

**MINI MEGAPHONE**  
CODE 672

LEVEL 1

This circuit is a small amplifier which include pre-amplifier, condensor microphone and a loudspeaker. It is easy using and installation. Ideal as in class, meeting room etc.

**Technical specifications:**

- power supply : 4.5-12VDC.
- consumption : 300mA max. @ 12VDC.
- output power : 2W.max. (using a loudspeaker 8Ω 2W/power supply 12V/1.5A. max.)
- adjustable level sound by potentiometer.
- S/N ratio : 80dB (A weighted)
- frequency response : 20Hz to 20kHz (-3dB)
- PCB dimensions : 2.34 x 1.42 inches.

**How to works:**

When have sound signal to MIC, this signal is changed from audio signal to AC signal. AC signal will amplify by TR1 pre-amplifier through C11. The resulting AC signal is coupled to the volume control VR1 by C1, which also blocks any DC voltage that may be present on the signal. VR1 is used to adjust the input signal to amplifier IC1. This amplifier can supply 2W into the 8Ω loudspeaker with a supply voltage of 12V. After amplifier, this AC signal will be changed to audio signal by loudspeaker.

**PCB assembly:**

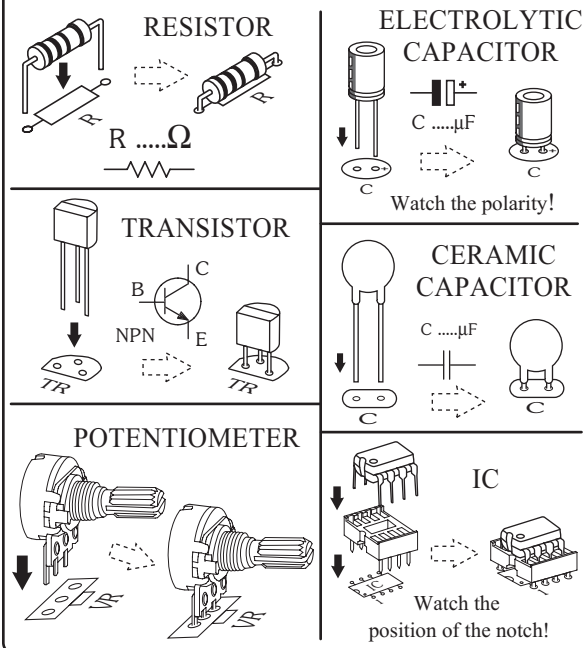
Shown in Figure 3 is the assembled PCB. Starting with the lowest height components first, taking care not to short any tracks or touch the edge connector with solder. Some tracks run under components, and care should be taken not to short out these tracks. If the pins will not enter the holes with ease, 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:**

Before apply the power supply to the circuit, adjust volume control VR1 max. counterclockwise. And then apply the power supply 9 to 12 VDC to circuit. Speak into MIC and adjust VR1 clockwise slowly, you will hear your sound from a loudspeaker.

