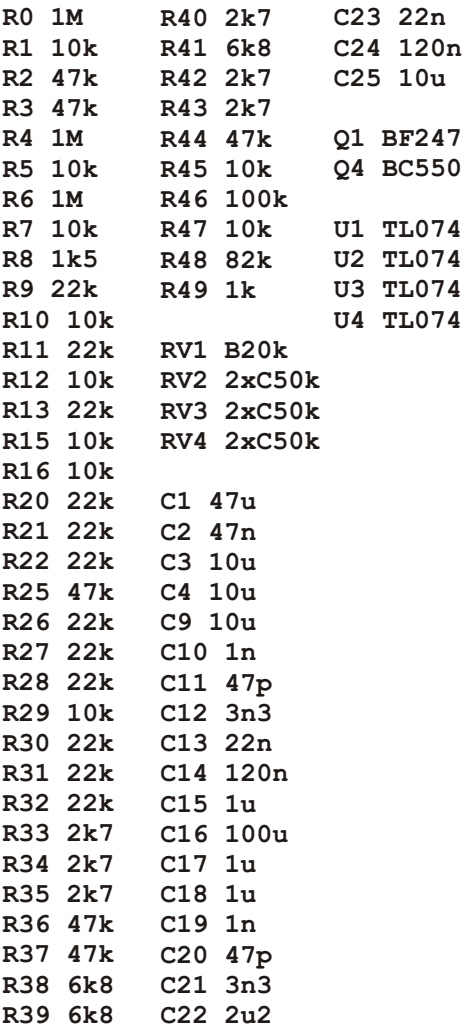
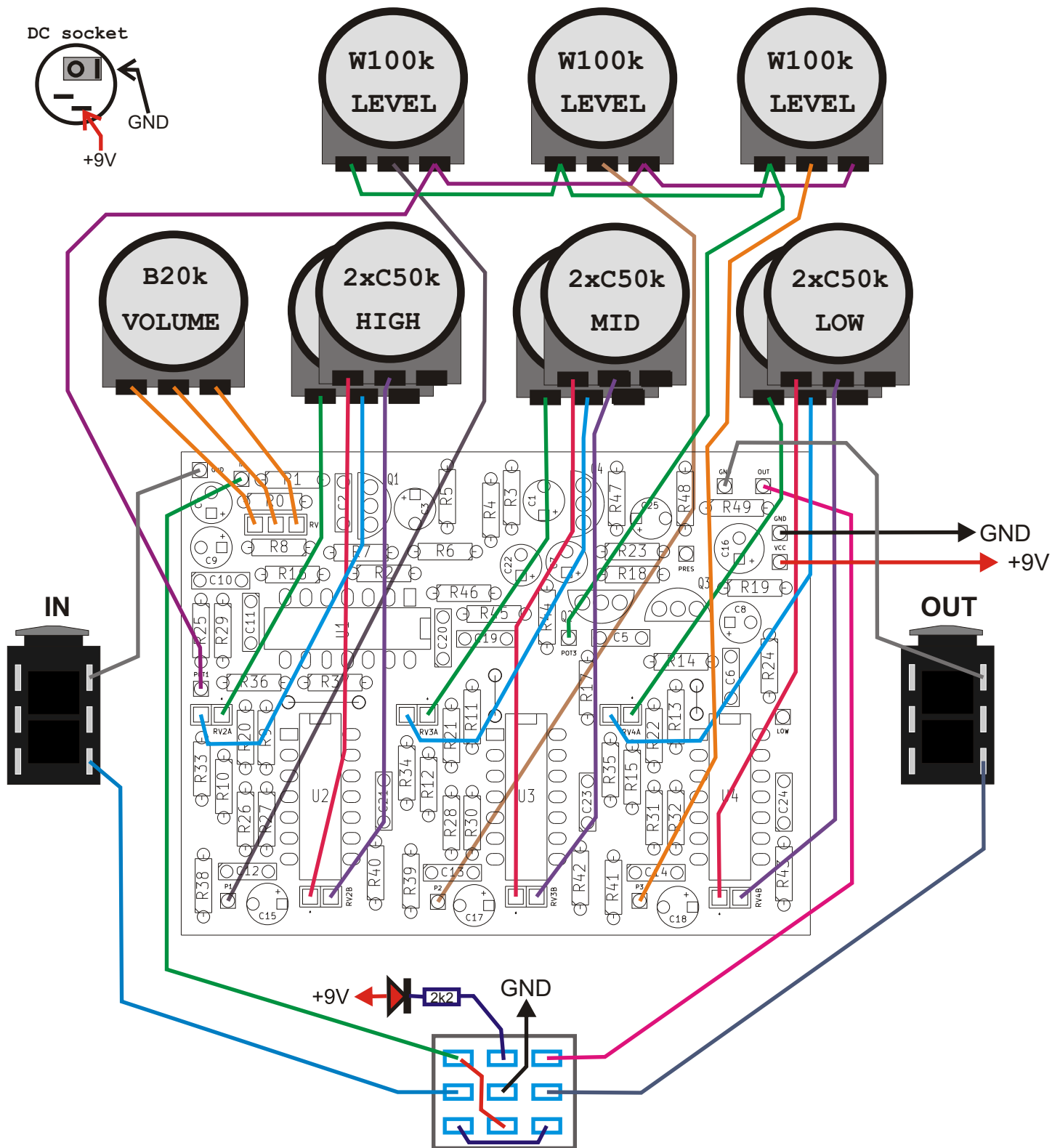


21.02.2019



Parts not listed leave empty! --->

Wiring (bottom view):



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

Bill of materials:

Resistors:

1k 1pcs. "R49"
1k5 1pcs. "R8"
2k2 1pcs. "LED"
2k7 6pcs. "R33 R34 R35 R40 R42 R43"
6k8 3pcs. "R38 R39 R41"
10k 10pcs. "R1 R5 R7 R10 R12 R15 R16 R29 R45 R47"
22k 12pcs. "R9 R11 R13 R20 R21 R22 R26 R27 R28 R30 R31 R32"
47k 6pcs. "R2 R3 R25 R36 R37 R44"
82k 1pcs. "R48"
100k 1pcs. "R46"
1M 3pcs. "R0 R4 R6"

Potentiometers:

B20k 1pcs. "RV1"
2xC50k 3pcs. "RV2 RV3 RV4"
W100k 3pcs. "LEVEL LOW, MID, HIGH"

Capacitors:

47p 2pcs. "C11 C20"
1n 2pcs. "C10 C19"
3n3 2pcs. "C12 C21"
22n 2pcs. "C13 C23"
47n 1pcs. "C2"
120n 2pcs. "C14 C24"

Electrolytic capacitors:

1u 3pcs. "C15 C17 C18"
2u2 1pcs. "C22"
10u 4pcs. "C3 C4 C9 C25"
47u 1pcs. "C1"
100u 1pcs. "C16"

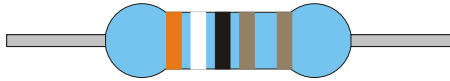
Semiconductors:

BC550 1pcs. "Q4"
BF247 1pcs. "Q1"
TL074 4pcs. "U1 U2 U3 U4"
LED 1pcs.

Other:

Knobs 7pcs.
Footswitch 3PDT 1pcs.
Jack socket 2pcs.
DC 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:

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

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