

PACKING LIST BJB ANALOG REVERB KIT v.2

R1, R3 = 2M0 (*red black black yellow brown*)
R2, R12, R16, R17 = 10 k (*brown black black red brown*)
R4, R25 = 4k7 (*yellow purple black brown brown*)
R6 = 33 k (*orange orange black red brown*)
C1, C2 = 220 uF (*cylinder shaped, denoted "220 uF"*)

R5, R26 = 100 Ω (*brown black black black brown*)
R7 = 470 Ω (*yellow purple black black brown*)
R8, R9, R21 = 1 M (*brown black black yellow brown*)
R11 = 120 k (*brown red black orange brown*)
C6, C7, C10 = 4u7 (*cylinder shaped, denoted "4,7uF"*)
C3, C9 = 22 nF (*denoted "22 J 100"*)

R10, R14 = 100 k (*brown black black orange brown*)
R13 = 2k0 (*red brown black brown brown*)
R15 = 330 Ω (*orange orange black black brown*)
C4 = 47 pF (*ceramic capacitor*)
C5 = 680 nF (*denoted ".68 K 100"*)
C8 = 1 nF (*denoted "1n J 100"*)
LED D1
D2 = 1N4148 (*orange with black ring*)

R18, R22 = 15 k (*brown green black red brown*)
R19, R20 = 220 k (*red red black orange brown*)
R23 = 7k5 (*purple green black brown brown*)
R27 = 10 Ω (*brown black black gold brown*)
C11, C12 = 220 nF (*denoted ".22 J 63"*)
C13 = 1 uF (*cylinder shaped, denoted "1uF"*)

R24 = 150 k (*brown green black orange brown*)
C14 = 10 uF (*cylinder shaped, denoted "10 uF"*)
T1, T8 = J113
T2 = 2N1613
T3 = J175
T4, T5 = BC109C
TR1 = 10 k trimmer (*denoted "103"*)

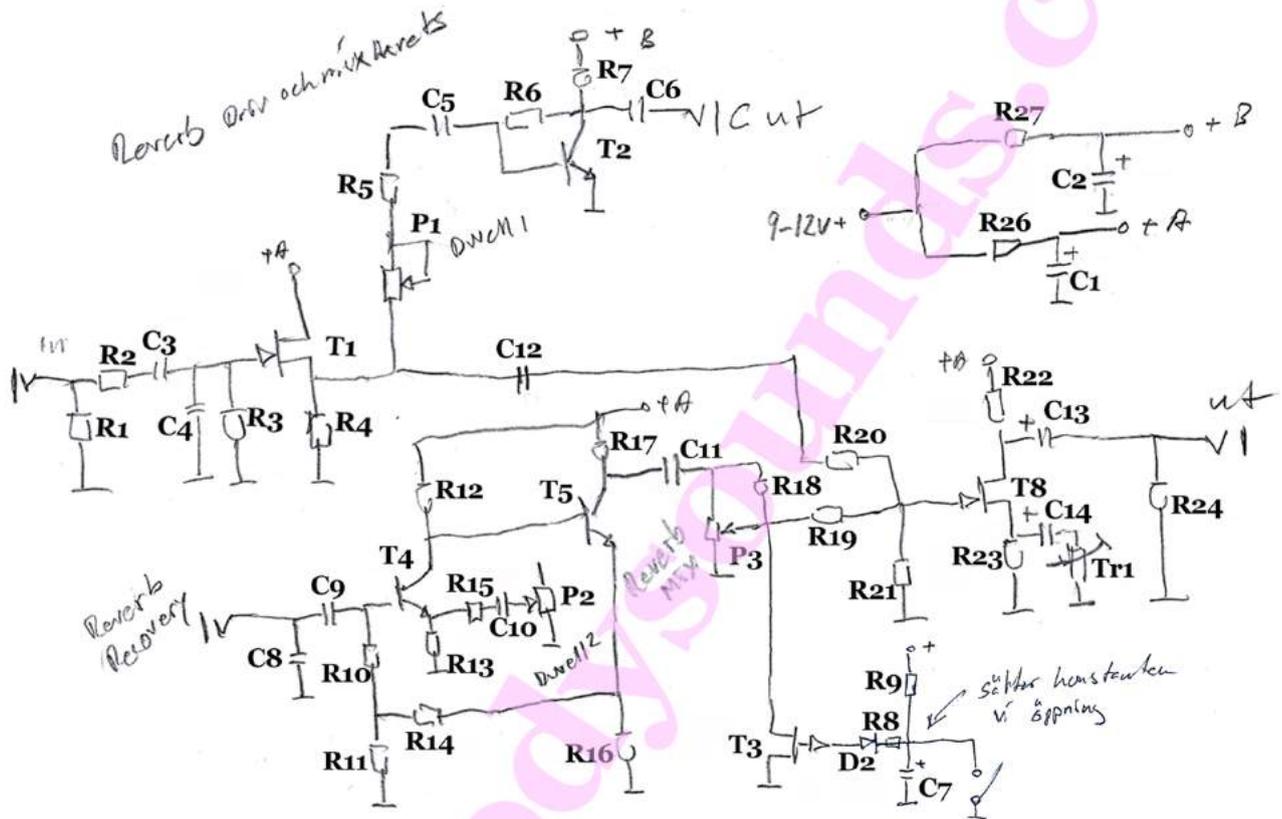
Metal box with drilled holes (*"1590DD natural"*)
Input jack (*stereo tele jack*)
Output jack (*mono tele jack*)
Current jack
P1 = 50 k rev log (*Dwell 1, denoted "C50k"*)
P2 = 5 k rev log (*Dwell 2, denoted "C5k"*)
P3 = 25 k log (*Mix, denoted "A25k"*)
Potentiometer knobs (*"Pointer green"*)
Foot switch (*"3pdt green"*)

