

AM SIMPLIFY RADIO WITH EARPHONE
CODE 709 **LEVEL 1**

The AM simplify radio circuit is a saving circuit that requires few components and suitable for educational use.

Technical specifications:

- power supply : 3VDC.
- consumption : 45mA. max.
- PCB dimensions : 2.38 x 1.24 inches.

How to works:

IC1 acts as a receiver by having variable and coils OSC as station frequency adjuster. At OUTPUT of IC will be connected through C3 for sent amplifying by TR1 and TR2 and sent to speaker. Variable is using standard type. Connecting OUTPUT with dynamic head phone or small speaker but it is over 30 ohms. ANT point connects with antenna by using 1-meter length small electrical wire as an antenna.

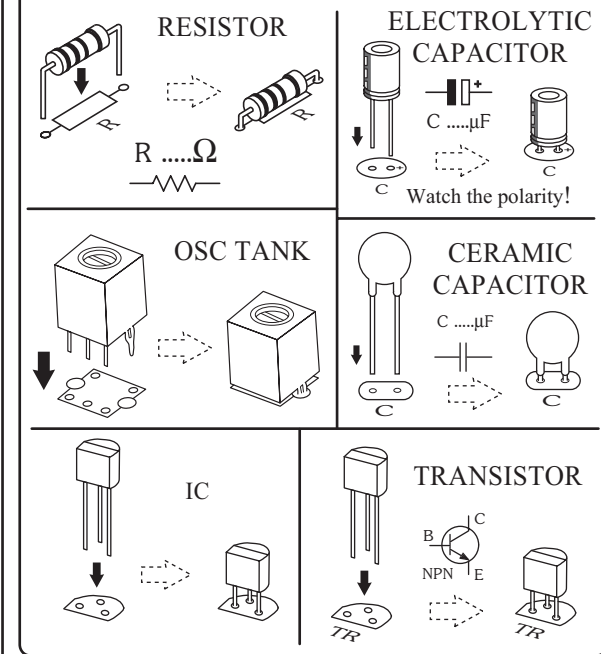
PCB assembly:

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 the circuit according to the figure. You will hear a sound from head phone. Tuning variable to find out station. If there are few stations, adjusting OSC coil. ANT point is for connecting antenna.

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.

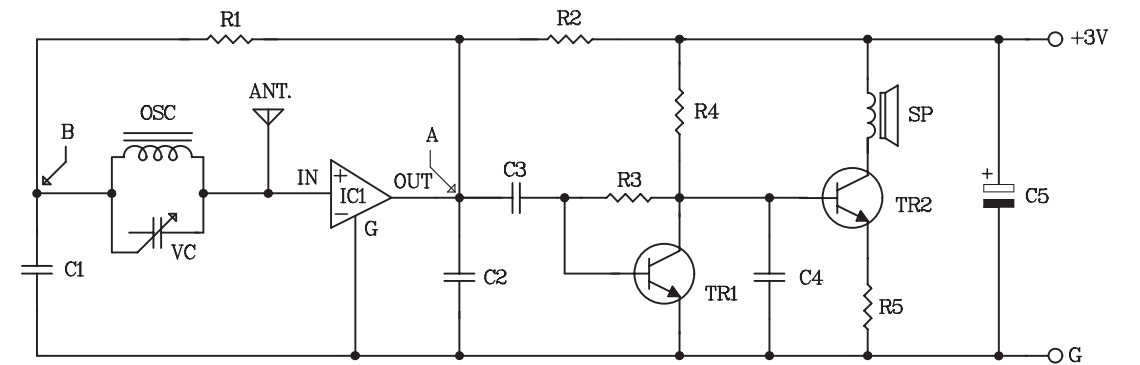
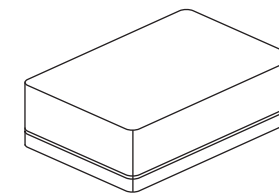
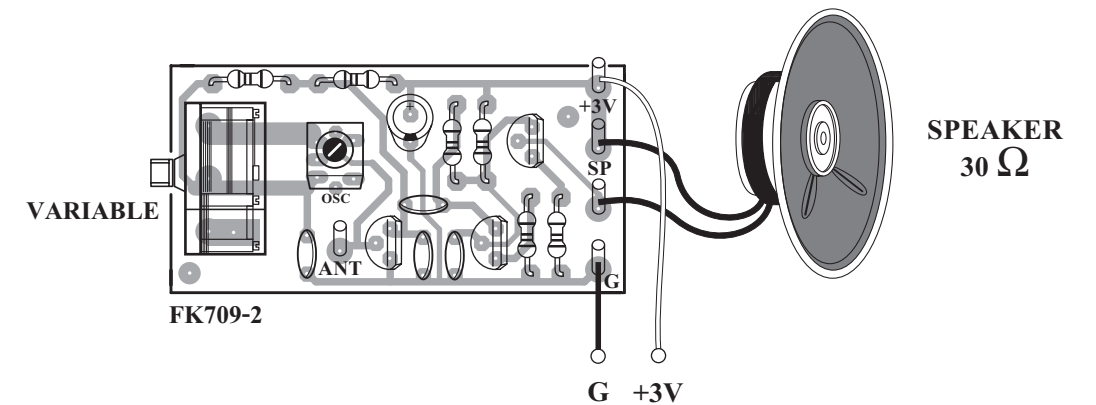


Figure 2. The AM simplify radio circuit

Figure 3. Connections



NOTE:

FUTURE BOX FB03 is suitable for this kit.

NEW KIT SET

CODE FK	DESCRIPTION	POWER
168	NO SMOKING FLASHER 46 LED	9-12VDC.
169	DANCING ROBOT FLASHER 33 LED	9-12VDC.
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.
816	VARIABLE REGULATOR 0-50V. 3A.	50VDC.
817	TRANSFORMERLESS POWER SUPPLY 6-9-12V 50mA	220-240VAC.