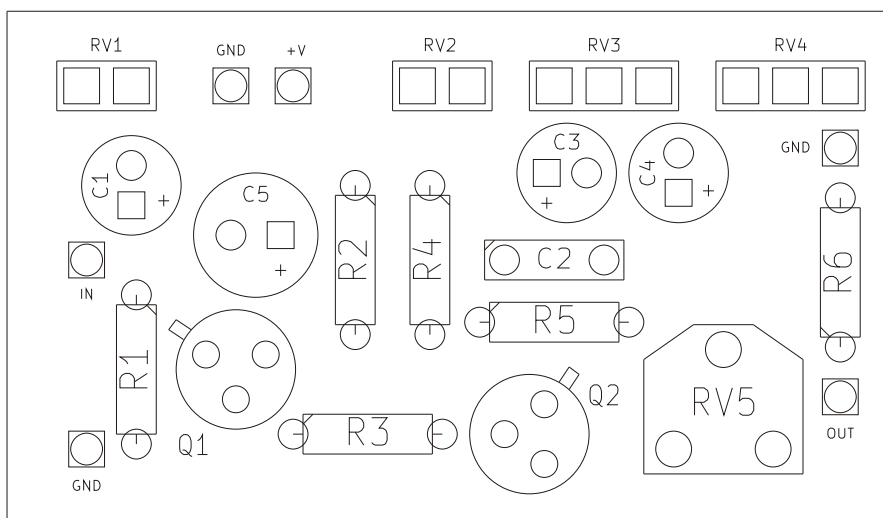
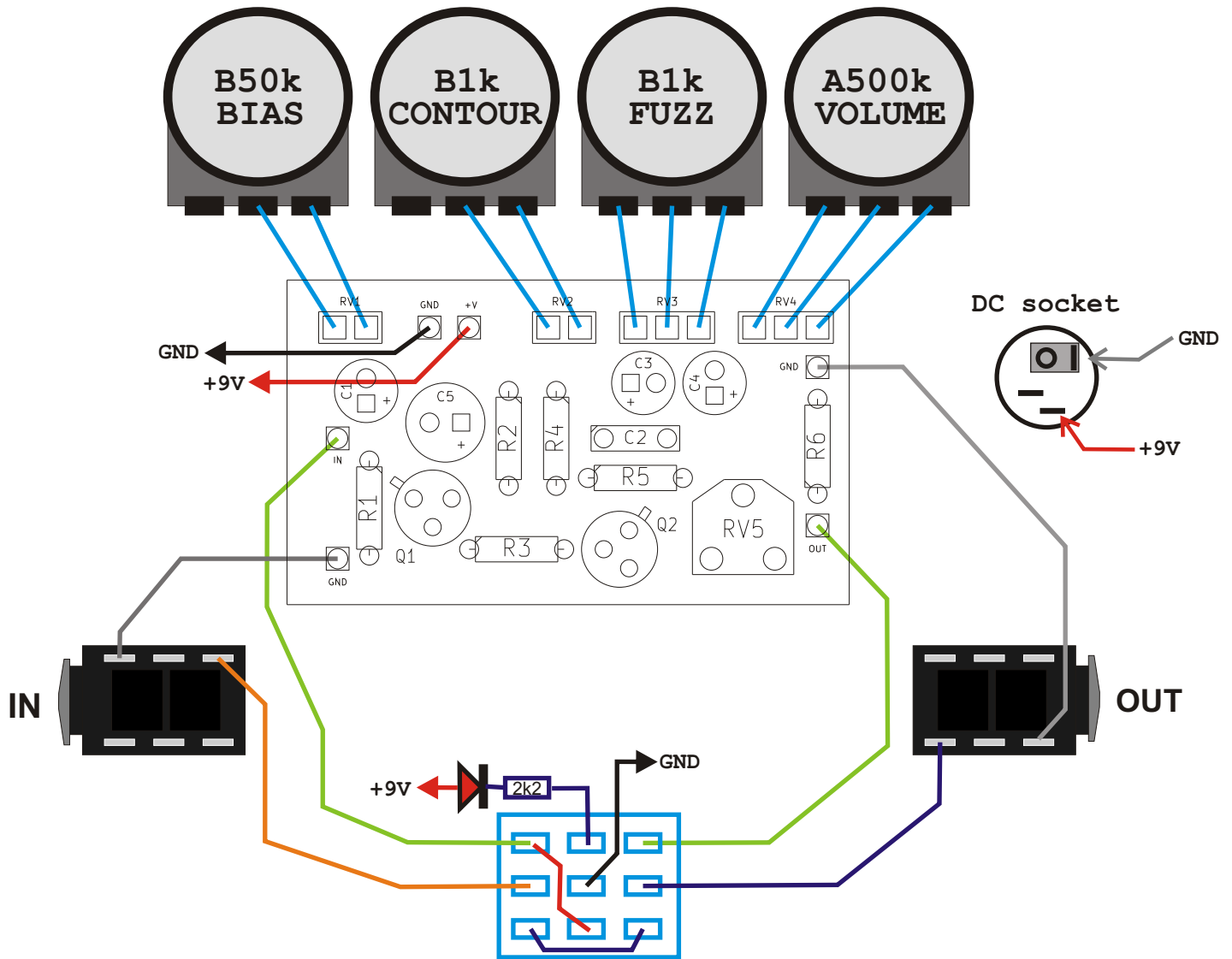


