

Ambulator

FX Type: **COMPRESSOR**

Build Level: Beginner

Based On: MXR® Dyna Comp™

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Overview

From the [Jim Dunlop website](#):

“Released in 1972, the Dyna Comp Compressor featured simple, straightforward controls—labeled Output and Sensitivity—to govern the volume and compression levels, respectively. Inside, it contained the coveted CA3080 metal can integrated circuit, which remains a key component to its sound and vibe.

The original Dyna Comp Compressor was an instant hit, finding its way into the signal chains of monster players such as Lowell George and Bonnie Raitt, who favored it for the sweet sustain it lent to their slide work, and David Gilmour, who liked how the Dyna Comp Compressor could make his single-note lines bloom and soar. Other prominent guitarists who would rely on the Dyna Comp Compressor include Andy Summers—his popping, ringing clean chords are a perfect illustration of the pedal’s sonic mojo.”

Controls

- **LEVEL:** Total effect output.
- **SUS:** Compression amount.
- **BIAS:** This trimmer sets the bias currents to the positive and negative input terminals of the OTA device.

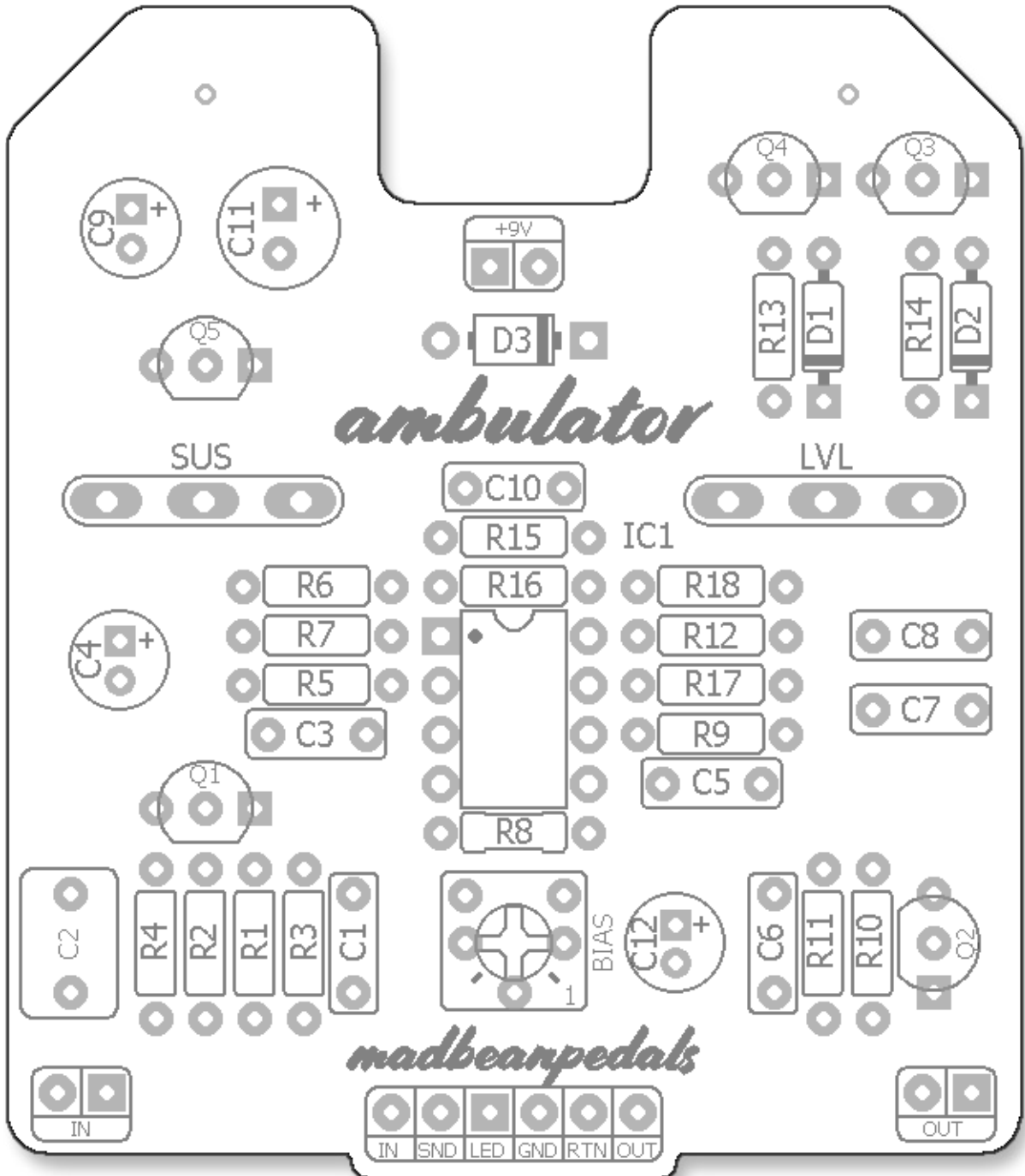
Further study: <https://www.electrosmash.com/mxr-dyna-comp-analysis>

