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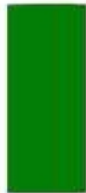




**Assembly manual for Kit BOR Clone Rev. 1.22  
(2N7000) Ver. 2014**

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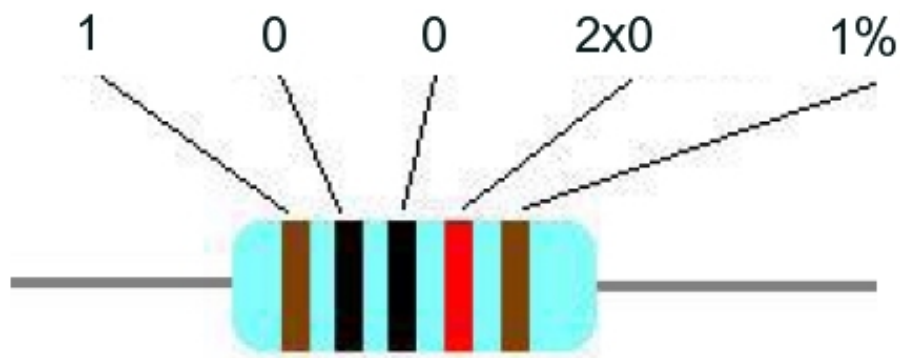
## Color table for resistors MF207 FTE52 1% and a example

### Resistor color code

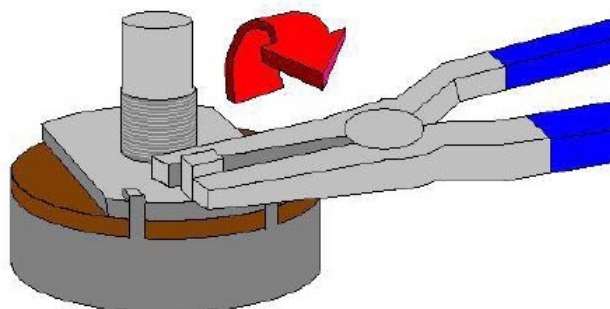
									
0	1	2	3	4	5	6	7	8	9

Example: Resistor MF207 10K 1%

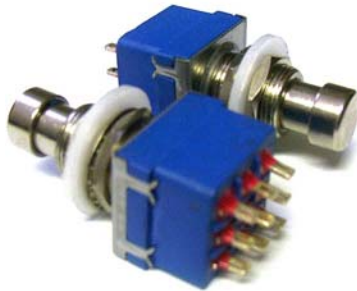
Value: 10000 Ohm = 10KOhm



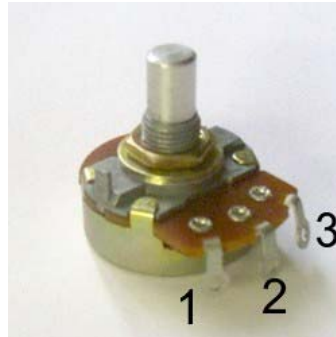
Breaking nose at the potentiometer  
Nase am Poti mit einer Flachzange abbrechen



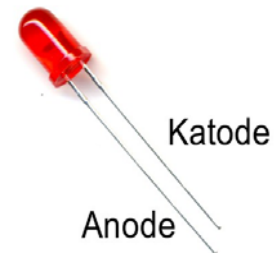
## Some connection of important components



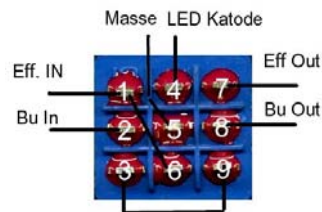
3PDT



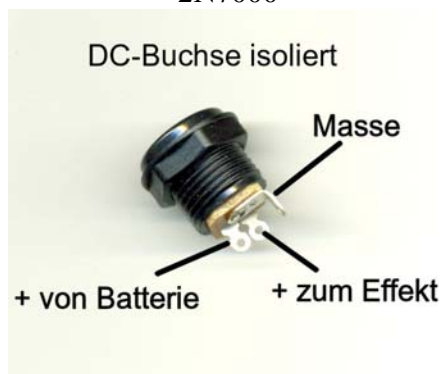
Leuchtdiode (LED)



