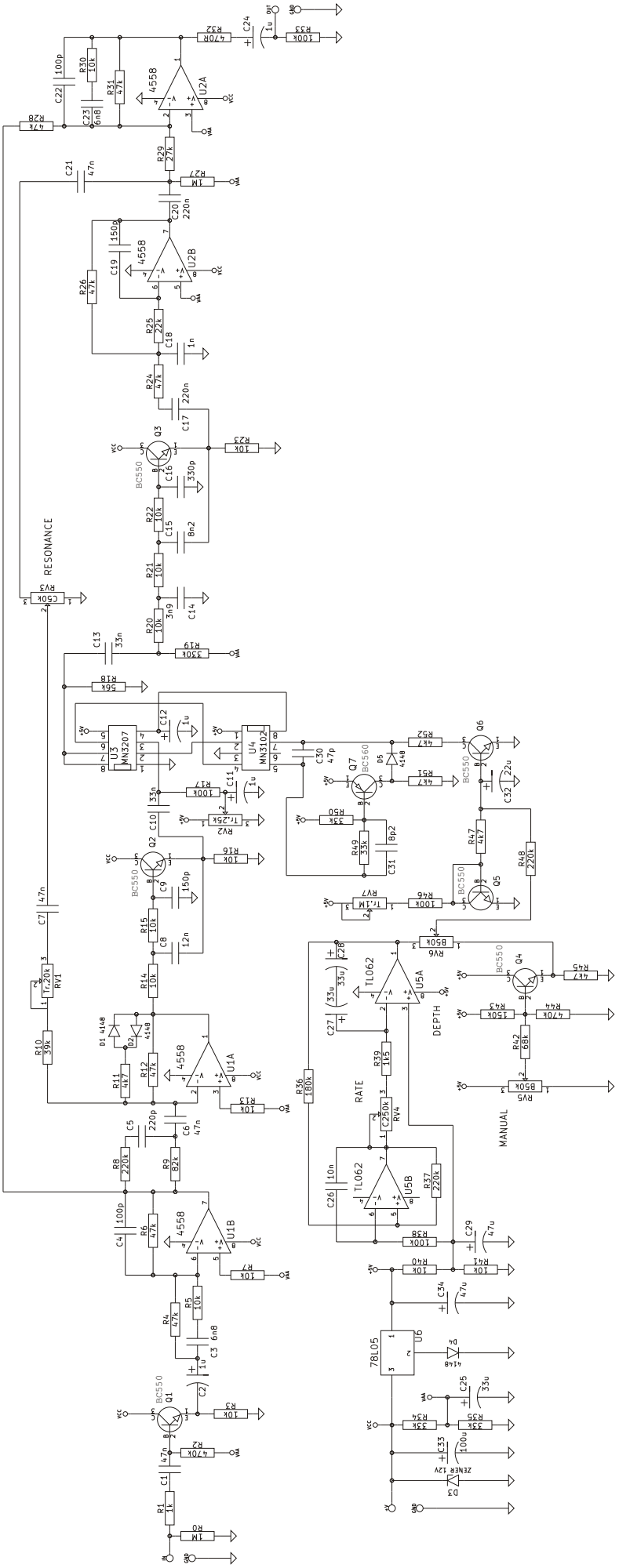
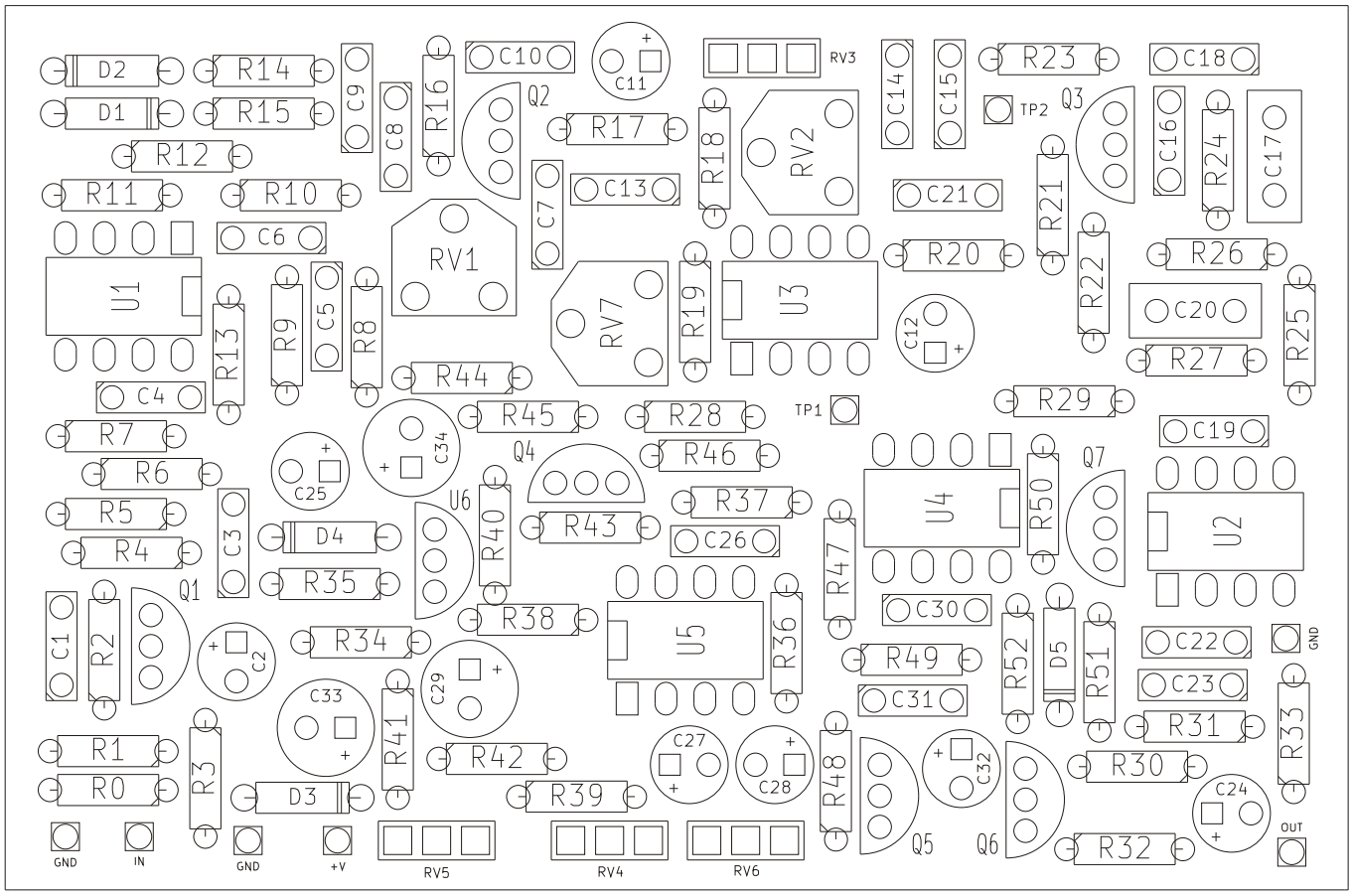

