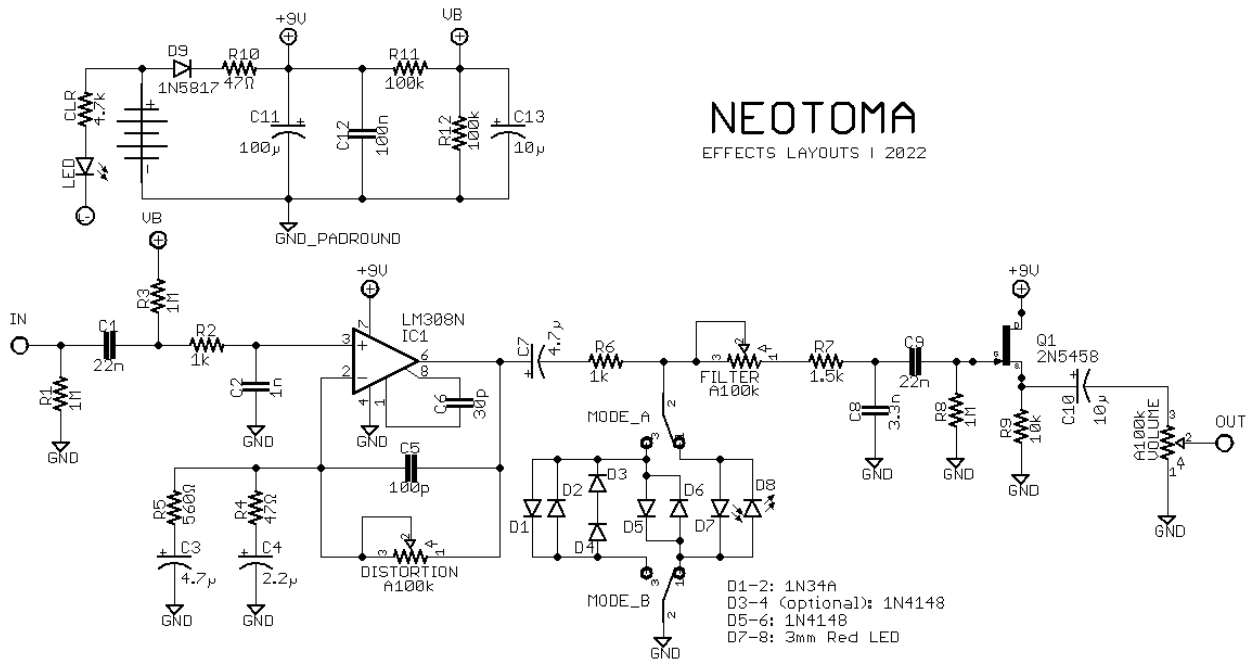# NEOTOMA

DESCRIPTION

There's been a resurgence in popularity of the classic ProCo RAT lately. Loads of builders are putting out clones, with various mods and tweaks. But what if you just want to stick to the original? The NEOTOMA is just for that purpose. Its only mod is to give you the clipping options of the various RATs over the years—Classic, Rat 2, and Turbo.

SCHEMATIC

NEOTOMA
EFFECTS LAYOUTS | 2022

BOM

Resistors

R1	1M
R2	1k
R3	1M
R4	47Ω
R5	560Ω
R6	1k
R7	1.5k
R8	1M
R9	10k
R10	47Ω
R11	100k
R12	100k

CLR	4.7k

Capacitors

C1	22n
C2	1n
C3	4.7μ
C4	2.2μ
C5	100p
C6	30p
C7	4.7μ
C8	3.3n
C9	22n
C10	10μ

C11	100μ
C12	100n
C13	10μ

Semiconductors

D1	1N34A
D2	1N34A
D3	1N4148
D4	1N4148
D5	1N4148
D6	1N4148
D7	3mm red LED
D8	3mm red LED
D9	1N5817
IC1	LM308N
LED	3 or 5mm LED
Q1	2N5458

