

Manual Miniverb V2 with the Belton BTDR-2-X Modul

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Thank you for choosing a kit from our company. The kit has been compiled with all diligence for you and tested. However, should any deficiencies occur with respect to the quality or errors in the description, we would ask you to inform us of this [mailto:\(technik@uk-electronic.de\)](mailto:technik@uk-electronic.de)

Short circuit description :

In the below-described kit it comes to building a digital reverb pedal, which is used as a basis, the BTDR- module of Belton / Accutronic.

The heart of the circuit is the BDTR-2 module which contains all of the components, such as A / D converter, delay, and D / A converter incl. the associated filter (3xPT2399). The module has as its predecessor 2 separate audio outputs, one of which can use a sound control (tone control) is unused. The module requires only a voltage of + 5V that is generated on the circuit board by a 78L05 from the 9V supply voltage.

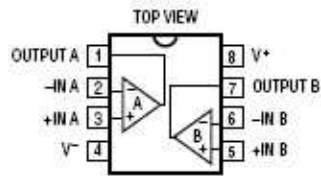
The only active components, a dual TL072 op amp is used, which amplifies the input signal by a factor of 2 and summed at the output with the original signal.

As controls one potentiometers are used, which the reverb level (Mix). Switching the effect on/off with a hardware True bypass using a 3PDT switch and LED indicator.

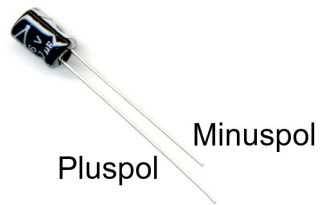
Due to the compact double side through-hole board, the structure is relatively simple and is described on the following pages.

Some connection of components

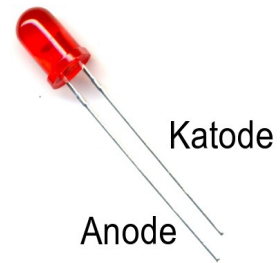
TL072



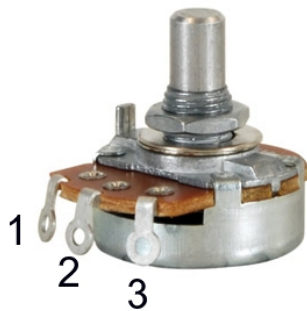
Elektrolytkondensator



Leuchtdiode (LED)



