

UK-electronic ©2011/14

Assembly manual kit Dr. Boogie V1.1

Page 1.....	Introduction
Page 2...3.....	Some components assignments
Page 4.....	Bill of material
Page 5.....	Soldering the pcb
Page 6.....	External wiring (small)
Page 7...9.....	Construction proposal
Page 10.....	Assembly
Page 11.....	External wiring
Page 12.....	Drill template
Page 13.....	Circuit

Many thanks; that you have decided on a kit from our home. The kit was created with all diligence for you and tested. However, should any deficiencies occur with respect to the quality or errors in the description, we would like to ask us this tell [mailto:\(info@uk-electronic.de\)](mailto:info@uk-electronic.de)

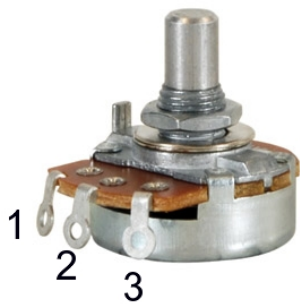
Described below in the kit it comes to the emulation of an amplifier type Boogie Rectifier ®

The emulation is based on FET transistors of type J201, which behave very similar in their properties a tube.

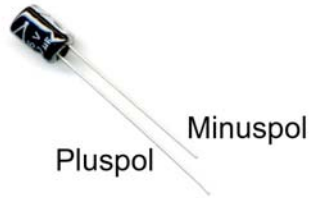
For correct function of the circuit, it is necessary that each 100K trim pot on the drain of the transistors adjust so that measured at drain voltages of about a 4.5 volts is applied (Initial) This voltage corresponds to approximately half the operating voltage of the device. The set by ear in the end stresses are, however, differ by the parameter variations of the transistors of the 4.5V something. The structure is relatively simple but should be done by beginners with calm and caution.

Some connection of important components

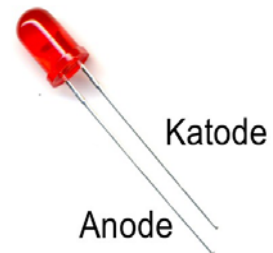
Standard Potentiometer



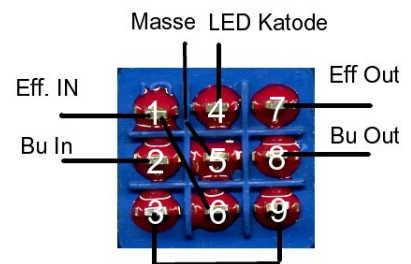
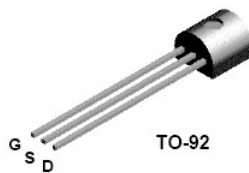
Elektrolytkondensator



Leuchtdiode (LED)



J201
J202






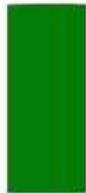






DC-Buchse isoliert



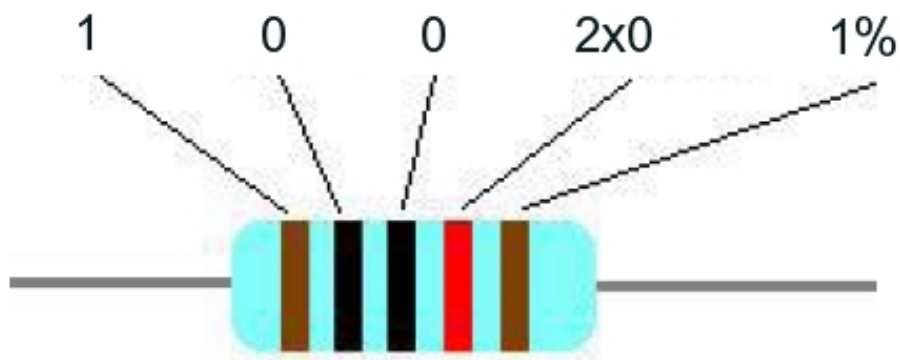
Color table for resistors MF207 FTE52 1% and a example