RESONANCE
RATE
DEPTH
MANUAL
4558
TL062
BC550
BC560
MN3207
MN3102
78L05
ZENER 12V

PCB parts placement diagram:



R0 1M
R1 1k
R2 470k
R3 10k
R4 47k
R5 10k
R6 47k
R7 10k
R8 220k
R9 82k
R10 39k
R11 4k7
R12 47k
R13 10k
R14 10k
R15 10k
R16 10k
R17 100k
R18 56k
R19 330k
R20 10k
R21 10k
R22 10k
R23 10k
R24 47k
R25 22k
R26 47k

R27 1M
R28 47k
R29 27k
R30 10k
R31 47k
R32 470R
R33 100k
R34 33k
R35 33k
R36 180k
R37 220k
R38 100k
R39 1k5
R40 10k
R41 10k
R42 68k
R43 150k
R44 470k
R45 4k7
R46 100k
R47 4k7
R48 220k
R49 33k
R50 33k
R51 4k7
R52 4k7

RV1 Tr.20k
RV2 Tr.25k
RV3 C50k
RV4 C250k
RV5 B50k
RV6 B50k
RV7 Tr.1M

C1 47n
C2 1u
C3 6n8
C4 100p
C5 220p
C6 47n
C7 47n
C8 12n
C9 150p
C10 33n
C11 1u
C12 1u
C13 33n
C14 3n9
C15 8n2
C16 330p
C17 220n
C18 1n
C19 150p