Electromechanical

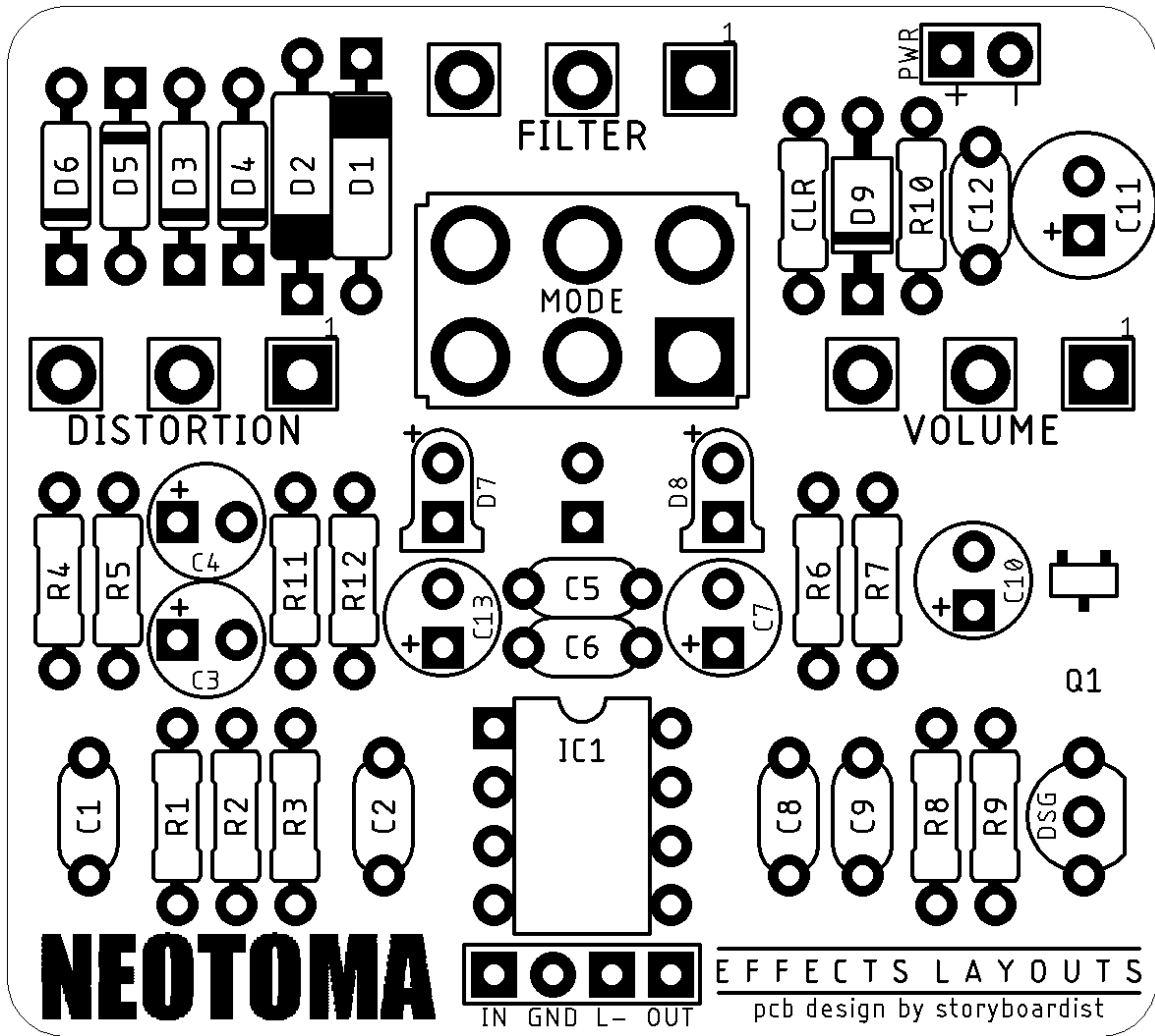| Distortion	A100k
Filter	A100k
Mode	DPDT on/on/on
Volume	A100k

Notes

D3-4 are option and not found in the original Rat. Some find the 2 symmetrical germanium diodes in the Classic Rat a bit bland. It's not uncommon to remove one (in this case D2) and use 2 silicon diodes instead. Socket and experiment, YMMV. Other JFETs will work just fine for Q1 as it is just the output buffer. J201, 2N5457, etc work fine, and as always there are pads for SMD equivalents are present on the PCB.

