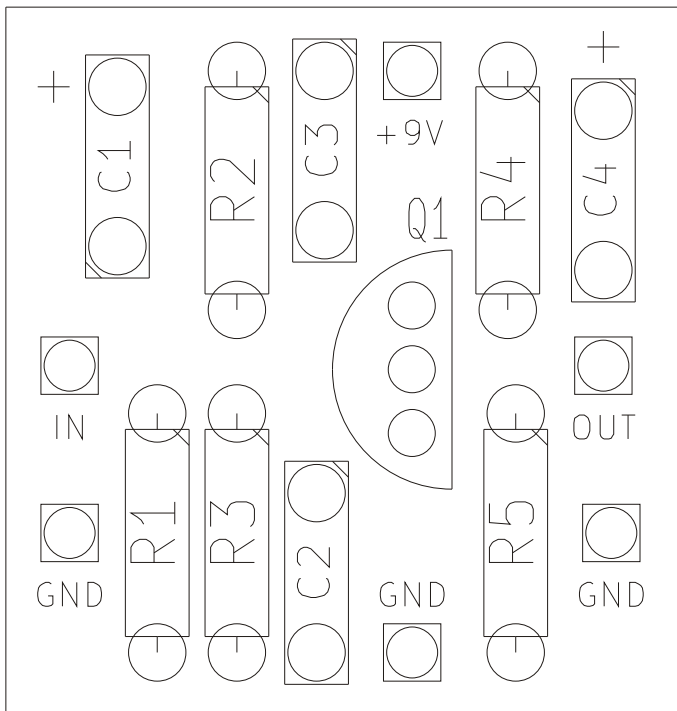
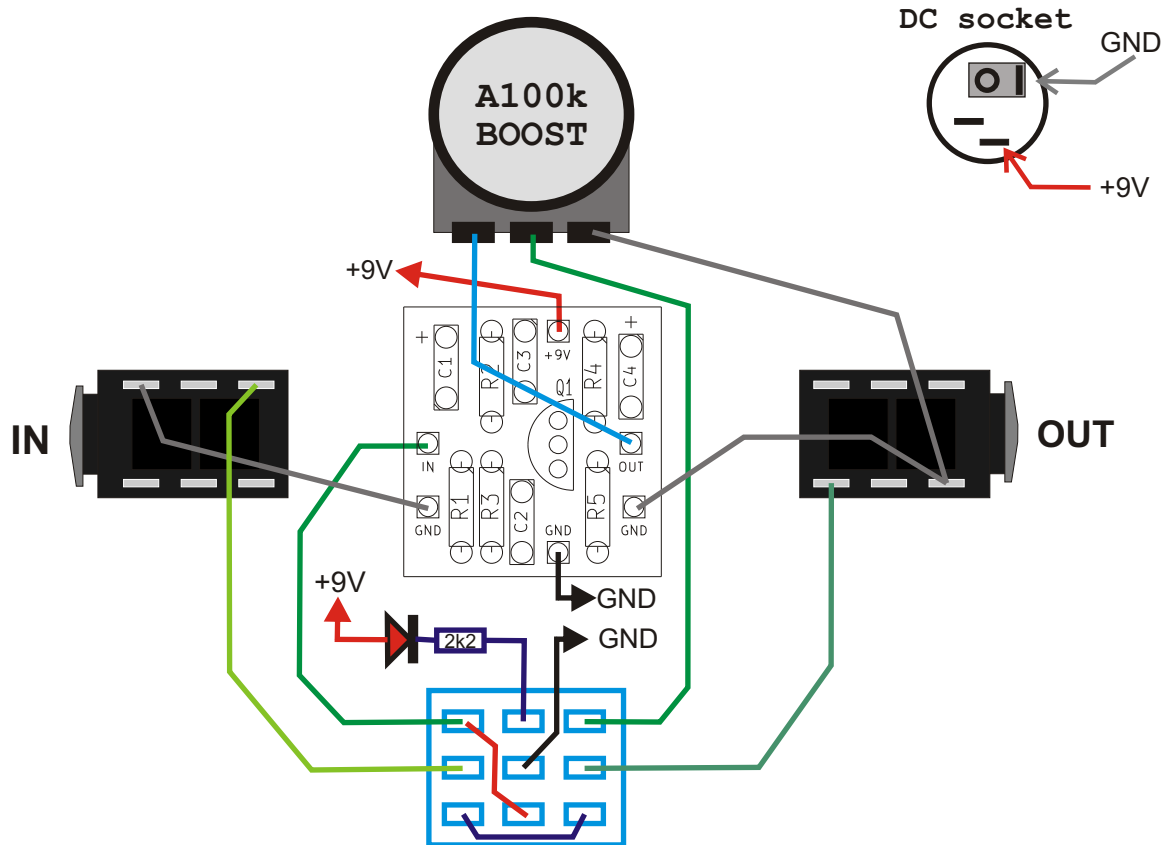


PCB parts placement diagram:



- | | |
|-----------|---------------|
| R1 | 1M |
| R2 | 430k |
| R3 | 43k |
| R4 | 10k |
| R5 | 390R |
| C1 | 3u3 |
| C2 | 100n |
| C3 | 100n |
| C4 | 3u3 |
| Q1 | 2N5088 |

Wiring (bottom view):

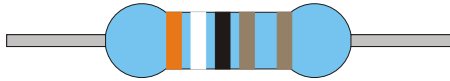


Use metal enclosure connected to ground.
Power supply: 9V DC

Bill of materials:

- | | |
|------------------------|----------------------------------|
| Resistors: | Capacitors: |
| 2k2 1pcs. "LED" | 100n 2pcs. "C2 C3" |
| 390R 1pcs. "R5" | |
| 10k 1pcs. "R4" | Electrolytics capacitors: |
| 43k 1pcs. "R3" | 3u3 2pcs. "C1 C4" |
| 430k 1pcs. "R2" | |
| 1M 1pcs. "R1" | Semiconductors: |
| | 2N5088 1pcs. "Q1" |
| Potentiometers: | LED 1pcs. |
| A100k 1pcs. | |
| Other: | |
| Knob | 1pcs. |
| Footswitch 3PDT | 1pcs. |
| DC socket 5.5/2.1 | 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:

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

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