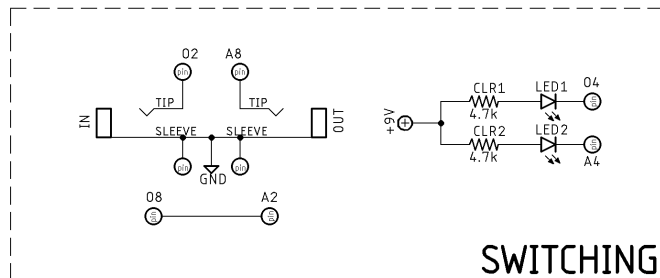
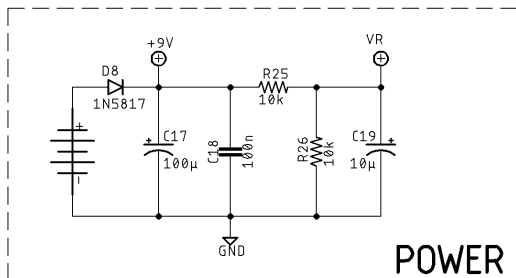
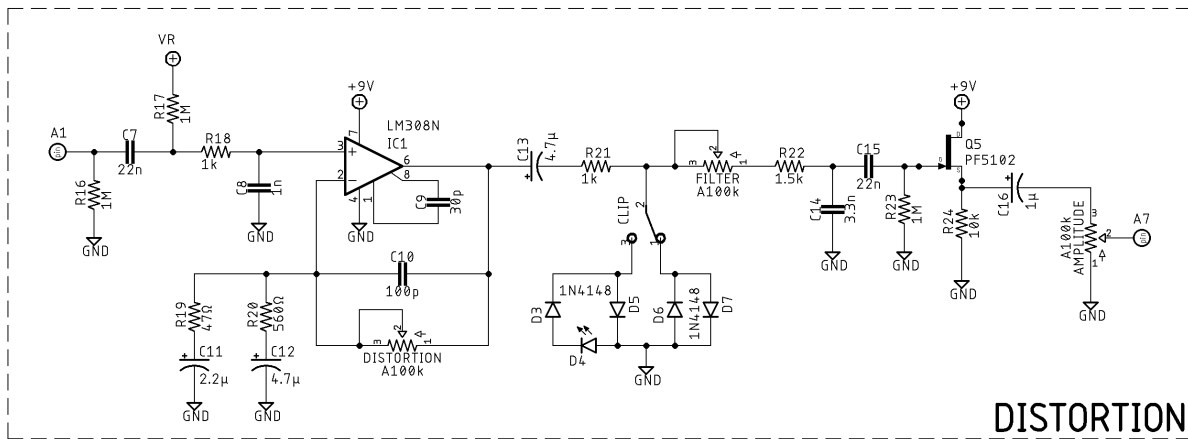
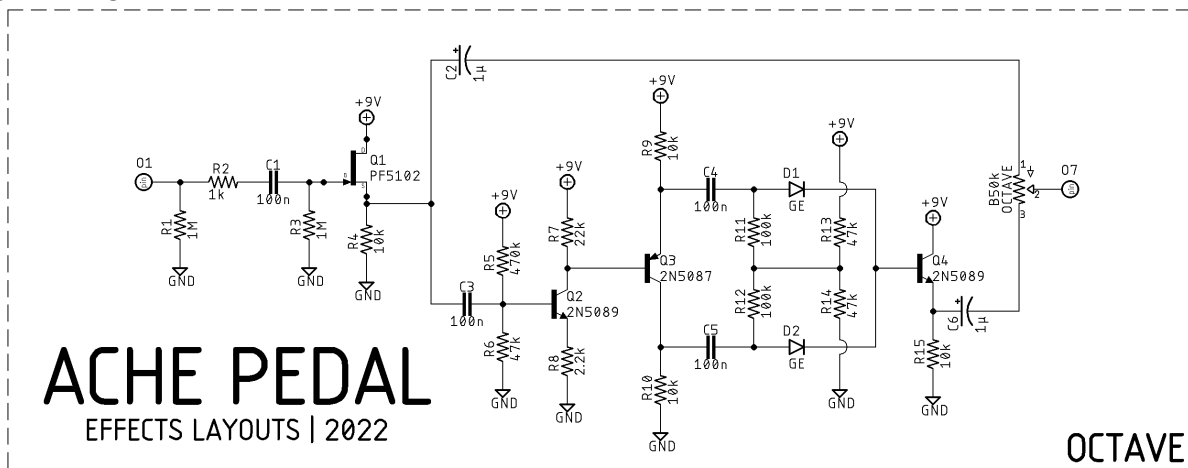


