



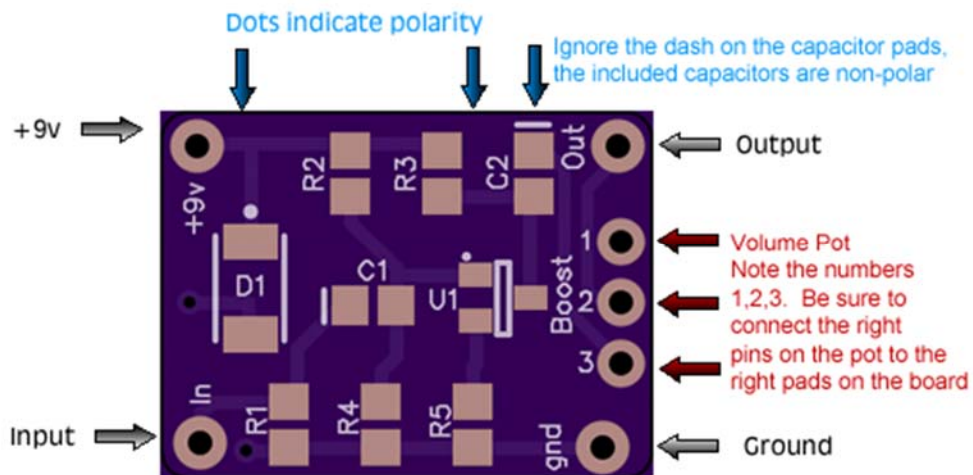
## SMT Practice LPB1 Boost

\*\*\* Revised and Improved "version 2"

Based on the EHX LPB1 (linear Power Boost) this boost is a great introduction to smt soldering. The resulting effect is very small ("boost on a dime") and could fit into some of the tightest of spaces.

### Bill of materials

Resistors		Capacitors	
R1	1M	C1	100nf (104)
R2	1M	C2	100nf (104)
R3	10k		
R4	100k	Diodes	
R5	390R	D1	1n4001
IC		Potentiometer	
U1	MMBT3904	Volume	100ka

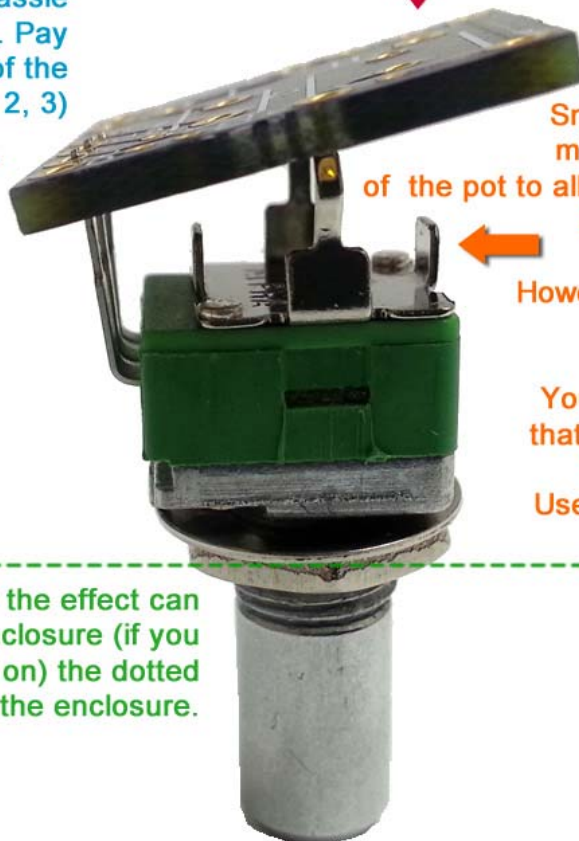


## Tip for soldering 9mm Alpha Pots

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.

## SMT LPB1 Kit Notes

### Identifying the Components

#### Capacitors

2 x Beige Colored chips. These are the 2 x 100nf in/out caps. Non-polarized.

#### Transistor

The black thing with three legs: D only fits the board one way around.

#### Diode

The 1n4001 is the largest of the chips. Black with a M1 and a white stripe printed on top (white stripe indicates polarity)

#### Resistors

The value is printed on top of the chip. If uncertain, you can also (carefully) measure with a multimeter.

If you have trouble reading them use a magnifying glass or jewelers loop. The values are read as such:

*Examples*

$1003 = 100$  (and 3 more zeros) = 100,000 = 100k.

