

DUAL STATION INTERCOM (TRANSISTOR)
CODE 327 **LEVEL 1**

The intercom 2 station device is a mini communication tool, well known to be used at home, with a microphone which is connected to a loudspeaker to another room.

Technical specifications:

- power supply: 4.5 to 6VDC.
- consumption: 8mA max.(stand by) @ 4.5VDC.
50mA max.(working) @ 4.5VDC.
- select station by slide switch.
- PCB dimensions : 1.95 x 1.31 inches.

How to works:

When the switch is turned to "SP1" position, SP1 loudspeaker functions as a microphone transmitting a voice through C1 and the base of TR1. TR1 amplifies the frequency and then transmits through C2 to amplifier circuit (TR1-TR3). The amplified signal is transmitted to SP2C1 through C4. When the switch is turned to "SP2" position, SP2 will work as a microphone and SP1 will function as a speaker instead.

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!

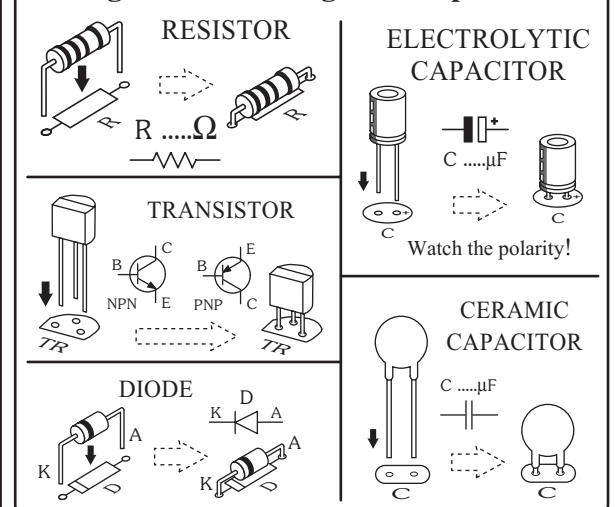
Testing:

Apply the power supply 4.5 to 6VDC. to the circuit. After that turn the switch SW1 to "SP1" position and talk to SP1 resulting the voice to go out SP2. When it works out, turn the switch to "SP2" position and make a test by talking at SP2. The result have to be heard at SP1, If the current function in this fashion this indicates that it is practical.

Using:

If you want to use along time, you have to use adaptor or power supply 6-9-12V. 300mA. code 801. For shield wire, you can increase the shield wire by "SP1" point not more than 1 meter and "SP2" point not more than 10 meters.

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.

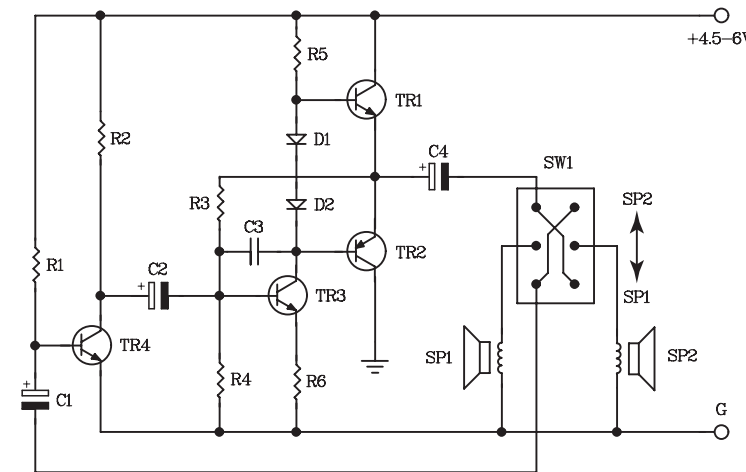


Figure 2. The dual station intercom (transistor) circuit

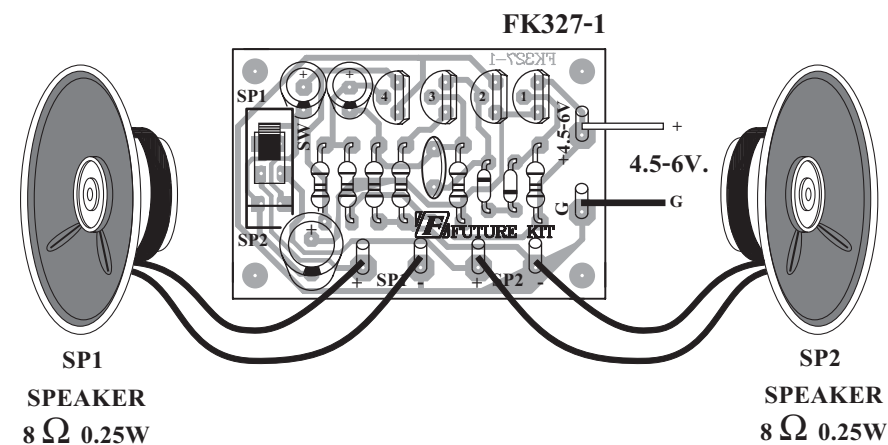
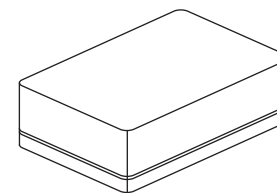


Figure 3. Connections



NOTE:

FUTURE BOX FB03 is suitable for this kit.

NEW KIT SET

CODE FK	DESCRIPTION	POWER
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	ANIMATED LED SIGNBOARD (5x7 DOT MATRIX)	3-5VDC.
327	DUAL STATION INTERCOM (TRANSISTOR)	4.5-6VDC.
512	DING/DONG DOOR CHIME (PIR SENSOR)	4.5-6VDC.
816	VARIABLE REGULATOR 0-50V. 3A.	50VDC.
817	TRANSFORMERLESS POWER SUPPLY 6-9-12V 50mA	220-240VAC.