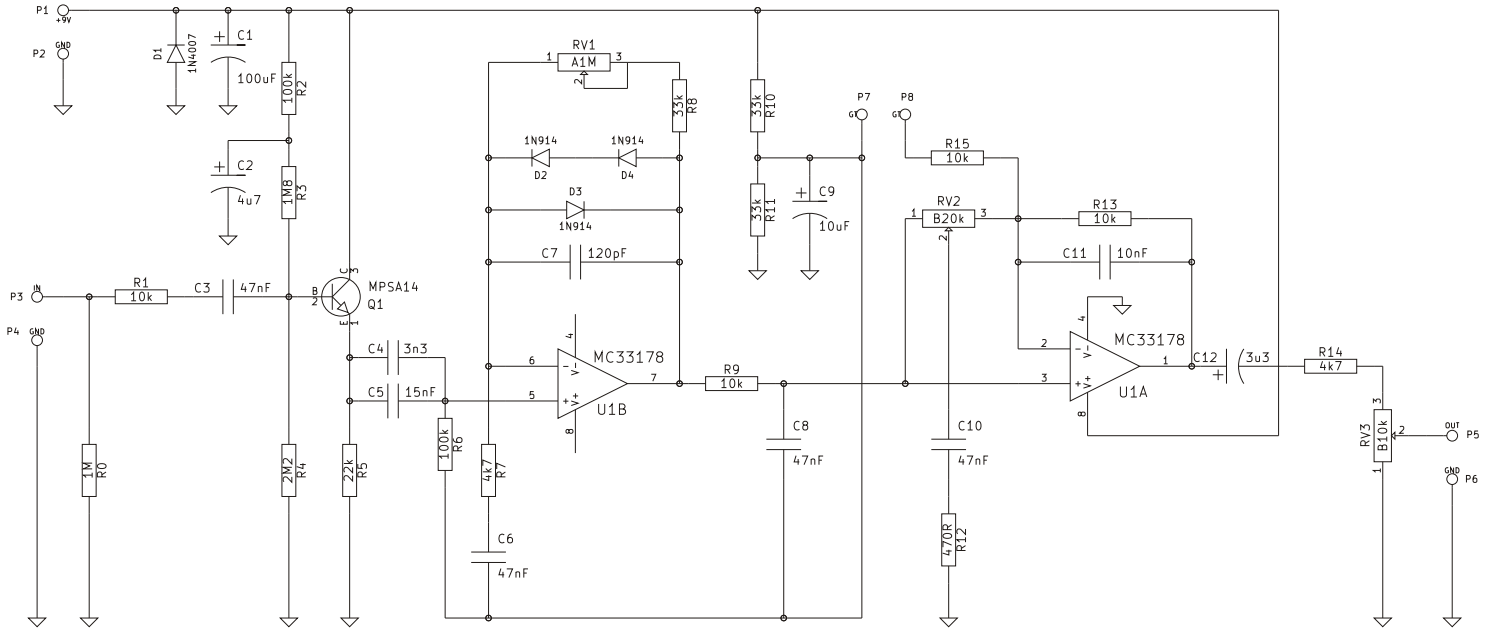
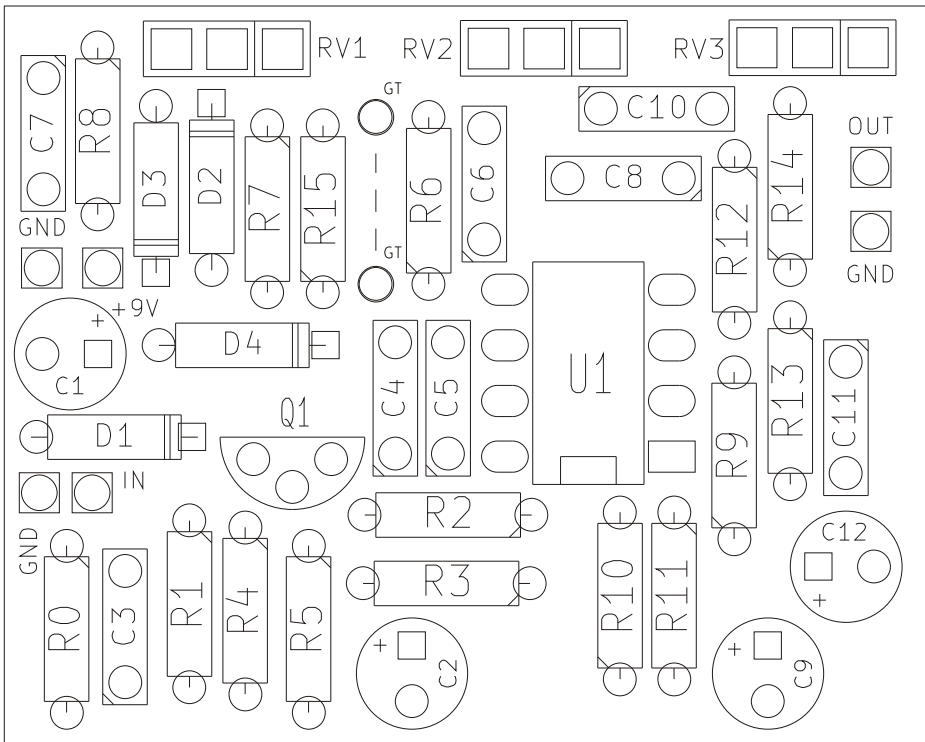


ZW-44 schematic:

12.02.2019

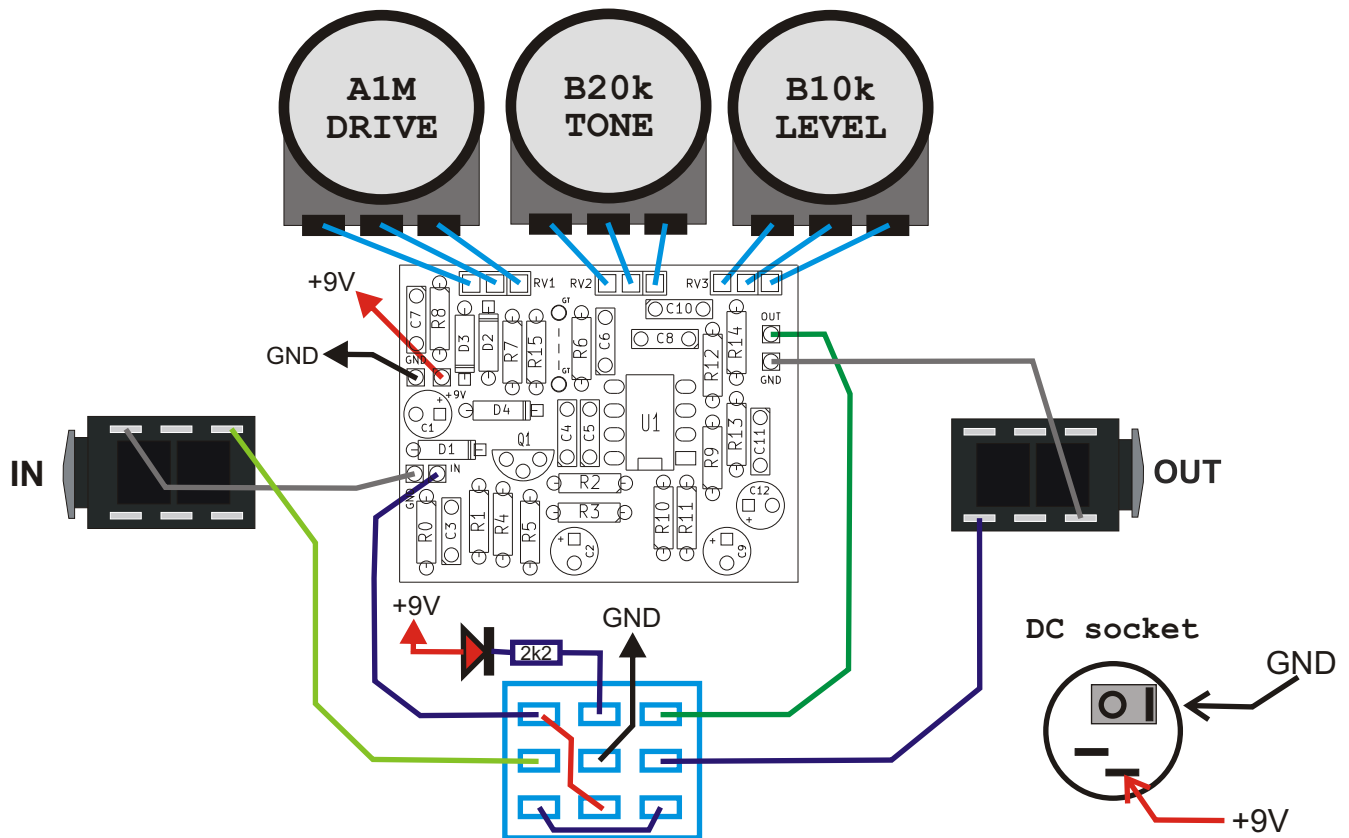


PCB parts placement diagram:



R0	1M	C1	100u
R1	10k	C2	4u7
R2	100k	C3	47n
R3	1M8	C4	3n3
R4	2M2	C5	15n
R5	22k	C6	47n
R6	100k	C7	120p
R7	4k7	C8	47n
R8	33k	C9	10u
R9	10k	C10	47n
R10	33k	C11	10n
R11	33k	C12	3u3
R12	470R		
R13	10k	D1	1N400X
R14	4k7	D2	1N914
R15	10k	D3	1N914
RV1	A1M	D4	1N914
RV2	B20k	Q1	MPSA14
RV3	B10k	U1	MC33178
GT	empty		

Wiring (bottom view) :



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

Bill of materials:

Resistors:

470R 1pcs. "R12"
2k2 1pcs. "LED"
4k7 2pcs. "R7 R14"
10k 4pcs. "R1 R9 R13 R15"
22k 1pcs. "R5"
33k 3pcs. "R8 R10 R11"
100k 2pcs. "R2 R6"
1M 1pcs. "R0"
1M8 1pcs. "R3"
2M2 1pcs. "R4"

Potentiometers:

A1M 1pcs. "DRIVE"
B10k 1pcs. "LEVEL"
B20k 1pcs. "TONE"

Capacitors:

120p 1pcs. "C7"
3n3 1pcs. "C4"
10n 1pcs. "C11"
15n 1pcs. "C5"
47n 4pcs. "C3 C6
C8 C10"

Electrolytic capacitors:

3u3 1pcs. "C12"
4u7 1pcs. "C2"
10u 1pcs. "C9"
100u 1pcs. "C1"

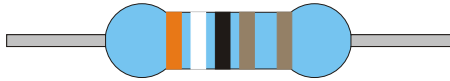
Other:

Knobs 3pcs.
Footswitch 3PDT 1pcs.
DC socket 5.5/2.1 1pcs.
JACK socket 2pcs.

Semiconductors:

MC33178 1pcs. "U1"
MPSA14 1pcs. "Q1"
1N400X 1pcs. "D1"
1N914 3pcs. "D2 D3 D4"
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 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:

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

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