Resistor color code

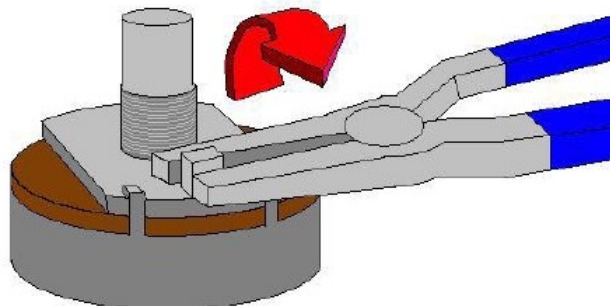
									
0	1	2	3	4	5	6	7	8	9

Example: Resistor MF207 10K 1%

Value: 10000 Ohm = 10KOhm



Breaking nose at the potentiometer
Nase am Poti mit einer Flachzange abbrechen

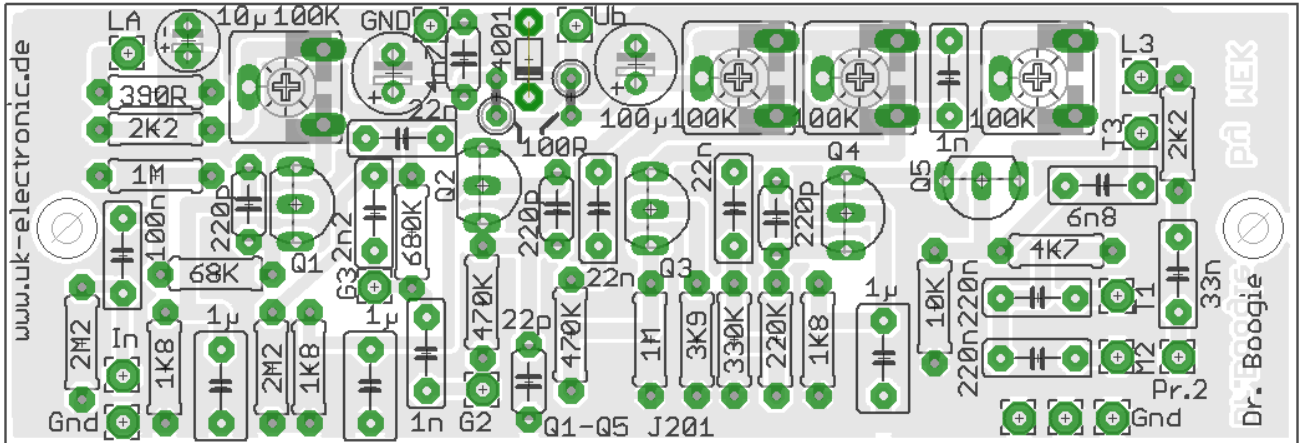


Bill of material	
Quantity	Description
1	Mono jack 6,35mm
1	Stereo jack 6,35mm
1	3PDT Switch
1	LED bezel 3mm
1	LED red 3mm Low Current
1	Potentiometer 1M A (log)
2	Potentiometer 100K A (log)
1	Potentiometer 25K A (log)
1	Potentiometer 10K B (lin)
1	Potentiometer 2,5K B (lin)
1	DC-jack isolated 5.5/2.1
2	Self adhesive spacer 12,7mm
5	Transistoren FET J201
1	Diode 1N40xx
4	Trim pot 100K CA6V
2	Resistor 100R (brown/black/black/black/brown)
1	Resistor 390R (orange/white/black/black/brown)
3	Resistor 1K8 (brown/grey/black/brown/brown)
2	Resistor 2K2 (red/red/black/brown/brown)
1	Resistor 3K9 (orange/white/black/brown/brown)
1	Resistor 4K7 (Gelb/Violett/Schwarz/Braun/Braun)
1	Resistor 10K (Braun/Schwarz/Schwarz/Rot/Braun)
1	Resistor 68K (Blau/Grau/Schwarz/Rot/Braun)
1	Resistor 220K (Rot/Rot/Schwarz/Orange/Braun)
1	Resistor 330K (Orange/Orange/Schwarz/Orange/Braun)
2	Resistor 470K (Gelb/Violett/Schwarz/Orange/Braun)
1	Resistor 680K (Blau/Grau/Schwarz/Orange/Braun)