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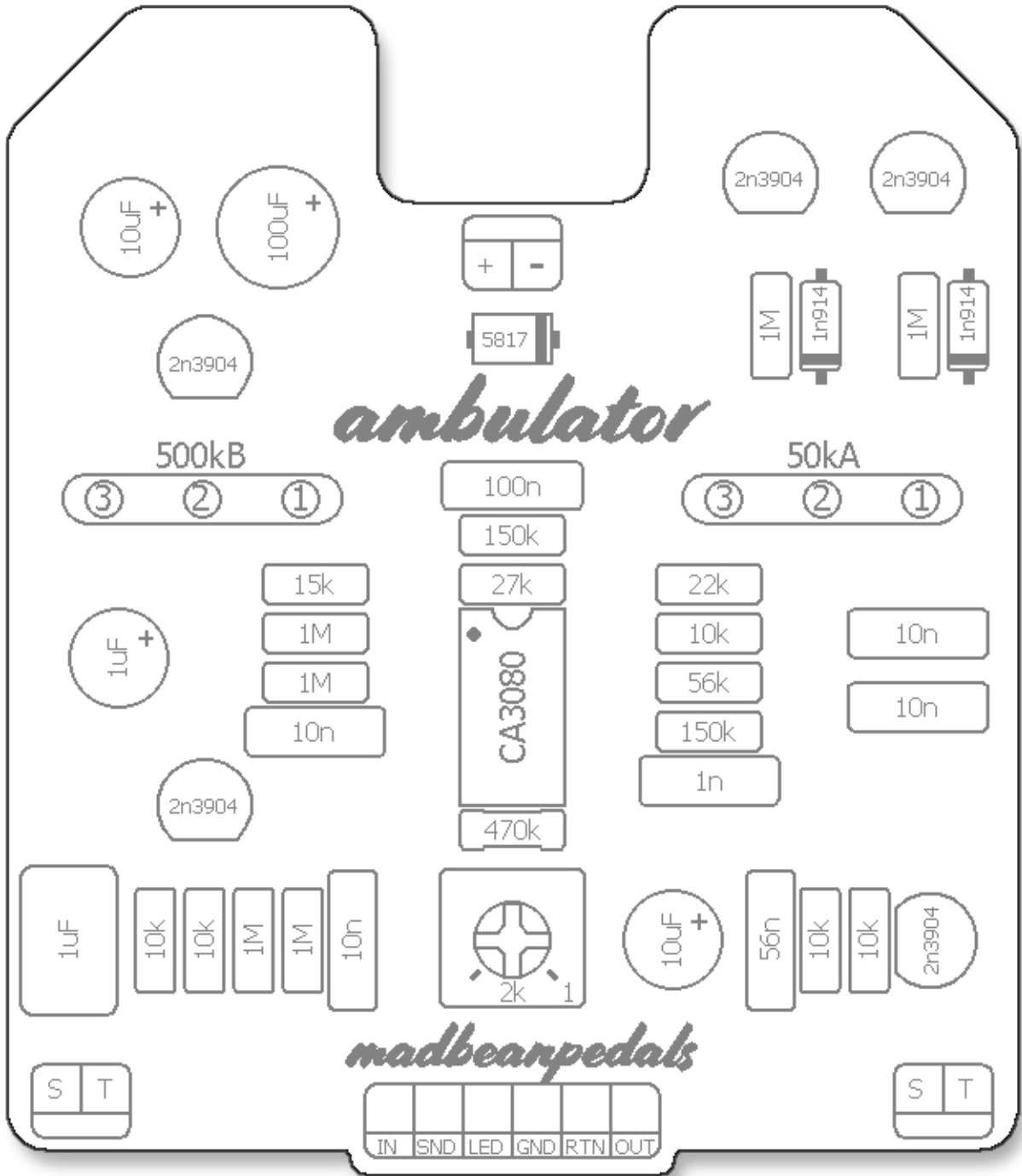