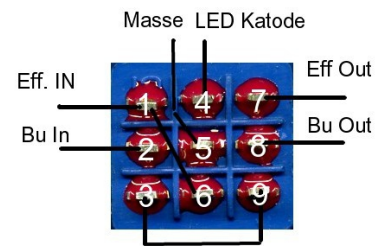
Standard Potentiometer



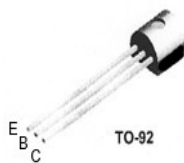
Widerstand













DPDT Schalter



BC 549C

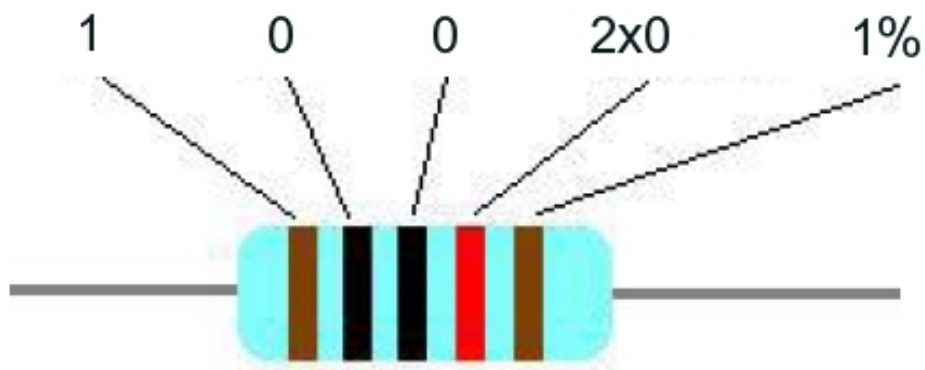


Resistor color code

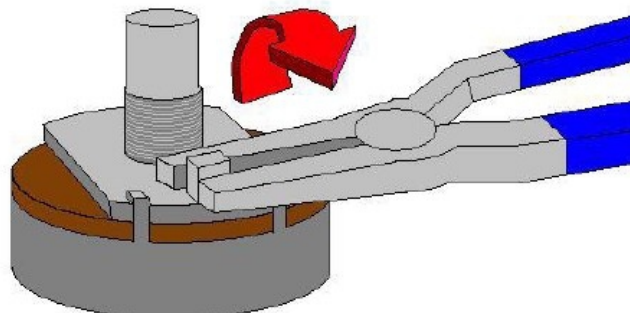
									
0	1	2	3	4	5	6	7	8	9

Example: Resistor MF207 10K 1%

Value: 10000 Ohm = 10KOhm



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



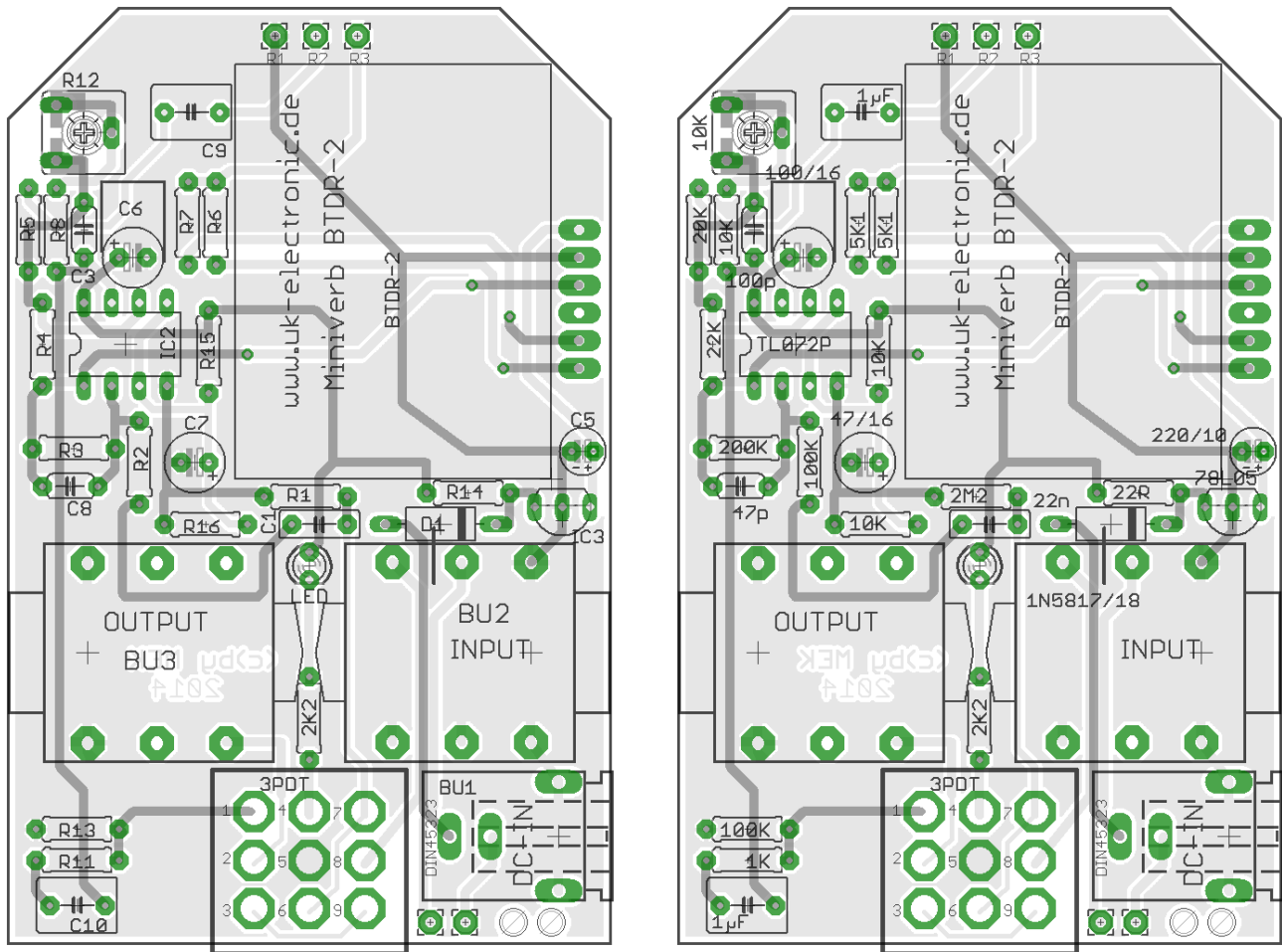
Bill of material

Quantity	Description
Resistors	
1	22R (red/red/black/gold/brown)
1	1K (brown/black/black/brown/brown)
1	2K2 (red/red/black/brown/brown)
2	5K1 (green/brown/black/black/brown)
3	10K (brown/black/black/red/brown)
1	20K (red/black/black/red/brown)
1	22K (red/red/black/red/brown)
2	100K (brown/black/black/orange/brown)
1	200K (red/black/black/orange/brown)
1	2M2 (red/red/black/yellow/brown)
1	Trim pot CA6V 10K
Capacitors	
1	Ceramic capacitor 47pF (47)
1	Ceramic capacitor 100pF (101)
1	MKT 0.022 μ F = 22nF (223)
2	MKT 1 μ F = 1000nF (105)