ACHE PEDAL

DESCRIPTION

Originally, I made board based on the EQD Life Pedal, the PAIN PEDAL. I liked it, but the boost just left a little to be desired and I didn't use it all that much. That brought about this iteration—the boost is gone, the RAT portion remains unchanged, and the octave is on its own footswitch (and it makes for a much smaller footprint). Now life's just a bit of an ACHE.

SCHEMATIC



BOM

Resistors

R1	1M
R2	1k
R3	1M
R4	10k
R5	470k
R6	47k
R7	22k
R8	2.2k
R9	10k
R10	10k
R11	100k
R12	100k
R13	47k
R14	47k
R15	10k
R16	1M
R17	1M
R18	1k
R19	47Ω
R20	560Ω
R21	1k
R22	1.5k
R23	1M
R24	10k
R25	10k
R26	10k
CLR1	4.7k
CLR2	4.7k

Capacitors

C1	100n
C2	1μ
C3	100n
C4	100n
C5	100n
C6	1μ
C7	22n
C8	1n
C9	30p
C10	100p
C11	2.2μ
C12	4.7μ

C13	4.7μ
C14	3.3n
C15	22n
C16	1μ
C17	100μ
C18	100n
C19	10μ

Semiconductors

D1	1N34a or similar
D2	1N34a or similar
D3	1N4148
D4	3mm red LED
D5	1N4148
D6	1N4148
D7	1N4148
D8	1N5817
IC1	LM308N
LED1	3 or 5mm LED
LED2	3 or 5mm LED
Q1	PF5102 or similar
Q2	2N5089 or similar
Q3	2N5087 or similar
Q4	2N5089 or similar
Q5	PF5102 or similar

