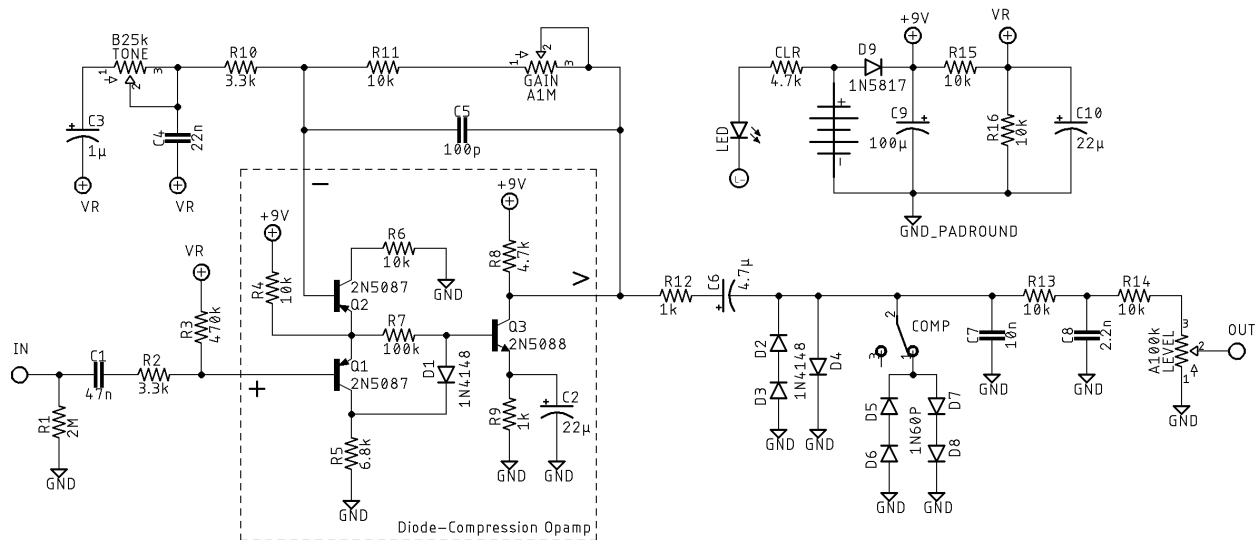


DISCRETIONARY OVERDRIVE

DESCRIPTION

The idea for the DISCRETIONARY came from seeing several discrete op amps for hi-fi audio applications (even an Orange amp). I even attempted a design using the schematic of an actual LM741, but it was way too many parts and room for errors/failure. So instead I used the much simpler [Joe Davisson Diode Compressor Op Amp](#). I then applied this to the EQD White Light, which is itself a modified Distortion +/OD250 style circuit. The result is a great sounding discrete dirt box, while retaining a relatively low parts count.

SCHEMATIC



BOM

Resistors

R1	2M
R2	3.3k
R3	470k
R4	10k
R5	6.8k
R6	10k
R7	100k
R8	4.7k
R9	1k
R10	3.3k
R11	10k
R12	1k
R13	10k
R14	10k
R15	10k
R16	10k
CLR	4.7k

Capacitors

C1	47n
C2	22μ
C3	1μ
C4	22n
C5	100p
C6	4.7μ
C7	10n
C8	2.2n
C9	100μ

C10	22μ
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Semiconductors

D1	1N4148
D2	1N4148
D3	1N4148
D4	1N4148
D5	1N60p
D6	1N60p
D7	1N60p
D8	1N60p
D9	1N5817
LED	3 or 5mm
Q1	2N5087
Q2	2N5087
Q3	2N5088

