

DUAL STATION INTERCOM
CODE 313 **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: 6 to 12VDC.
- consumption: 28mA max.(stand by) @ 12VDC.
160mA max.(working) @ 12VDC.
- adjustable sound level by trimmer potentiometer.
- select station by push switch.
- PCB dimensions : 2.46 x 1.99 inches.

How to works:

When the switch is turned to "A" position, SP1 loudspeaker functions as a microphone transmitting a voice through R1 to C1 and the base of TR1. TR1 amplifies the frequency and then transmits through C2 to VR1 in order to adjust the volume VR1. After that the frequency is transmitted to the pin 2 of IC1 to be amplified one more time. The amplified signal is transmitted to C1 through the switch SW1 and throughout the switch SW1 of SW2. When the switch is turned to "B" position, SP2 will work as a microphone and SP1 will function as a speaker instead.

PCB assembly:

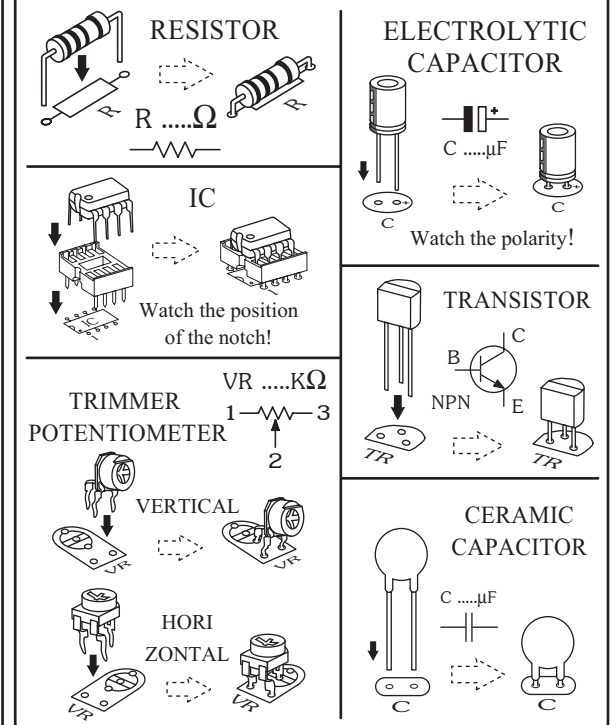
Shown in Figure 3 is the assembled PCB. Starting with the lowest height components first, taking care not to short any tracks or touch the edge connector with solder. Some tracks run under components, and care should be taken not to short out these tracks. If the pins will not enter the holes with ease, 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 6 to 12VDC. to the circuit. After that turn the switch SW1 to "A" position and talk to SP1 resulting the voice to go out SP2. If the sound is not heard, adjust VR10K clockwise. When it works out, turn the switch to "B" 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.

Figure 1. Installing the components



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.

