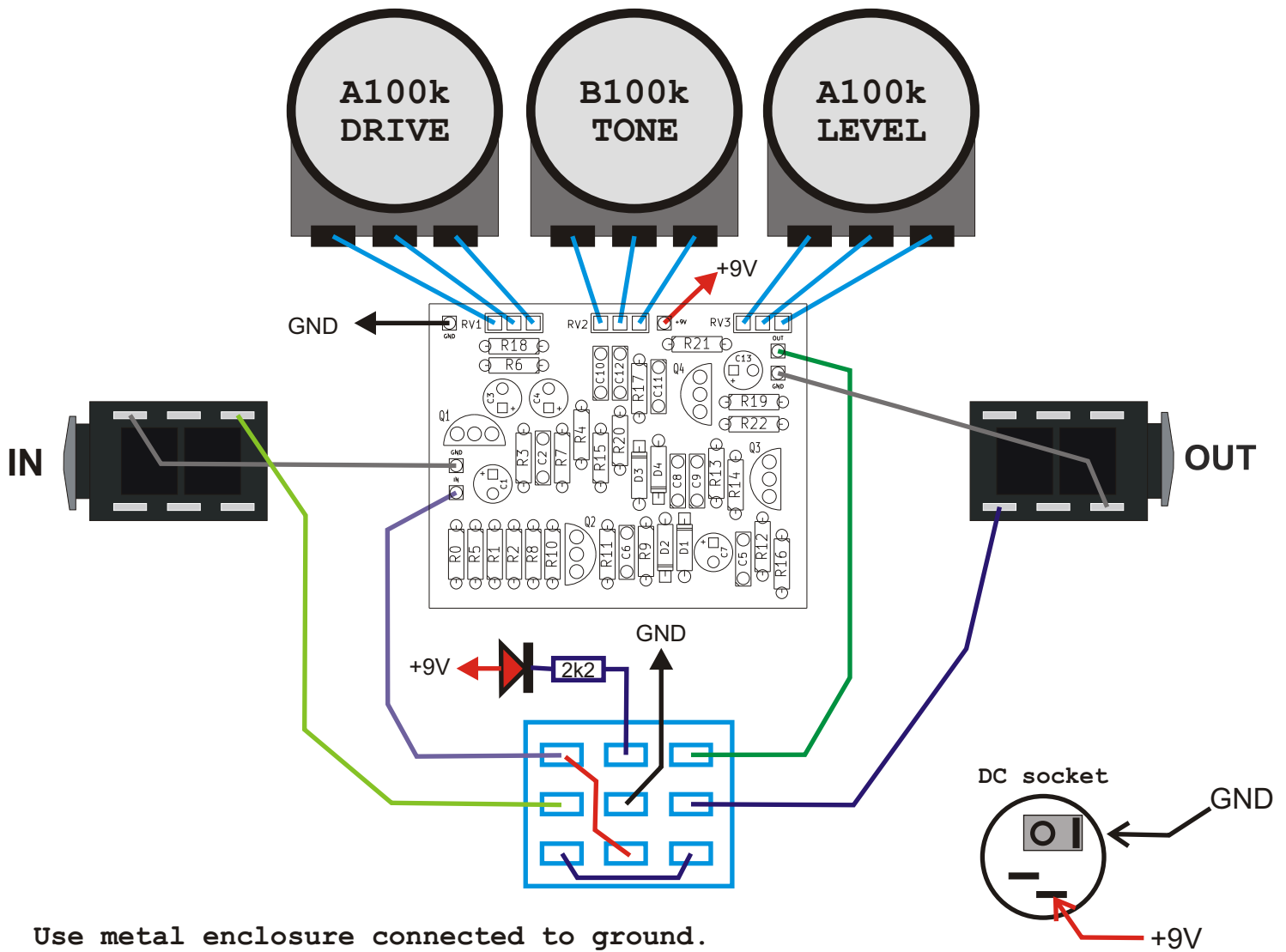


Wiring (bottom view) :



Use metal enclosure connected to ground.
Power supply: 9V DC

Bill of materials:

Resistors:

100R 3pcs. "R5 R11 R16"
 1k 1pcs. "R6"
 2k2 2pcs. "R22 LED"
 8k2 2pcs. "R7 R12"
 10k 1pcs. "R21"
 15k 3pcs. "R4 R10 R15"
 22k 1pcs. "R18"
 39k 2pcs. "R1 R17"
 100k 4pcs. "R2 R8 R13 R19"
 390k 1pcs. "R20"
 470k 3pcs. "R3 R9 R14"
 1M 1pcs. "R0"

Capacitors:

500p 3pcs. "C2 C6 C9"
 4n7 1pcs. "C10"
 10n 1pcs. "C11"
 100n 3pcs. "C5 C8 C12"

Electrolytic capacitors:

1u 5pcs. "C1 C3 C4 C7 C13"

Semiconductors:

2N5088 4pcs. "Q1 Q2 Q3 Q4"
 1N914 4pcs. "D1 D2 D3 D4"
 LED 1pcs.

Potentiometers:

A100k 2pcs. "RV1 RV3"
 B100k 1pcs. "RV2"

Other:

Knobs 3pcs.
 Footswitch 3PDT 1pcs.
 JACK socket 2pcs.
 DC socket 5.5/2.1 1pcs.

Resistor color code:



$$390 \times 10\Omega = 3,9k\Omega$$

Color	Band 1	Band 2	Band 3	Multiplier	Tolerance
Black	0	0	0	1 Ω	
Brown	1	1	1	10 Ω	1%
Red	2	2	2	100 Ω	2%
Orange	3	3	3	1k Ω	
Yellow	4	4	4	10 k Ω	
Green	5	5	5	100 k Ω	0,5%
Blue	6	6	6	1 M Ω	0,25%
Purple	7	7	7	10 M Ω	0,1%
Gray	8	8	8	100 M Ω	0,05%
White	9	9	9	1 G Ω	
Gold				0,1 Ω	5%
Silver				0,01 Ω	10%

Capacitors markings:

$$471 = 47 \times 10^1 \text{ pF} = 470 \text{ pF}$$

$$472 = 47 \times 10^2 \text{ pF} = 4700 \text{ pF} = 4,7 \text{ nF}$$

$$473 = 47 \times 10^3 \text{ pF} = 47000 \text{ pF} = 47 \text{ nF}$$

$$474 = 47 \times 10^4 \text{ pF} = 470000 \text{ pF} = 470 \text{ nF}$$

$$100 \text{ pF} = 100 \text{ p} = 100 = 101$$

$$220 \text{ pF} = 220 \text{ p} = 220 = 221$$

$$4,7 \text{ nF} = 4 \text{ n}7 = 0.0047 = 472$$

$$10 \text{ nF} = 10 \text{ n} = 0.01 = 103$$

$$100 \text{ nF} = 100 \text{ n} = 0.1 = 104$$

$$220 \text{ nF} = 220 \text{ n} = 0.22 = 224$$

$$470 \text{ nF} = 470 \text{ n} = 0.47 = 474$$

$$1000 \text{ nF} = 1 \mu\text{F} = 1 \mu = 105$$