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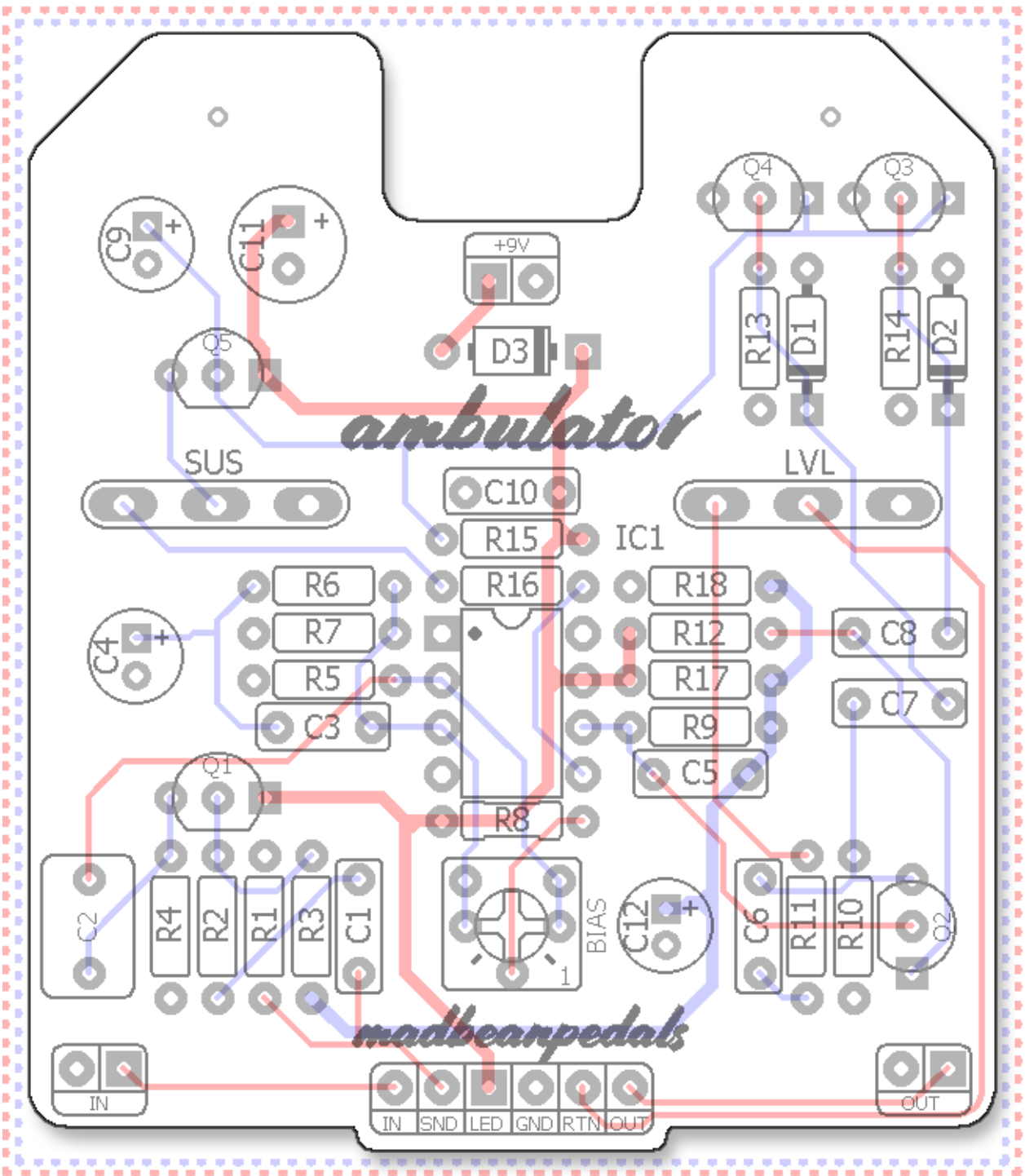
Parts Layout



