

VISITOR CHIME
CODE 502

LEVEL 1

Visitor chime circuit is an electronic circuit that is widely applicable. It can be installed at gate or shop door to detect the visitor and alarm (ting-tong sound).

Technical specifications:

- power supply : 4.5VDC.
- consumption : 50mA.(working)
- sensitivity of LDR : adjustable
- PCB dimensions : 2.70 x 1.57 inches.

How to works:

LDR detects light. If light around LDR is charged, LDR resistance is also charged. Voltage at R1, VR1 are also charged, C1 then will coupling voltage signal to TR1 to amplify signal and transfer to C4 to TR2 to amplify and transfer next to TR3 and TR4. LED will display for awhile and then shut down. TR4 shorts IC in order to trick IC starting ting-tong sound to pin OUT of IC1 through C9, R15 to the base of TR5 to amplify signal to 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:

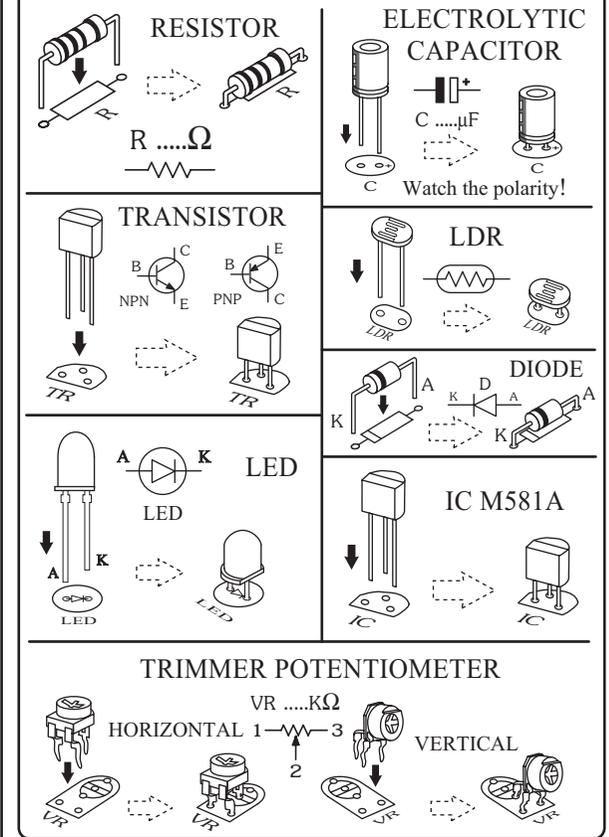
Connecting speaker with SP. Giving supply 4.5 volts to the circuit, positive pole at "+4.5V" point, negative pole at "G" point. There will be ting-tong sound occurs. If LED does not display, no sound at speaker. Turning VR1 till LED

shuts down, sound will be presented at speaker 1 time and automatically stop. If it is non-stop, turning VR1. Blocking LDR by hand, when taking hand off, LED will display again. When LED shut down, ting-tong sound will be presented at speaker and automatically stop.

Application:

Covering LDR by black pipe to control light direction and make LDR detecting better. VR1 acts for light detecting adjustment by relating with LED. VR2 adjusts light level according to our requirement.

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 visitor chime circuit

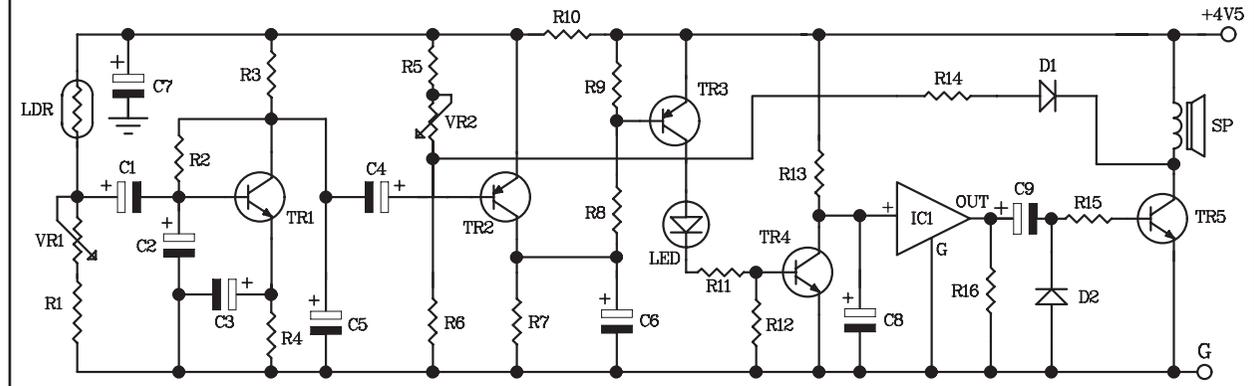
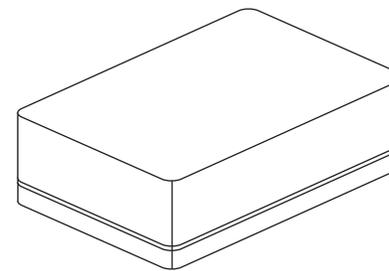
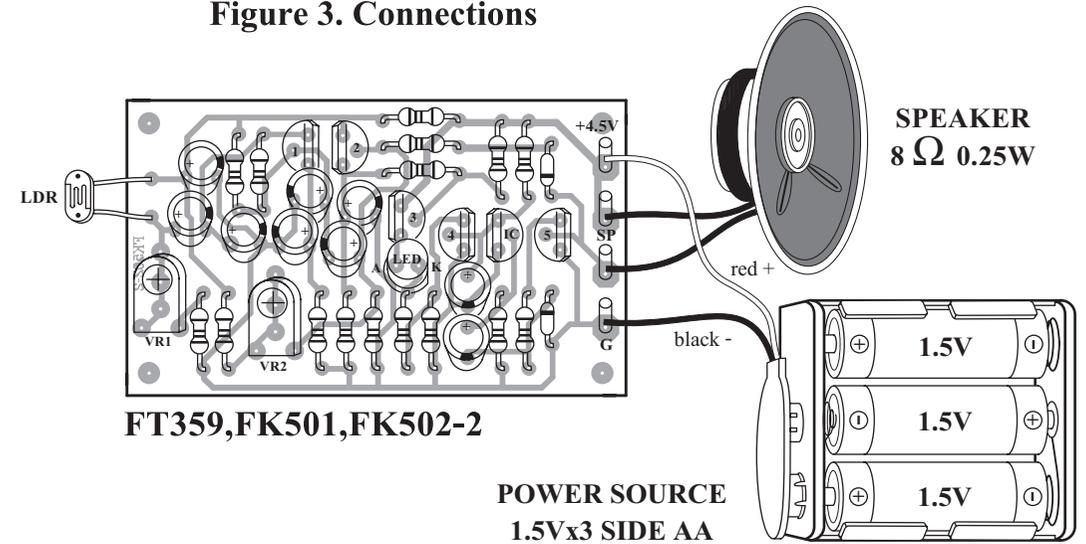


Figure 3. Connections



NOTE:

FUTURE BOX FB04 is suitable for this kit.

NEW KIT SET

CODE FK	DESCRIPTION	POWER
511	TWO FUNCTION INFRARED SENSOR	12VDC
674	POWER AMP. 2W MONO WITH SPEAKER	9-12VDC
675	POWER AMP. 2+2W STEREO WITH SPEAKER	9-12VDC