

Total solder points: 29

Difficulty level: *beginner* 1 2 3 4 5 *advanced*

UNIVERSAL MONO PREAMPLIFIER

K1803



This kit has been developed as pre-module for a number of audio applications where there is insufficient input signal. Applications as a microphone pre-amplifier or for level correction.

Specifications

- Power supply: 10-30VDC / 10mA.
- Output impedance: 1Kohm.
- Adjustable output level: max. 40dB.
- Frequency range: 20Hz to 20kHz \pm 3dB.
- Max. input signal: 40mV.
- PCB dimensions: 30 x 40mm (1.2" x 1.57").



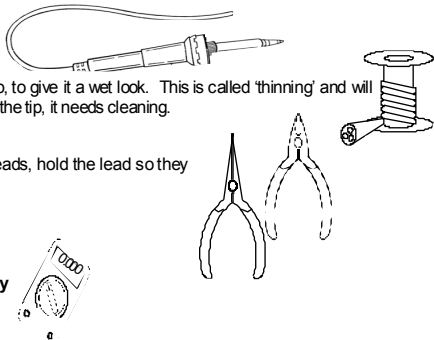
VELLEMAN NV
Legen Heirweg 33
9890 Gavere
Belgium Europe
www.velleman.be
www.velleman-kit.com

1. Assembly (Skipping this can lead to troubles !)

Ok, so we have your attention. These hints will help you to make this project successful. Read them carefully.

1.1 Make sure you have the right tools:

- A good quality soldering iron (25-40W) with a small tip.
- Wipe it often on a wet sponge or cloth, to keep it clean; then apply solder to the tip, to give it a wet look. This is called 'thinning' and will protect the tip, and enables you to make good connections. When solder rolls off the tip, it needs cleaning.
- Thin raisin-core solder. Do not use any flux or grease.
- A diagonal cutter to trim excess wires. To avoid injury when cutting excess leads, hold the lead so they cannot fly towards the eyes.
- Needle nose pliers, for bending leads, or to hold components in place.
- Small blade and Phillips screwdrivers. A basic range is fine.



For some projects, a basic multi-meter is required, or might be handy

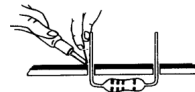


1.2 Assembly Hints :

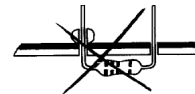
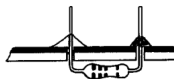
- ⇒ Make sure the skill level matches your experience, to avoid disappointments.
 - ⇒ Follow the instructions carefully. Read and understand the entire step before you perform each operation.
 - ⇒ Perform the assembly in the correct order as stated in this manual
 - ⇒ Position all parts on the PCB (Printed Circuit Board) as shown on the drawings.
 - ⇒ Values on the circuit diagram are subject to changes.
 - ⇒ Values in this assembly guide are correct*
 - ⇒ Use the check-boxes to mark your progress.
 - ⇒ Please read the included information on safety and customer service
- * Typographical inaccuracies excluded. Always look for possible last minute manual updates, indicated as 'NOTE' on a separate leaflet.

1.3 Soldering Hints :

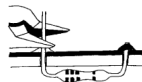
1- Mount the component against the PCB surface and carefully solder the leads



2- Make sure the solder joints are cone-shaped and shiny

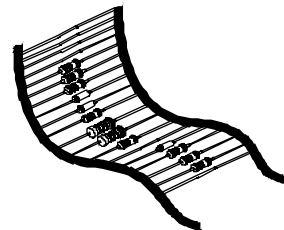


3- Trim excess leads as close as possible to the solder joint



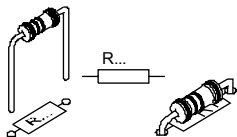
REMOVE THEM FROM THE TAPE ONE AT A TIME !

DO NOT BLINDLY FOLLOW THE ORDER OF THE COMPONENTS ON THE TAPE. ALWAYS CHECK THEIR VALUE ON THE PARTS LIST!



