

Build Instructions

Before you start, take a look at the Printed Circuit Board (PCB). The components go in the side with the writing on and the solder goes on the side with the tracks and silver pads.

1 SOLDER THE RESISTORS

Start with the five resistors. The text on the PCB shows where R1, R2 etc go. Ensure that you put the resistors in the right place. It does not matter which way round they go. Once you are happy with them, solder in place.

PCB Ref	Value	Colour Bands
R1 & R2	1k Ω	Brown, black, red
R3 & R4	100 Ω	Brown, black, brown
R6	330 Ω	Orange, orange, brown



2 SOLDER THE CERAMIC DISK CAPACITORS

There are two ceramic disc capacitors (as shown right). These should be soldered into C1 and C2. It does not matter which way round they go.



3 SOLDER THE LED

Solder the LED into the PCB where it is labelled LED1. When putting it into the board, make sure that the flat edge on the LED matches the outline on the PCB.



4 SOLDER THE ELECTROLYTIC CAPACITORS

Now solder in the three electrolytic capacitors (an example is shown right). They should be soldered into C3, C4 and C5. Make sure that the capacitors are the correct way round. The capacitors have a '-' sign marked on them, which should match the same sign on the PCB.



5 SOLDER THE SWITCH

Solder the PCB Mount Right Angled On / Off Switch into SW1. The row of three pins that exits the back of the switch must be soldered, but it doesn't matter if you can't solder the other two pins.



6 SOLDER THE DUAL POTENTIOMETER

Solder the potentiometer into the PCB where it is labelled R5. Make sure the volume knob is facing away from the PCB.



7 CONNECT THE SPEAKERS

The kit is supplied with a meter of twin cable. This cable will be used to connect the two speakers. You will need to cut this to the required length for each speaker in your enclosure design.

Take each piece of wire that you have cut off and strip the ends of the wire. Solder one end of each wire to the two terminals on the speaker (shown right). Solder the other end of each wire to the terminals on the PCB marked 'SPEAKER1' and 'SPEAKER2', after feeding it through the strain relief hole. It does not matter which way around these connections go.



8 ATTACH THE BATTERY

The power leads from the battery cage should be attached to the terminals labelled 'POWER'. First feed the wires through the strain relief hole. Now solder the red wire to pad marked 'red' and solder the black wire to the pad marked 'black'.



9 CONNECT THE AUDIO CABLE

The stereo Jack lead should be soldered to the 'INPUT' terminal. First, feed the wires through the strain relief hole. The black wire should be soldered to the terminal labelled 'BLK'. The other two can go to either of the two remaining inputs.



Checking Your PCB

Check the following **before** you insert the batteries or connect the USB lead:
Audio equipment may become damaged if connected to an incorrectly built amplifier.

Check the bottom of the board to ensure that:

- All holes (except the large mounting holes) are filled with the lead of a component.
- All these leads are soldered.
- Pins next to each other are not soldered together.

Check the top of the board to ensure that:

- The four wires are connected to the right place (power, stereo input, 2 x speaker).
- The '-' on the electrolytic capacitors match the same marks on the PCB.
- The colour bands on R1 and R2 are Brown, Black, Red.
- The colour bands on R3 and R4 are Brown, Black, Brown.
- The colour bands on R6 are Orange, Orange, Brown.
- C1 and C2 match the outline on the PCB.
- The battery lead red and black wires match the red and black text on the PCB.
- The flat edge on the LED matches the outline on the PCB.

Using the amplifier

The slide switch should be used to choose to power the amplifier from batteries or from a USB lead. If you have batteries connected to the board the amplifier can be switched off by sliding the switch to USB and ensuring no USB lead is connected. A power LED is present to indicate when the amplifier is turned on, when not in use the amplifier should be turned off as it will flatten the batteries even if no music is being played.

The amplifier volume can be adjusted using the on-board potentiometer. If there is no audio coming out of the amplifier make sure both the on-board volume and the volume on the device playing the music are turned up.