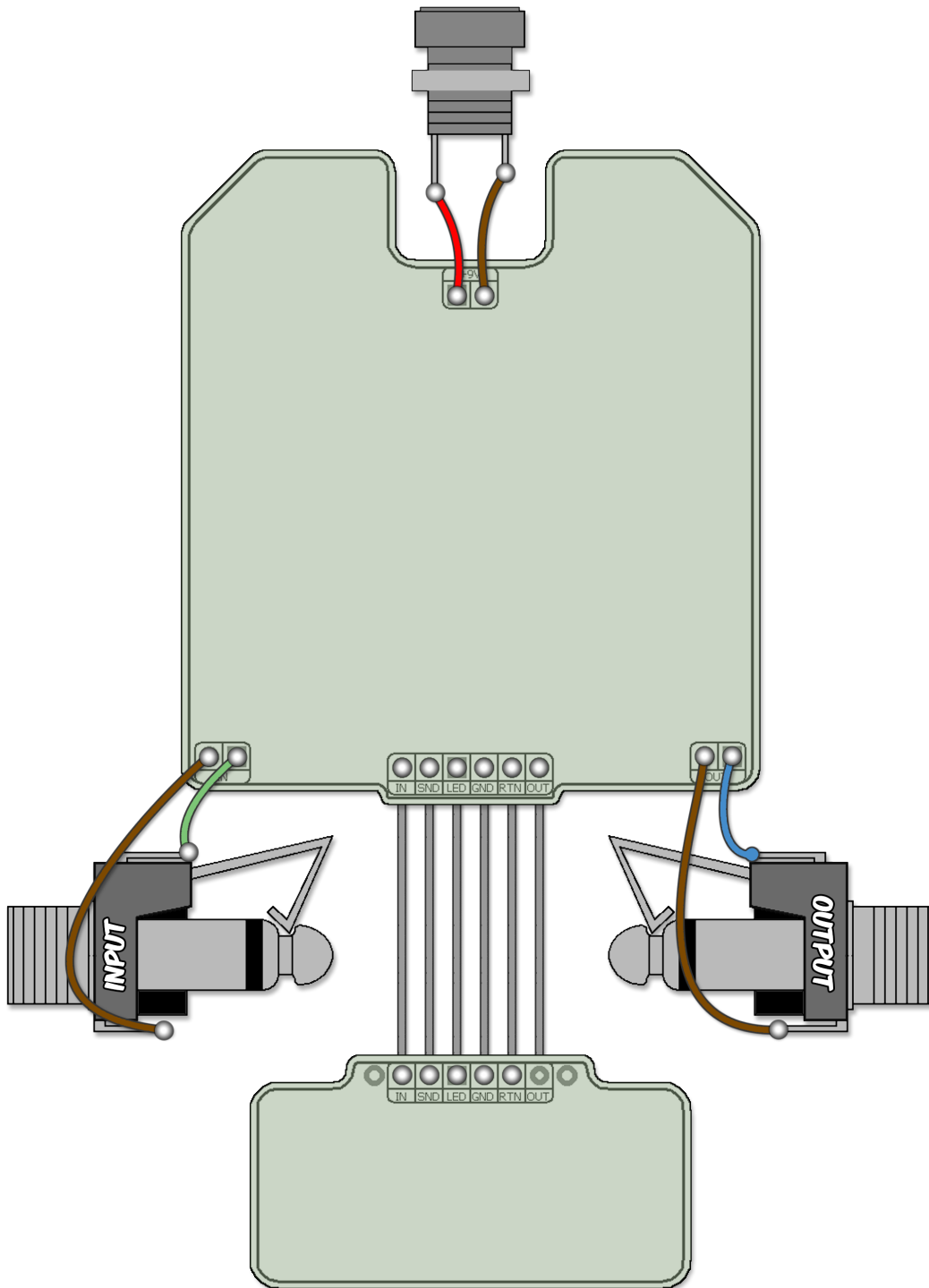
Component Values



Trace Layout



Wiring



Unless otherwise noted, all Standard Series projects have the same wiring regardless of which 3PDT bypass board is used. A 6-pin, 2" ribbon cable is recommended for soldering the connections between the two PCBs.

B.O.M.

Resistors		Caps		Diodes	
R1	1M	C1	10n	D1	1n914
R2	10k	C2	1uF	D2	1n914
R3	1M	C3	10n	D3	1n5817
R4	10k	C4	1uF	Transistors	
R5	1M	C5	1n	Q1 - Q5	2n3904
R6	15k	C6	56n	IC	
R7	1M	C7	10n	IC1	CA3080
R8	470k	C8	10n	Trimmers	
R9	150k	C9	10uF	BIAS	2k
R10	10k	C10	100n	Pots	
R11	10k	C11	100uF	LVL	50kA
R12	10k	C12	10uF	SUS	500kB
R13	1M				
R14	1M				
R15	150k				
R16	27k				
R17	56k				
R18	22k				

Shopping List

Value	QTY	Type	Rating
10k	5	Carbon / Metal Film	1/4W
15k	1	Carbon / Metal Film	1/4W
22k	1	Carbon / Metal Film	1/4W
27k	1	Carbon / Metal Film	1/4W
56k	1	Carbon / Metal Film	1/4W
150k	2	Carbon / Metal Film	1/4W
470k	1	Carbon / Metal Film	1/4W
1M	6	Carbon / Metal Film	1/4W
1n	1	Film	16v min.
10n	4	Film	16v min.
56n	1	Film	16v min.
100n	1	Film	16v min.
1uF	1	Film	16v min.
1uF	1	Electrolytic	16v min.
10uF	2	Electrolytic	16v min.
100uF	1	Electrolytic	16v min.
1n914	2		
1n5817	1		
2n3904	5		
CA3080	1		
2k	1	Bourns 3362p or 6mm	
50kA	1	PCB Right Angle	16mm
500kB	1	PCB Right Angle	16mm

Additional Hardware

- (1) 1590B enclosure
- (2) Lumberg 1/4" Compact mono jacks
- (1) Slim 2.1mm DC jack
- (1) Standard 3PDT footswitch
- (1) 5mm LED

Build Notes

- Bias trimmer: start in its center position. To see if it needs adjustment, turn the SUS control all the way up. If you hear any sort of thumping or otherwise strange noise in the compressed signal, adjust the BIAS trimmer slightly to the right or left until it is eliminated. It should be done in very small increments. Most likely the trimmer will be fine left in the center position.
- I highly recommend reading the Dyna Comp analysis article on the Electro Smash website. There are a few mod suggestions in the article, too. Note the different component numberings with the Ambulator if you decide to try any them.

