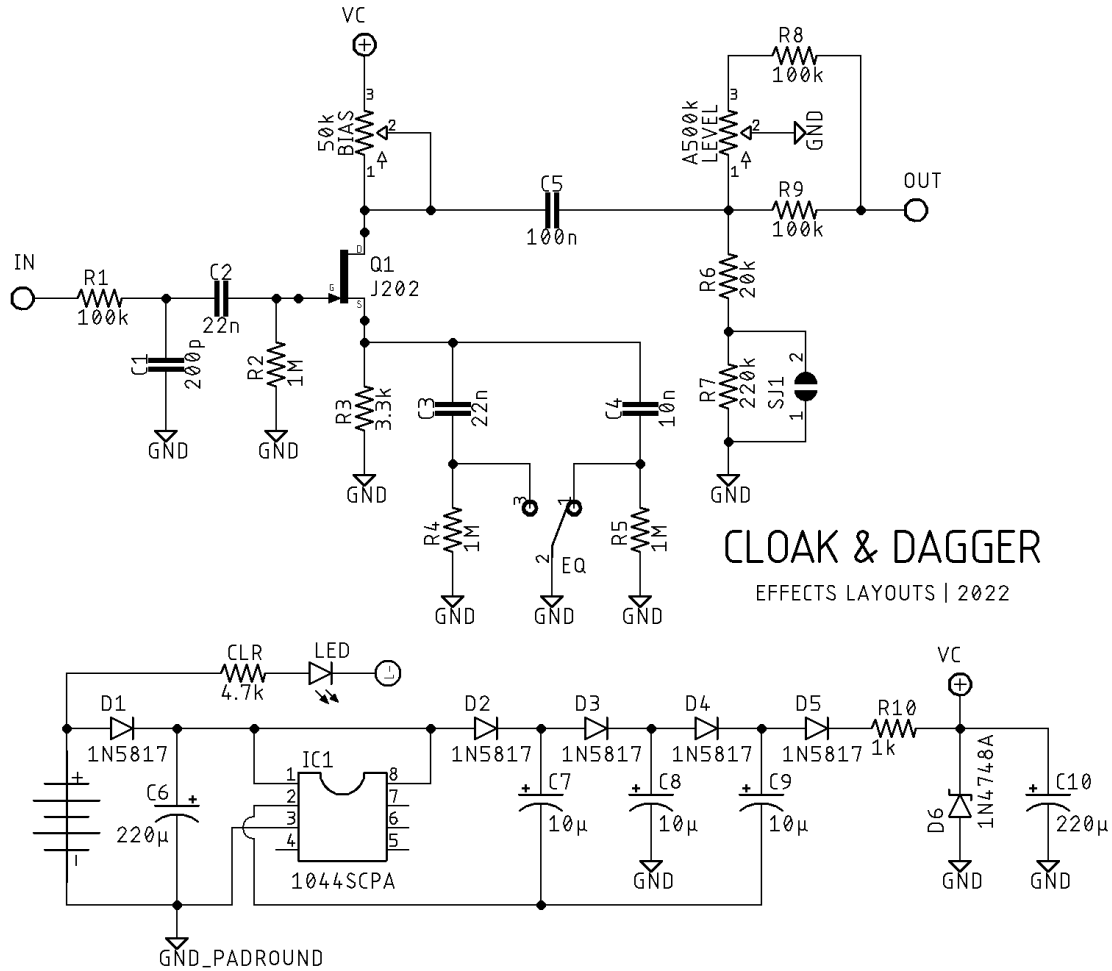


CLOAK & DAGGER

DESCRIPTION

The CLOACK & DAGGER is a JFET preamp based on the Chase Tone Secret Preamp, itself based on the preamp circuitry of the Maestro Echoplex of the 70s. The switch allows for 3 different EQ settings, emulating various iterations of the Echoplex. On the board is a voltage tripler to give plenty of headroom.

