



FUTURE KIT

HIGH QUALITY ELECTRONIC KITS

HIGH POWER TELEPHONE RINGING 10W. CODE 305

LEVEL 1

High power telephone ringing circuit is suitable for homeuse or office that wants the phone rings more than 1 telephone set at the same time.

Technical specifications:

- power supply: 12VDC.
- consumption: 240mA max.
- adjustable tone level by trimmer potentiometer.
- PCB dimensions : 2.10 x 1.82 inches.

How to works:

Under normal condition without ringing signal, TR1 and TR2 are unworkable because there is only 48-50 volts in the telephone line. Since TR2 is unworkable, all IC1s are not workable accordingly due to lack of power supply so there is no sound out a horn speaker. When the phone rang, the voltage is increasing approximately 100 volts, TR1, TR2 and all IC1s are start working. IC1/1, IC1/2 act as low frequency generator which will be transferred through the base of TR3. TR3 will transfer low frequency to mix with high frequency of IC1/3 and IC1/4. Mixed both frequency will be transferred from pin 4 of IC1 to TR4 and TR5 for amplifying and sent out to a horn speaker accordingly.

PCB assembly:

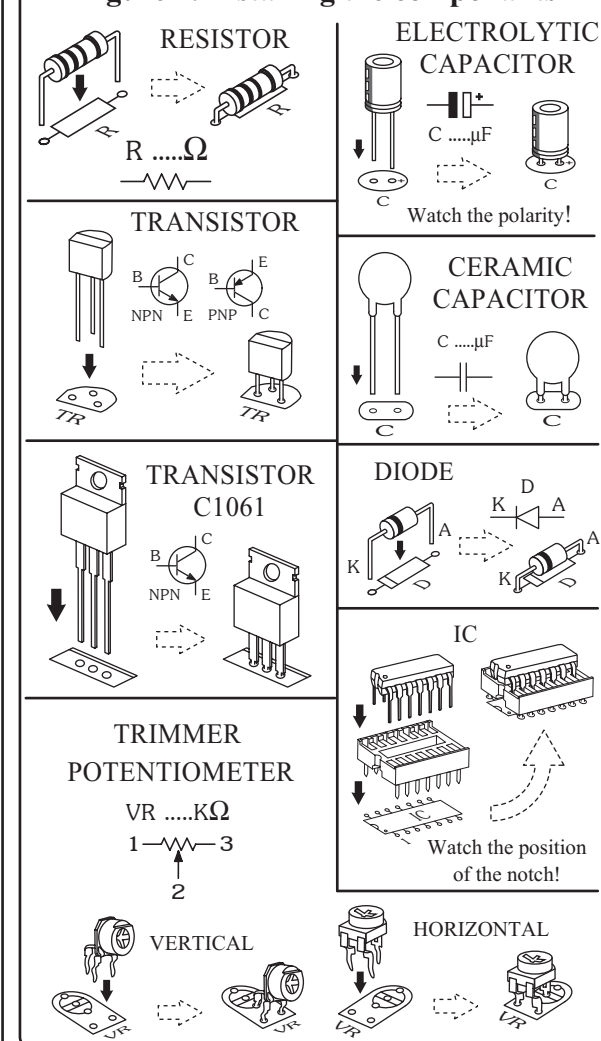
Shown in Figure 3 is the assembled PCB. Starting with the lowest height components first, taking care not to short any tracks or touch the edge connector with solder. Some tracks run under components, and care should be taken not to short out these tracks. If the pins will not enter the holes with ease,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

Install all component following figure 3. Apply the power supply 12VDC to circuit. With the positive pole is

connected to "+" point and the negative pole is connected to "-" point. There is still no noise out at the speaker. Jumping position pole of C1 to ground. You could slowly hear the ringing bell, accerelate the trimmer potentiometer 100K till you get the ringing bell, then jumping C1 off. Now the noise is disappeared. Connecting TEL point with the phone line, when the phone rang, ringing bell is out at a horn speaker.

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.