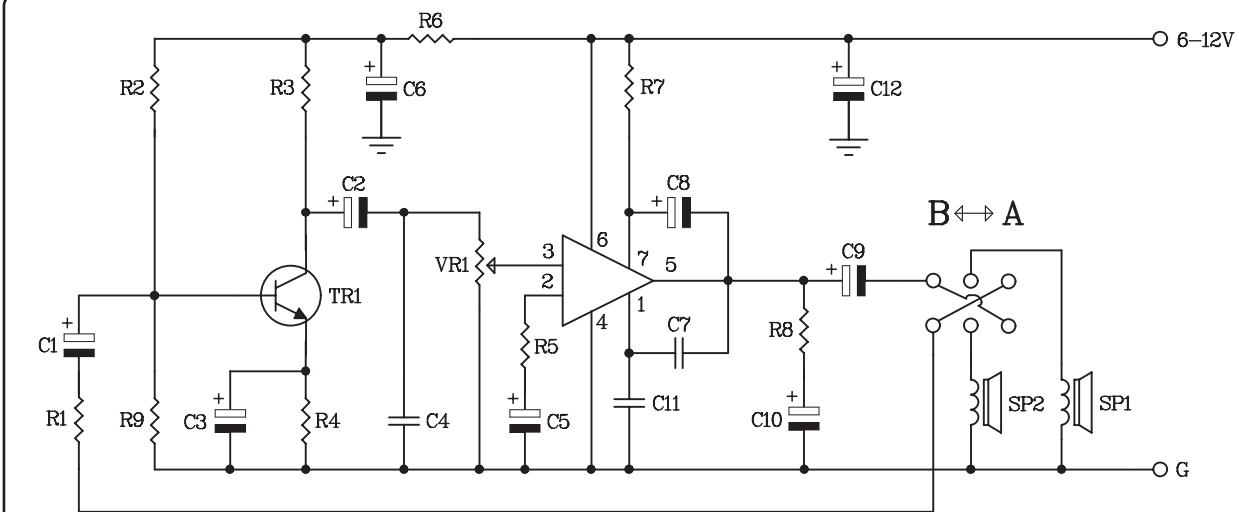
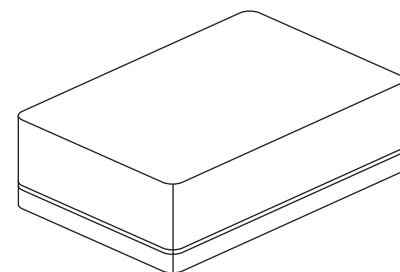
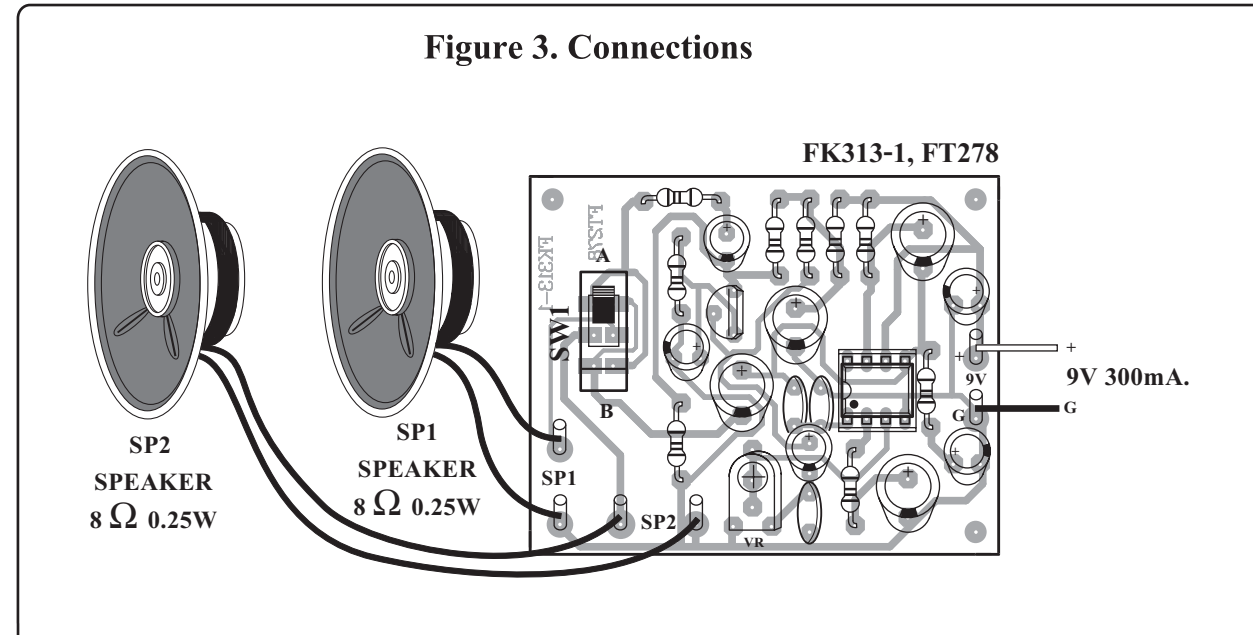


Figure 2. The dual station intercom circuit

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