Reverb unit (*"Accutronics blue long decay"*)
Mounting screws with nuts and washers

Reverb v.2 aug21 PCB
Rubber fett (4 pc.)
Wires
Solder

BJF reverb

v.2
analog reverb KIT



Eng

Moody Sounds
Guitar effects, DIY kits
moodysounds.com
support / forum
moodysounds.se

Power supply

9V battery or eliminator with
polarity: + -(0- -
Voltage: 9VDC - 12VDC
Capacity: >15mA
Audio

Other properties

Current consumption: ca 15mA@9V
Input impedance: ~ 1MΩ
Output impedance: ~ 10kΩ
Dimensions (L x B x H): 190 x 120 x 50 mm
Weight: 680 g

Manufacturer

Moody Sounds
Gröngatan 4A
38630 Färjestaden
Sweden

info@moodysounds.com
+46 (0)485-552303

Circuit design

Björn Juhl

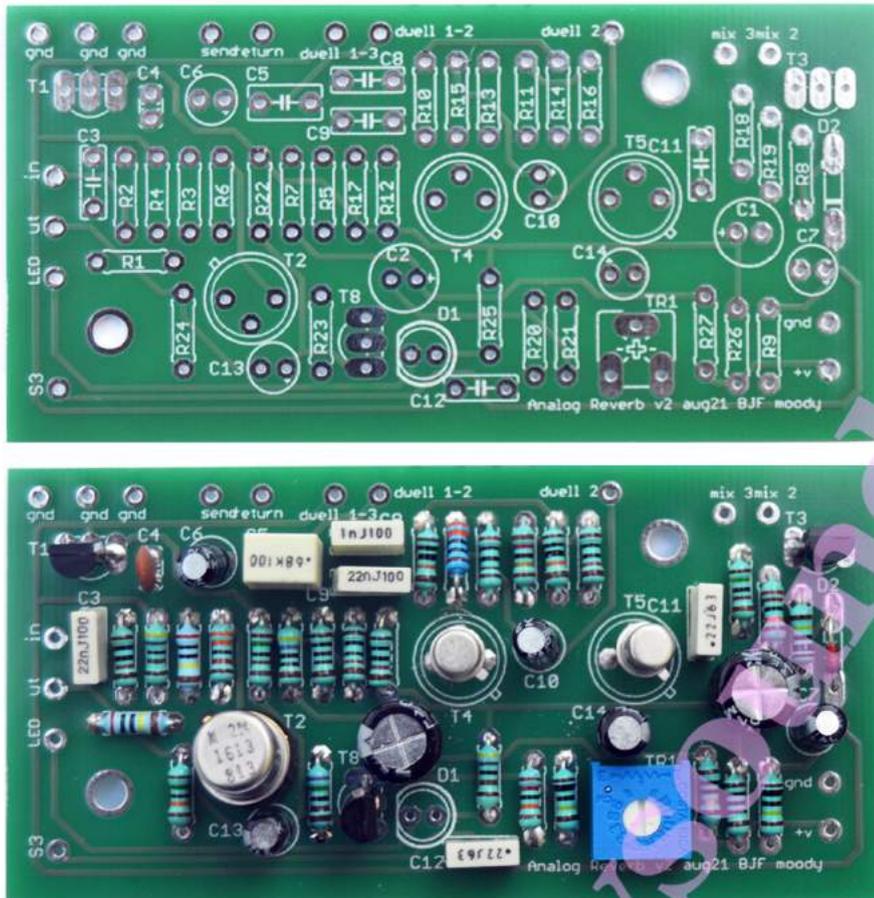


Image 1.
The PCB for BJT Analog Reverb with and without components.

R1, R3 = 2M0 (red black black yellow brown)
 R2, R12, R16, R17 = 10 k (brown black black red brown)
 R4, R25 = 4k7 (yellow purple black brown brown)
 R5, R26 = 100 Ω (brown black black black brown)
 R6 = 33 k (orange orange black red brown)
 R7 = 470 Ω (yellow purple black black brown)
 R8, R9, R21 = 1 M (brown black black yellow brown)
 R10, R14 = 100 k (brown black black orange brown)
 R11 = 120 k (brown red black orange brown)
 R13 = 2k0 (red black black brown brown)
 R15 = 330 Ω (orange orange black black brown)
 R18, R22 = 15 k (brown green black red brown)
 R19, R20 = 220 k (red red black orange brown)
 R23 = 7k5 (purple green black brown brown)
 R24 = 150 k (brown green black orange brown)
