

WHISPER AMPLIFIER
CODE 917

LEVEL 1

The whisper amplifier device is a micro one used for someone who rate to hear or interception. The circuit utilizes a condenser MIC to work the reception function and a big headphone to amplify the voice. It requires only two dry cell.

Technical specifications:

- power supply : 3VDC.
- consumption : 40mA max.
- PCB dimensions : 2.10 x 1.32 inches.

How to works:

IC1 consists of two sets of amplifier. The first set function as pre-amplifier amplifying the frequency from a condenser microphone. The signal amplified by IC1/1 will be transmitted through pin 1 of IC1/1 passed on C4 and R6 to VR1 which is available for increasing and decreasing the frequency. The signal at the middle of VR1 will be transmitted through C6 to pin 6 of IC1/2 to be one more amplified. The amplified signal will be transmitted throughout pin 3 of IC1/2 through C9 and coupling out the little speaker.

PCB assembly:

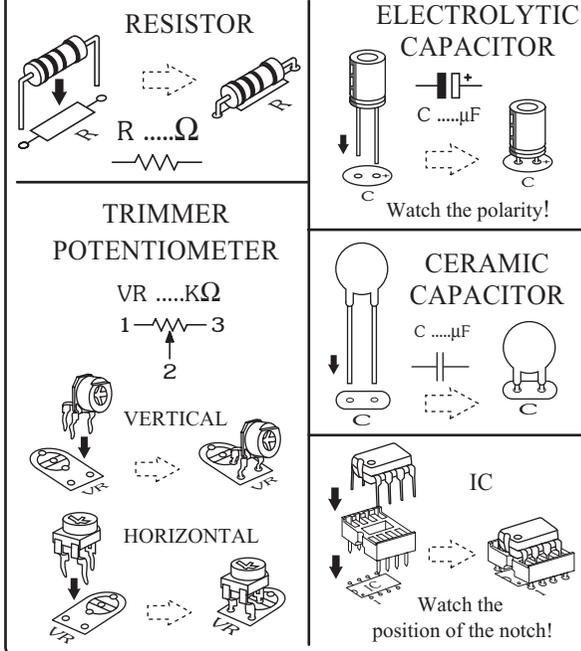
Shown in Figure 3 is the assembled PCB. Starting with the lowest height components first, taking care not to short any tracks or touch the edge connector with solder. Some tracks run under components, and care should be taken not to short out these tracks. If the pins will not enter the holes with ease, use a small drill to slightly enlarge the opening. All components with axial leads should be carefully bent to fit the position on the PCB and then soldered into place. Make sure that the electrolytic capacitors are inserted the correct way around. Some components are particularly sensitive to heat (ie: Transistors, IC's, diodes etc.) extra care must be taken to only apply the iron for as little time as possible, using a pair of pliers to grip the leads will help

conduct heat away. Trim components leads with wire cutters to prevent excess lengths causing a short circuit. Now check that you really did mount them all the right way round!

Testing:

Adjusting VR1 to max. counterclockwise. Connect the positive pole at "+3V" point and negative pole at "G" point. Adjusting VR1 to clockwise slowly and talking to the microphone. You will hear your sound at earphone.

Figure 1. Installing the components



Troubleshooting:

The most problem like the fault soldering. Check all the soldering joint suspicious. If you discover the short track or the short soldering joint, re-solder at that point and check other the soldering joint. Check the position of all component on the PCB. See that there are no components missing or inserted in the wrong places. Make sure that all the polarised components have been soldered the right way round.