SHOPPING LIST

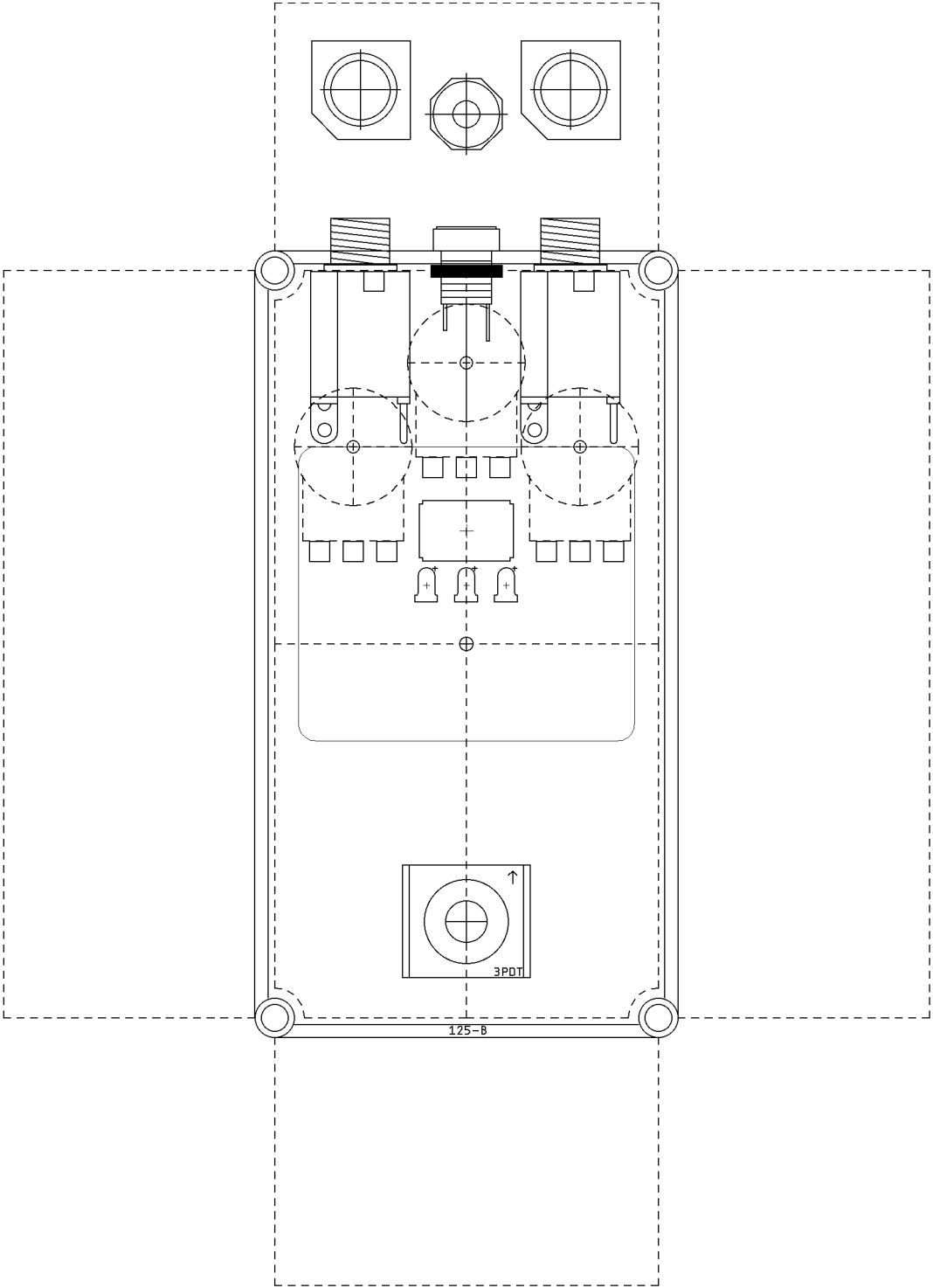| Value	Type (suggested)	Quantity
47Ω	¼ watt metal or carbon film	2
560Ω	¼ watt metal or carbon film	1
1k	¼ watt metal or carbon film	2
1.5k	¼ watt metal or carbon film	1
4.7k	¼ watt metal or carbon film	1
10k	¼ watt metal or carbon film	1
100k	¼ watt metal or carbon film	2
1M	¼ watt metal or carbon film	3
30p	Ceramic	1
100p	Ceramic	1
1n	Film	1
3.3n	Film	1
22n	Film	2
100n	Ceramic	1
2.2μ	Electrolytic (25v+)	1
4.7μ	Electrolytic (25v+)	2
10μ	Electrolytic (25v+)	2
100μ	Electrolytic (25v+)	1
1N34A	Germanium switching diode	2
1N4148	Silicon switching diode	4
1N5817	Schottky rectifier diode	1
2N5458	JFET	1
3mm LED	3mm red diffused	2
LED	3 or 5mm	1

