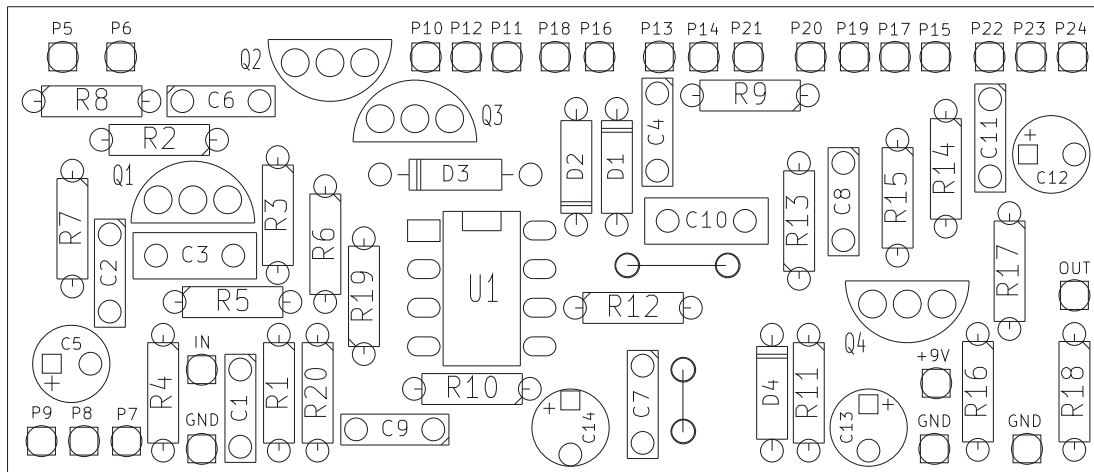
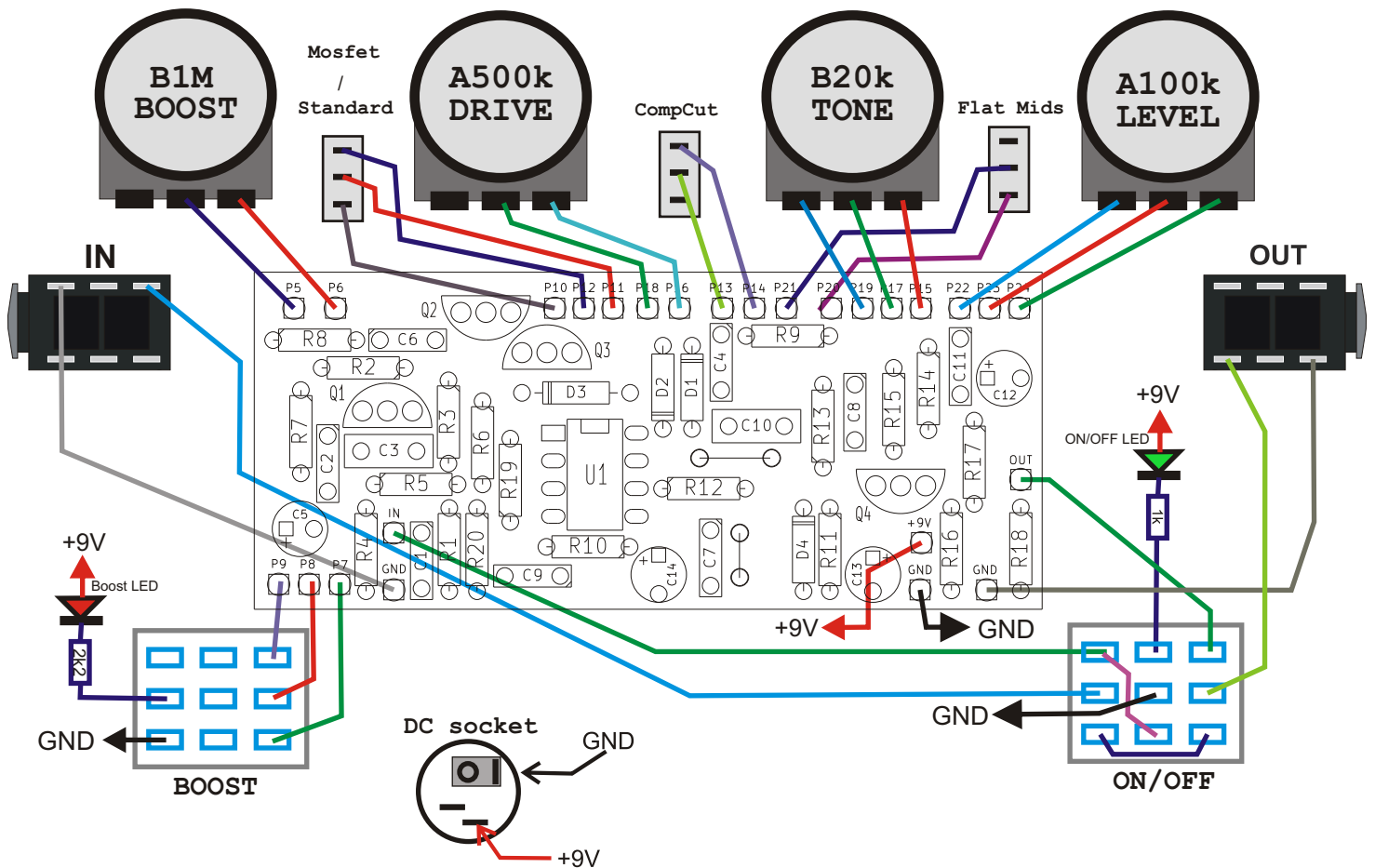


