

RAT AND COCKROACH BANISHER
CODE 929 **LEVEL 1**

This generator produces sounds for rat and cockroach banisher. Which are produces within the range of 10-33kHz. A piezo loudspeaker is included.

Technical specifications:

- power supply : 9VDC.
- consumption : 48mA max.
- can be adjust the range of frequency.
- PCB dimensions : 2.11 x 1.66 inches.

How to works:

The circuit diagram shown in figure will have the monostable multivibrator into two sets. The simplest set consists of transistors TR1 and TR2. Transistors TR1 and TR2 generator the low frequency. The low frequency is set by the value of C2, C3, R1-R4, LED and VR100K. VR100K is used to adjust the low frequency. The rest of the circuit is used to generator the high frequency to amplifier. Transistors TR3 and TR4 generator the high frequency. The high frequency is set by the value of C5, C6, R5-R8. Transistors TR5 and TR6 amplifier the frequency to piezo loudspeaker. The high frequency generator to toggle on and off in accordance with the low frequency generator.

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

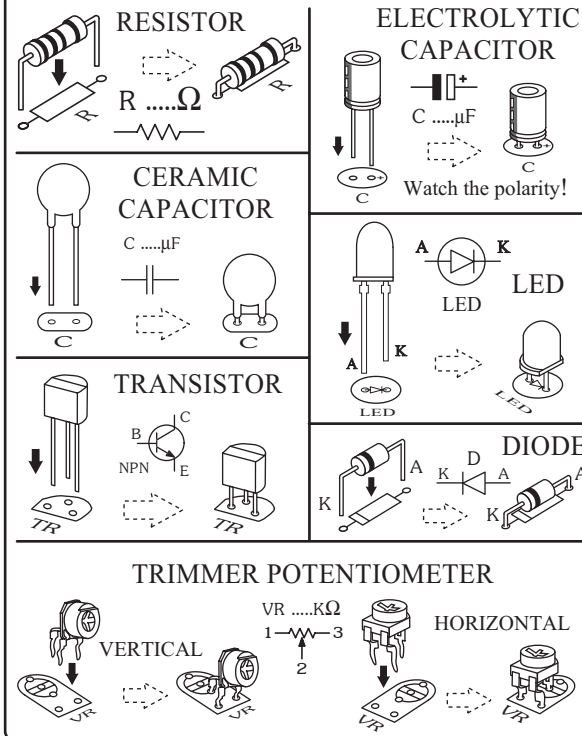
only apply the iron for as little time as possible, using a pair of pliers to grip the leads will help conduct heat away. Trim components leads with wire cutters to prevent excess lengths causing a short circuit. Now check that you really did mount them all the right way round!

Testing:

Connect the piezo loudspeaker to "PZ" point. Adjust VR100K to max. counterclockwise. Connect the power supply 9 volts to "9V" point will have the sound to piezo loudspeaker and LED is lights up simultaneously. Adjust VR100K clockwise, the sound to slow.

NOTE: Your should adjust VR100K to each week.

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.

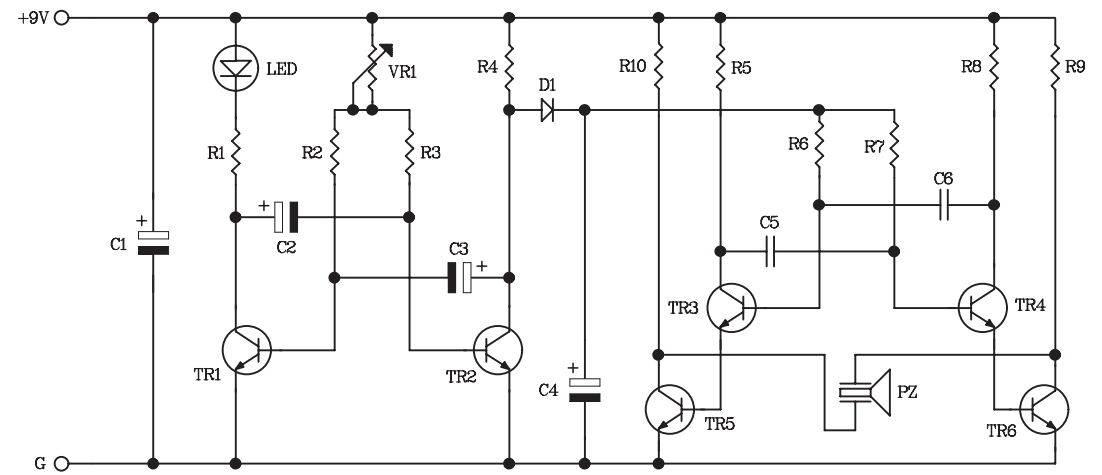


Figure 2. The rat and cockroach banisher circuit

FK929-1

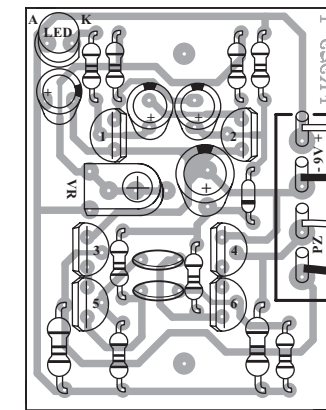
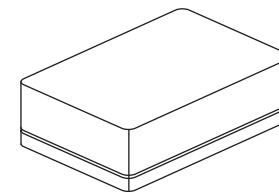


Figure 3. Connections



NOTE:
FUTURE BOX FB01 and FB03
are 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.