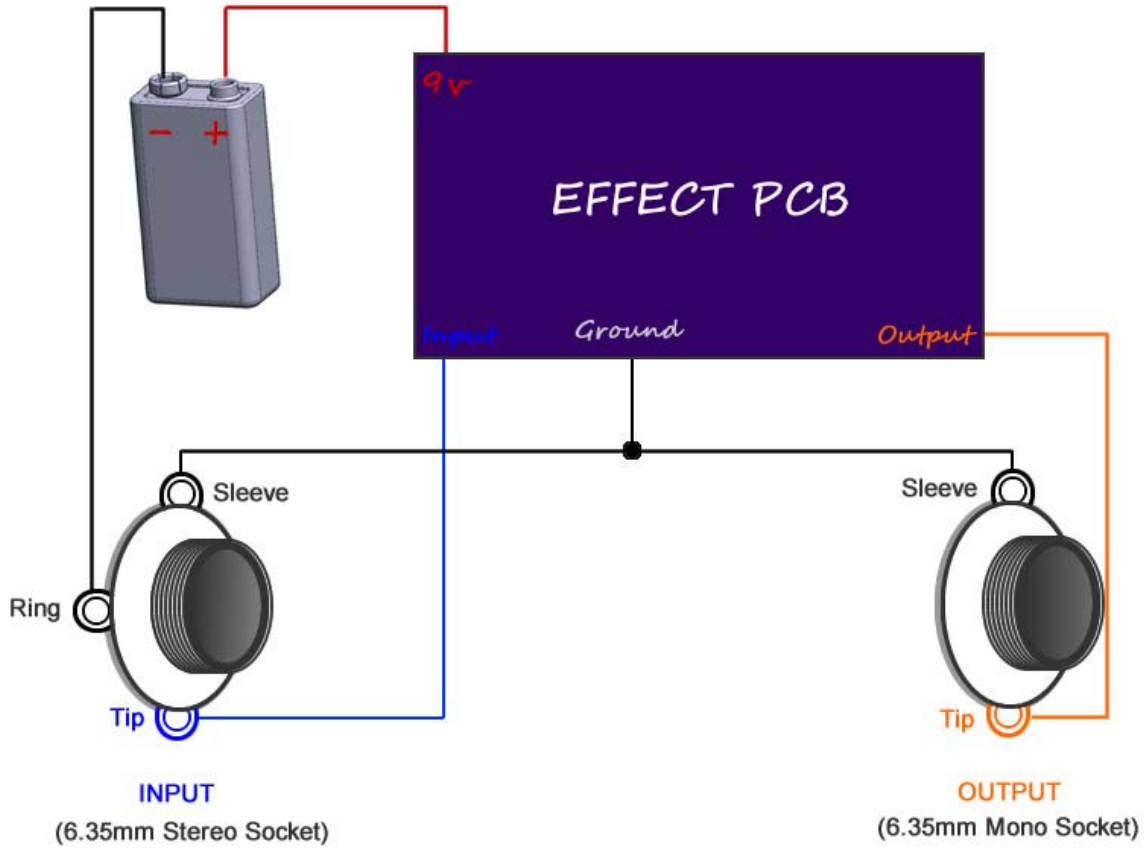


To help you visualise how the effect can be installed inside an enclosure (if you decided to do so later on) the dotted line above indicates the enclosure.



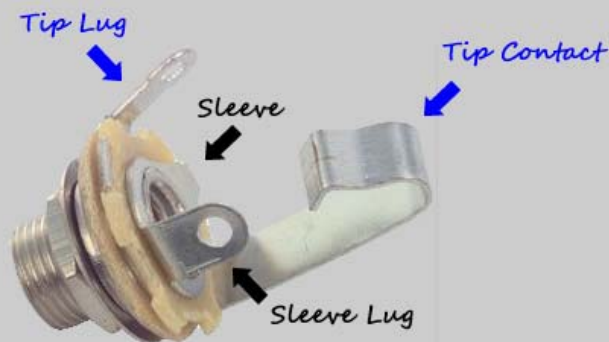
# Testing Your Effect

Using alligator clips or soldering directly, wire your effect as in the following...



