

HEAD PHONE AMPLIFIER
CODE 676

LEVEL 1

A small amplifier circuit that used for amplifying signal from various noise sources i.e. radio, video, computer etc. and sending out through earphones for a clearer sound.

Technical specifications:

- Power supply : 3VDC.
- Consumption : 60mA max.
- Output power : 1+1W.max. stereo
- Adjust sound level with trimmer potentiometer.
- S/N ratio : 70dB (A weighted)
- Sensitivity (1kHz/500mW) : 120mV_{eff}
- PCB dimensions : 2.24 x 1.34 in.

How to work:

As a stereo circuit, both left and right circuits will be the same. Therefore, working explanation of any circuit can be accepted. When sound signal passes through the input point "L", it will also pass VR1 and C1. VR1 will control the sound level while C1 will screen only sound frequency that being passable and prevent DC voltage from passing through.

The output of the sound signal will feed pin 6 of IC1/1 and amplify the sound signal to the earphone by passing through C4.

Circuit connecting:

External connecting and fitting of components are shown in figure 3. It is recommended to assemble the circuit starting with a less height component i.e. diodes, resistor, electrolite capacitors and transistors etc. Be careful while assembling and check for the matching of PCB poles and components before soldering as shown in Figure 1. Use a max. 40W. solder and soldering lead with a tin and lead ratio of 60/40 together with a joint solution inside. Recheck the assembled circuit for your own confidence. Better using a lead sucker or a lead wire absorber in case of misplacing component to protect PCB damage.

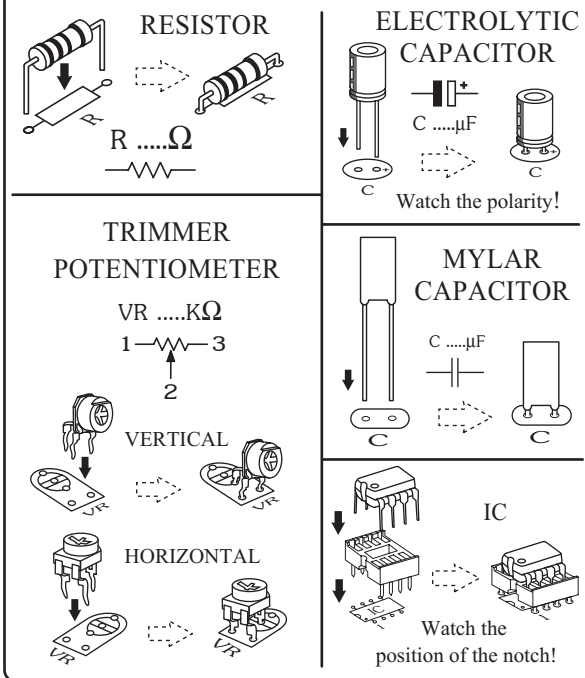
Testing:

Connect the circuit as shown in Figure 3. Turn the volume control (VR L and VR R) most anticlockwise. Take the sound signal from various sound sources i.e. tuner, computer, tape record player etc. and connect them to input point. Connect output point to earphones. The power supply can be from 2-AA batteries connected in series. Gently turn the volume control clockwise, sound from earphone will be louder and louder. If the sound is not clear, input signal may be too strong. So the input signal should be reduced.

Application:

The circuit can be connected to the 8Ω 1W earphone and to the power supply of 3-12 volts 500mA.

Figure 1. Components installation



Troubleshooting:

As the circuit has only a few components, the main cause of troubles will come from misplacing component and defaulted soldering. When found out that the circuit does not work, check the placing component and various soldering points.

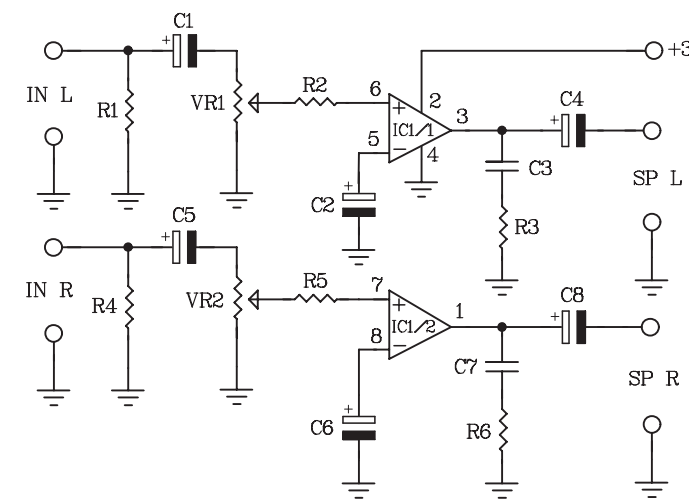
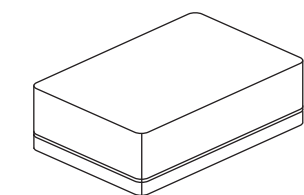
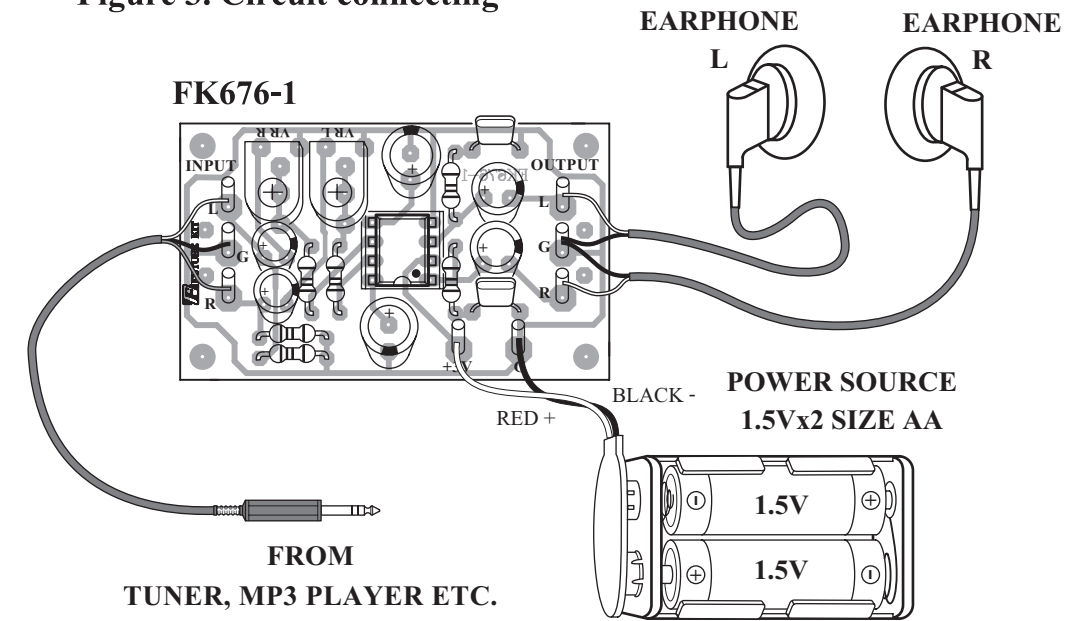


Figure 2.
The head phone amplifier circuit

Figure 3. Circuit connecting



NOTE:
FUTURE BOX FB03 is suitable for this kit.