Electromechanical

Amplitude	A100k
Clip	SPDT on/off/on
Distortion	A100k
Filter	A100k
Octave	B50k

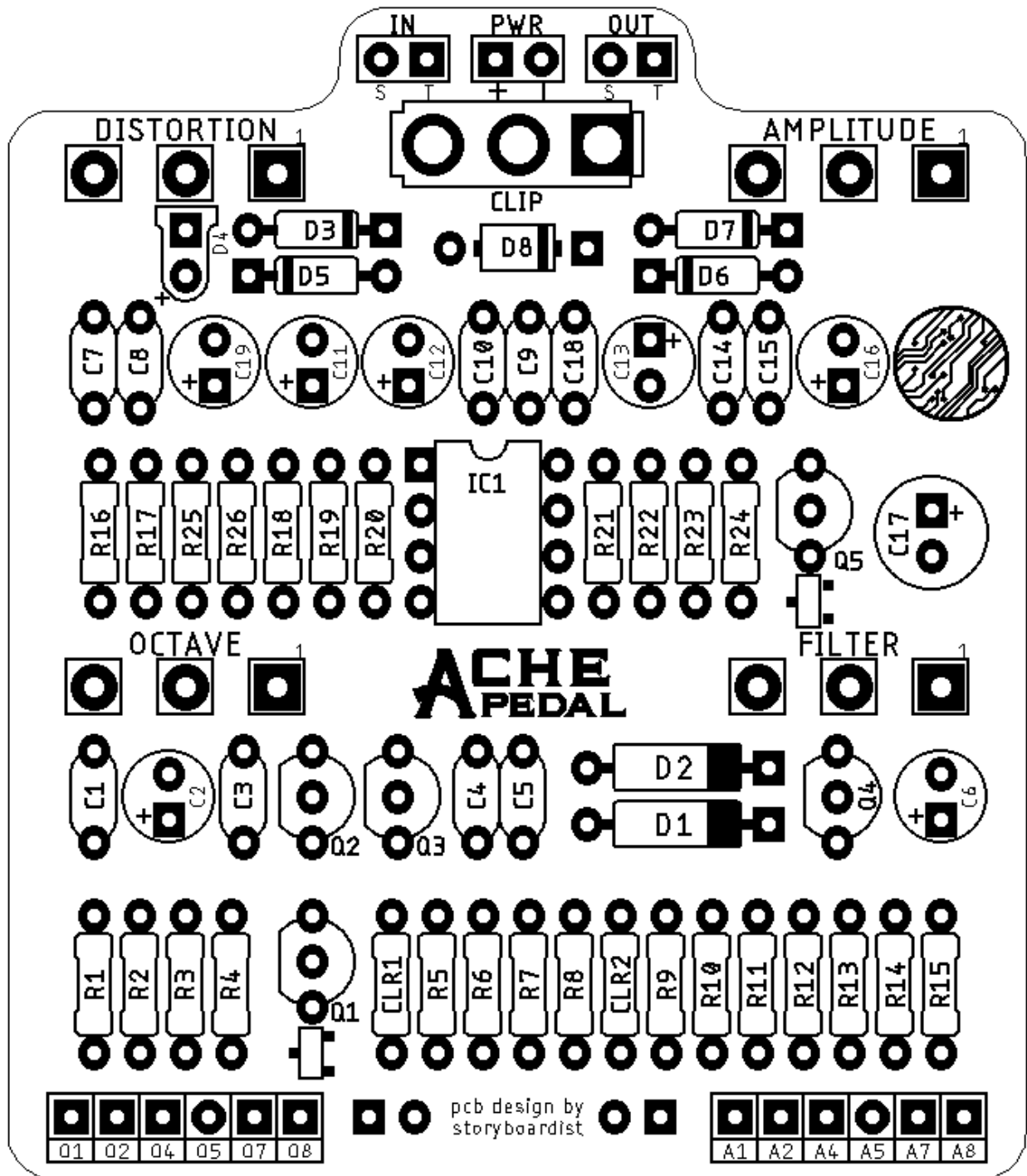
Notes

Substitutes for the PF5102 are J201 or 2N5457 or their SMD equivalents, MMBFJ201 and MMBF5457. If you are using a Russian D9 series germanium diode for D1-2, note that the marker is reversed from what's standard, so reverse those 180°. And alternatively, you can use 1N4148 diodes in place of the germaniums.