2	Resistor 1M (Braun/Schwarz/Schwarz/Gelb/Braun)
2	Resistor 2M2 (Rot/Rot/Schwarz/Gelb/Braun)
1	Ceramic cap 22pF (Aufdruck 22)
3	Ceramic cap 220pF (Aufdruck 221)
2	Metalized foil capacitor 1nF (102)
1	Metalized foil capacitor 2,2nF (222)
1	Metalized foil capacitor 4,7nF (472)
1	Metalized foil capacitor 6,8nF (682)
3	Metalized foil capacitor 22nF (0.022μ/ 223)
1	Metalized foil capacitor 33nF (0.033μF/ 333)
1	Metalized foil capacitor 100nF (0.1μF/ 104)
2	Metalized foil capacitor 220nF (0.22μF/ 224)
3	Metalized foil capacitor 1μF (105)
1	Electrolytic 10μ256V
2	Electrolytic 100μ/25V
1	Some colored wire 0.14mm ²
1	Battery connector
1	PCB „Boogie“
3	Cable fastener
1	Heat shrink
6	Metal washer 7,4mm

Assembling PCB

First you should start with the lowest components, i.e. first the resistors, the diodes, the capacitors, the trimmers and finally the transistors.

Attention! G3 and G2 are printed upside down on the board! In the picture below it is labeled correctly.



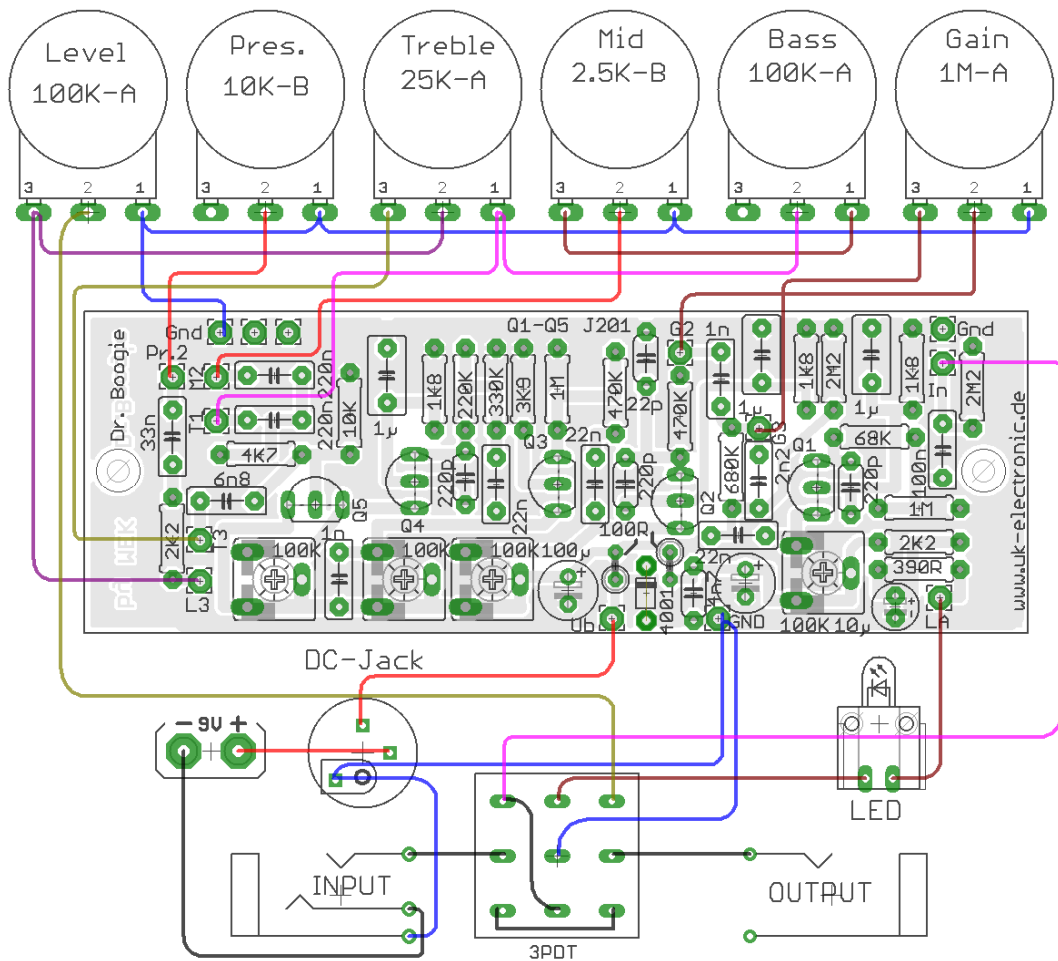
After the complete assembly of the printed circuit board one should carry out a visual inspection again for possible forgotten solder joints or possible tin bridges. Since the printed circuit board has a solder mask, there should be no problems with tin bridges.

