

WALKY TALKY 27 MHz
CODE 711

LEVEL 2

Radio TX-RX is using 27 MHz frequency which is under permission. It's maximum sending wave is 1 watt. This circuit has 150mW. sending wave, 50 to 150 meter communication radios.

Technical specifications:

- power supply : 9VDC.
- consumption : 25mA. max. (RX), 35mA. max. (TX when push SW TX-RX), 150mA. max. (TX when push SW TONE)
- PCB dimensions : 2.29 x 2.43 inches.

How to works:

TR2, TR3 and TR4 are connecting as signal amplifier circuit. TR1 acts 2 functions. It switch is at T, TR1 will act generate frequency which is depends on crystal value, 27MHz approximately. But it switch is at R, TR1 will act receiver 27MHz frequency signal by adjusting frequency at tuner. Speaker also acts as 2 functions which is being microphone while switch is at T and being speaker while switch is at R, R6, C15 will be connected through S1 to the base of TR2 to be switch tone or communication selector.

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:

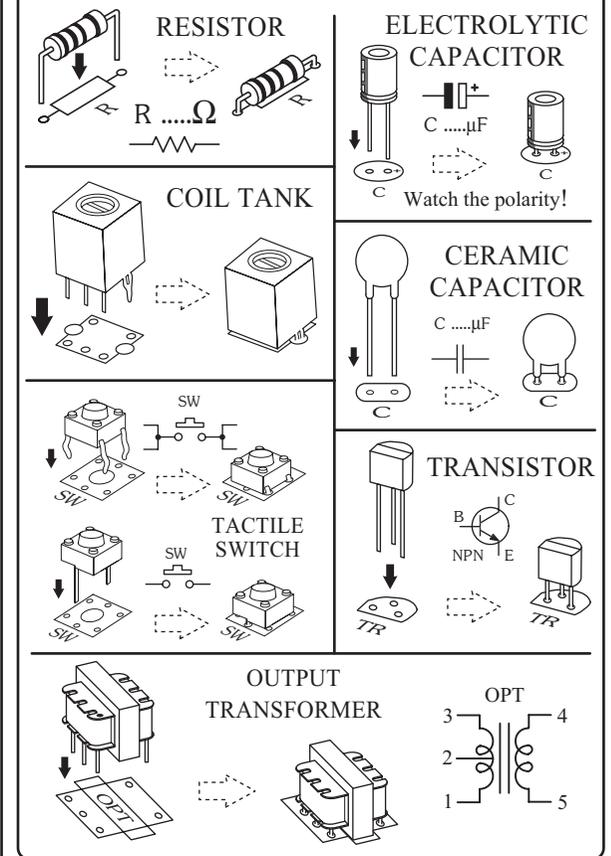
Giving power supply. Turning volume to maximum at right hand pressing switch 12 legs off, there will be sound at speaker. If not, turning volume to the left if there is a sound means connected wire volume wrong. Testing press S1, if there is a sound means there is tone. Place radio TX-RX nearby for 30 cm.

approximately. Press switching 12 legs of 1st radio and pressing on S1 of 1st radio, if there is a tone at 2nd radio, if not, adjusting tuner till tone is clear at 2nd radio's speaker. When switching 12 legs of 2nd radio and switching S1, there will be tone at 1st radio, if not, adjusting 1st radio's tuner till tone is clear.

Application:

Connecting ANT point with over 80 cm. length antenna, and putting it into FB07 BOX. It's using 6AA batteries. Do not using 9 volts rectangle battery because if gives low current. Installation according to the figure.

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.