1	Elektrolytic capacitor RASM 47 μ F/16V
1	Elektrolytic capacitor RASM 100 μ F/16V
1	Elektrolytic capacitor RA 220 μ F/ 10V
Diodes	
1	Shottky-Diode 1N5817 or 5818 (Cathode = line)
1	LED 3mm Red Low current
Schaltkreise	
1	Reverb Modul Belton BTDR-2-X (your choose)
1	Voltage regulator 78L05- 5V/100mA
1	Dual OPV TL072
Potentiometer	
1	16mm Potentiometer 50K-B (linear) – Reverb
Mechanic	
1	Printboard Miniverb V2 DKL
2	Audio jack PCB-version (Mono- Output/Stereo- Input)
1	3PDT Switch Standard SL
1	DC-jack ROKA isolated pcb-version
1	LED spacer 22mm
1	Some coloured wire/ isolated hose/ heat shrink
1	Battery connector soft
1	Socket LC 08

Soldering tin is not part of delivery

Soldering the Printboard

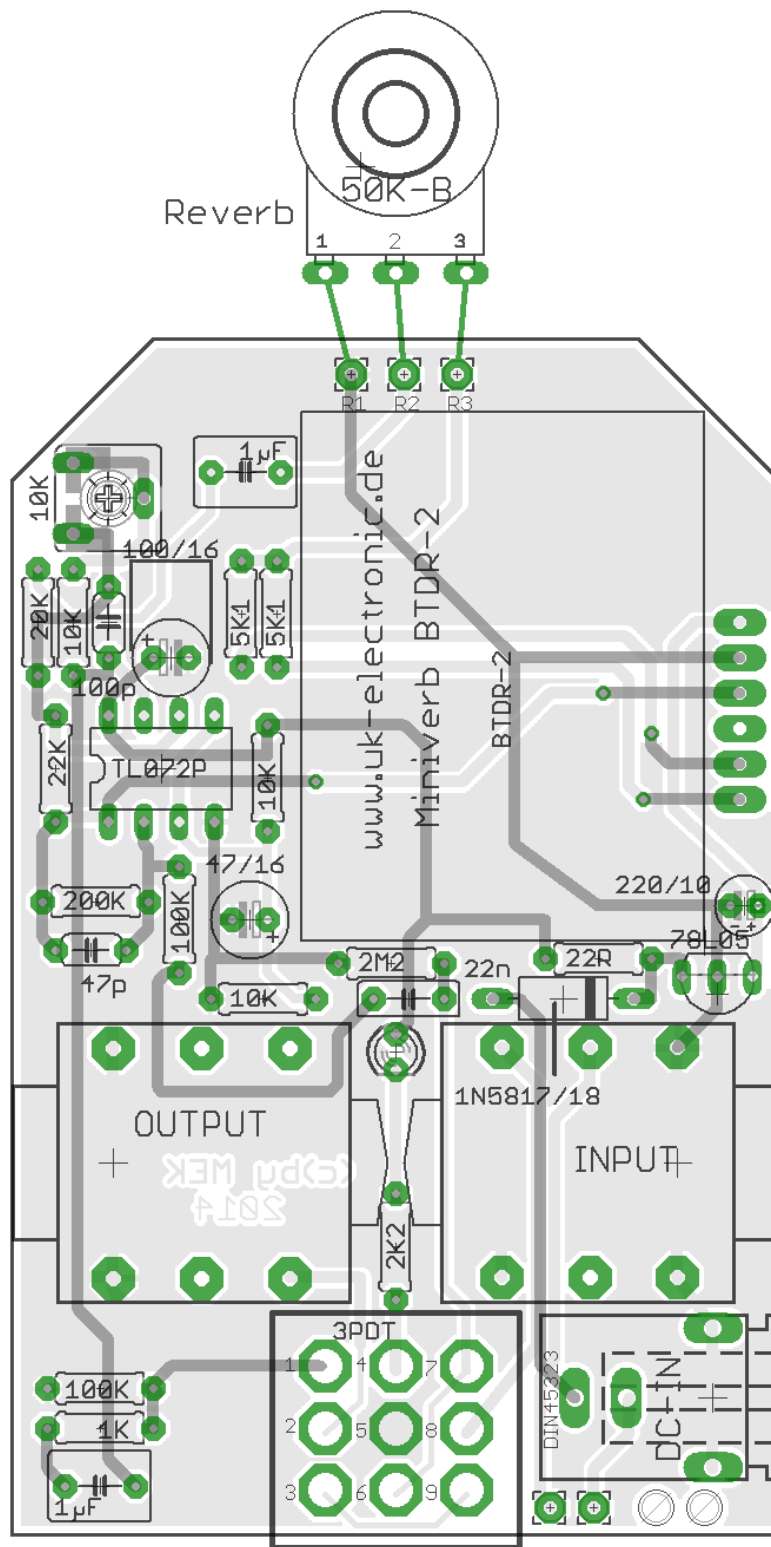
Back to the top you should start with the lowest components to be fitted, ie first, the resistors then the capacitors. In the next level then the IC sockets, the voltage regulator. The BTDR-2 module at the last (component side). Left are the names of the components, on the right picture the values.



