FUTURE KIT

HIGH QUALITY ELECTRONIC KITS

MINI ORGAN 13 TONE
CODE 243
LEVEL 1

This mini organ circuit can generate 13 different tones by shorting point P to points A-M, A produces the lowest frequency and M produces the highest.

Technical specifications:

- power supply: 9VDC.

- consumption: 75mA max. (working), 5mA (stand by)

- there are 13 different tones.

- dimensions: 3.72 x 1.04 inches

How to works:

IC1 555 timer is used here as a frequency generator. R1 to R13 acts as the frequency adjustment for each tone. The circuit can be connected to any type of speaker but best suited to the included 2 inches 8 ohm o.25 watts speaker.
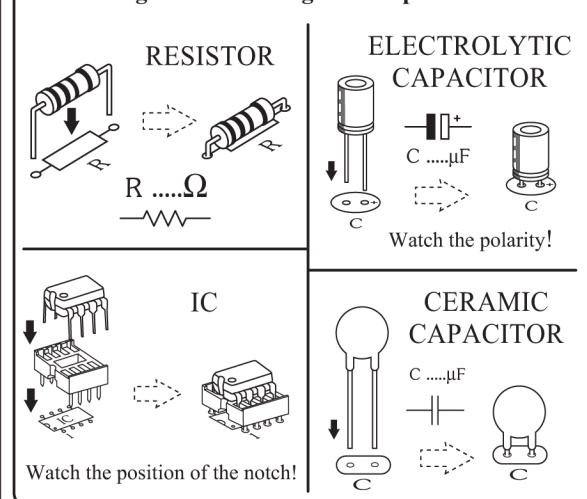
PCB assembly:

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:

This kit has an operating voltage range of 9 VDC. Apply power supply. Short point A to M with point P, you will hear the tone from the loudspeaker which have 13 differant tones follow shorting each point.

Figure 1. Installing the componants

RESISTOR

ELECTROLYTIC CAPACITOR

R .....Ω

Watch the polarity!

IC

CERAMIC CAPACITOR

C .....µF

Watch the position of the notch!

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.
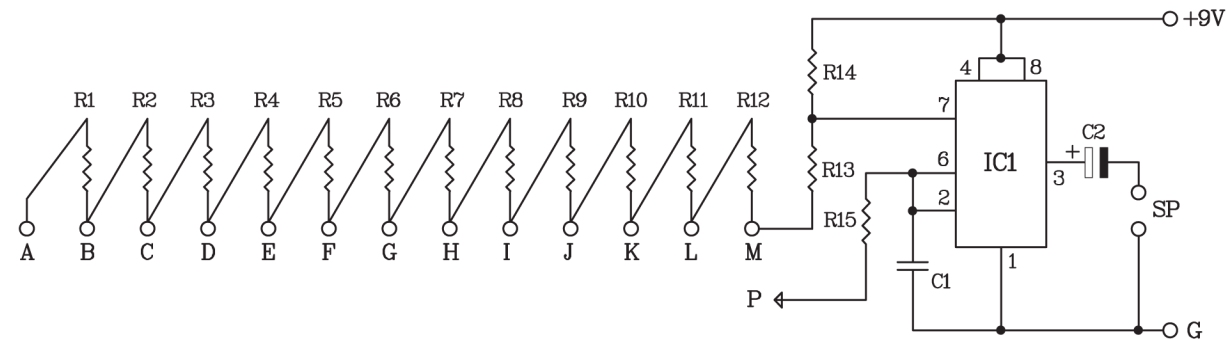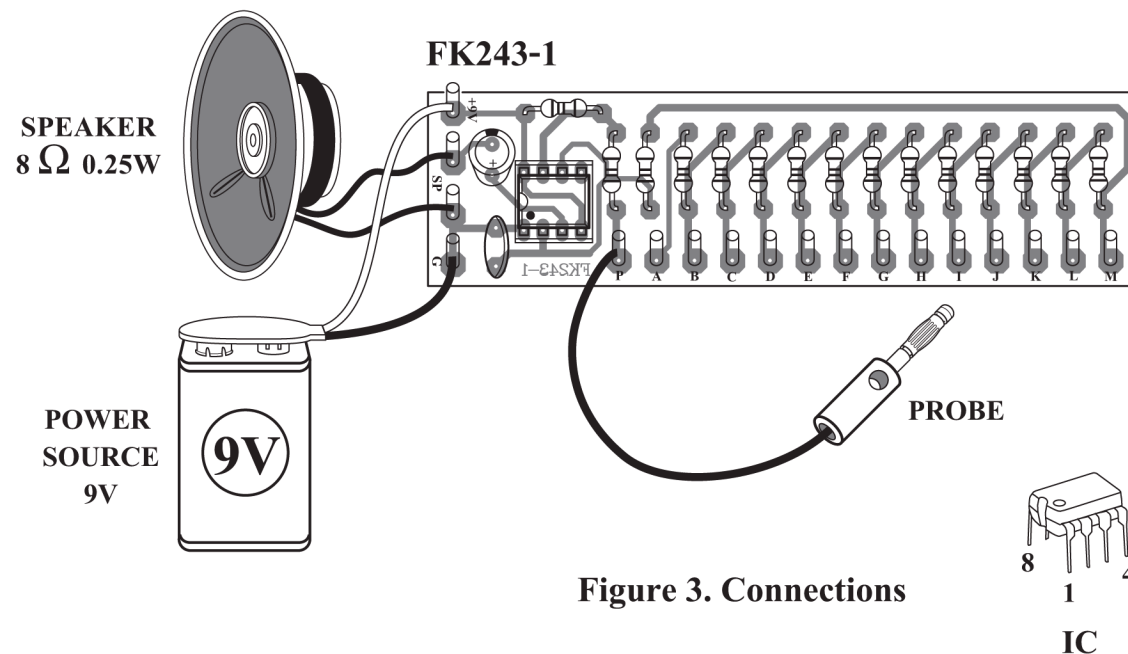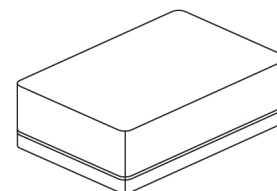

Figure 2. The mini organ 13 tone circuit

Figure 3. Connections

NOTE:
FUTURE BOX FB04
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