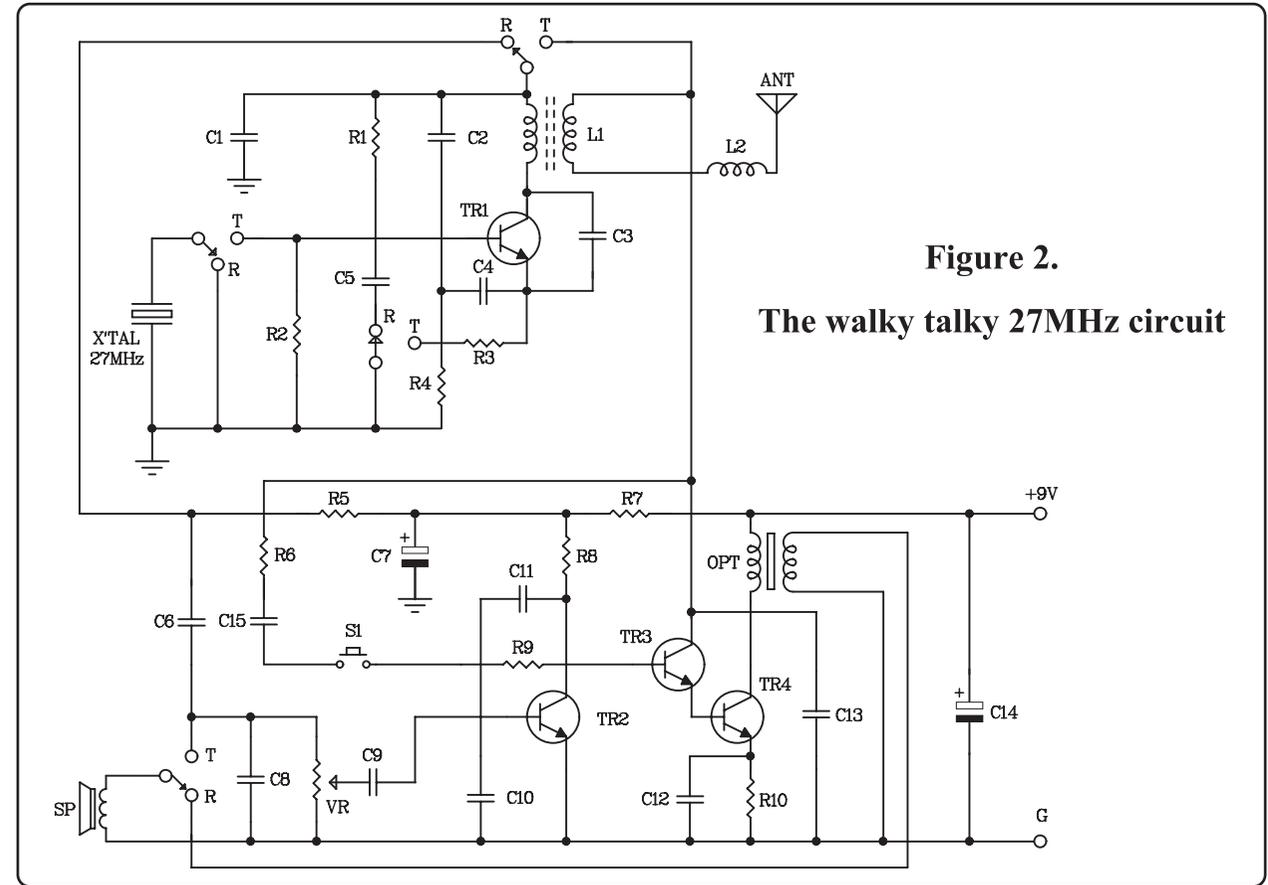


Figure 2.
The walky talky 27MHz circuit

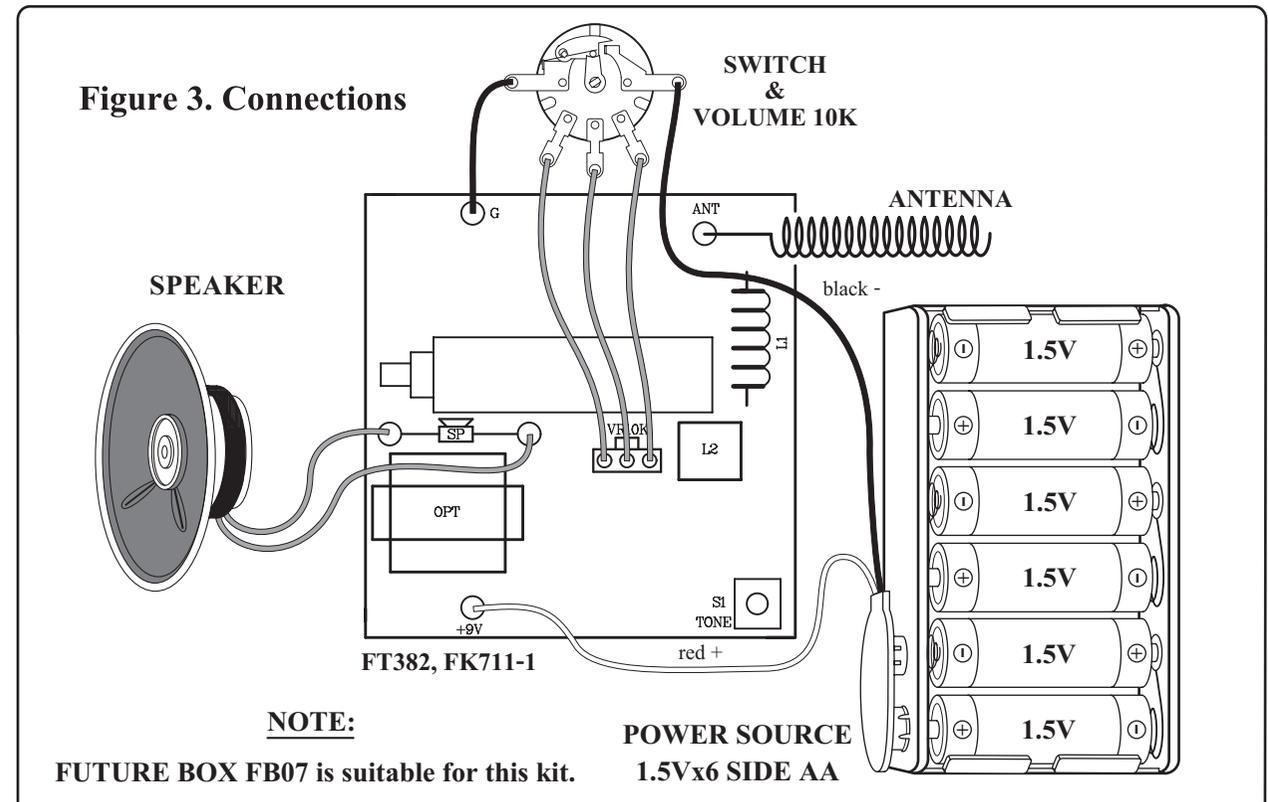


Figure 3. Connections

NOTE:

FUTURE BOX FB07 is suitable for this kit. POWER SOURCE 1.5Vx6 SIDE AA