SCHEMATIC



BOM

Resistors

R1	100k
R2	1M
R3	3.3k
R4	1M
R5	1M
R6	20k
R7	220k
R8	100k
R9	100k
R10	1k
CLR	4.7k

Capacitors

C1	200p
C2	22n
C3	22n
C4	10n
C5	100n
C6	220μ
C7	10μ
C8	10μ
C9	10μ
C10	220μ

Semiconductors

D1	1N5817
D2	1N5817
D3	1N5817

D4	1N5817
D5	1N5817
D6	1N4748A
IC1	1044SCPA
LED	3 or 5mm
Q1	J202

Electromechanical

BIAS	50k
EQ	SPDT on/off/on
LEVEL	A500k

Notes

You'll notice SJ1 surface pads. This jumps R7 if connected and is meant to be used if using a 240k resistor for R6, which is in the original. As 240k isn't likely a value many builders' stock, I added the extra resistor to form a 240k with values more likely to be on hand.

The +/- TEST pads are to help bias Q1 and more easily use multimeter probes. The rule of thumb with JFETs is adjust the trimmer so the drain is getting half the supply voltage (22v), the if needed adjust by ear.

Other JFETs can be used (2n5457, J201, etc) but J202 sounds the best to my ear.

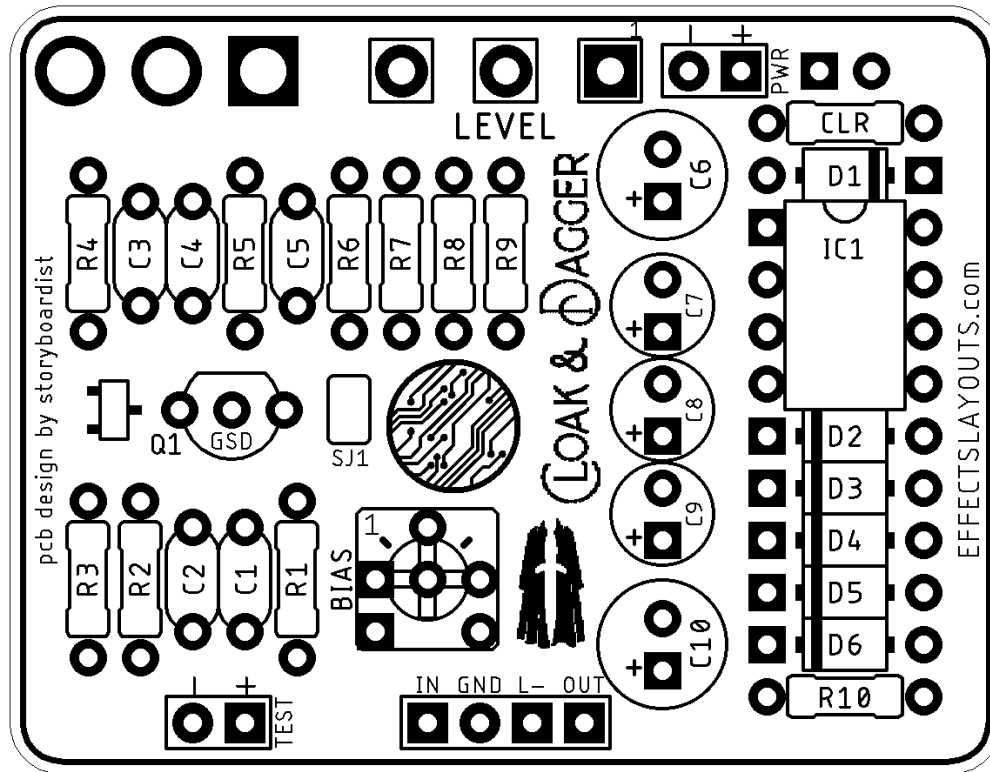
100μ capacitors will work just fine for C6 and C10 if you don't have 6mm 220μ capacitors on hand.