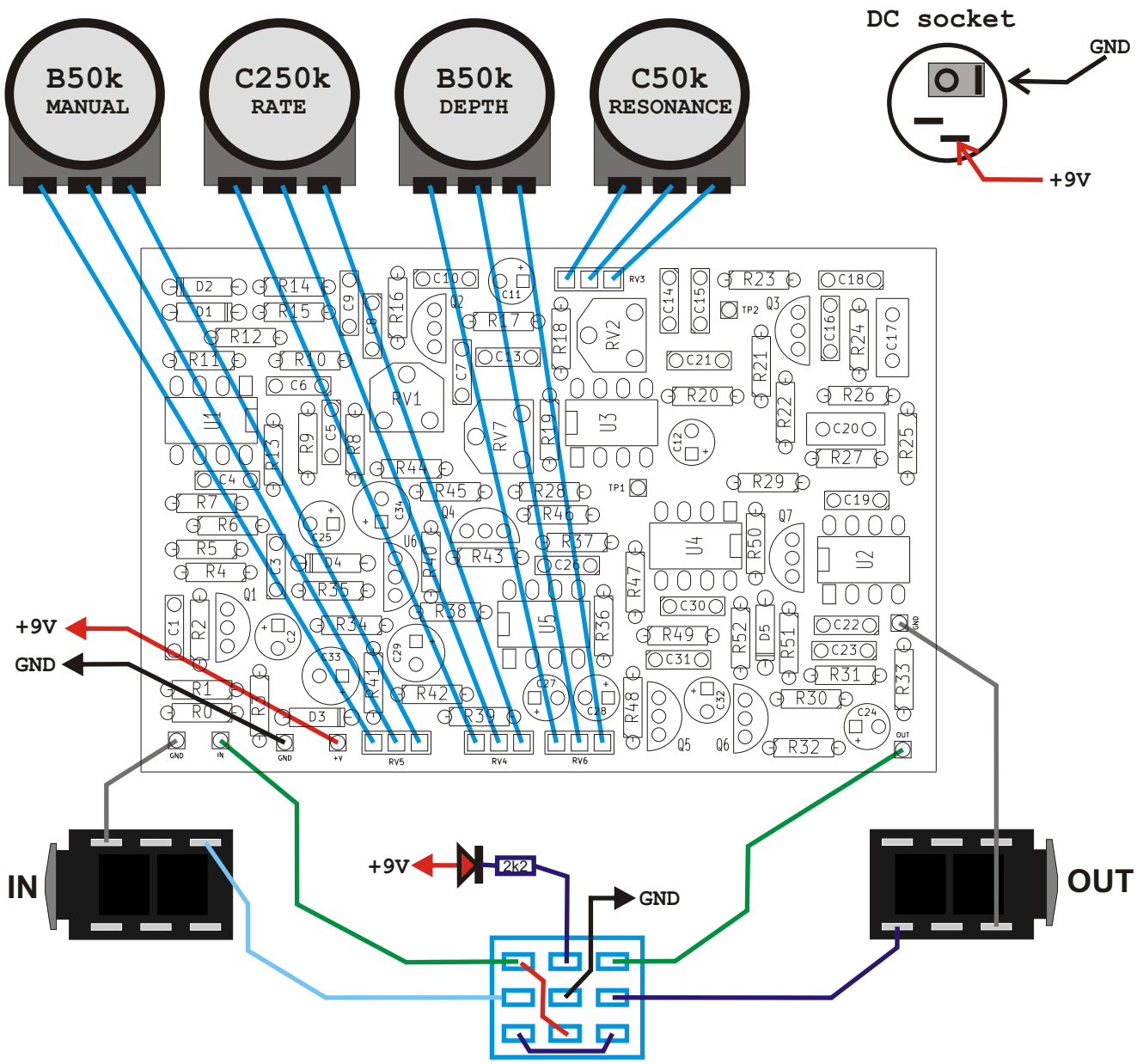
C20 220n
C21 47n
C22 100p
C23 6n8
C24 1u
C25 33u
C26 10n
C27 33u
C28 33u
C29 47u
C30 47p
C31 8p2
C32 22u
C33 100u
C34 47u

