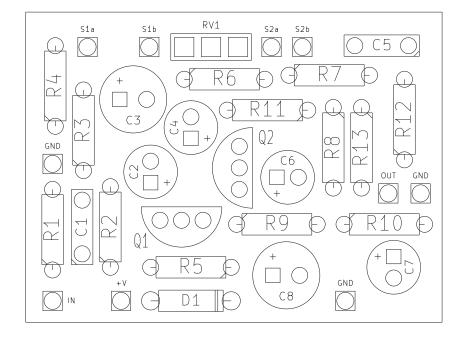
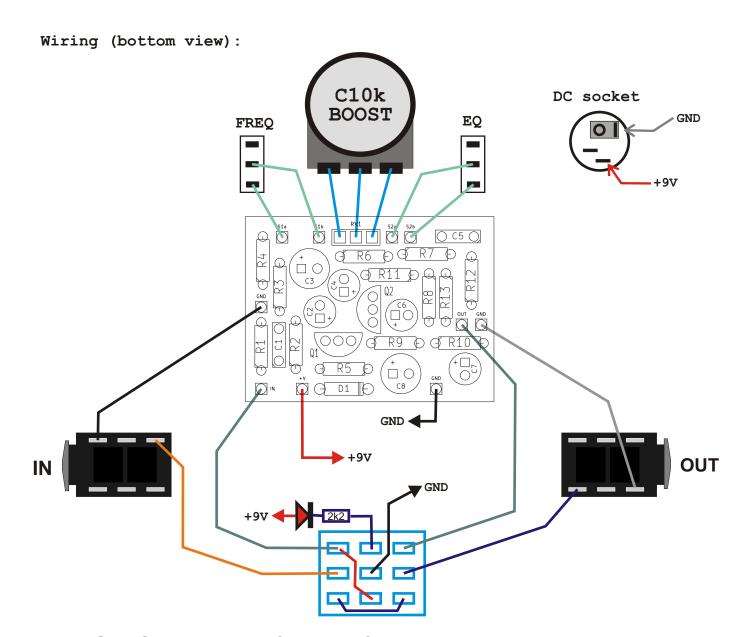


### PCB parts placement diagram:



R1 1M	C1 47n
R2 33k	C2 10u
R3 1M	C3 100u
R4 4k7	C4 10u
R5 8k2	C5 3n3
R6 1k	C6 10u
R7 15k	C7 10u
R8 1M	C8 47u
R9 10k	
R10 10k	D1 4148
R11 10k	Q1 j201
R12 47k	Q2 2N5088
R13 100R	
RV1 C10k	



Use metal enclosure connected to ground.

Power supply: 9V DC Bill of materials:

_								
Re	20	-	0	+	$\hat{}$	~	0	•
7.76	= >	_	2	_	u	_	-	

100R 1pcs. "R13" 3n3 1pcs. "C5" 1pcs. "R6" 1k 47n 1pcs. "C1" 1pcs. "LED" 2k2 4k7 1pcs. "R4"

8k2 1pcs. "R5"

3pcs. "R9 R10 R11" 10k

1pcs. "R7" 15k 33k 1pcs. "R2"

47k 1pcs. "R12"

1M 3pcs. "R1 R3 R8"

Potentiometers:

C10k 1pcs. "RV1"

#### Other:

Footswitch 3PDT 1pcs. Knob 1pcs. JACK socket 2pcs. DC socket 5.5/2.1 1pcs. MTS102 switch 2pcs. Capacitors:

Electrolytic capacitors:

10u 4pcs. "C2 C4 C6 C7"

47u 1pcs. "C8"

100u 1pcs. "C3"

#### Semiconductors:

4148 1pcs. "D1" 1pcs. "Q1"

j201 2N5088 1pcs. "Q2"

LED 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 kΩ	
Green	5	5	5	100 kΩ	0,5%
Blue	6	6	6	1 ΜΩ	0,25%
Purple	7	7	7	10 MΩ	0,1%
Gray	8	8	8	100 ΜΩ	0,05%
White	9	9	9	1 GΩ	
Gold				0,1 Ω	5%
Silver				0,01 Ω	10%

# Capacitors markings:

```
471 = 47 \times 10^{1} pF = 470pF
 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}
 100pF =
               100p
                               100
                                      = 101
 220pF = 220p =
                               220
                                      = 221
 4,7nF = 4n7 = 0.0047

10nF = 10n = 0.01
                                      = 472
                                      = 103
 100nF = 100n = 0.1
220nF = 220n = 0.22
                                    = 104
= 224
 470nF = 470n = 0.47 = 474
1000nF = 1uF = 1u
                                      =
                                          105
```