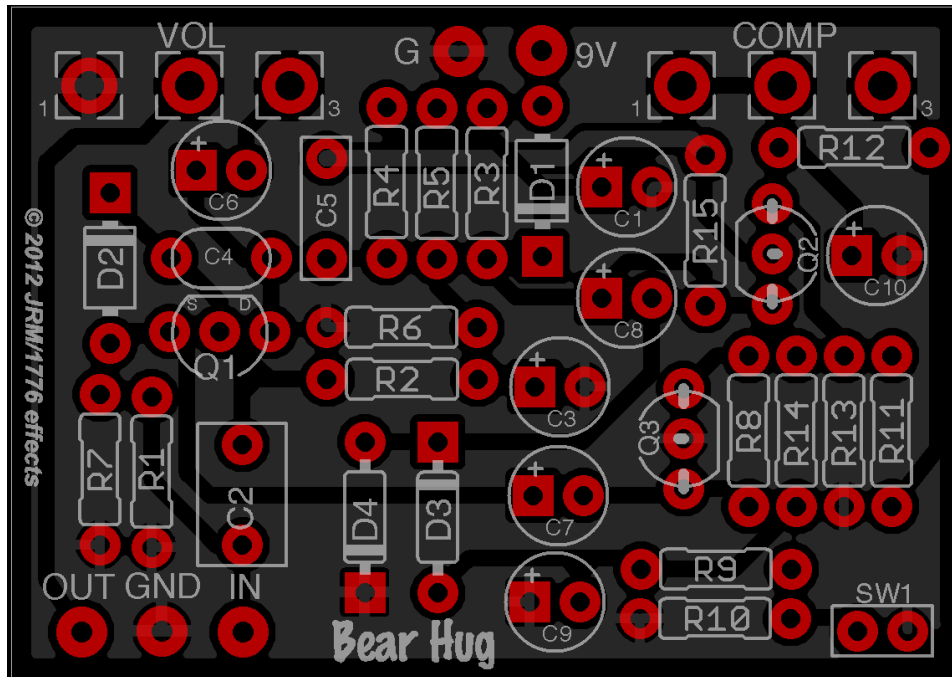


Bear Hug Compressor

Project by 1776 Effects/JRM ©2012

Circuit Design by Jon Patton



Jon's notes on the circuit:

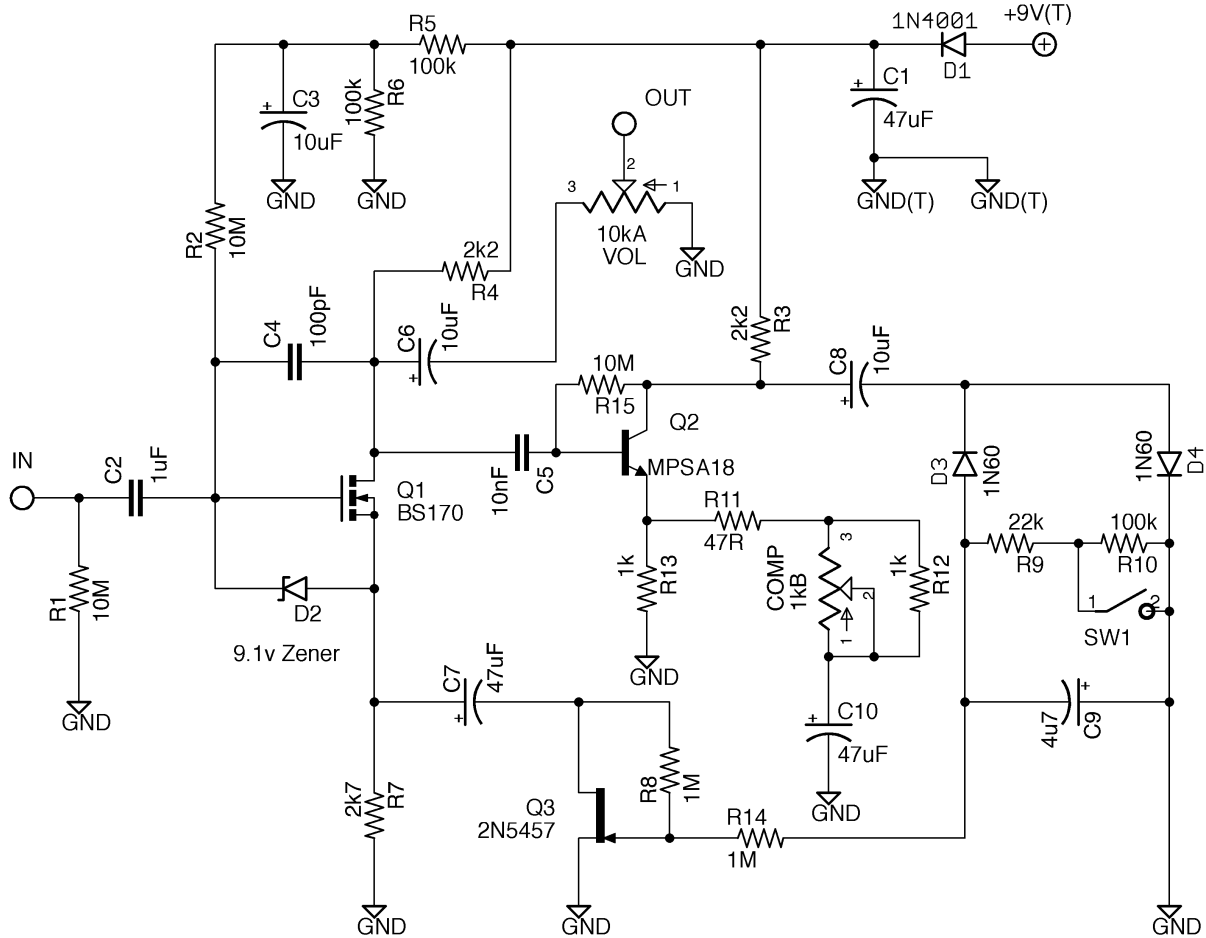
This is a tonally transparent, ultra-quiet, tiny, and easy-to-build compressor. It occupies some middle ground between the ultra-subtle compressors like the Flatline/Afterlife and Orange Squeezer and the super squishy compressors like the Ross. The comp knob ranges from almost no compression to “you can tell it’s working.” The L/H toggle switches between a short decay for subtle peak limiting and a long decay for a mild “duck and swell” sustainer effect, as well as changing the overall amount of compression available. The Bear Hug also makes a good lead boost — it will give you roughly 10-15dB of boost even on higher compression settings.