D1 4148
D2 4148
D3 ZENER 12V
D4 4148
D5 4148

Q1 BC550
Q2 BC550
Q3 BC550
Q4 BC550
Q5 BC550
Q6 BC550
Q7 BC560

U1 4558
U2 4558
U3 MN3207
U4 MN3102
U5 TL062
U6 78L05

Wiring (bottom view):



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

Adjustments:
- set DEPTH and MANUAL potentiometers to minimun and set RV7 trimpot to get 40kHz signal frequency at TP1 point;
- connect flanger to amplifier and guitar, set RESONANCE to maximum and set RV1 trimpot to the point when circuit start to oscillate;
- set RV2 trimpot in the middle of the "clean modulation area" (no modulation -> distorted sound - > clean modulation -> distorted sound -> no modulation).

Bill of materials:

Resistors:

470R	1pcs.	"R32"
1k	1pcs.	"R1"
1k5	1pcs.	"R39"
2k2	1pcs.	"LED"
4k7	5pcs.	"R11 R45 R47 R51 R52"
10k	14pcs.	"R3 R5 R7 R13 R14 R15 R16 R20 R21 R22 R23 R30 R40 R41"
22k	1pcs.	"R25"
27k	1pcs.	"R29"
33k	4pcs.	"R34 R35 R49 R50"
39k	1pcs.	"R10"
47k	7pcs.	"R4 R6 R12 R24 R26 R28 R31"
56k	1pcs.	"R18"
68k	1pcs.	"R42"
82k	1pcs.	"R9"
100k	4pcs.	"R17 R33 R38 R46"
150k	1pcs.	"R43"
180k	1pcs.	"R36"
220k	3pcs.	"R8 R37 R48"
330k	1pcs.	"R19"
470k	2pcs.	"R2 R44"
1M	2pcs.	"R0 R27"

Trimpots:

20k	1pcs.	"RV1"
25k	1pcs.	"RV2"
1M	1pcs.	"RV7"

Potentiometers:

B50k	2pcs.	"RV5 RV6"
C50k	1pcs.	"RV3"
C250k	1pcs.	"RV4"

Capacitors:

8p2	1pcs.	"C31"
47p	1pcs.	"C30"
100p	2pcs.	"C4 C22"
150p	2pcs.	"C9 C19"
220p	1pcs.	"C5"
330p	1pcs.	"C16"
1n	1pcs.	"C18"
3n9	1pcs.	"C14"
6n8	2pcs.	"C3 C23"
8n2	1pcs.	"C15"
10n	1pcs.	"C26"
12n	1pcs.	"C8"
33n	2pcs.	"C10 C13"
47n	4pcs.	"C1 C6 C7 C21"
220n	2pcs.	"C17 C20"

Electrolytic capacitors:

1u	4pcs.	"C2 C11 C12 C24"
22u	1pcs.	"C32"
33u	3pcs.	"C25 C27 C28"
47u	2pcs.	"C29 C34"
100u	1pcs.	"C33"

Semicondustors:

BC560	1pcs.	"Q7"
BC550	6pcs.	"Q1 Q2 Q3 Q4 Q5 Q6"
4558	2pcs.	"U1 U2"
MN3207	1pcs.	"U3"
MN3102	1pcs.	"U4"
78L05	1pcs.	"U6"
TL062	1pcs.	"U5"
1N4148	4pcs.	"D1 D2 D4 D5"
ZENER12V	1pcs.	"D3"
LED	1pcs.	

Other:

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

Resistor color code:

390 x 10Ω = 3,9kΩ

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 MΩ	0,25%
Purple	7	7	7	10 MΩ	0,1%
Gray	8	8	8	100 MΩ	0,05%
White	9	9	9	1 GΩ	
Gold				0,1 Ω	5%
Silver				0,01 Ω	10%

Capacitors markings:

471 = 47 x 10^1 pF = 470pF
472 = 47 x 10^2 pF = 4700pF = 4,7nF
473 = 47 x 10^3 pF = 47000pF = 47nF
474 = 47 x 10^4 pF = 470000pF = 470nF

100pF	100p	100	101
220pF	220p	220	221
4,7nF	4n7	0.0047	472
10nF	10n	0.01	103
100nF	100n	0.1	104
220nF	220n	0.22	224
470nF	470n	0.47	474
1000nF	1uF	1u	105