The size 1590BB, GEH090 or an Eddystone enclosure PLSA29830 should be used. The easiest way is to install all potentiometers in a row according to the layout plan. Below you place the PCB, the switch and the LED.

The settings are limited to setting the drain voltages to approx. 4.5V and a subsequent function test. If the function is not correct, all connections should be checked, especially in connection with the potentiometers, sockets and the switch, as experience has shown that most errors are made here. By experimenting with different drain voltages, you can then adapt the device to your own individual sound ideas.

Approx. DC-Voltages on the Drains at the sample Unit- Ubatt = 9,07V
Q1=3,54V – Q2=3,57V – Q3=4,6V – Q4=0,6V

External wiring



Use those drill parameter for your enclosure:

Potentiometer : 7mm

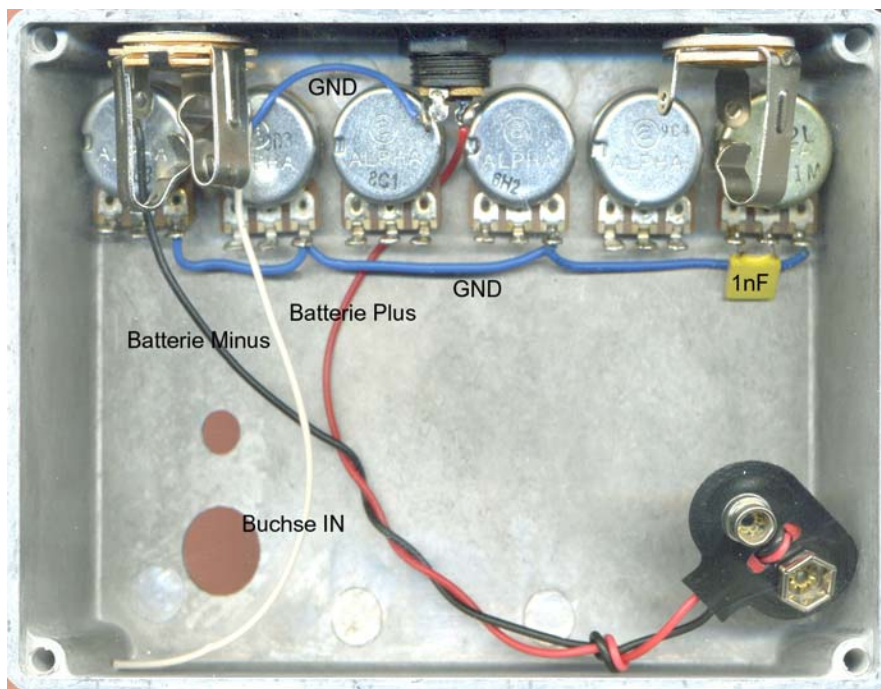
Audio jacks : 9.5mm

3PDT switch: 12mm

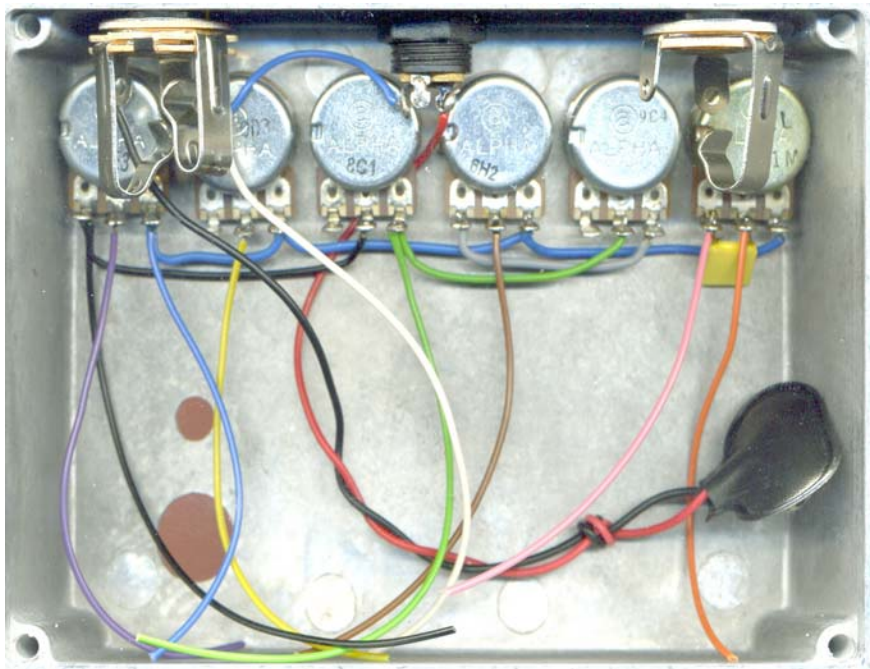
DC- jack: 12mm

LED bezel 6mm

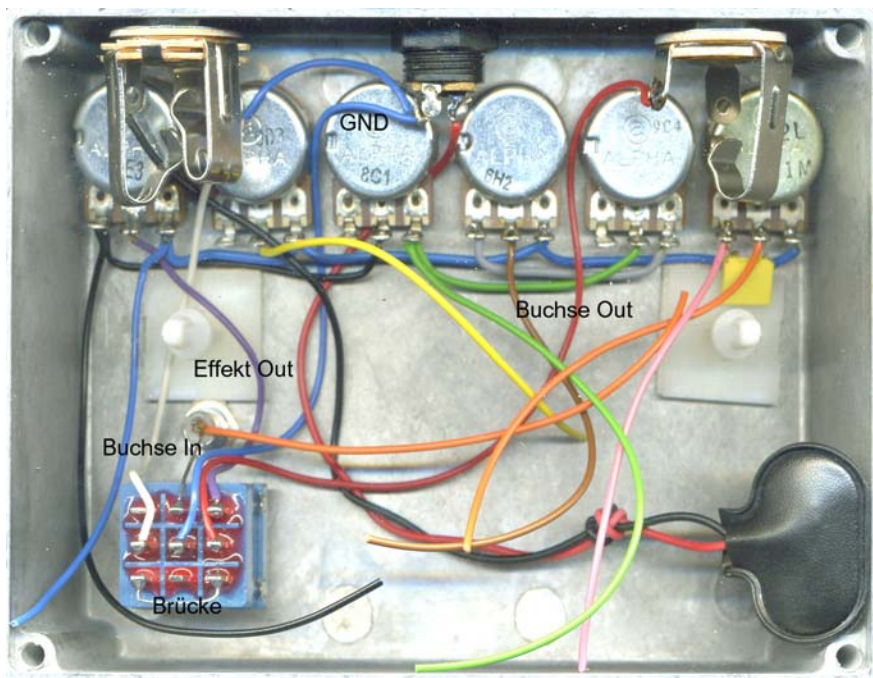
The holes for the jack sockets are located 10mm from the lower edge of the enclosure, those for the DC socket 12.5mm.



