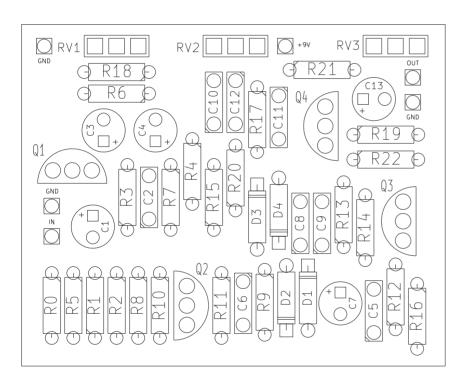
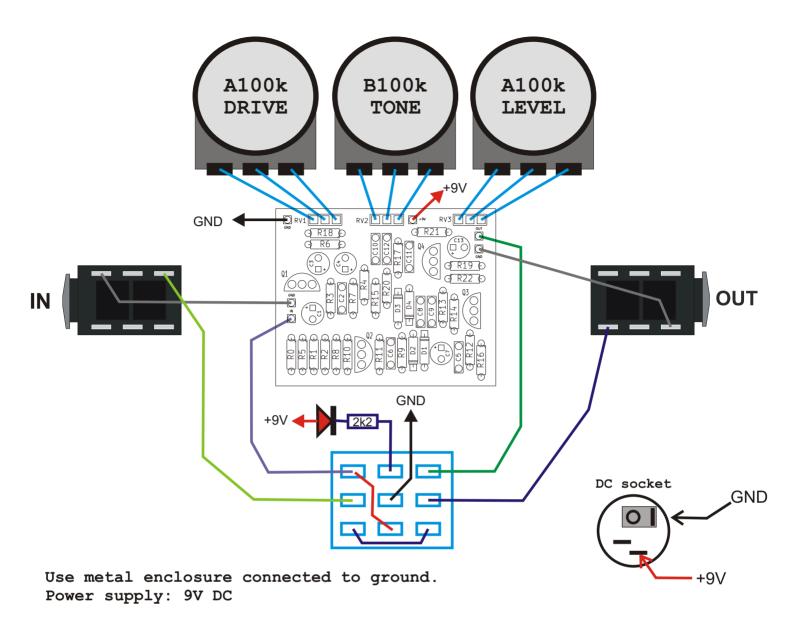


PCB parts placement diagram:



R0	1M	R13	100k	C1	1u	Q1	2N5088
R1	39k	R14	470k	C2	500p	Q2	2N5088
R2	100k	R15	15k	C3	1u	Q3	2N5088
R3	470k	R16	100R	C4	1u	Q4	2N5088
R4	15k	R17	39k	C5	100n	D1	1N914
R5	100R	R18	22k	C6	500p	D2	1N914
R6	1k	R19	100k	C7	1u	D3	1N914
R7	8k2	R20	390k	C8	100n	D4	1N914
R8	100k	R21	10k	C9	500p		
R9	470k	R22	2k2	C10	4n7		
R10	15k	RV1	A100k	C11	10n		
R11	100R	RV2	B100k	C12	100n		
R12	8k2	RV3	A100k	C13	1u		



Bill of materials:

Resistors:		Capacitors:			
100R 3pcs.	"R5 R11 R16"	500p 3pcs. "C2 C6 C9"			
1k 1pcs.	"R6"	4n7 1pcs. "C10"			
2k2 2pcs.	"R22 LED"	10n 1pcs. "C11"			
8k2 2pcs.	"R7 R12"	100n 3pcs. "C5 C8 C12"			
10k 1pcs.	"R21"				
15k 3pcs.	"R4 R10 R15"	Electrolytic capacitors:			
22k 1pcs.	"R18"	1u 5pcs. "C1 C3 C4 C7 C13"			
39k 2pcs.	"R1 R17"				
100k 4pcs.	"R2 R8 R13 R19"	Semiconductors:			
390k 1pcs.	"R20"	2N5088 4pcs. "Q1 Q2 Q3 Q4"			
470k 3pcs.	"R3 R9 R14"	1N914 4pcs. "D1 D2 D3 D4"			
1M 1pcs.	"R0"	LED 1pcs.			
Potentiomet	ers:	Other:			
_		-			
•		-			
		DC socket 5.5/2.1 1pcs.			
470k 3pcs. "R3 R9 R14"		1N914 4pcs. "D1 D2 D3 D4" LED 1pcs. Other: Knobs 3pcs. Footswitch 3PDT 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 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
```