TO-92



2N7000

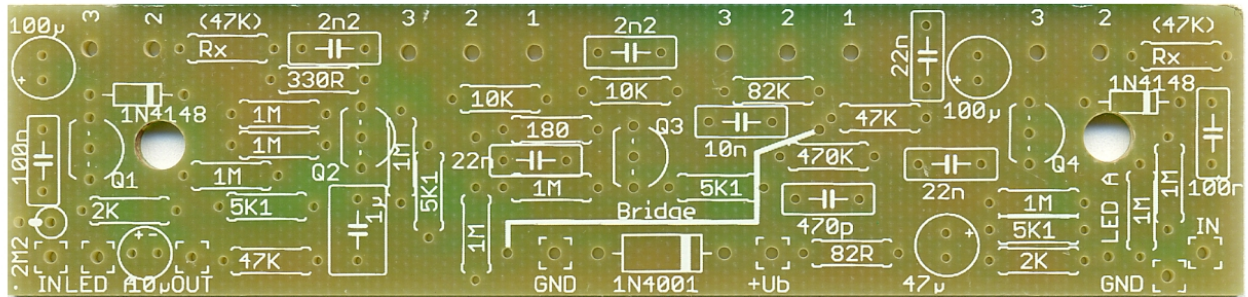


## Materialliste /Bill of material

Quantity	Description
1	Mono jack 6,35mm
1	Stereo jack 6,35mm
2	Steel washer 10,5mm for Audio jacks
2	3PDT Switch
2	LED bezel chrome 3mm
1	LED red 3mm Low Current
1	LED green 3mm Low Current
2	Pot 5K C reverse log.
2	Pot 100K B linear
4	Steel washer 7,4mm for pot
2	Self adhesive spacer pcb 12,7mm
1	DC-jack isolated 5.5/2.1mm
4	Mosfet 2N7000
2	Diode 1N4148 (Cathode line)
1	Diode 1N4001 (Cathode line)
1	Resistor 82 Ohm (grey/red/black/gold/brown)
1	Resistor 180 Ohm (brown/grey/black/black/brown)
1	Resistor 330 Ohm (orange/orange/black/black/brown)
2	Resistor 2K (red/black/black/brown/brown)
2	Resistor 2K7 (red/violet/black/brown/brown) – <b>(Rx ) for Vu&gt;1</b>
4	Resistor 5K1 (green/brown/black/brown/brown)
2	Resistor 10K (brown/black/black/red/brown)
4	Resistor 47K (yellow/violet/black/red/brown) – <b>(Rx ) for Vu=1</b>
1	Resistor 82K (grey/red/black/red/brown)
1	Resistor 470K (yellow/violet/black/orange/brown)
9	Resistor 1M (brown/black/black/yellow/brown)
1	Resistor 2M2 (red/red/black/yellow/brown)
1	Capacitor foil FKP2 470p
2	Capacitor foil MKT 2,2nF = 0.0022μF
1	Capacitor foil MKT 10nF = 0.01μF
3	Capacitor foil MKT 22nF = 0.022μF
2	Capacitor foil MKT 100nF = 0.1μF
1	Capacitor foil MKT 1μF
1	Electrolytic capacitor RASM 10μF/25V or more
1	Capacitor foil RASM 47μF/16V or more
2	Capacitor foil RASM 100μF/16V or more
1	Battery connector
1	Some coloured wire
1	PCB „BOR“
4	Cable fastener

Solder tin is not a part of delivery.