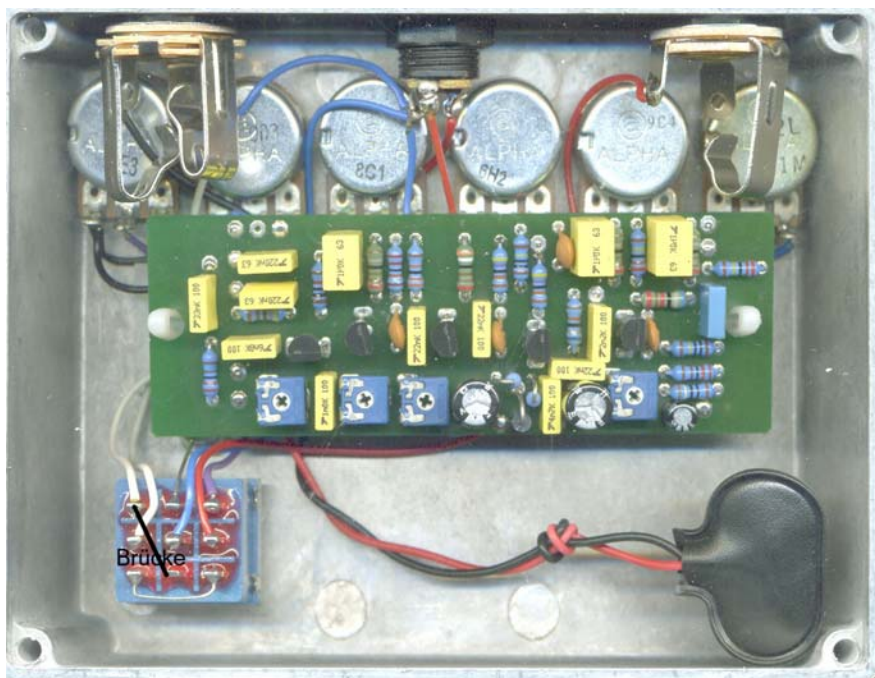
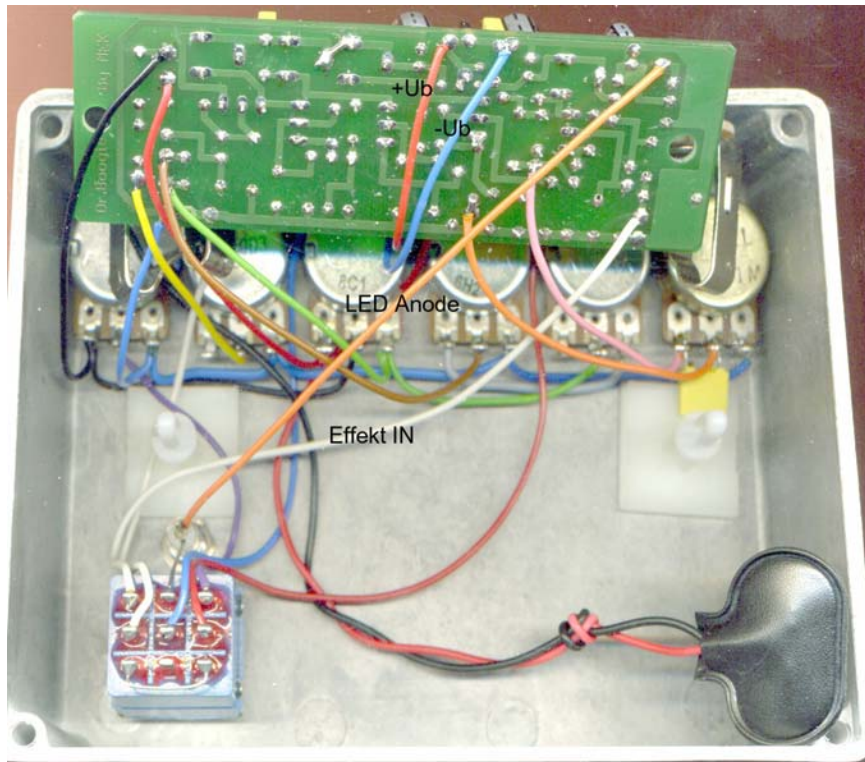
The input jack should be wired beforehand and then installed. The output jack does not have a separate ground connection. It gets the ground via the enclosure.