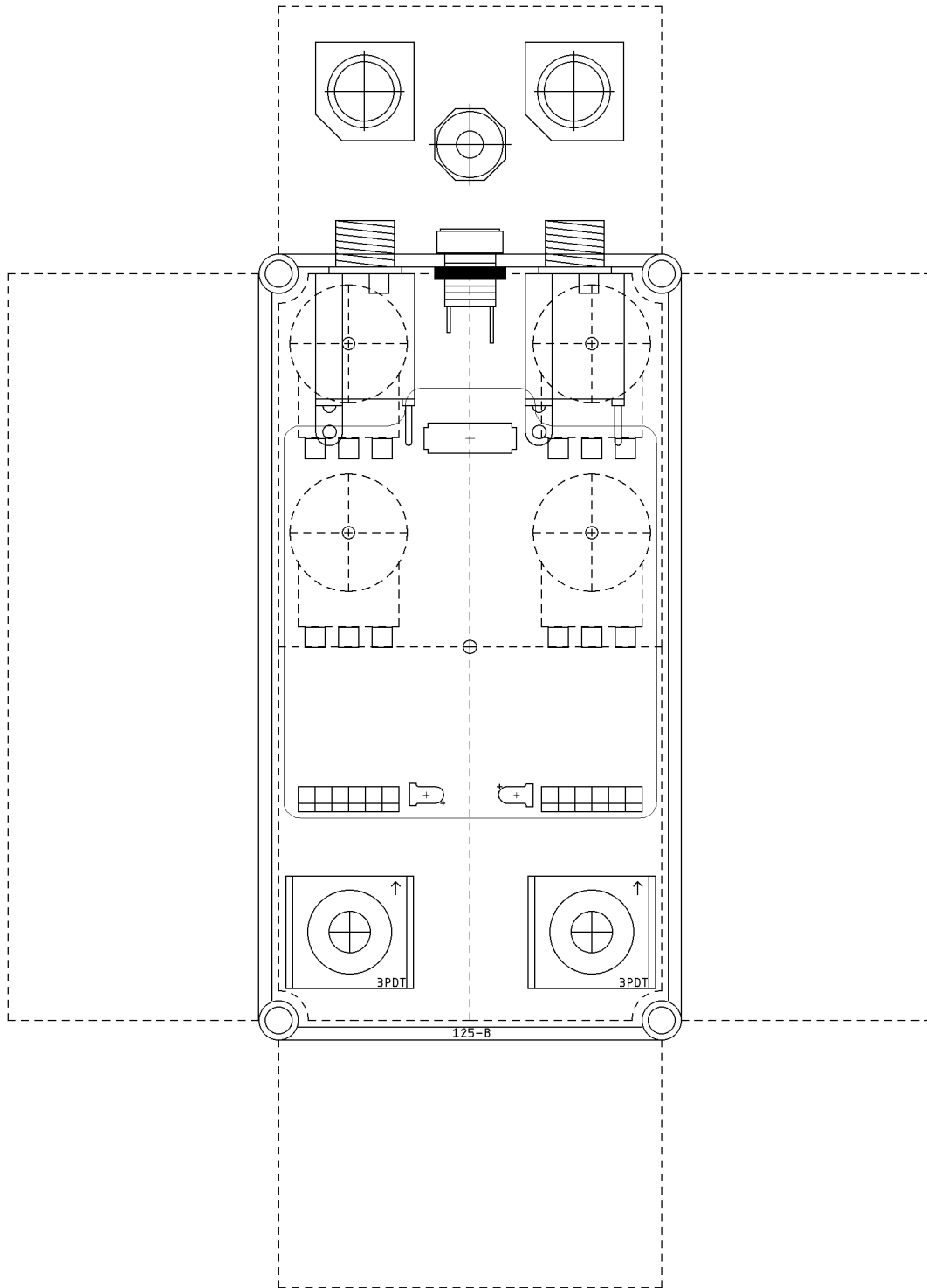
SHOPPING LIST

Value	Type (suggested)	Quantity
47Ω	¼ watt metal or carbon film	1
560Ω	¼ watt metal or carbon film	1
1k	¼ watt metal or carbon film	3
1.5k	¼ watt metal or carbon film	1
2.2k	¼ watt metal or carbon film	1
4.7k	¼ watt metal or carbon film	2
10k	¼ watt metal or carbon film	7
22k	¼ watt metal or carbon film	1
47k	¼ watt metal or carbon film	3
100k	¼ watt metal or carbon film	2
470k	¼ watt metal or carbon film	1
1M	¼ watt metal or carbon film	5
30p	Ceramic	1
100p	Ceramic	1
1n	Film	1
3.3n	Film	1
22n	Film	2
100n	Film	5
1μ	Electrolytic (25v+)	3
2.2μ	Electrolytic (25v+)	1
4.7μ	Electrolytic (25v+)	2
10μ	Electrolytic (25v+)	1
100μ	Electrolytic (25v+)	1
1N34a	Germanium diode	2
1N4148	Silicon switching diode	4
1N5817	Schottky rectifier diode	1
2N5087	PNP BJT	1
2N5089	NPN BJT	2
3mm red LED	LED	1
LED	3 or 5mm LED	2
LM308N	Opamp	1
PF5102	JFET	2
A100k	16mm right angle PC mount	3
B50k	16mm right angle PC mount	1
SPDT	On/off/on toggle	1

LAYOUT



DRILL TEMPLATE (125B)



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For DIY and small commercial applications.
Not for non-peer to peer resale.