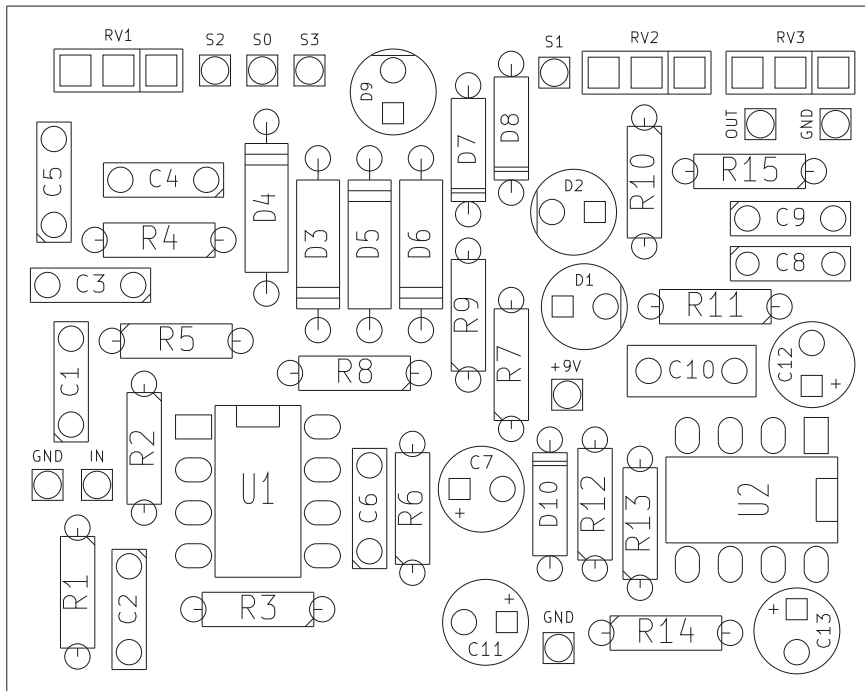
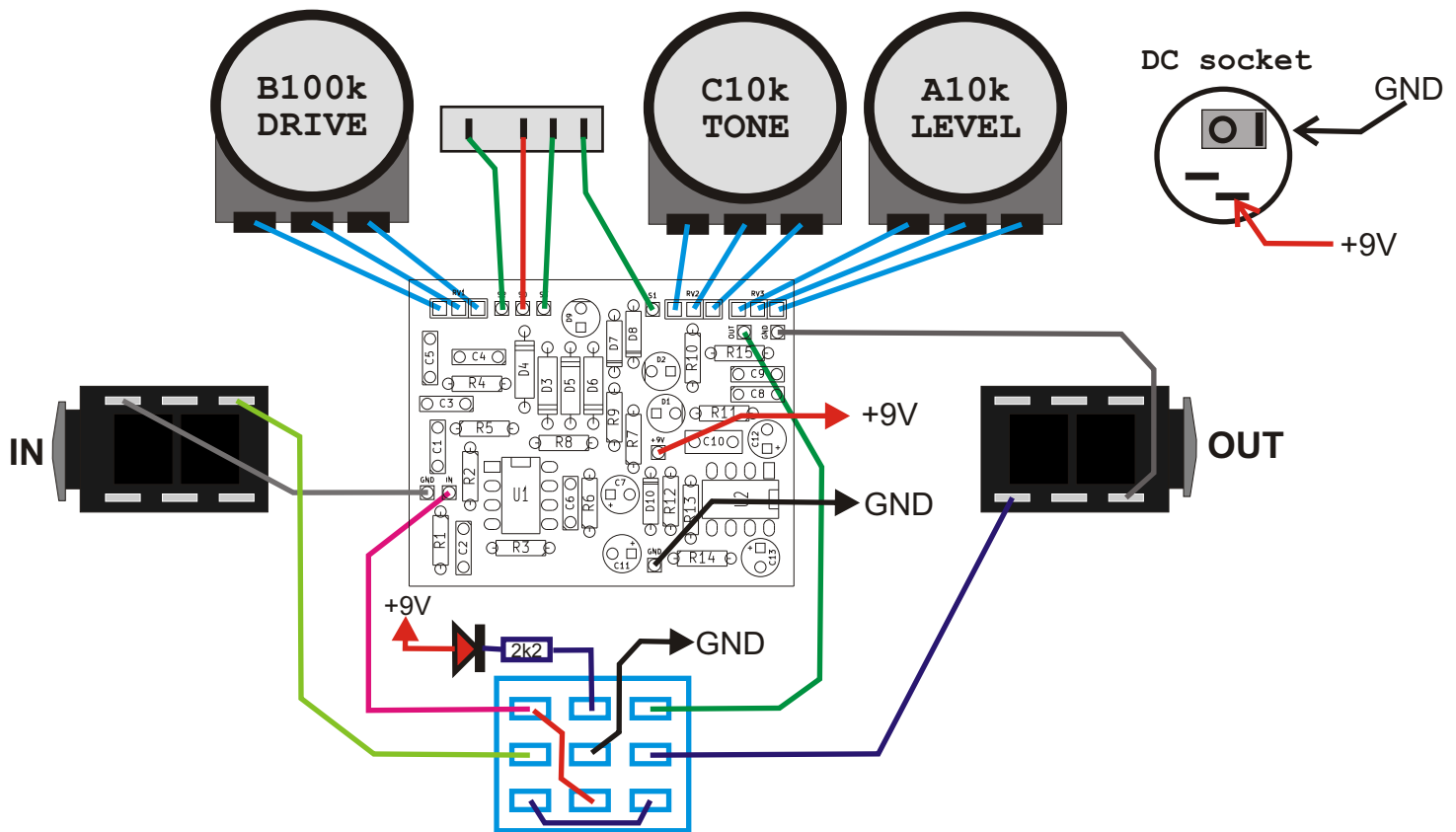