<https://www.electrosmash.com/mxr-dyna-comp-analysis>

Circuit Voltages

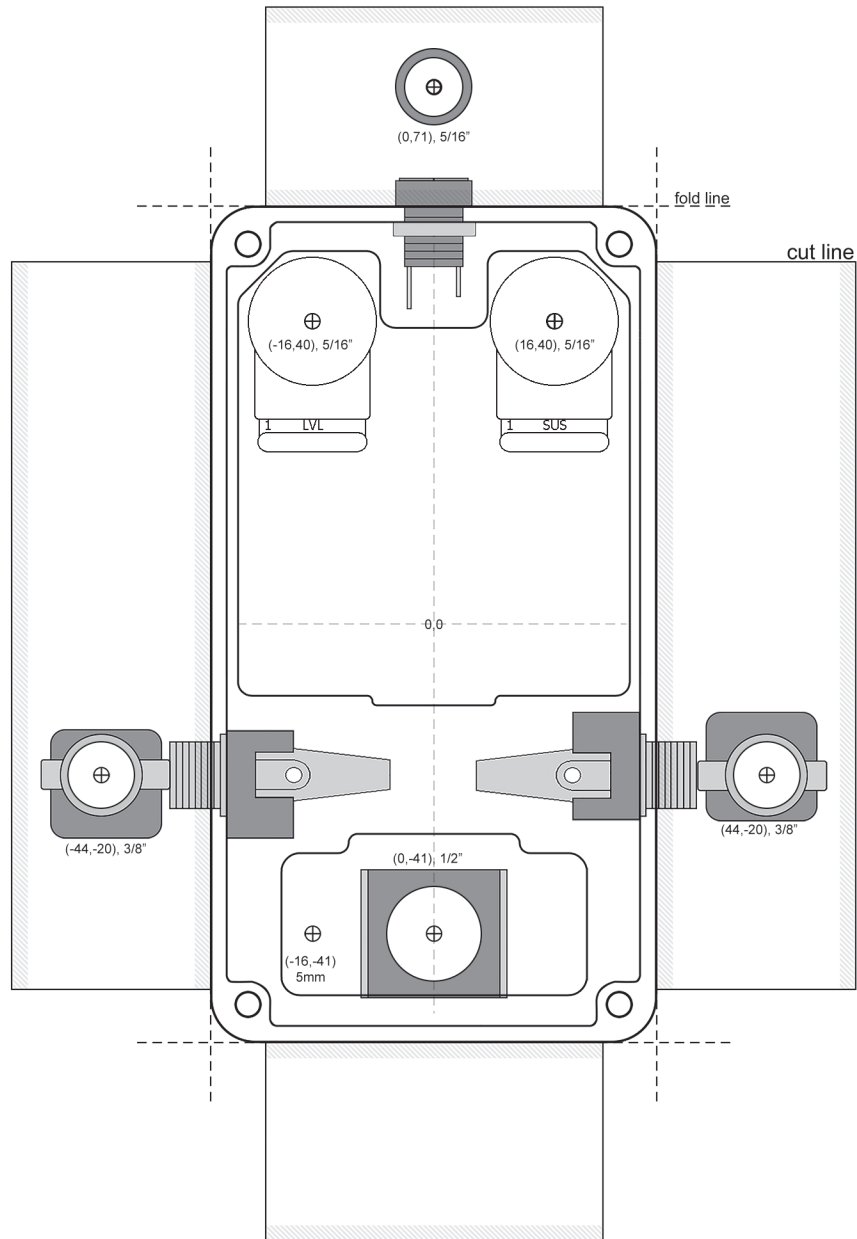
IC1	CA3080	Q3	2n3904
1	~275mV	C	9.11
2	4.55	B	16mV
3	4.55	E	0
4	0	Q4	2n3904
5	0.66	C	9.11
6	2.42	B	7mV
7	9.26	E	0
8	~19mV	Q5	2n3904
Q1	2n3904	C	9.26
C	9.26	B	9.09
B	1.79	E	8.64
E	1.27		
Q2	2n3904		
C	7.44		
B	2.42		
E	1.83		

9.44vDC One Spot supply
 Current Draw: ~2mA
 Knobs @ 50%

1590B Drill Template

Coordinates are denoted in (X,Y), drill size format starting from the center (0,0) location of the enclosure.