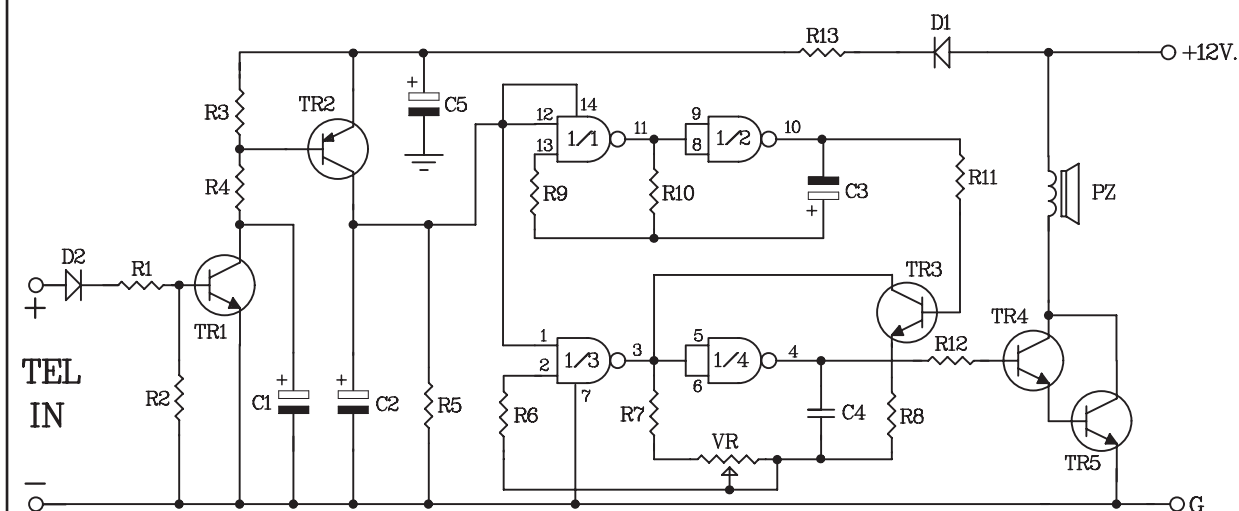
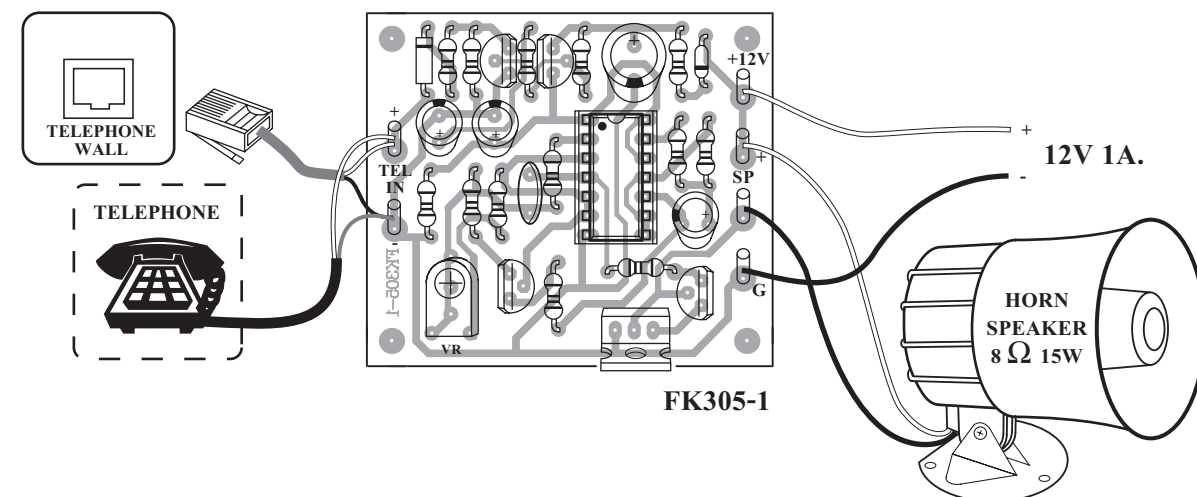
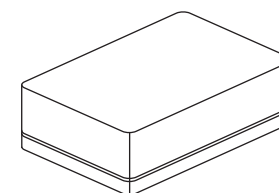


Figure 2. The high power telephone ringing 10W. circuit

Figure 3. Connections



FK305-1



NOTE:

FUTURE BOX FB03 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