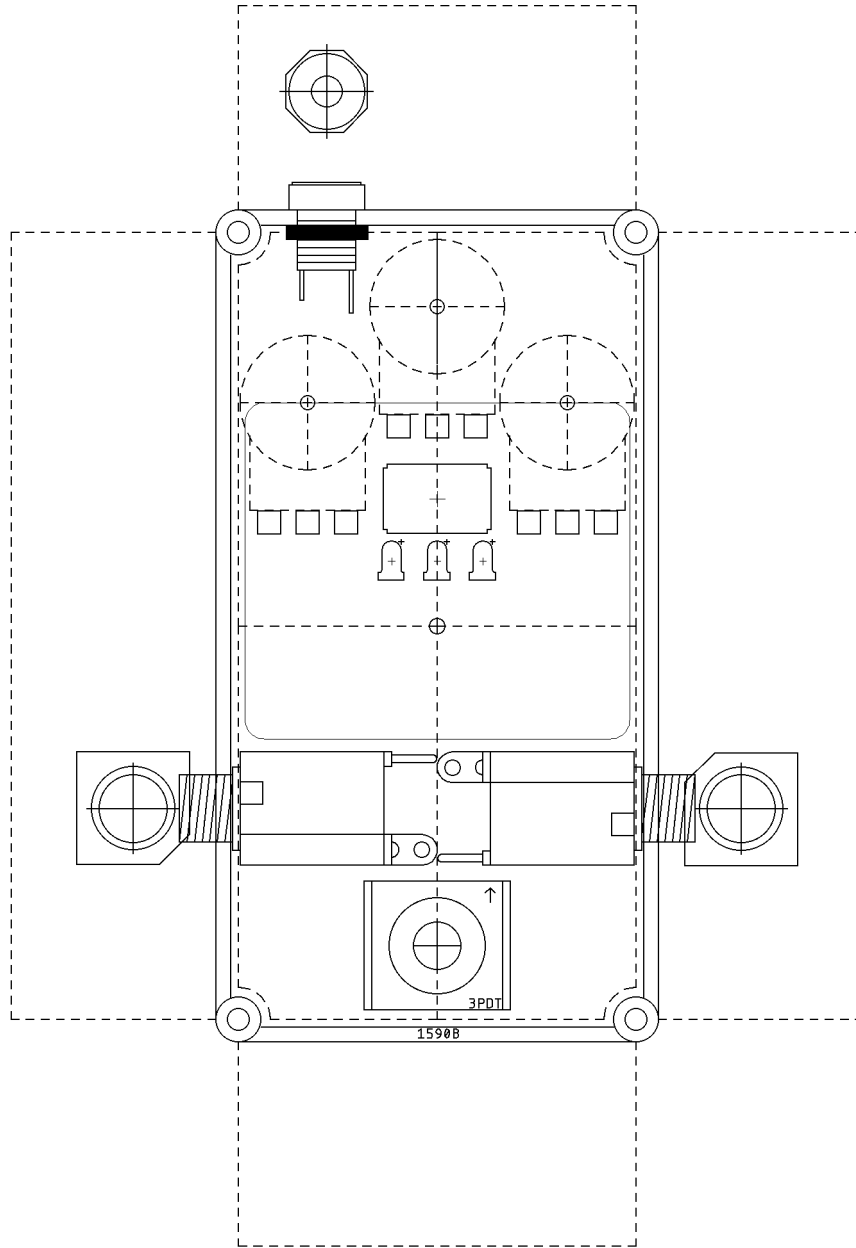| LM308N	Opamp	1
A100k	16mm right angle PC mount	3
DPDT	On/on/on type 2 toggle	1

LAYOUT

Note, D7 and D8 can be populated on either side. In Turbo mode, these LEDs will light up with audio signal and it's fun to have those mounted externally.

DRILL TEMPLATE (125B)

125-B

3PDT

DRILL TEMPLATE (1590B)

1590B

3PDT