

TWO TONE SIGNAL GENERATOR
CODE 903 **LEVEL 1**

This signal injector circuit is a signal generator that uses for maintaining and checking radio or amplifier.

Technical specifications:

- power supply : 3VDC.
- consumption : 1mA max.
- this circuit has 2 levels adjustment which are 500Hz and 1,000Hz frequency.
- signal power : 2,600mV max.
- PCB dimensions : 1.59 x 1.59 inches.

How to works:

Connecting TR1 and TR2 as multi-vibrator generator which TR1 and TR2 will be working one by one. The received frequency depends on R2, R3 and C1, C2. We change R2 and R3 in this circuit. If moving switch to 100K, you will get 500Hz frequency and R47K will get 1,000Hz frequency respectively. The frequency is connecting from the collector of TR2 by passing through C3 to OUTPUT.

PCB assembly:

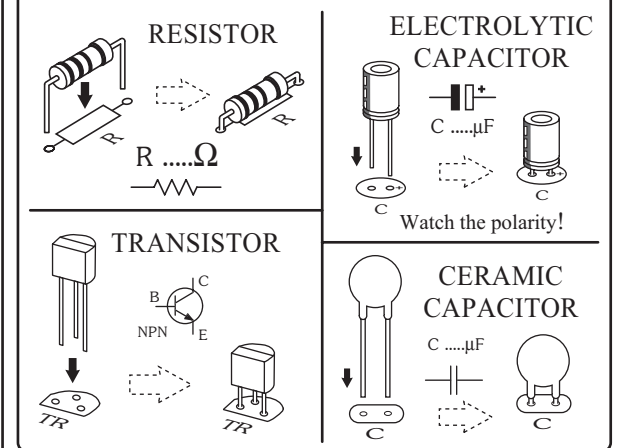
Shown in Figure 3 is the assembled PCB. Starting with the lowest height components first, taking care not to short any tracks or touch the edge connector with solder. Some tracks run under components, and care should be taken not to short out these tracks. If the pins will not enter the holes with ease,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

Giving 3V power supply to the circuit at "+3V" point and "G" point. Testing with normal radio or amplifier. Connecting "G" point of signal to ground of amplifier and "OUT" point is connecting to the middle pin of volume. Increasing volume, you will hear 500Hz or 1,000Hz frequency sound according to our requirement. If you do not correct with middle pin of volume, you can instead connect with INOUT of amplifier but you have to connect with middle pin of radio's volume.

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.

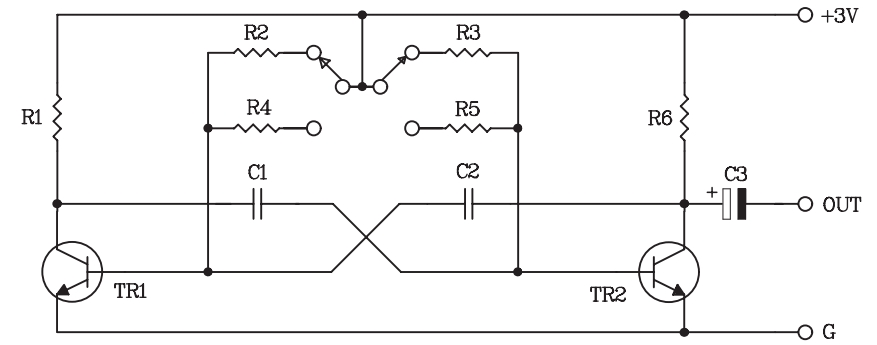
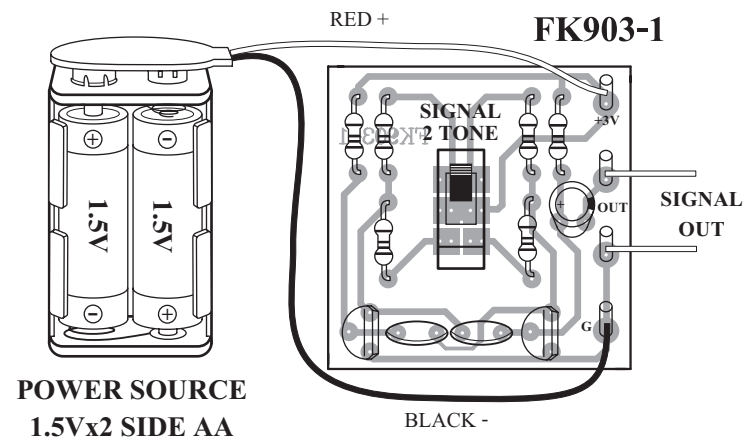
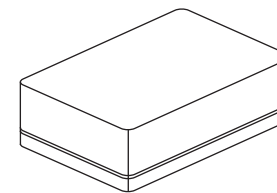


Figure 2. The two tone signal generator circuit

Figure 3. Connections



POWER SOURCE
1.5Vx2 SIDE AA



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.