PCB parts placement diagram:



R1	1M	C1	2u2
R2	33k	C2	100n
R3	100k	C3	10u
R4	220R	C4	10u
R5	1k	C5	47u
R6	1M		
		Q1	2N2369A
		Q2	2N2369A
RV1	B50k		
RV2	B1k		
RV3	B1k		
RV4	A500k		
RV5	Tr.10k		

Wiring (bottom view):



Use metal enclosure connected to ground.

Power supply: 9V DC

Bill of materials:

Resistors:

220R 1pcs. "R4"
 1k 1pcs. "R5"
 2k2 1pcs. "LED"
 33k 1pcs. "R2"
 100k 1pcs. "R3"
 1M 2pcs. "R1 R6"

Capacitors:

100n 1pcs. "C2"

Electrolytic capacitors:

2u2 1pcs. "C1"
 10u 2pcs. "C3 C4"
 47u 1pcs. "C5"

Potentiometers:

B50k 1pcs. "RV1"
 B1k 2pcs. "RV2 RV3"
 A500k 1pcs. "RV4"
 10k Trimer 1pcs. "RV5"

Semiconductors:

2N2369A 2pcs. "Q1 Q2"
 LED 1pcs.

Other:

Footswitch 3PDT 1pcs.
 Knobs 4pcs.
 JACK socket 2pcs.
 DC5 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:

$$\begin{aligned}
 471 &= 47 \times 10^1 \text{ pF} = 470 \text{ pF} \\
 472 &= 47 \times 10^2 \text{ pF} = 4700 \text{ pF} = 4,7 \text{ nF} \\
 473 &= 47 \times 10^3 \text{ pF} = 47000 \text{ pF} = 47 \text{ nF} \\
 474 &= 47 \times 10^4 \text{ pF} = 470000 \text{ pF} = 470 \text{ nF}
 \end{aligned}$$

$$\begin{aligned}
 100 \text{ pF} &= 100 \text{ p} = 100 = 101 \\
 220 \text{ pF} &= 220 \text{ p} = 220 = 221 \\
 4,7 \text{ nF} &= 4 \text{ n}7 = 0.0047 = 472 \\
 10 \text{ nF} &= 10 \text{ n} = 0.01 = 103 \\
 100 \text{ nF} &= 100 \text{ n} = 0.1 = 104 \\
 220 \text{ nF} &= 220 \text{ n} = 0.22 = 224 \\
 470 \text{ nF} &= 470 \text{ n} = 0.47 = 474 \\
 1000 \text{ nF} &= 1 \mu\text{F} = 1 \mu = 105
 \end{aligned}$$