 R27 = 10 Ω (brown black black gold brown)

C1, C2 = 220 uF (cylinder shaped, denoted "220 uF")
 C3, C9 = 22 nF (denoted "22 J 100")
 C4 = 47 pF (ceramic capacitor)
 C5 = 680 nF (denoted ".68k 100")
 C6, C7, C10 = 4u7 (cylinder shaped, denoted "4.7uF")
 C8 = 1 nF (denoted "1n J 100")
 C11, C12 = 220 nF (denoted ".22 J63")
 C13 = 1 uF (cylinder shaped, denoted "1 uF")
 C14 = 10 uF (cylinder shaped, denoted "10 uF")

T1, T8 = J113
 T2 = 2N1613
 T3 = J175
 T4, T5 = BC109C
 D1 = LED
 TR1 = 10 k trimmer (denoted "103")
 P1 = 50 k rev log (Dwell 1, denoted "C50k")
 P2 = 5 k rev log (Dwell 2, denoted "C5k")
 P3 = 25 k log (Mix, denoted "A25k")

Mounting the Components on the PCB

1. Mount and solder the twenty seven **Resistors** R1 through R27 according to image 1. Make sure the solder covers the pins of the components completely. Solder must not cover two holes on separate tracks on the PCB. **It does not matter in which direction resistors are turned!**
2. The yellow **Plastic film capacitors** and the **Ceramic capacitor** will be connected now. They are unpolarized and it does not matter how they are turned on the PCB.
3. Mount and solder the **Trimmer** TR1. **It will need adjustment before the pedal sounds the way you want!**

4. The black, cylinder shaped **Electrolytic Capacitors** will be mounted in this step. They **are** polarized and they must be turned the right way on the PCB. One pin on an el-lyte is longer than the other. The longest pins **shall go** in the holes marked with plus signs.