## Input and Output Sockets

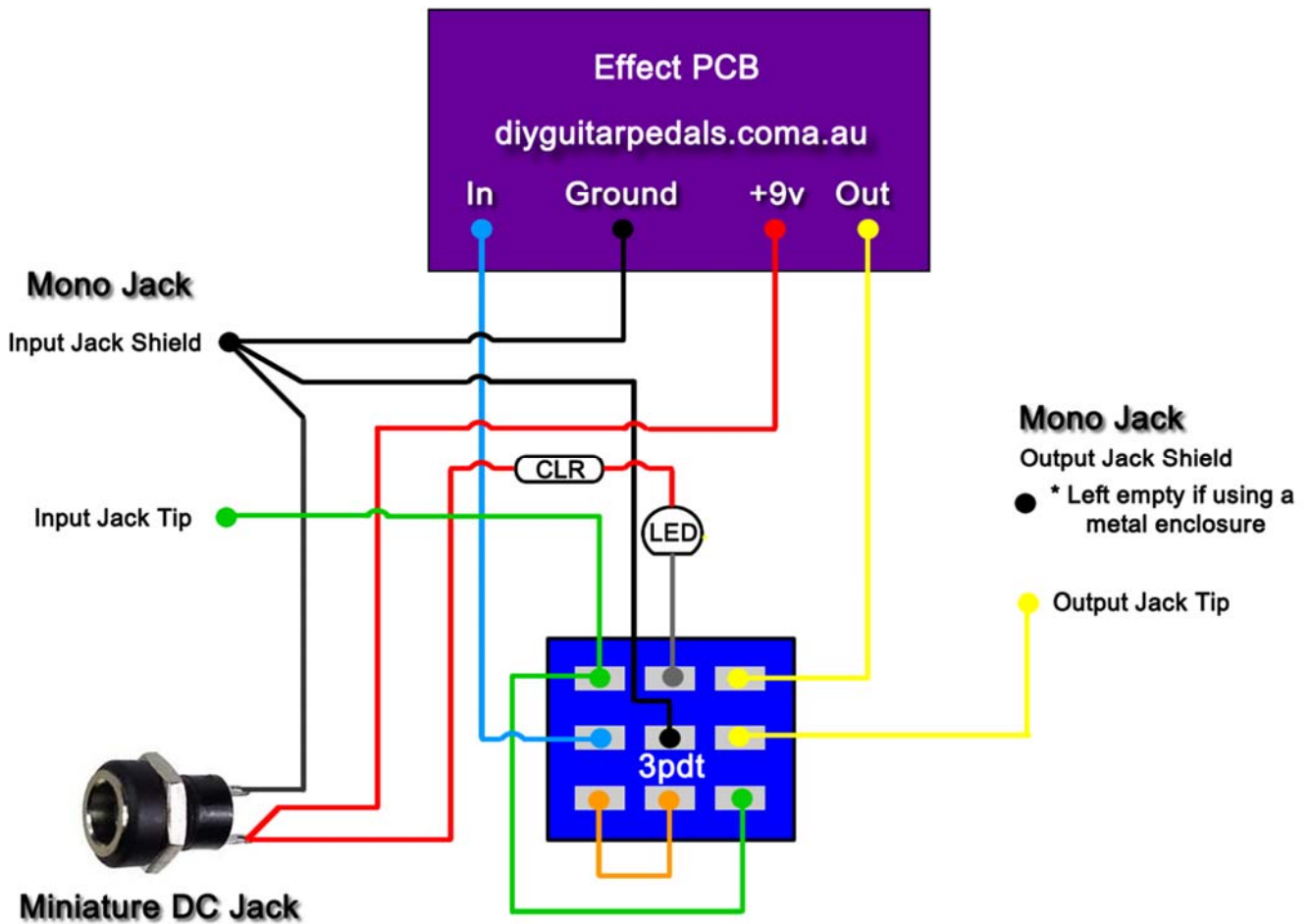
Pay close attention to the lugs of your sockets. Look at them side on so that you can distinguish the sockets individual layers. For instance the tip lug is connected to tip contact. The stereo jack looks the same as the socket below except it has an extra lug and contact for "Ring".



**Note**, you can still test your effect with 2 mono jacks, just combine the negative of the battery with the ground input sleeve connection.

## Offboard Wiring Diagram

Using a non-switched Miniature DC Jacks and 2 Mono Jacks (kit option with diyguitarpedal kits)



### The Lugs of the Miniature DC Jack

The miniature dc jacks that are sold as a kit option with pcbs have 2 lugs, 1 short and 1 long and should be connected as shown in the picture to the right. To confirm which lug is which, sight done the socket hole, you should be able to see which lug is connected to the pin and which is connected to the barrel of the jack. Also note that miniature dc jacks do not allow for battery switching, they can only be used for DC power.