## Picture of the pcb top



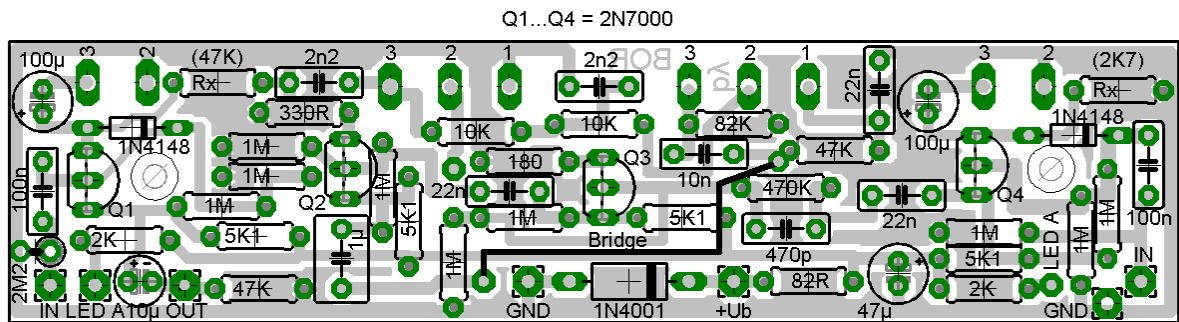
## Soldering the pcb

First, the printed circuit board is assembled by means of the placement schedule shown below. (This schedule may be printed larger at the end of this document). For this we should start with the lowest components to be fitted, i.e. as the first resistors, diodes, capacitors, transistors and circuit. You should definitely watch that one, the 82K resistors and the 82R and not confused, because then the board gets too little power and does not work. Clean work, especially the execution of the solder joints should have top priority to generally exclude from the outset assembly and solder defects. Pay particular attention to short circuits between pads and traces. Troubleshooting when installed is very expensive and time consuming. The attachment of the circuit board in the enclosure by means of the supplied self-adhesive spacer. The revision 1.21/1.22 is executed with the "no crackle" option. For this purpose, an additional resistor and an electrolytic capacitor has been inserted to eliminate the scratchy sound by the DC voltage on each of the potentiometers at the gain knob. The two resistors Rx (47K or 2K7) were chosen such that the gain or the left Boostpotentiometers the gain is approximately  $V_u$ . For a  $V_u=1$  at the ccw for the drive pot and boost pot, choose a resistor of 47K. For greater  $V_u=1$  choose 2K7. Both resistors are included in the Kit.

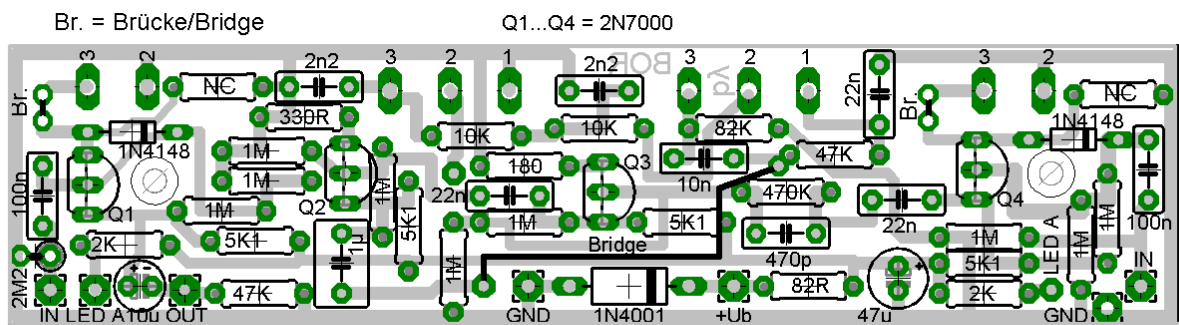
For the original version with crackle the 2 resistors are NC=not connected, not soldering. For the 2 electrolytic caps 100µF soldering a bridge.

For the external wiring, you can choose between Drive before Boost or Boost before Drive. Schematics see at the appendix.