Electromechanical

Comp	SPST on/on
Gain	A1M
Level	A100k
Tone	B25k

Notes

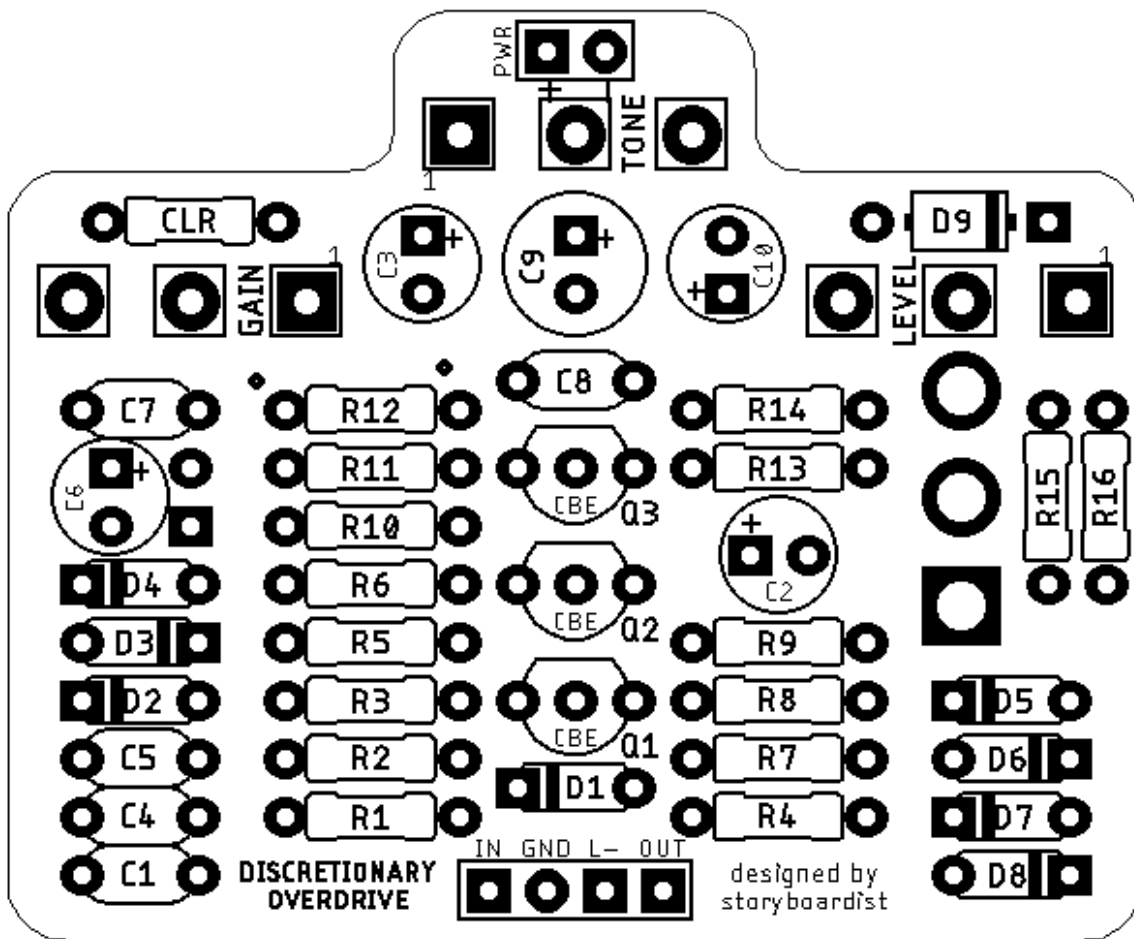
The value of R5 may need to be adjusted so the collector of Q3 is near 4.5v, but usually 6.8k works. Alternative transistors would be 2N3906 for Q1-2 and 2N3904 for Q3.