One should make things quiet and rather even look because it is not as easy for inexperienced to switch to a through-hole printed circuit board, a component.

If everything is assembled and the potentiometer wired, they are soldered into the PCB only a.

Thus, the majority would already be done. Who has opted for a pre-drilled housing needs now just mount the Potentiometer and place the board about it. When the board you have to press a bit, and before the strands sort something neatly under the board, since it at the point where the dual potentiometer sits but is relatively scarce. In any case, the board must sit so that when you screw the peripheral groove does not touch any pins on the board.





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The following drill diameter should be used:

Potentiometer: 7 to 8mm

Jacks: 11mm

3PDT switch 13 to 14mm, making it possible to better fit the board if the holes of the jack bushes not agree 100%.

DC jack: 10mm

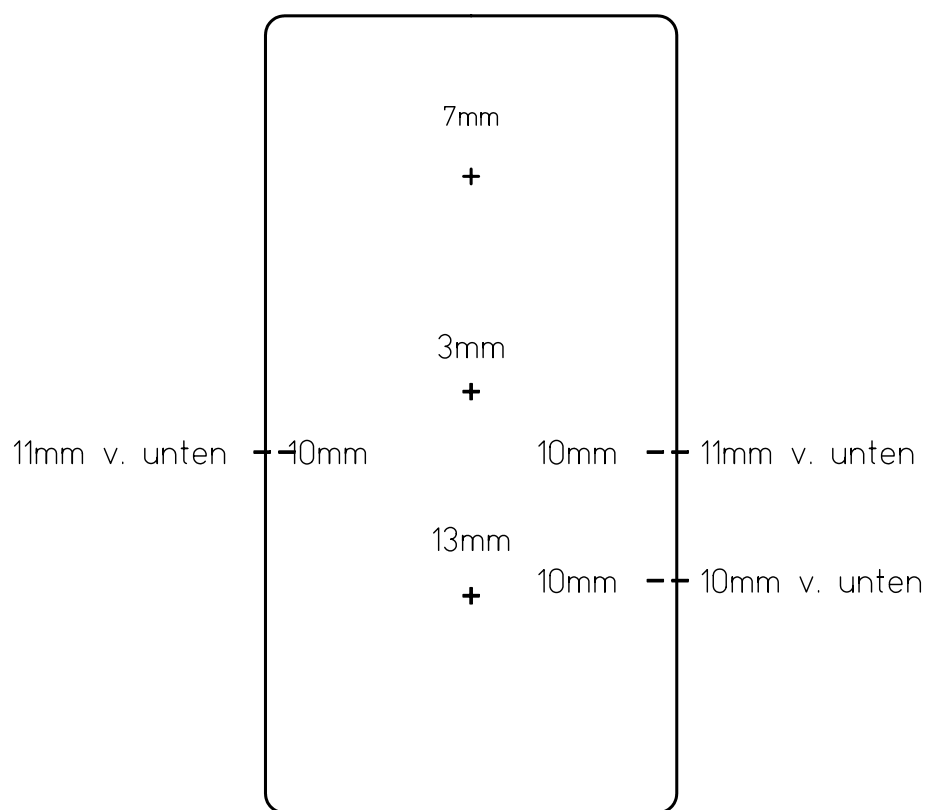
LED: 3mm

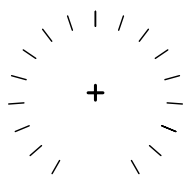
As knobs which are used for 6.35mm shaft with set screw. The trimmer potentiometer (10K) is used to balance the volume between the original signal and reverberated signal. Through the hole in the board is accessible after installation of the board with a small Phillips screwdriver.

The holes for the jacks are 12mm 11mm from the bottom edge, the DC jack. The distance phone jack ◇ DC jack is 18.5mm.

Technical design subject changes!

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REVERB

OUTPUT

+

INPUT 9-16V DC

+

Miniverb
Made in Germany