SHOPPING LIST

Value	Type (suggested)	Quantity
1k	¼ watt metal or carbon film	1
3.3k	¼ watt metal or carbon film	1
4.7k	¼ watt metal or carbon film	1
20k	¼ watt metal or carbon film	1
100k	¼ watt metal or carbon film	3
220k	¼ watt metal or carbon film	1
1M	¼ watt metal or carbon film	3
200p	Ceramic	1
10n	Film	1

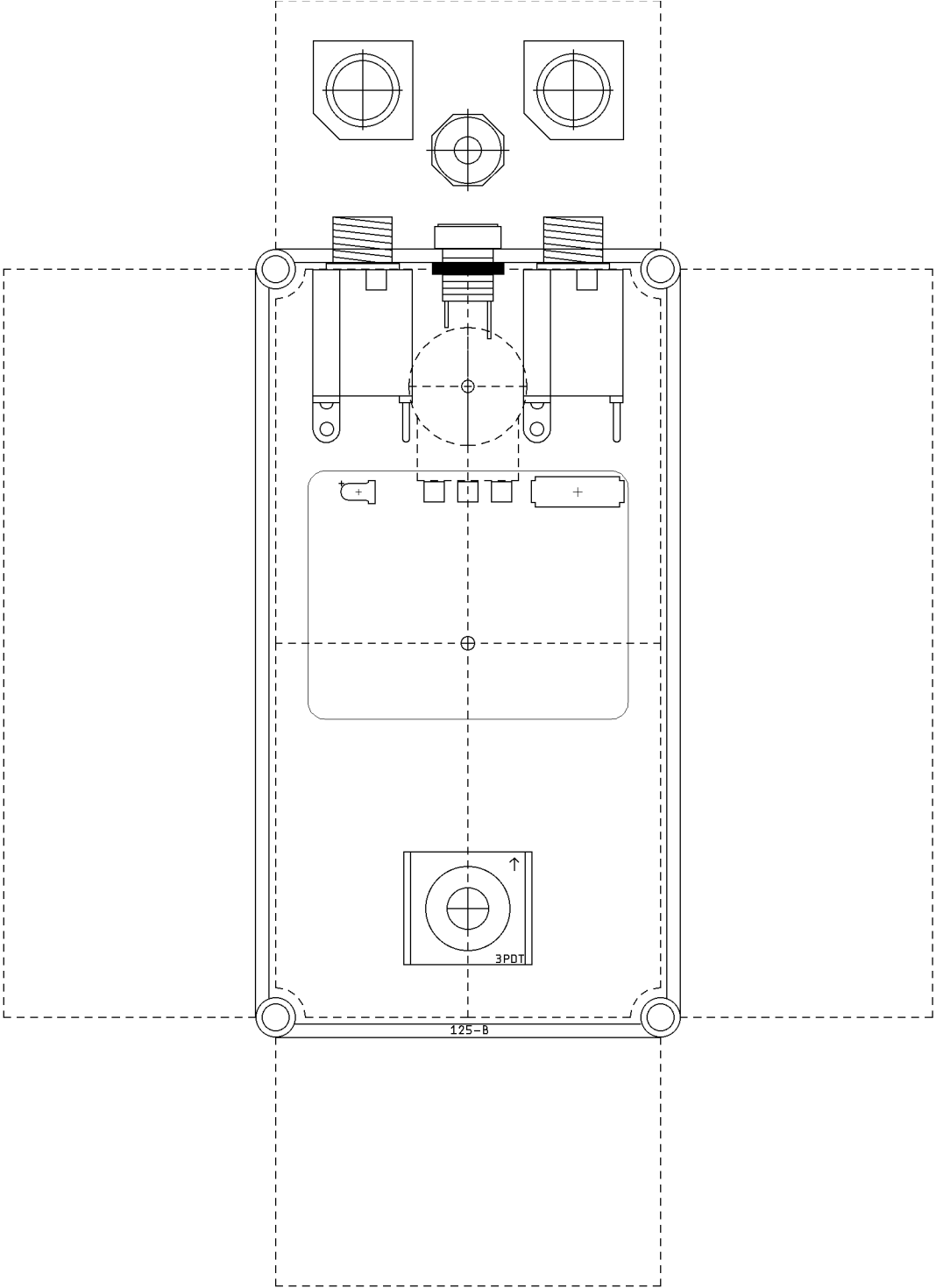
22n	Film	2
100n	Film	1
10μ	Electrolytic (25v+)	3
220μ	Electrolytic (25v+)	2
1N5817	Schottky rectifier diode	5
1N4748A	22v Zener diode	1
1044SCPA	Charge pump IC	1
LED	3 or 5mm	1
J202	JFET	1
50k	Trimmer	1
A500k	16mm right angle PC mount	1
SPST	On/off/on toggle	1