5. BJT Analog Reverb has six **Transistors** of different kind. **They must also be turned correctly!** There is a little tag next to one of the pins on T2, T4 and T5. This tag shows which pin is the emitter. Arrange so that the position of the emitters match with the screen print on the PCB.

6. Mount and solder the other three transistors in accordance with the screen print.

The PCB is finished! Before we start connecting wires, we will look at the pedal parts briefly.



The **Footswitch S1** has 9 pins. We assign them numbers, 1 through 9. **To get the switching right, mount S1 with its pins in parallel with the short sides of the box** (see image 2). It is ok to turn it 180 degrees with respect to this direction (but not 90 degrees).



The **Output Jack**, "UT," is a mono jack and it has two solder lugs, which we call "tip" and "ground". Tip conducts with the "arm" of the jack and it is marked with a red dot in the image to the left.



The **Input jack**, "IN", is stereo. It has three pins: "tip", "ring" and "ground". The image shows tip marked with a red dot and ring marked with a green dot. **Do not mix them up!**



The **Current jack** has two pins, one long and one short. The long pin becomes the circuit's positive pole when a power supply with "center negative" is connected.



A **Potentiometer** has three solder lugs: 1, 2 and 3. Its value is written next to its shaft. **P1, P2 and P3 have different values!**



The **Reverb tank** has four connection wires and they have the colors red, green, black and black. We will cut them to appropriate length and connect the black wires to the same potential, gnd on the PCB.

The parts are mounted in the box

7. Six mounting screws are included in the kit and four of them are intended for the reverb tank. Screw the tank to its place in the box as shown in image 2 (the connecting wires turn towards the center of the box). Use the locker washers.

8. Place the LED D1 in its place on the PCB. D1, unlike the other components, shall be connected from the solder side and soldered from the component side. The LED position is indicated on the PCB with a circle with a removed segment, "cut side". Insert the shortest pin of the LED in the direction closest to the cut side (downwards in image 2). One can wait with soldering D1 until the pedal is tested and ready.

9. The two remaining mounting screws have spacer rings and they should keep the PCB in an appropriate location in the box.

a) Place the screws in the box.

b) Place a spacer ring on each screw.

c) Put the PCB on the screws and make sure that the LED is visible from the top.

d) Fasten nuts with locking washers. If you prefer connecting wires from the PCB's solder side, place the nuts on the outermost threads while working, for better access.

10. The **Potentiometers** P1, P2, P3 have small metal tags just next to their shafts. We will not use these tags - **break them off!** They come off easily if you grab them with a flat pliers and turn sideways.

11. The value of a potentiometer is written next to its shaft. P1 adjusts "Dwell 1" and its value is 50k. Its resistance curve is "reverse logarithmic" and this is denoted by "C". Find P1 = C50k and mount it in the box, to the left, "pedal building view", see image 2. Identify and mount P2 and P3.

Wires are connected according to image 2

12. Mount the **In-** and **Output jacks** and the **Foot switch** S1 in the box and connect a purple wire between tip on IN and pin 7 on S1. Before you solder pin 7, connect another purple wire between pin 7 and pin 6 on S1.

13. Connect a brown wire between pin 8 on S1 and the hole "in" on the PCB. It is ok to connect wire from the component side of the PCB but if you do make sure the wires are not in contact with the box.

14. Connect a black wire between pin 9 on S1 and one of the holes marked "gnd" on the PCB. Before you solder pin 9, connect another black wire between pin 9 and pin 2 on S1.