PCB parts placement diagram:



C1	10p	R1	1M	R15	510k	D1	1N400X
C2	22n	R2	1k	R16	10k	D2	1N914
C3	1u	R3	510k	R17	100R	D3	1N34A
C4	47p	R4	10k	R18	82k	D4	1N400X
C5	10u	R5	10k	R19	10k	Q1	2N3904
C6	100n	R6	4k7	R20	10k	Q2	2N7000
C7	220n	R7	22k			Q3	2N7000
C8	220n	R8	22k			Q4	2N3904
C9	10n	R9	1k			U1	4558
C10	1u	R10	10k				
C11	100n	R11	220R	Boost	B1M		
C12	10u	R12	1k	Drive	A500k		
C13	100u	R13	47k	Tone	B20k		
C14	100u	R14	1k	Volume	A100k		

Wiring (bottom view):



Use metal enclosure connected to ground.

Power supply: 9V DC

Bill of materials:

Resistors:

100R 1pcs. "R17"  
 220R 1pcs. "R11"  
 1k 5pcs. "R2 R9 R12 R14 LED"  
 2k2 1pcs. "LED"  
 4k7 1pcs. "R6"  
 10k 6pcs. "R4 R5 R10 R16 R19 R20"  
 22k 2pcs. "R7 R8"  
 47k 1pcs. "R13"  
 82k 1pcs. "R18"  
 510k 2pcs. "R3 R15"  
 1M 1pcs. "R1"

Capacitors:

10p 1pcs. "C1"  
 47p 1pcs. "C4"  
 10n 1pcs. "C9"  
 22n 1pcs. "C2"  
 100n 2pcs. "C6 C11"  
 220n 2pcs. "C7 C8"  
 1u 2pcs. "C3 C10"

Semiconductors:

4558 1pcs. "U1"  
 2N3904 2pcs. "Q1 Q4"  
 2N7000 2pcs. "Q2 Q3"  
 1N34A 1pcs. "D3"  
 1N400X 2pcs. "D1 D4"  
 1N914 1pcs. "D2"  
 LED 2pcs.

Electrolytic capacitors:

10u 2pcs. "C5 C12"  
 100u 2pcs. "C13 C14"

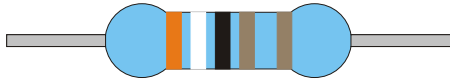
Other:

Knobs 4pcs.  
 Footswitch 3PDT 2pcs.  
 DC socket 5.5/2.1 1pcs.  
 JACK socket 2pcs.  
 Switch MTS102 3pcs.

Potentiometers:

B1M 1pcs. "BOOST"  
 A500k 1pcs. "DRIVE"  
 B20k 1pcs. "TONE"  
 A100k 1pcs. "LEVEL"

## Resistor color code:



$$390 \times 10\Omega = 3,9k\Omega$$

Color	Band 1	Band 2	Band 3	Multiplier	Tolerance
Black	0	0	0	1 $\Omega$	
Brown	1	1	1	10 $\Omega$	1%
Red	2	2	2	100 $\Omega$	2%
Orange	3	3	3	1k $\Omega$	
Yellow	4	4	4	10 k $\Omega$	
Green	5	5	5	100 k $\Omega$	0,5%
Blue	6	6	6	1 M $\Omega$	0,25%
Purple	7	7	7	10 M $\Omega$	0,1%
Gray	8	8	8	100 M $\Omega$	0,05%
White	9	9	9	1 G $\Omega$	
Gold				0,1 $\Omega$	5%
Silver				0,01 $\Omega$	10%

## Capacitors markings:

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

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

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

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

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

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

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

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

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

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

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

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