PCB parts placement diagram:



R1	1M	C1	22n	D1	LED RED	RV1	B100k
R2	1k	C2	47p	D2	LED RED	RV2	C10k
R3	470k	C3	220n	D3	1N34A	RV3	A10k
R4	1k	C4	100p	D4	1N34A		
R5	10k	C5	100n	D5	1N34A		
R6	1M	C6	100p	D6	1N34A		
R7	470R	C7	2u2	D7	1N914		
R8	470R	C8	22n	D8	1N914		
R9	220R	C9	22n	D9	LED BLUE		
R10	12k	C10	1u	D10	1N400X		
R11	8k2	C11	47u	U1	4580		
R12	100k	C12	10u	U2	4580		
R13	20k	C13	47u				
R14	20k						
R15	100R						

Wiring (bottom view):



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

Bill of materials:

Resistors:

100R 1pcs. "R15"
220R 1pcs. "R9"
470R 2pcs. "R7 R8"
1k 2pcs. "R2 R4"
2k2 1pcs. "LED"
8k2 1pcs. "R11"
10k 1pcs. "R5"
12k 1pcs. "R10"
20k 2pcs. "R13 R14"
100k 1pcs. "R12"
470k 1pcs. "R3"
1M 2pcs. "R1 R6"

Capacitors:

47p 1pcs. "C2"
100p 2pcs. "C4 C6"
22n 3pcs. "C1 C8 C9"
100n 1pcs. "C5"
220n 1pcs. "C3"
1u 1pcs. "C10"

Electrolytic capacitors:

2u2 1pcs. "C7"
10u 1pcs. "C12"
47u 2pcs. "C11 C13"

Semiconductors:

1N400X 1pcs. "D10"
1N914 2pcs. "D7 D8"
4580 2pcs. "U1 U2"
1N34A 4pcs. "D3 D4 D5 D6"
LED RED 3pcs. "D1 D2 LED"
LED BLUE 1pcs. "D9"

Other:

Knobs 3pcs.
Footswitch 3PDT 1pcs.
DC socket 5.5/2.1 1pcs.
Jack socket 2pcs.
3way slide switch 1pcs.

Potentiometers:

B100k 1pcs. "DRIVE"
A10k 1pcs. "LEVEL"
C10k 1pcs. "TONE"

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:

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

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

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

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

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

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

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

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

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

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

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

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