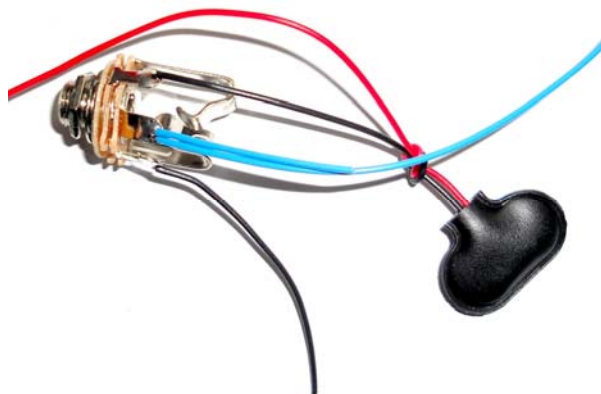
## Soldering pcb without crackle



## Soldering with crackle

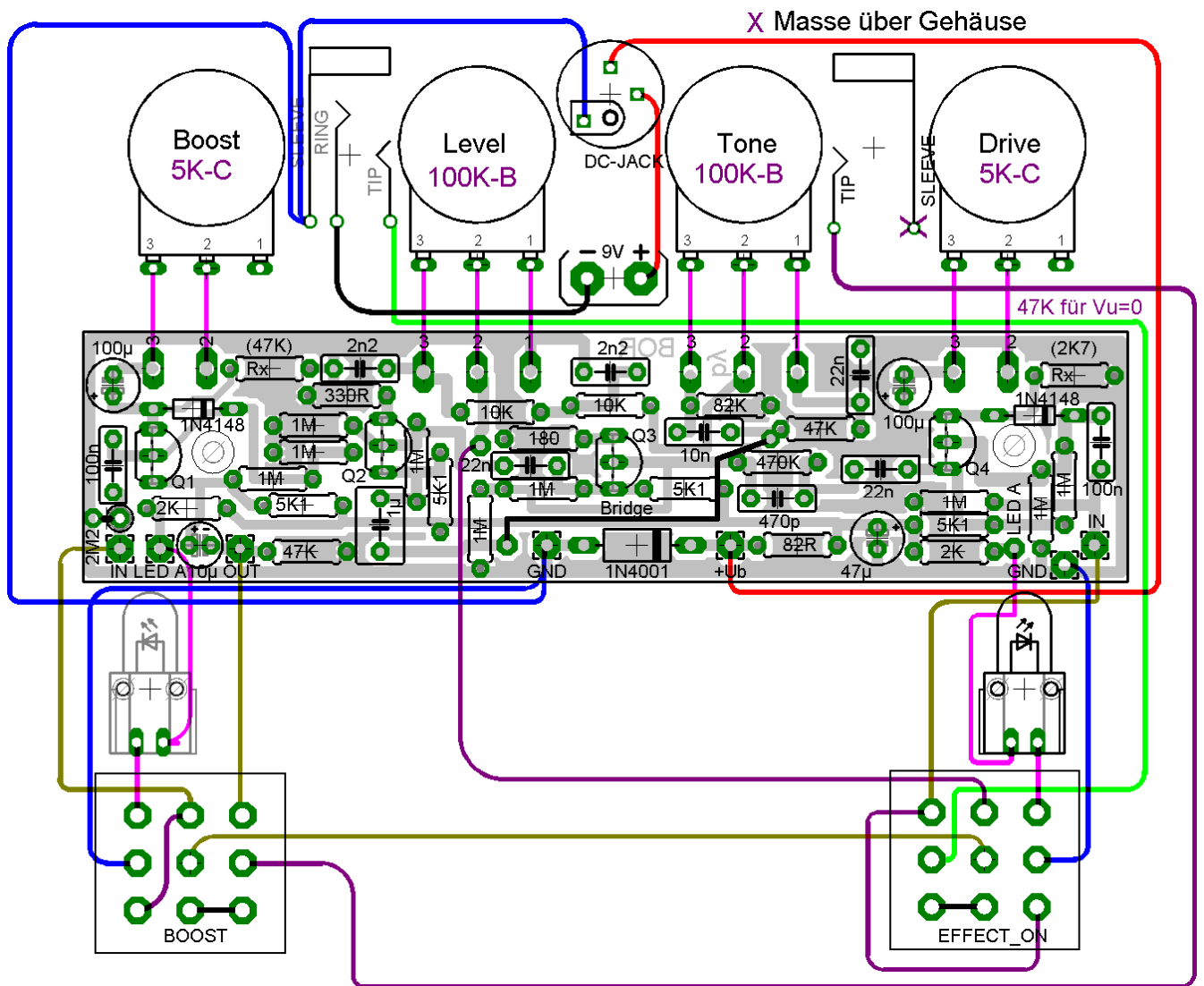


After the board is soldered, the enclosure is drilled first, the supplied pre-drilled and fitted with the mechanical enclosure components. It is advantageous to produce before the connections (wires) to the jack sockets, since they are not easily accessible after installation. The photo should make the whole somewhat understandable.