You would like to credit:

This circuit design uses some elements from the Lovesqueeze and Jack Orman's (AMZ) Mosfet booster. Mark Hammer and PRR on DIYstompboxes helped me understand the rectifier. Extra props to R O Tyree on DIYSB for his help in understanding compressors in general.

<i>Resistors</i>				<i>Capacitors</i>		<i>Diodes</i>	
R1	10M	R12	omit	C1	47uF	D1	1N4001
R2	10M	R13	1k	C2	1uF	D2	9.1V Zener
R3	2k2	R14	1K	C3	10uF	D3-D4	See notes
R4	4k7	R15	10M	C4	100pF	<i>Transistors</i>	
R5	100k			C5	10nF	Q1	BS170
R6	100k			C6	10uF	Q2	MPSA18
R7	2k7			C7	47uF	Q3	2N5457
R8	1M			C8	10uF	<i>Potentiometers</i>	
R9	22k			C9	4u7	VOL	10kB
R10	100k			C10	47uF	COMP	1kC
R11	47R			<i>Switch</i>			
				SW1	SPST On/Off		

Bearhug V1
A Jon Patton Design



Notes:

Diode choice for D3-D4 can be 1N4001, 1N4148, or 1N914's

The drain of the BS170 should bias around 5V

Leave R12 empty

Optional: for low output pickups change R3 to 4k7

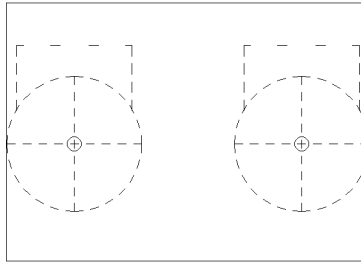
PLEASE NOTE: THIS IS AN UPDATED BOM BASED OFF OF SOME CHANGES JON SUGGESTED TO THE CIRCUIT. THE SCHEMATIC DOES NOT REFLECT THE CHANGES TO THE PARTS LIST. USE THE PARTS LIST VALUES.

More about how the circuit works can be found here:

<http://www.madbeanpedals.com/forum/index.php?topic=6802.0>

Drill Guide

Print this document %100 scale.



Board Dimensions

49mm x 34mm (1.93" x 1.34")

The Bear Hug PCBs can be used for small quantities of commercial pedal building. You may not however, offer these PCBs as part of a "kit" or redistribute the PCB's for sale as a commercial endeavor. All PCB artwork is property of 1776 effects.

If using PCB's for commercial building please rename your project so there is no confusion to the end user and it will be clear I offer no official support to those you sold your pedal to :)