Ember Drive

Based on the Emdrive™, The Ember Drive is a simple low part count overdrive / fuzz that really packs a punch! The input volume control (the "Gain" control) of the original circuit has been replaced with a Tone Control which I find to be more versatile. Changing the transistor of the Ember Drive can result in signal clipping from overdrive to more of a fuzz tone (see mod below).

Bill of materials

Resistors		Diode	
R1	4K7	**D1**	1n4001
R2	2M2		
R4	1meg	**Transistor**	
		U1	MPSA13 / 2n5088
Capacitors		**Potentiometer**	
C1	100nf (104)	**Volume**	250ka Log
C2	10nf (103)	**Tone**	100kb Lin
C3	100nf (104)		

1590a

The board spacing will fit a 1590a enclosure. You can mount 9mm pots directly to the pcb.

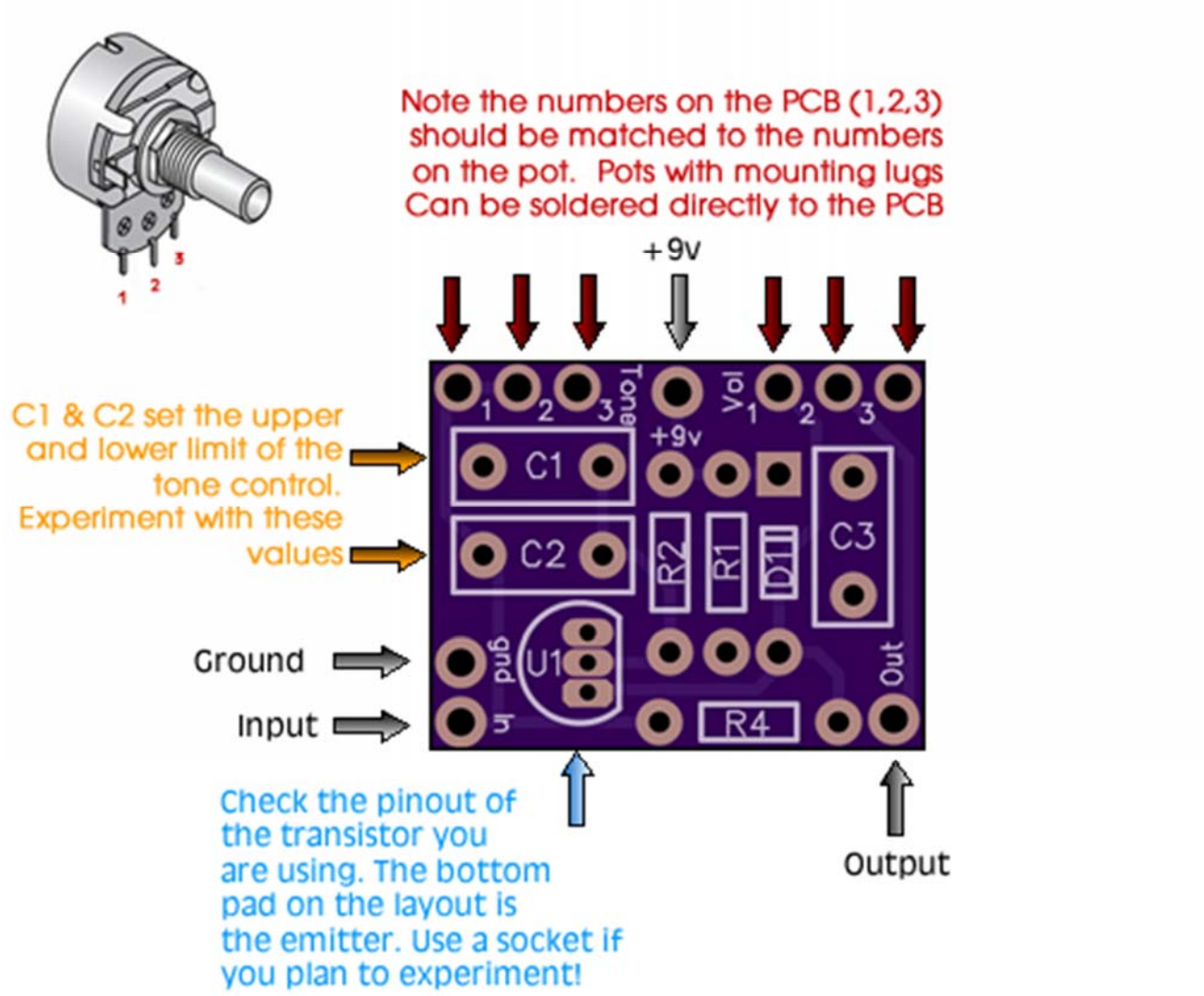
Tone mod

Changing the values of c1 and c2 will change the frequency range of the Tone Control. Also note c3 will affect the bass output of the circuit as well (increase for more bass, decrease for less). I've found the best combination for this set up is as listed above.