## External wiring



**The external wiring is for both versions are identically!**

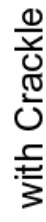
As enclosure is use a size 1590BB as a reasonable alternative to an ordinary building.

### For self-driller:

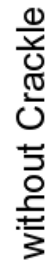
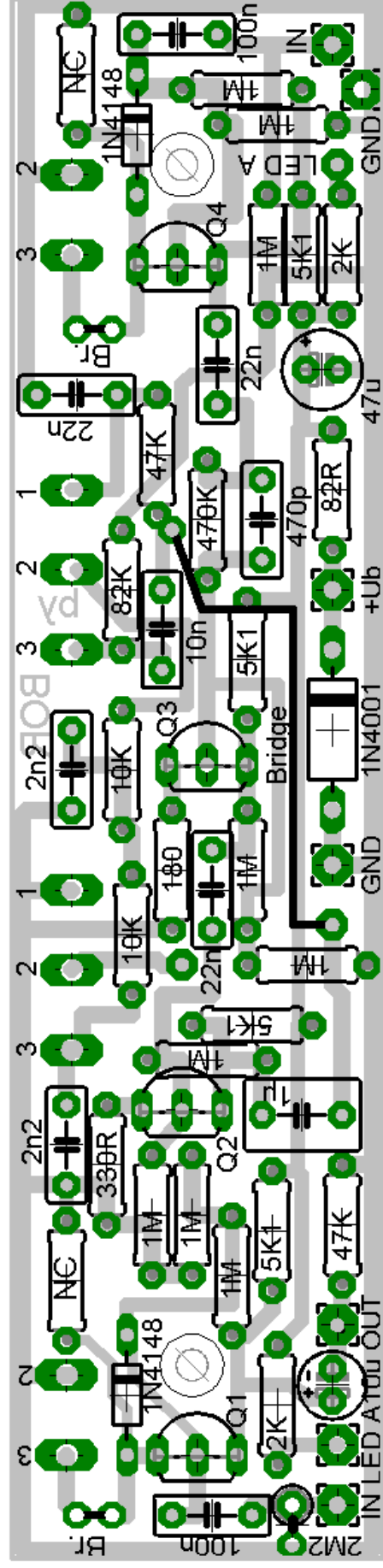
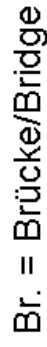
The following drill diameter should be used:

- Potentiometer: 7mm
- Jacks: 9.3mm
- 3PDT switch: 12mm
- DC jack: 12mm
- LED bezel: 6mm