[Link to Tayda Standard Series master drill template](#)

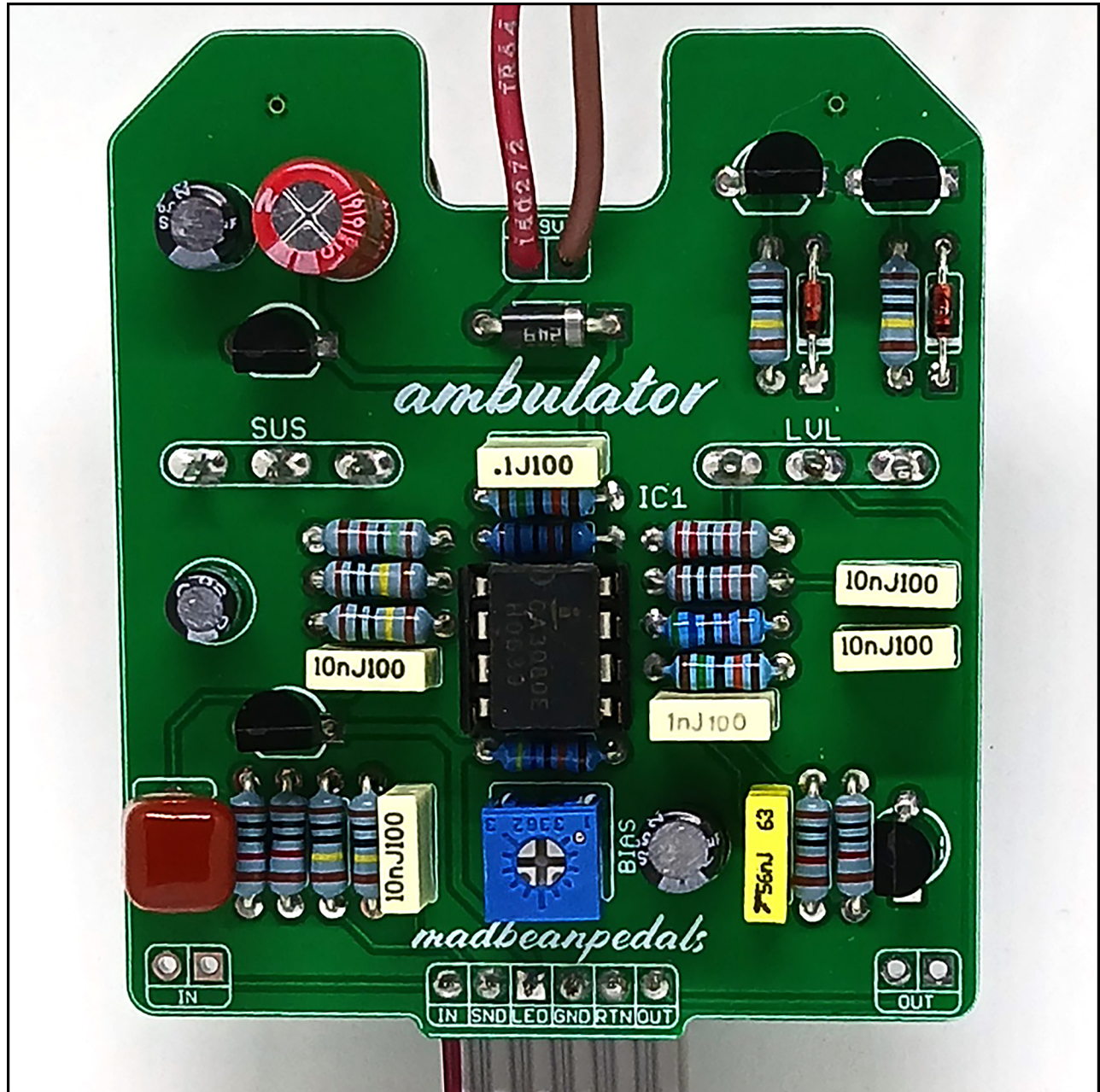


Hardware

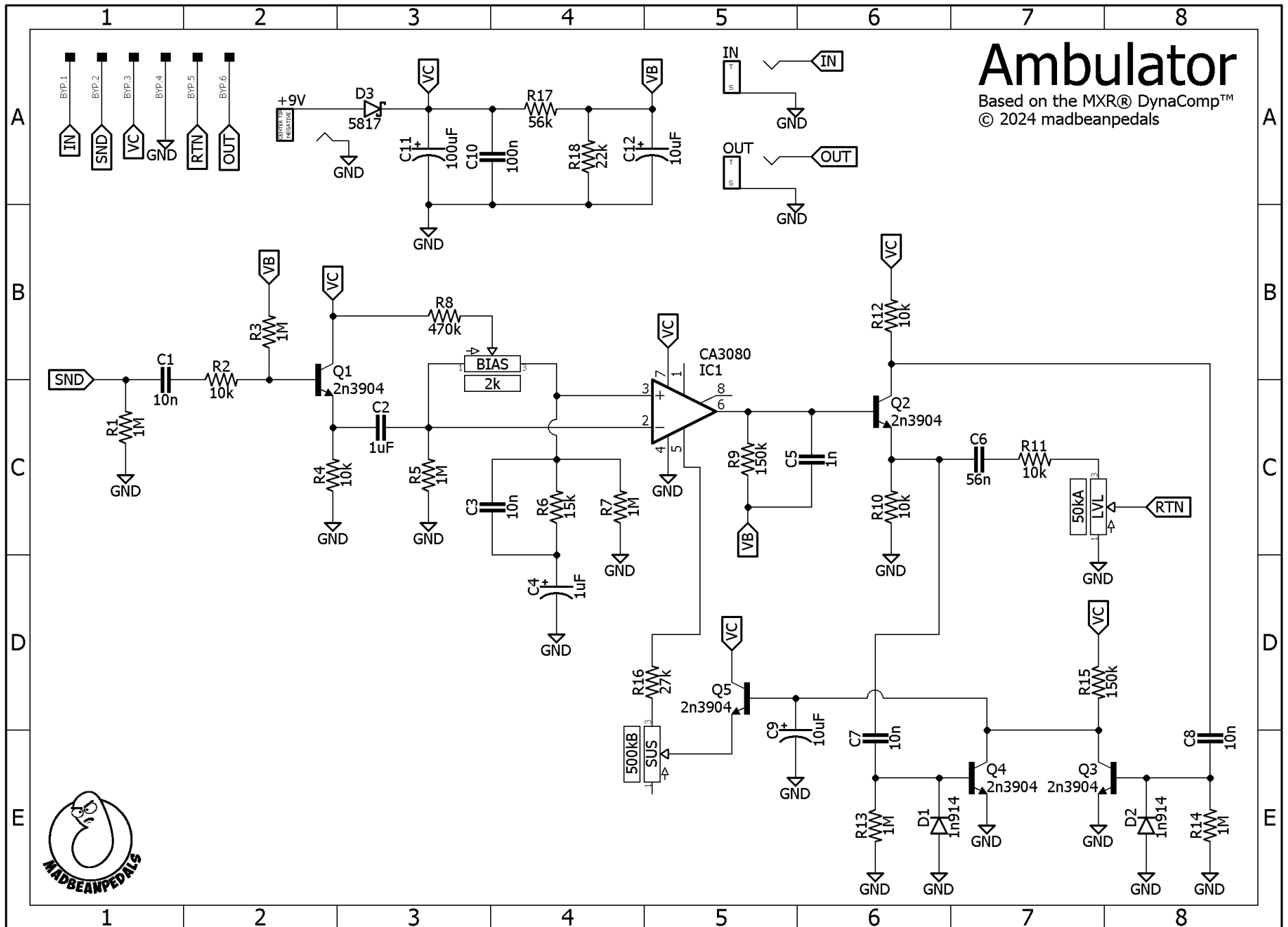
1590B enclosure
16mm pots
Lumberg 1/4" Compact mono jacks
Slim 2.1mm DC jack
Standard 3PDT footswitch
5mm LED

NOTE: Different 1/4" and DC jack styles may require different sized drill holes.

Build Pic



Schematic



Ambulator

Based on the MXR® DynaComp™
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