Transistor Mod

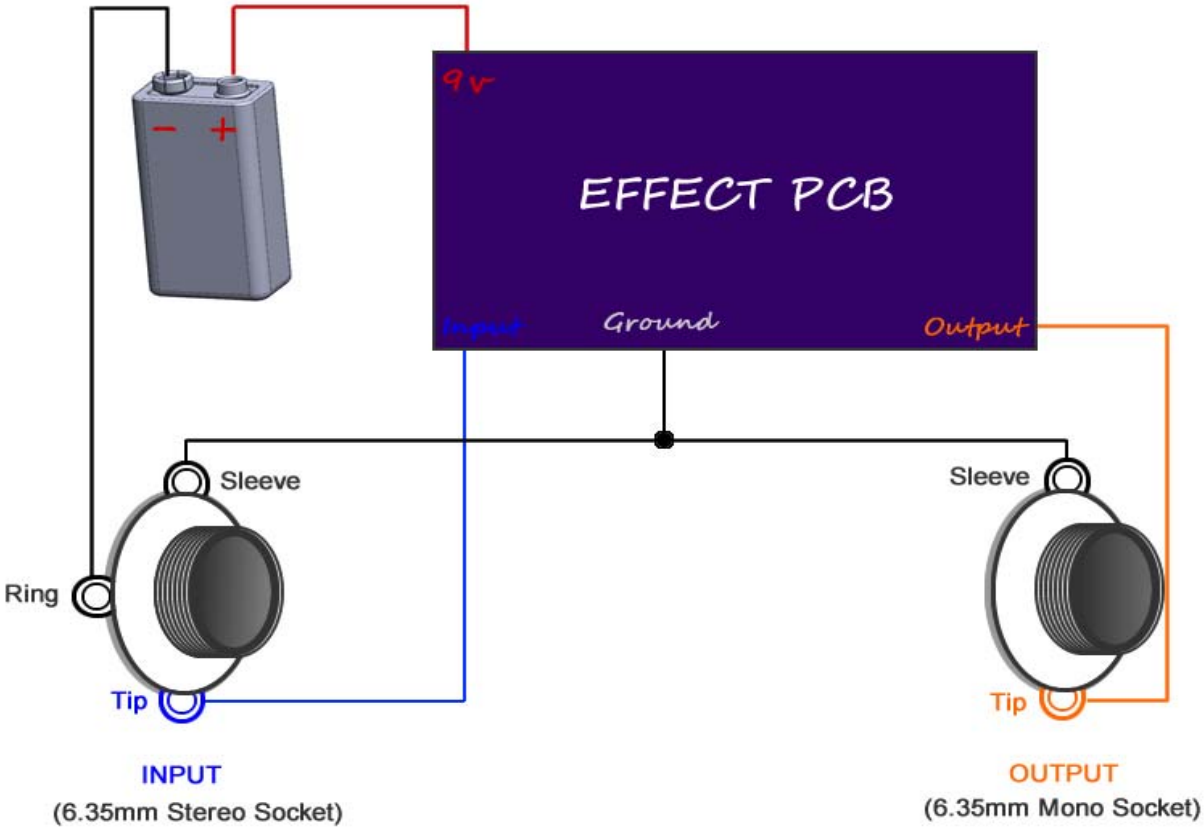
Try changing the transistor to an MPSA13 for thicker, fuzzier sound! (An mpsa13 and sockets are included with the component kit).

Youtube Link: DIYGP Ember Drive Transistor Comparison


Note the numbers on the PCB (1,2,3) should be matched to the numbers on the pot. Pots with mounting lugs Can be soldered directly to the PCB
+9v
C1 & C2 set the upper and lower limit of the tone control. Experiment with these values
Ground
Input
Tone
Vol
C1
C2
R2
R1
D1
C3
U1
gnd
in
Out
R4
Check the pinout of the transistor you are using. The bottom pad on the layout is the emitter. Use a socket if you plan to experiment!
Output