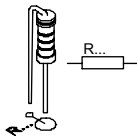
 You will find the colour code for the resistances on our website: www.velleman.be

1. Resistors



- R1 : 100K (1 - 0 - 4 - B)
- R2 : 100K (1 - 0 - 4 - B)
- R3 : 100K (1 - 0 - 4 - B)
- R4 : 100K (1 - 0 - 4 - B)

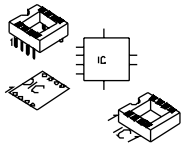
3. Vertical resistors



- R5 : 100K (1 - 0 - 4 - B)
- R6 : 100K (1 - 0 - 4 - B)
- R7 : 2K2 (2 - 2 - 2 - B)

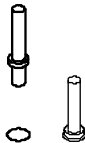
2. IC socket, Watch the position of the notch!

- IC1 : 8p



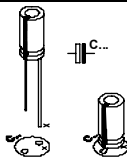
4. PCB pins

- AF IN (2x)
- AF OUT (2x)
- Power (+)
- Power (-)



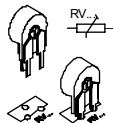
5. Electrolytic capacitors. Watch the polarity !

- C1 : 10 μ F
- C2 : 10 μ F
- C3 : 10 μ F
- C4 : 10 μ F
- C5 : 10 μ F



6. Trim potentiometer

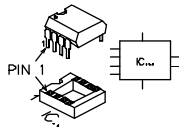
- RV1 : 220K (250K)



7. IC mounting

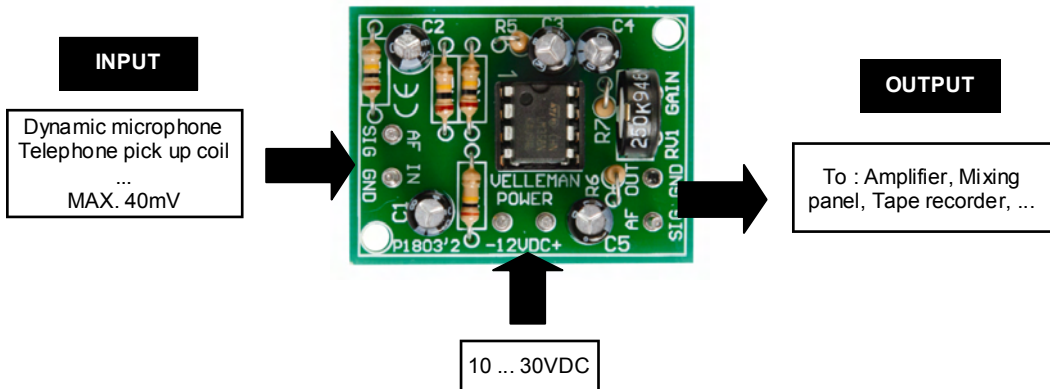
- IC1 : LM358

☞ Pay attention to the position of the notch!

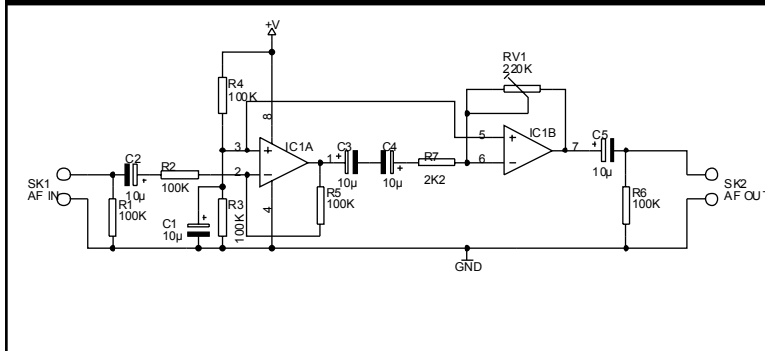


8. Connection

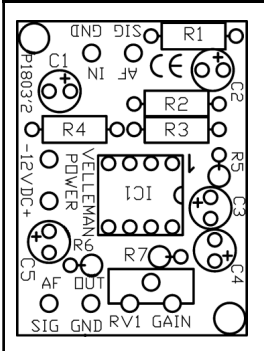
- Connect a stabilized supply between 10 and 30V with the points “+” and “-” on the print.
 - The input is connected on the points “AF IN”.
 - The output is taken on the connection “AF OUT” and the ground “-”.
- ☞ **To connect your in- and output you'd better use a screened wire, this to avoid interferences and rumble**
- With the trimmer RV1 you can control the output signal between 0 and max.



9. Schematic diagram.



10. PCB



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