$8201 = 820$  (and 1 more zero) = 8200 = 8.2k

$3900 = 390$  (and no more zeros) = 390 = 390. **NOT 3900**

### A couple of SMT Soldering Tips

For an in-depth tutorial on smt soldering watch a few videos on youtube, but for a “no-fuss” method of SMT soldering, read my tips below:

- 1) When removing the chip from the packaging, do it inside a container or contained area, so there is less chance of losing the chip if you accidentally fling it. Remember if it hits the carpet, it's usually impossible to find
- 2) Apply flux to the pads then place the component down. The flux will help prevent the chip from 'tombstoning'
- 3) (When using flux) Apply small amount of solder to the iron, then bring the solder to the component. Because there is flux on the component already the solder on the iron tip will still flow. Only use 0.3m solder. Trust me, it's much easier to control.
- 4) Use blutac to hold the board still on your workbench as demonstrated in my video here. This will make your SMT soldering experience 1000x easier: <http://www.youtube.com/watch?v=C4ACT2w93Mc>

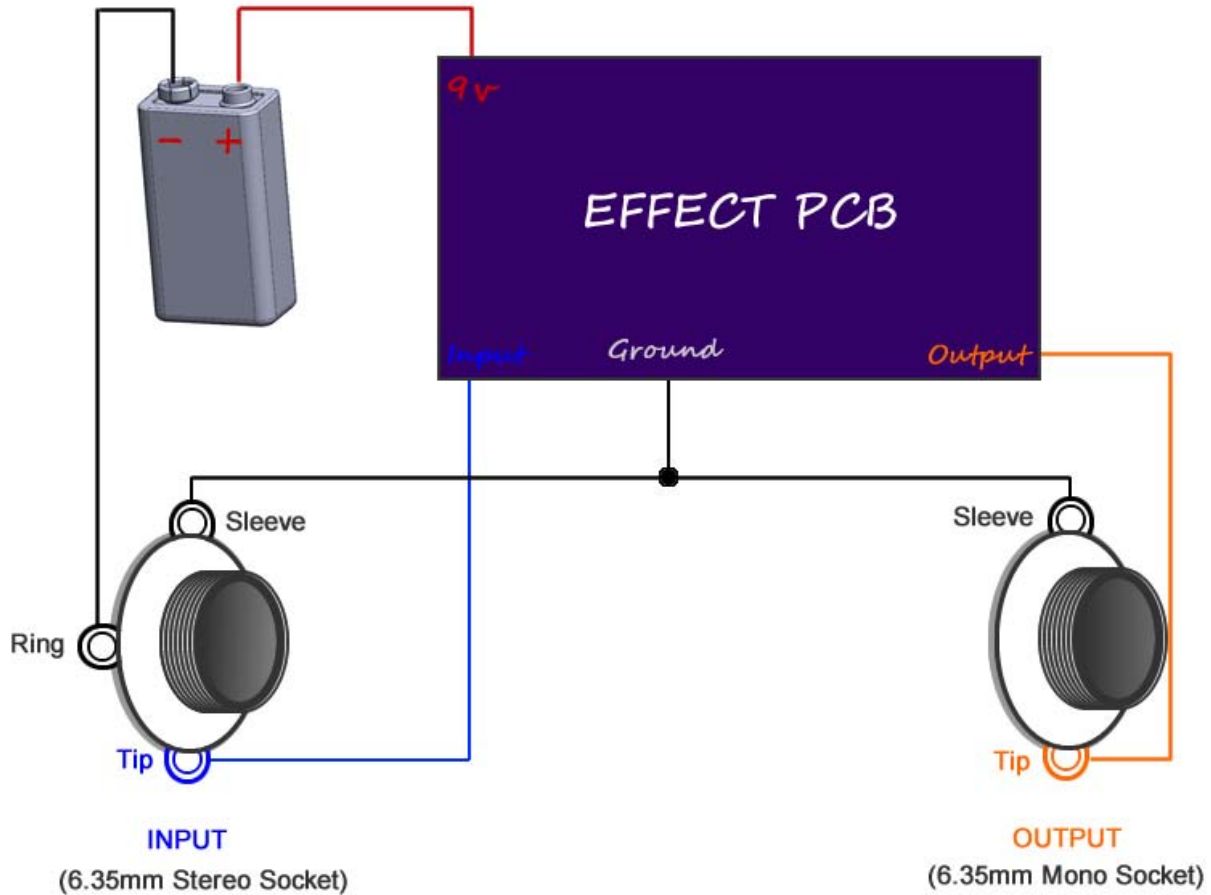
I hope you like the experience of SMT soldering and the kit, if you have any problems /questions please message me through the store

Paul Punturere

[www.diyguitarpedals.com.au](http://www.diyguitarpedals.com.au)

# 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".