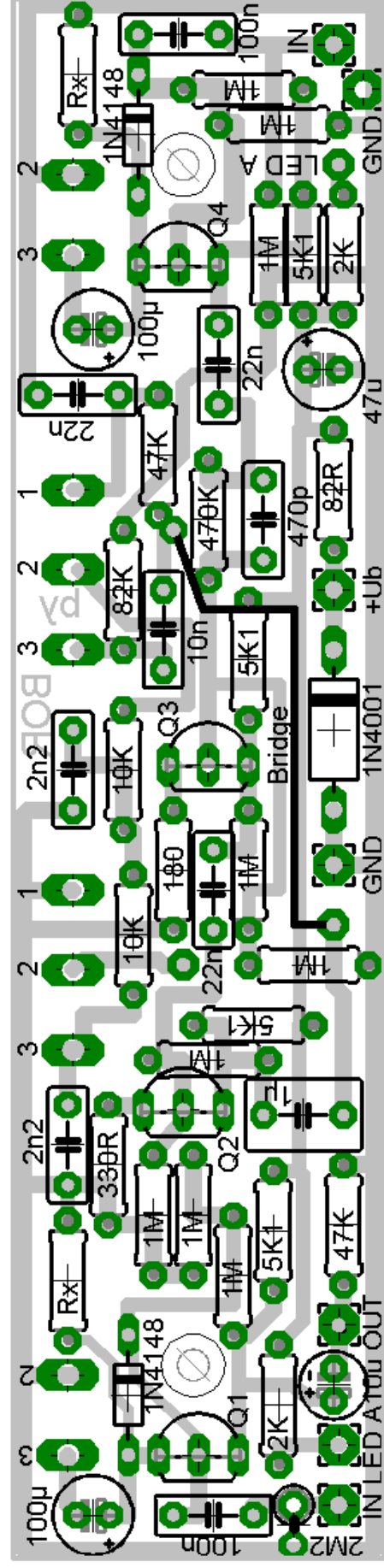
If clean up and properly wired, the effects device should work immediately. For any questions we are always available.