SHOPPING LIST

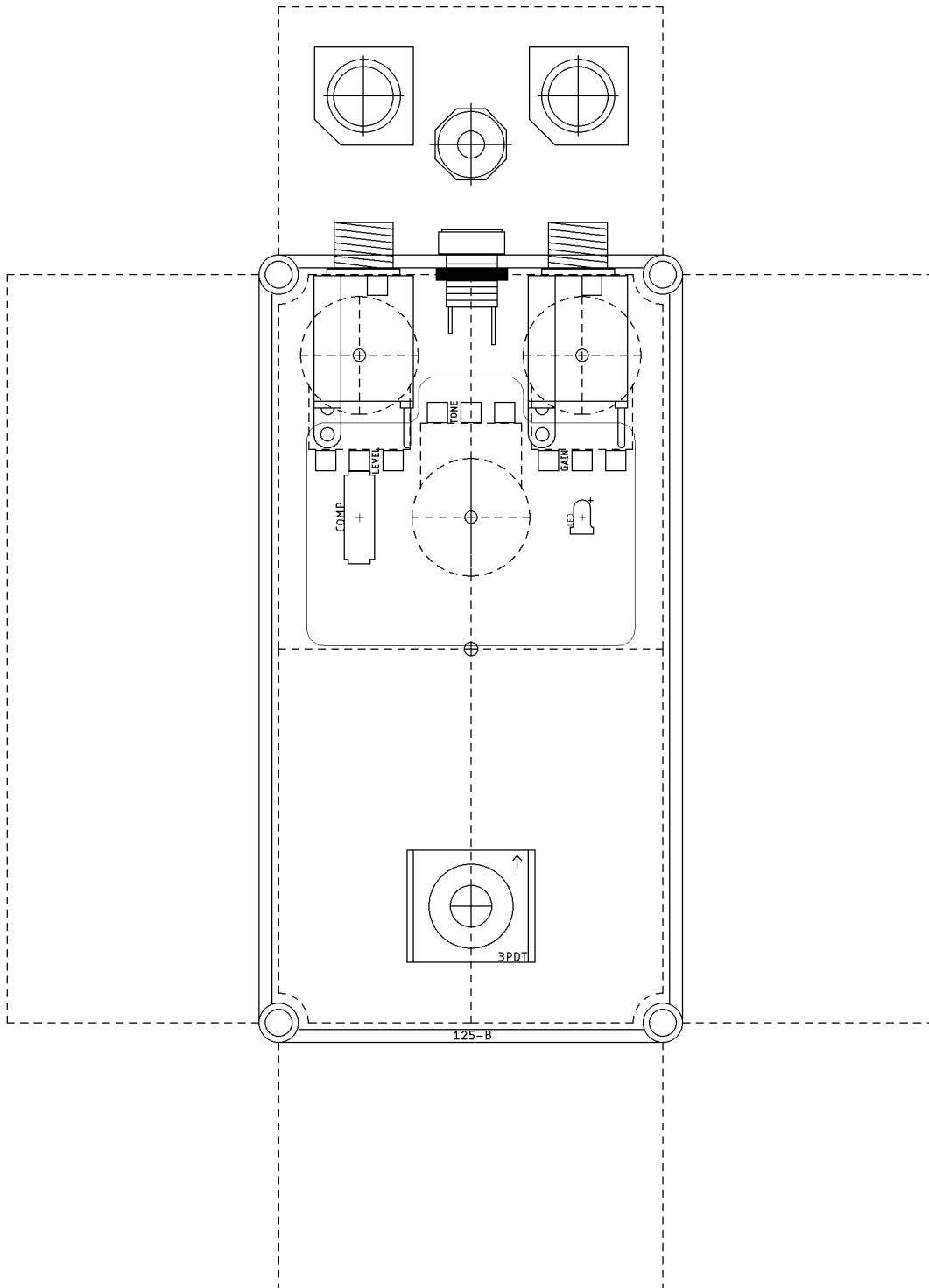
Value	Type (suggested)	Quantity
1k	¼ watt metal or carbon film	2
3.3k	¼ watt metal or carbon film	2
4.7k	¼ watt metal or carbon film	2
6.8k	¼ watt metal or carbon film	1
10k	¼ watt metal or carbon film	7
100k	¼ watt metal or carbon film	1
470k	¼ watt metal or carbon film	1
2M	¼ watt metal or carbon film	1
100p	Ceramic	1
2.2n	Film	1
10n	Film	1

