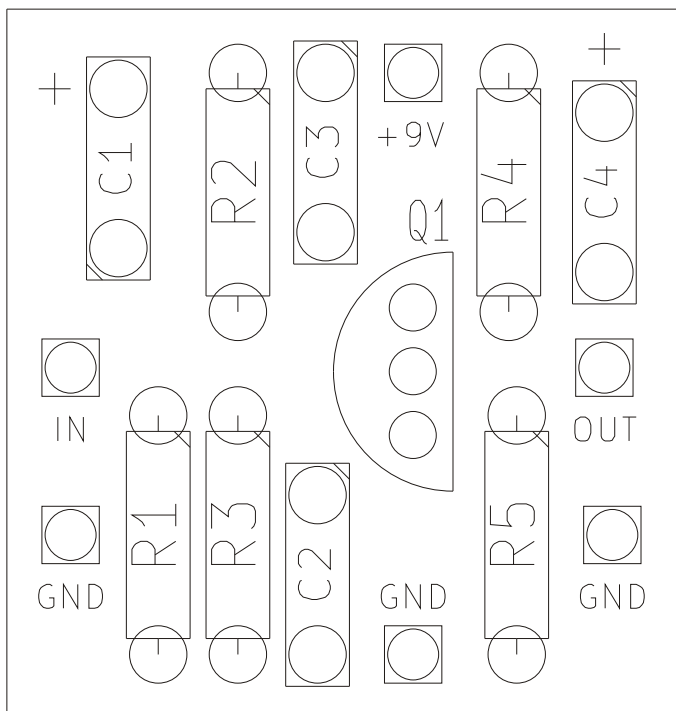


PCB parts placement diagram:

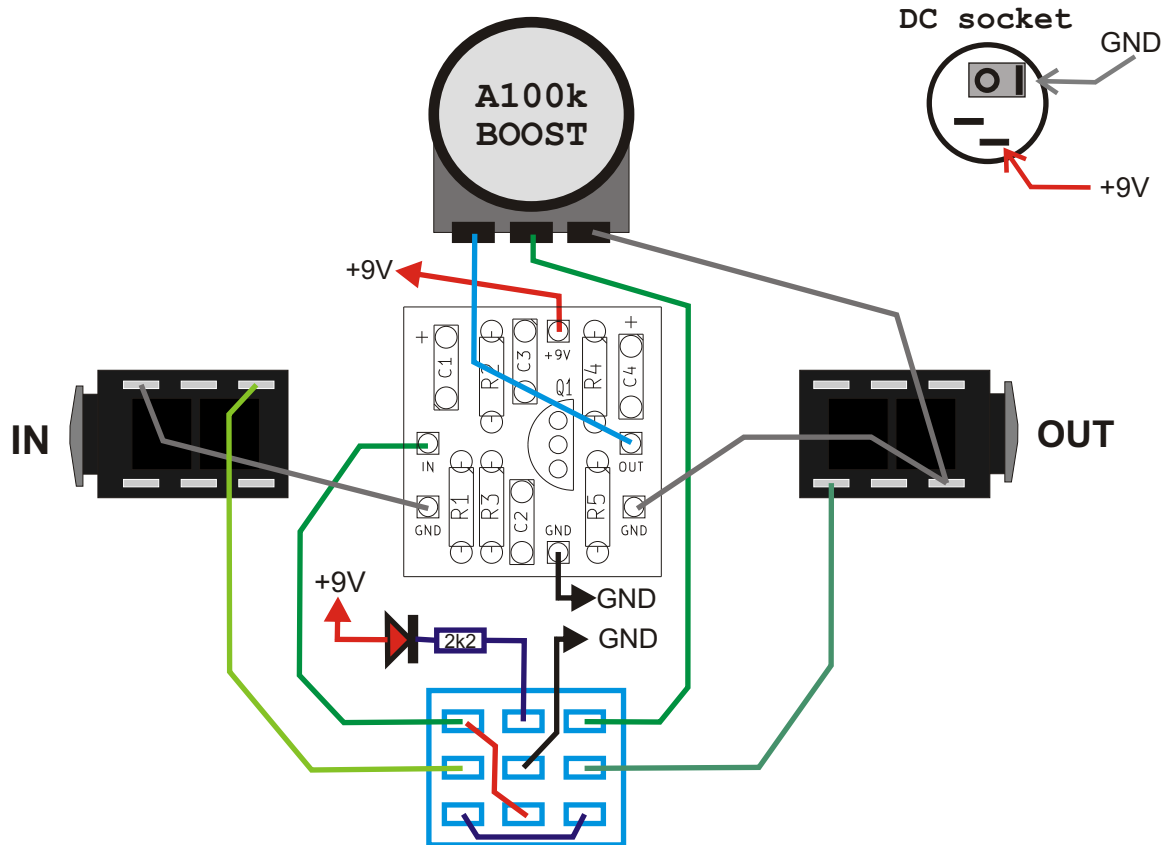


- R1 1M**
- R2 470k**
- R3 47k**
- R4 10k**
- R5 390R**

- C1 100n**
- C2 empty**
- C3 empty**
- C4 100n**

- Q1 2N5088**

Wiring (bottom view):

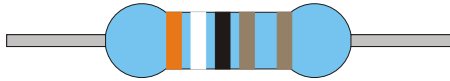


Use metal enclosure connected to ground.
 Power supply: 9V DC

Bill of materials:

- | | |
|----------------------------|------------------------|
| Resistors: | Capacitors: |
| 2k2 1pcs. "LED" | 100n 2pcs. "C1 C4" |
| 390R 1pcs. "R5" | |
| 10k 1pcs. "R4" | Semiconductors: |
| 47k 1pcs. "R3" | 2N5088 1pcs. "Q1" |
| 470k 1pcs. "R2" | LED 1pcs. |
| 1M 1pcs. "R1" | |
|
Potentiometers: | |
| A100k 1pcs. | |
|
Other: | |
| Knob | 1pcs. |
| Footswitch 3PDT | 1pcs. |
| DC socket 5.5/2.2 | 1pcs. |
| JACK socket | 2pcs. |

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:

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

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

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

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

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

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

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

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

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

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

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

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