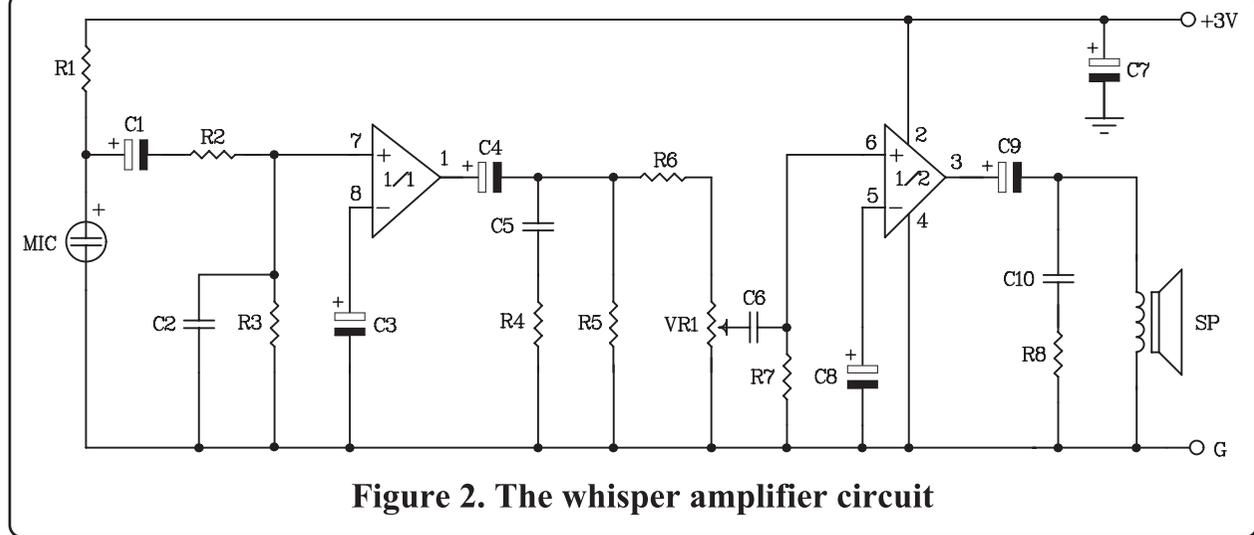


Figure 2. The whisper amplifier circuit

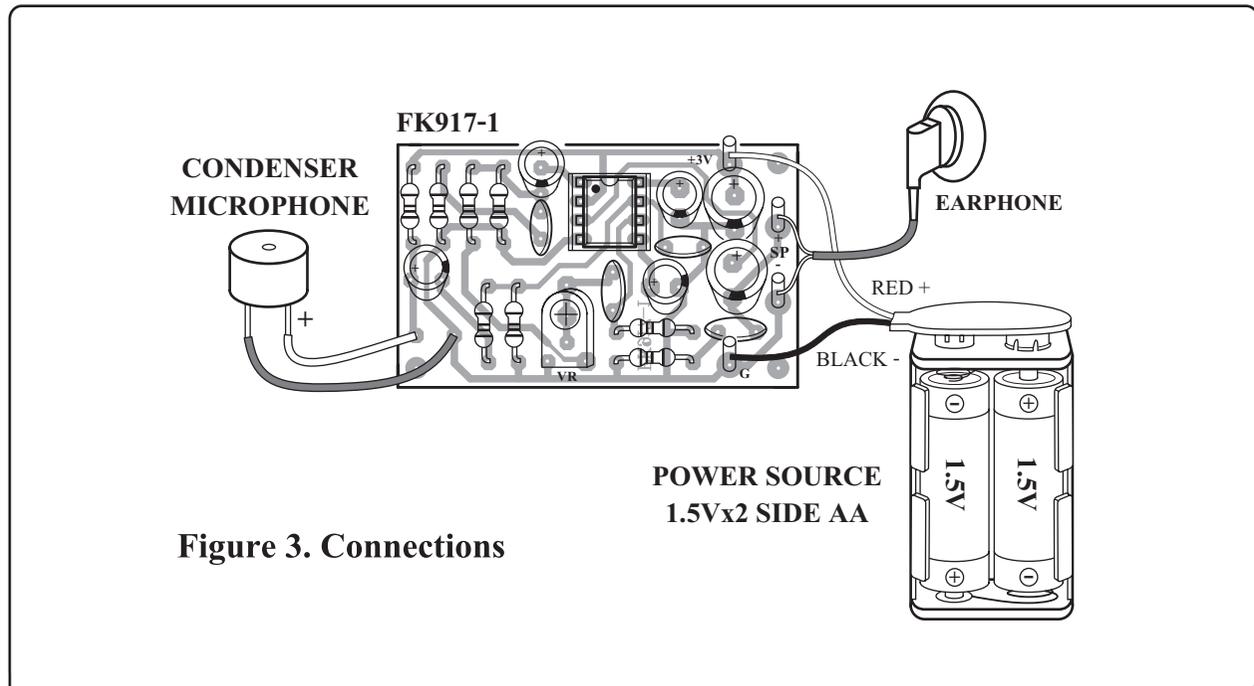
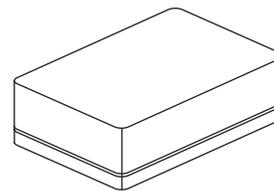


Figure 3. Connections



NOTE:

FUTURE BOX FB03 is suitable for this kit.

NEW KIT SET

CODE FK	DESCRIPTION	POWER
168	NO SMOKING FLASHER 46 LED	9-12VDC.
169	DANCING ROBOT FLASHER 33 LED	9-12VDC.
170	DANGER FLASHER 42 LED	9-12VDC.
171	TWO LAMP FLASHER	3VDC.
172	THREE STEP FLASHER 19 LED	9-12VDC.
173	HALLOWEEN PUMPKIN FLASHER 23 LED	9-12VDC.
174	5x7 ANIMATED LED SIGNBOARD	3-5VDC.
816	VARIABLE REGULATOR 0-50V. 3A.	50VDC.
817	TRANSFORMERLESS POWER SUPPLY 6-9-12V 50mA	220-240VAC.