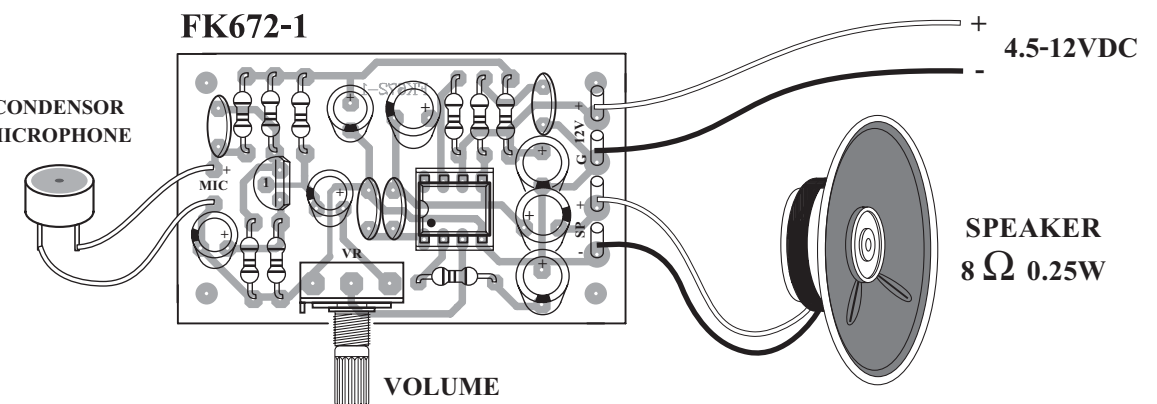
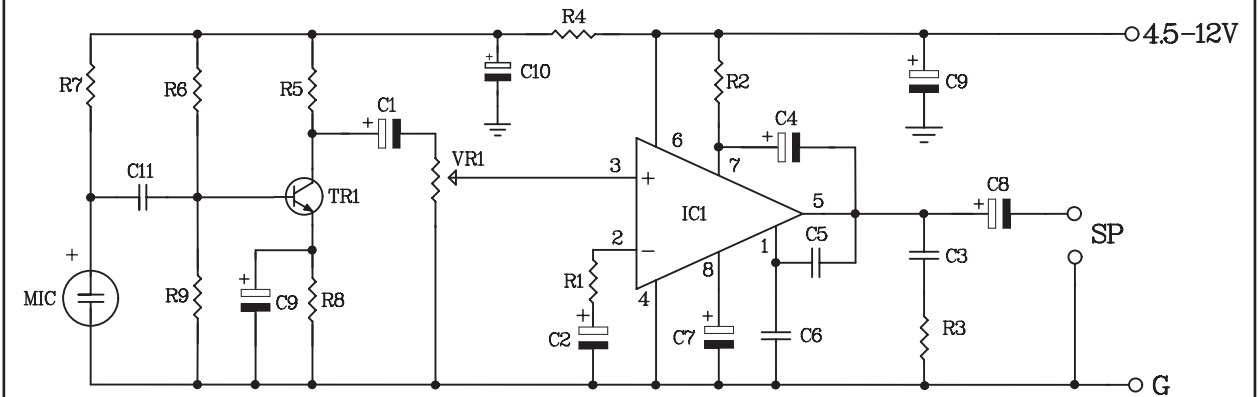
**Figure 1. Installing the componants**



**Troubleshooting:**

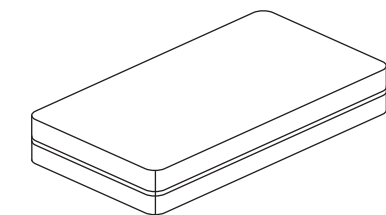
The most problem like the fault soldering. Check all the soldering joint suspicious. If you discover the short track or the short soldering joint, re-solder at that point and check other the soldering joint. Check the position of all component on the PCB. See that there are no components missing or inserted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

**Figure 2. The mini megaphone circuit**



**Figure 3. Connections**

- If you want to using amplifier 2W max., you must changed the value of loudspeaker to 8 Ω 2W and power supply to 12V. 1.5A. max.



**NOTE:**  
FUTURE BOX FB17 is suitable for this kit.

NEW KIT SET

CODE FK	DESCRIPTION	POWER
156	MINI TRAFFIC LIGHT 3 LED	9-12VDC
157	TWO WAY CHASING LIGHT TWO COLOUR 10 LED	9-12VDC
158	STROBOSCOPE 220V	220VAC
159	SHAKING DICE	9-12VDC
160	RANDOM NUMBER GAME 1 DIGIT	9-12VDC
273	MUSIC DOOR (WITH MAGNATIC SWITCH)	3VDC
274	MINI ORGAN 13 TONE (WITH MAGNATIC SWITCH)	9VDC
325	RINGING SIGNAL LIGHT 5 LED	NONE
672	MINI MEGAPHONE (WITH SPEAKER)	4.5-12VDC