22n	Film	1
47n	Film	1
1μ	Electrolytic	1
4.7μ	Electrolytic	1
22μ	Electrolytic	2
100μ	Electrolytic (35v+)	1
1N4148	Silicon switching diode	4
1N5817	Schottky rectifier diode	1
1N60p	Germanium Schottky diode	4
LED	3 or 5mm	1
2N5087	PNP BJT	2
2N5088	NPN BJT	1
A100k	16mm right angle PC mount	1
A1M	16mm right angle PC mount	1
B25k	16mm right angle PC mount	1
SPST	On/on toggle	1

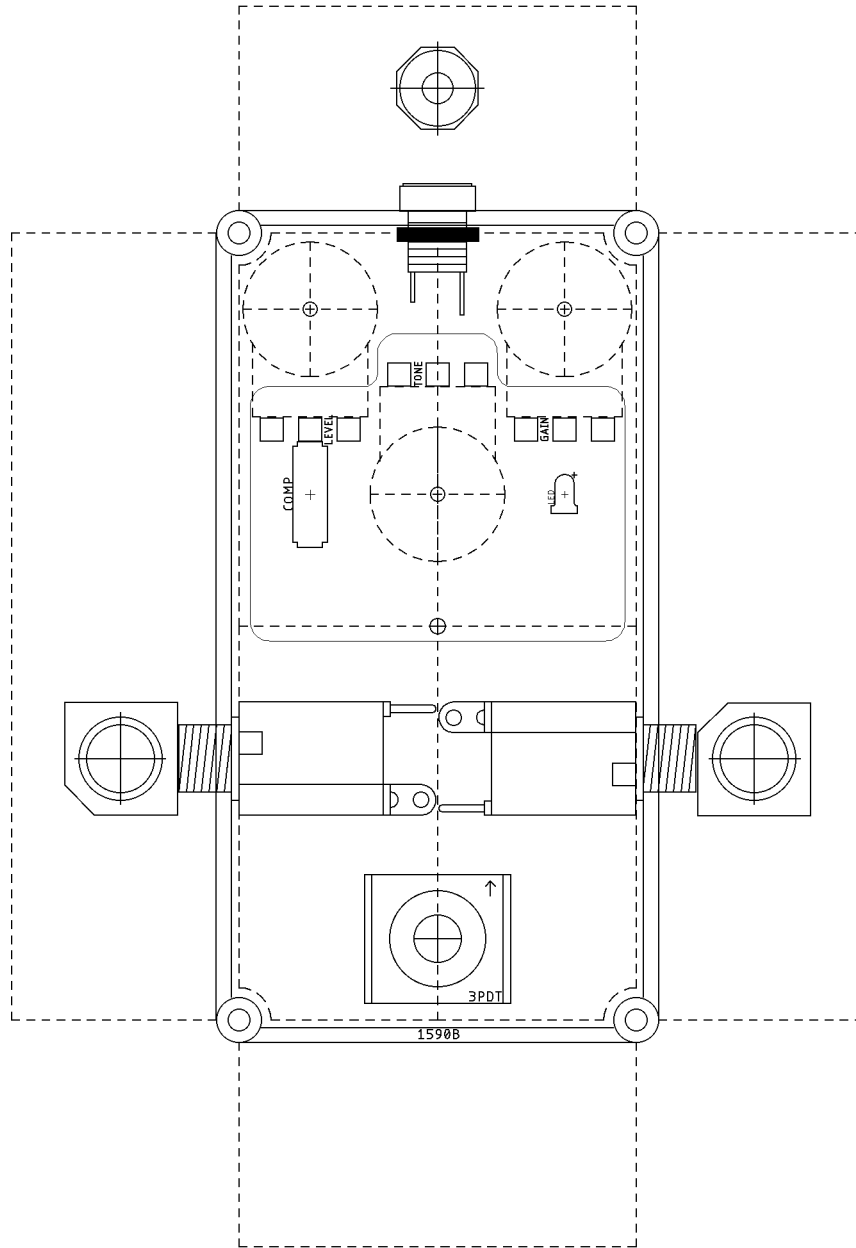
LAYOUT



DRILL TEMPLATE (125B)



DRILL TEMPLATE (1590B)



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