15. Connect a white wire between pin 1 on S1 and the hole "LED" on the PCB.

16. Connect a blue wire between pin 4 on S1 and the hole "ut" on the PCB.

17. Connect a red wire between pin 5 on S1 and tip on OUT.

18. Connect a grey wire between pin 3 and S1 and the hole S3 on the PCB,

19. Mount the **Current jack** in the box and connect an orange wire between its longest pin and the hole +v on the PCB.

20. Connect a grey wire between the shortest pin on the current jack and ring on IN.

21. Connect a black wire between sleeve on OUT and pin 2 on P2.

22. Orange wire between dwell1-3 and pin 3 P1.

23. Blue wire between dwell1-2 and pin 2 P1.

24. Yellow wire between dwell2 and pin 3 P2.

25. Green wire between mix 3 and pin 3 P3.

26. Brown wire between mix 2 and pin 2 P3.

27. Black wire between gnd and pin 1 P3.

The Reverb unit is connected

28. Cut off the wires from the reverb unit to appropriate length and connect the red wire to return on the PCB.

29. Connect the green wire to send.

30. Connect one of the black wires to one of the holes gnd.

31. Connect the other black wire to one of the holes gnd.

32. **The pedal is ready!** Setting the trimmer TR1 remains. TR1 sets the volume of the signal that goes through the output buffer at T8. Adjust TR1 so that the volume of the sound in effects mode matches the volume in bypass mode.

Talk electronics with us! Our forum is at [moodysounds.se!](http://moodysounds.se)

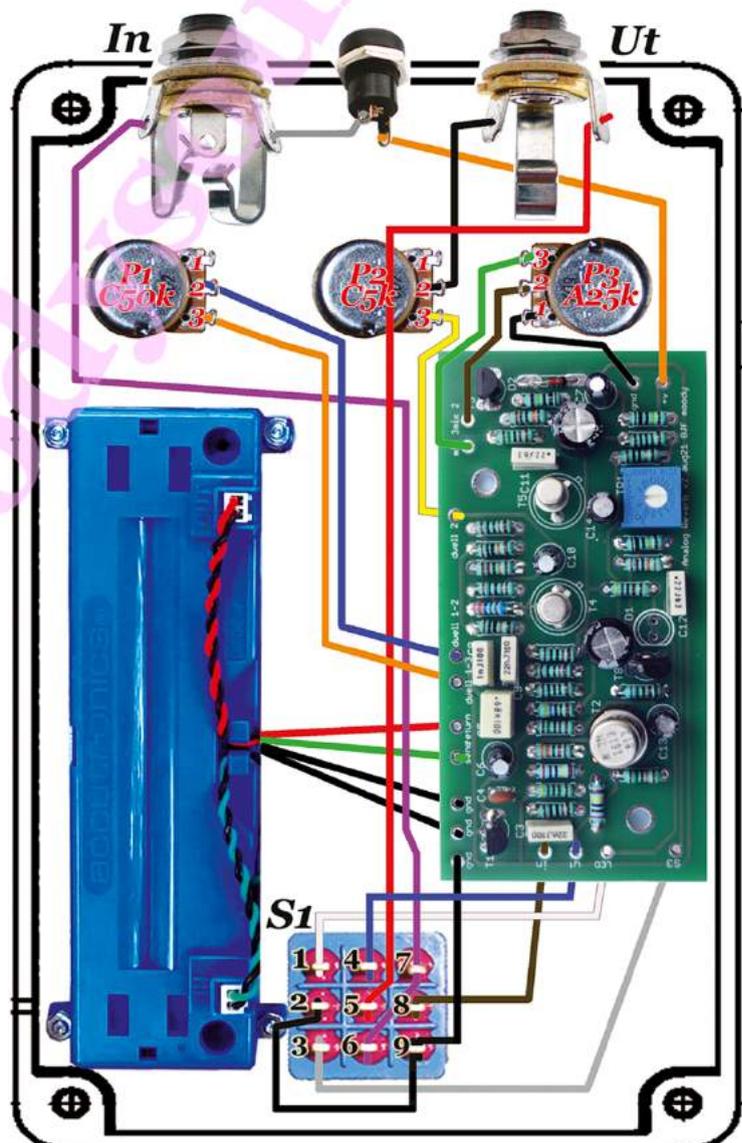


Image 2. Work is completed.