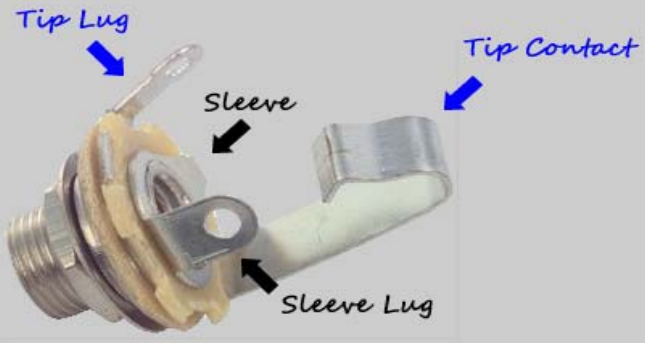
Testing Your Effect

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



Input and Output Sockets

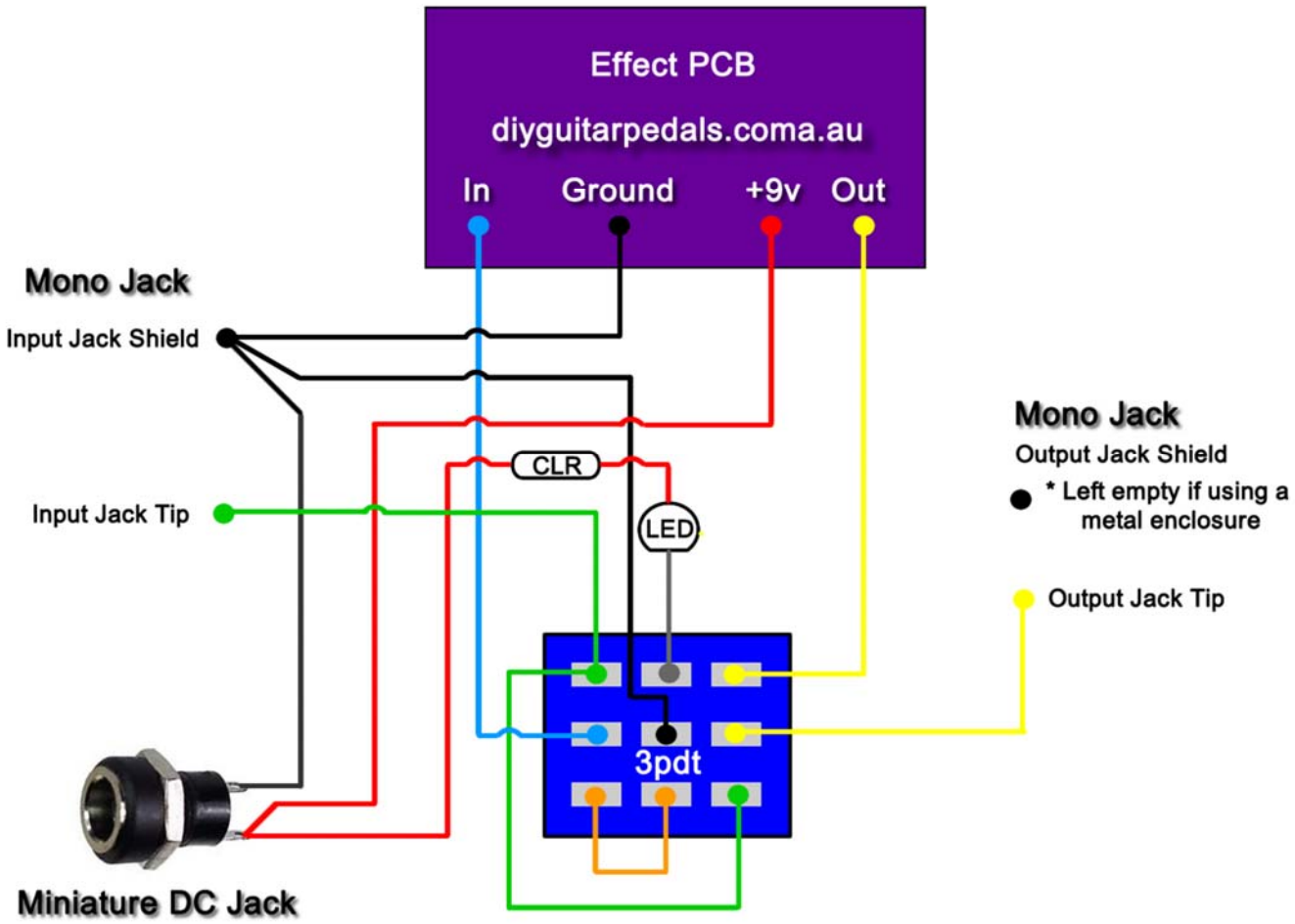
Pay close attention to the lugs of your sockets. Look at them side on so that you can distinguish the sockets individual layers. For instance the tip lug is connected to tip contact. The stereo jack looks the same as the socket below except it has an extra lug and contact for "Ring".



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.