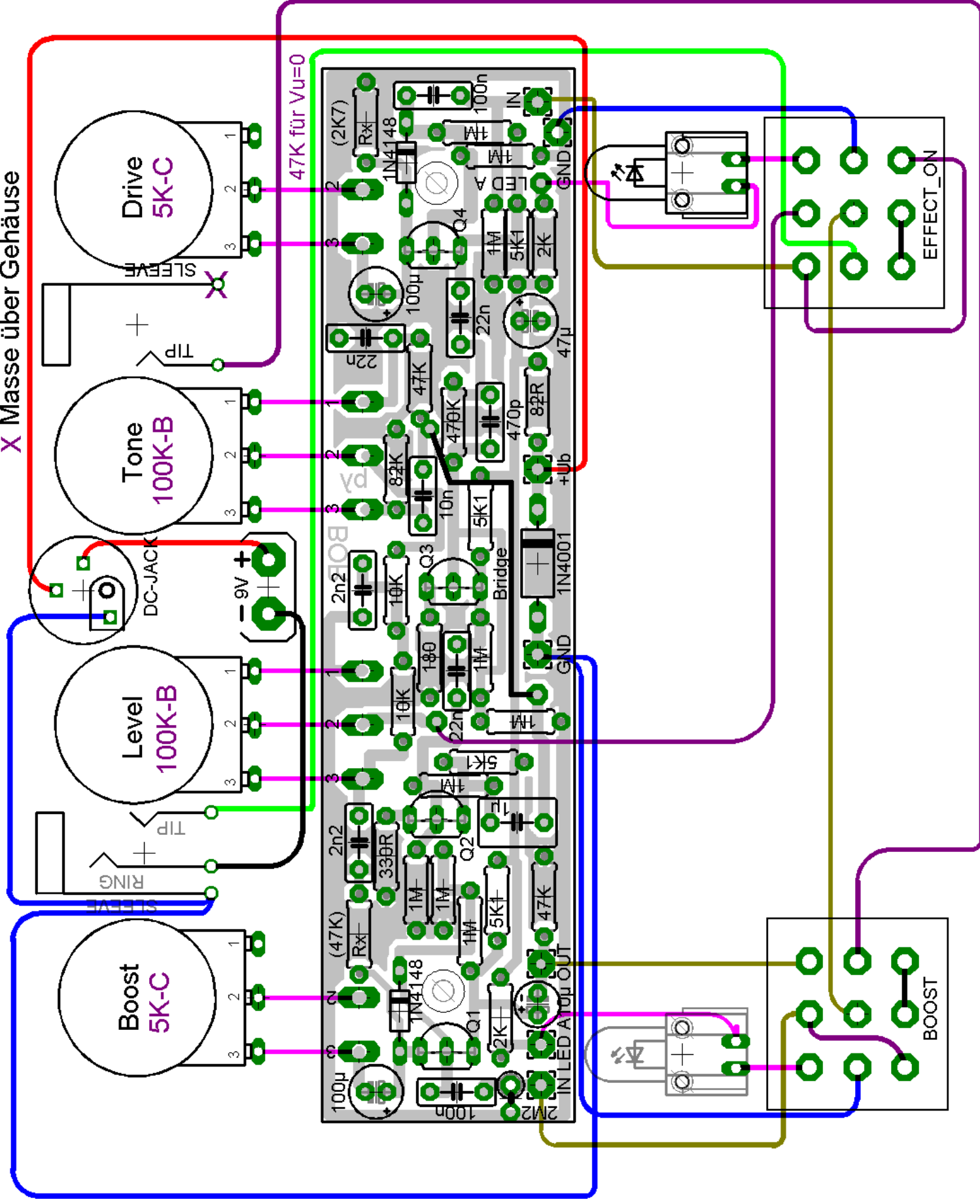
Q1...Q4 = 2N7000

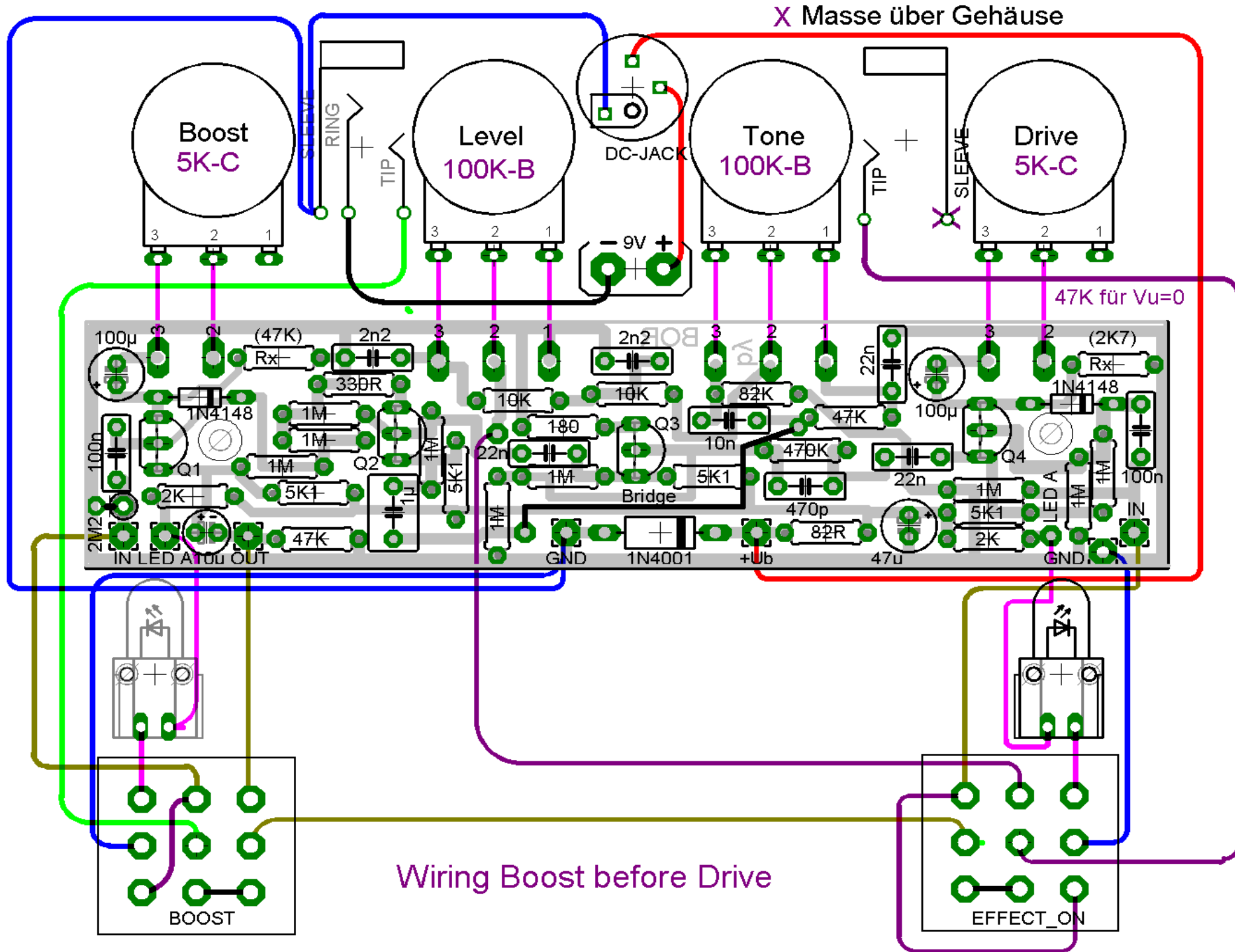


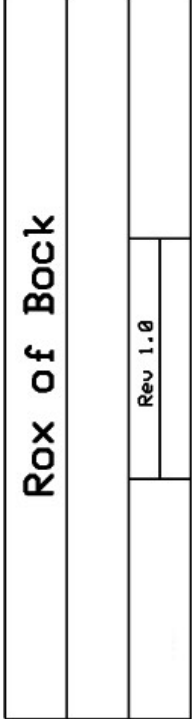