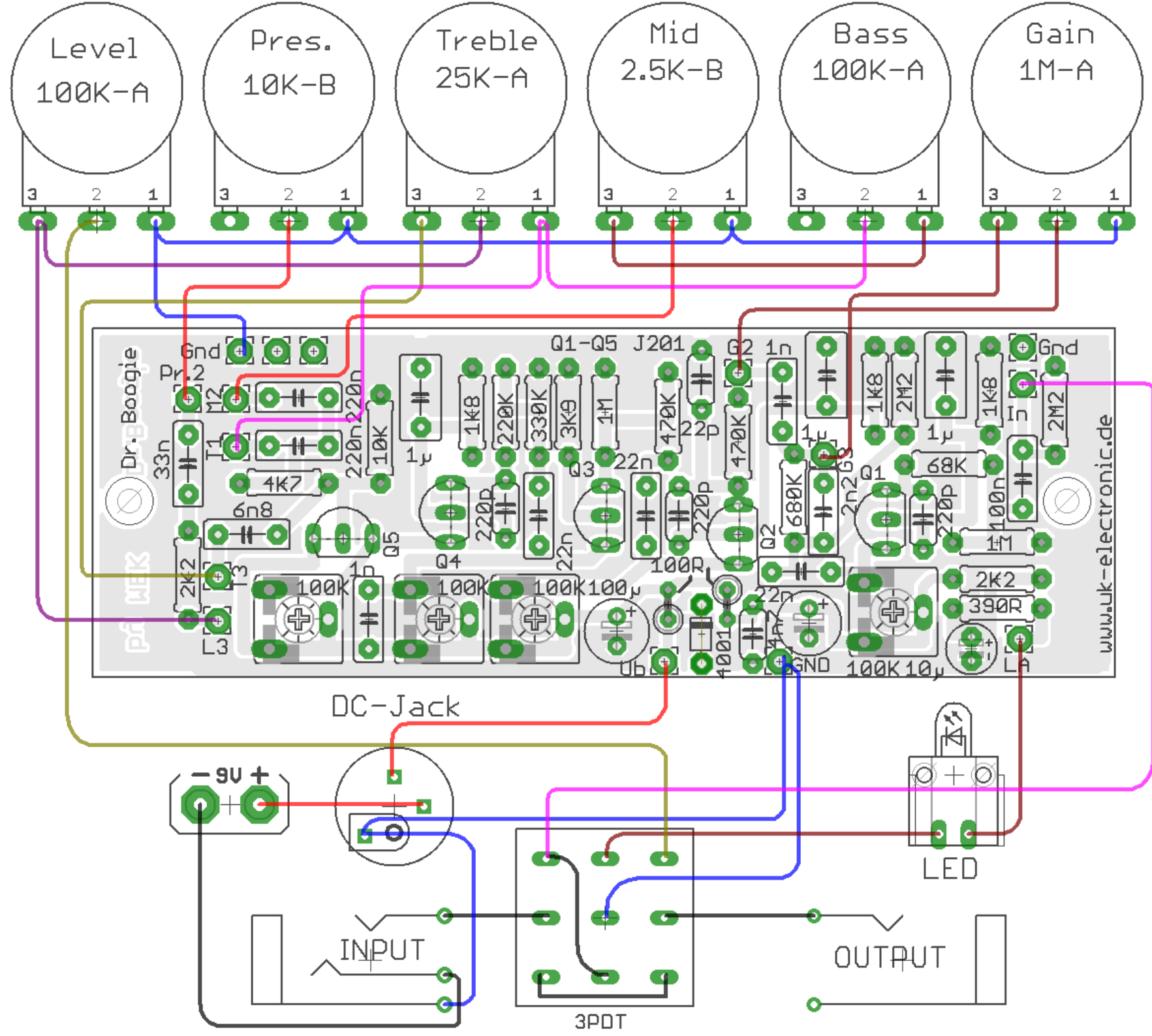


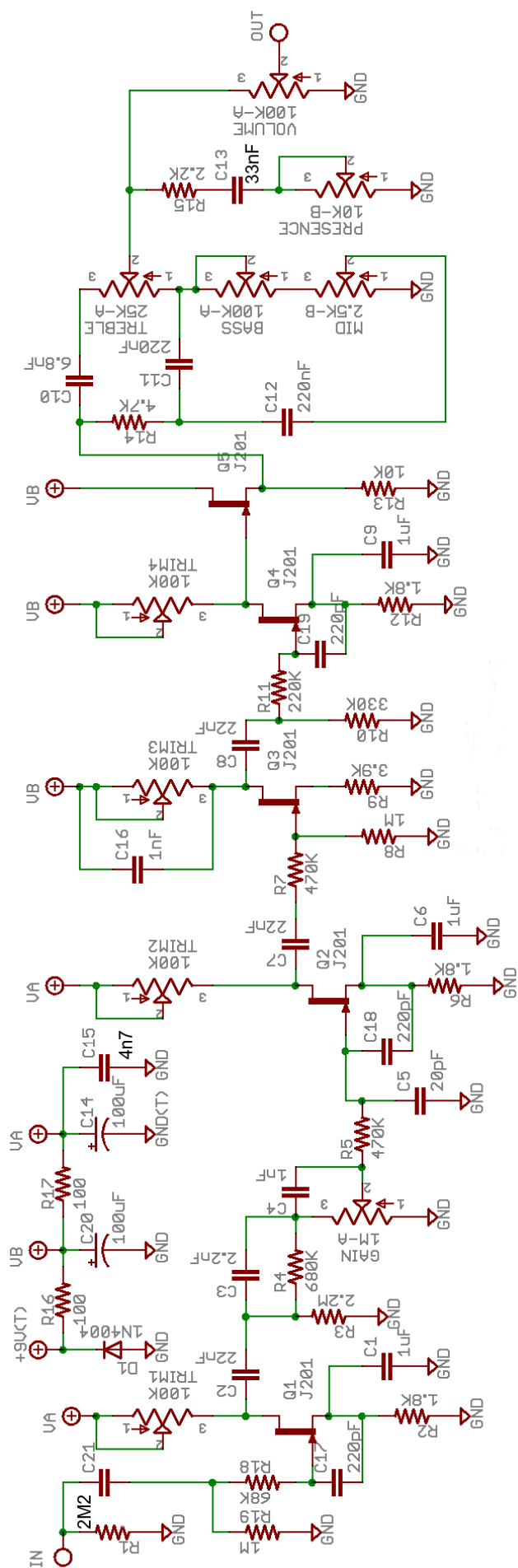
Solder the relevant wires to the pots as shown in the wiring diagram or as shown on the picture. The corresponding length is produced afterwards when soldering on the circuit board. In the picture unfortunately a wire Lug3 of the High Potentiometer is missing!



Then the switch and the LED including the socket are installed. The short wire of the LED (cathode) is soldered directly to the switch (Pin4). From the DC jack (GND) a wire is pulled to the switch (Pin5). The red wire leads from the output jack to the switch (Pin8). Don't forget the bridge between pin 3 and pin 9 at the switch, otherwise the bypass won't work.







OUTPUT

+

+

+

+

+

+

DC 9V

INPUT

Gain

Low

Mid

High

Pres.

Level

+

Dr. Boogie

+

EFFECT ON/OFF

□

13mm v. unten

+

+

+

+

+

+

14mm v. unten

+

z.b. Boogie