LAYOUT

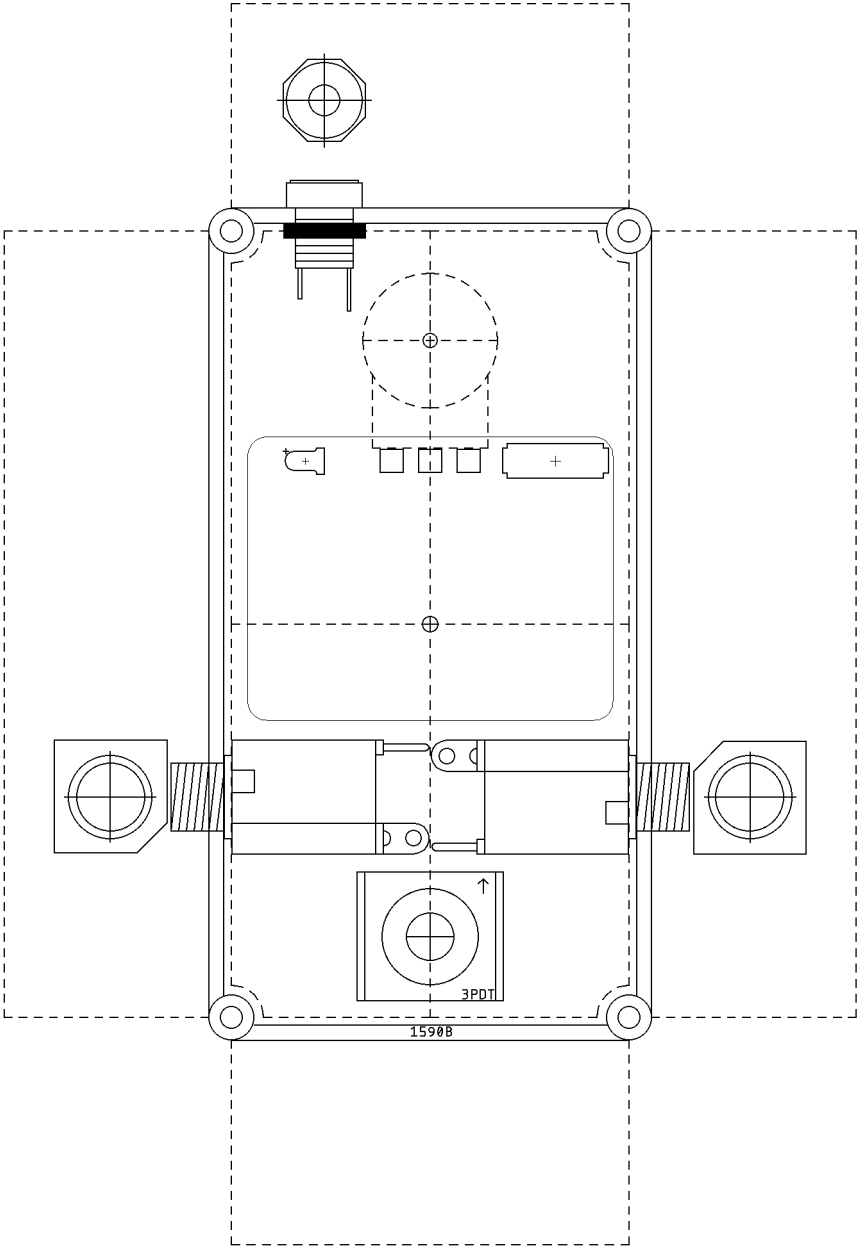


Please note on the silkscreen D6 is mislabeled as a 1N5817, it should be a 1N4748A

DRILL TEMPLATE (125B)



DRILL TEMPLATE (1590B)



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