$Q1...Q4 = 2N7000$

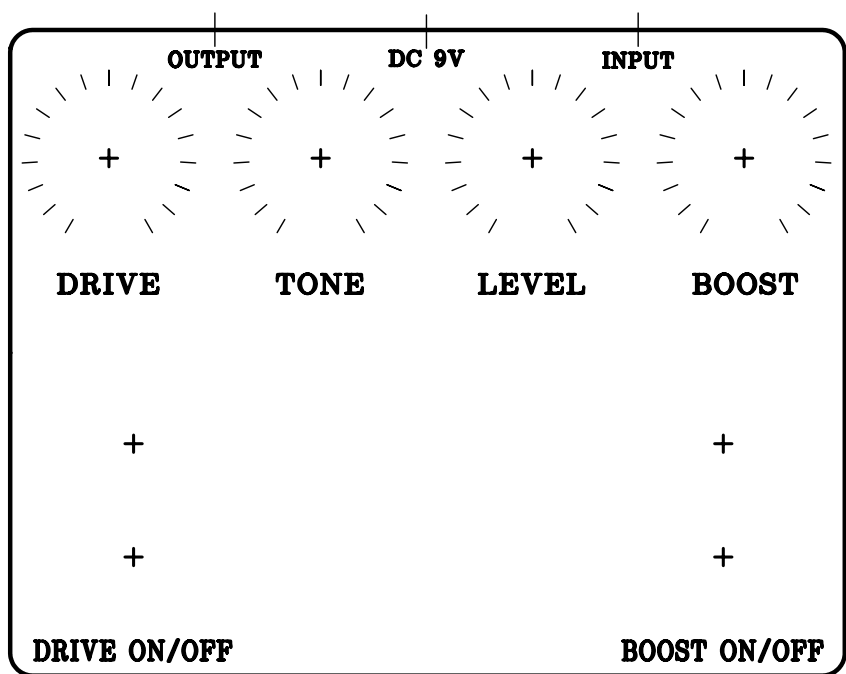












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