

MORSE CODE KEYS WITH SPEAKER
CODE 938 **LEVEL 1**

A Morse Code circuit that suits those who are interested in electronics. Easy to assemble and to understand with few components at low cost including Morse Code learning.

Technical specifications:

- Power supply : 9VDC.
- Consumption : 35mA max.
- Adjust sound frequency with trimmer potentiometer.
- PCB dimensions : 1.95 x 1.08 in.

How to work:

When press switch SW firmly, voltage from power supply source will be sent to a frequency generator set. The circuit will start working from TR1 and TR2 are being assembled in the form of multi-vibrator frequency circuit. The generated frequency depends upon VR1, R2, R3, C2 and C3. The said frequency will be sent out from the emitter of TR2 to the base of TR3 for amplifying a stronger frequency prior to sending out to the speaker.

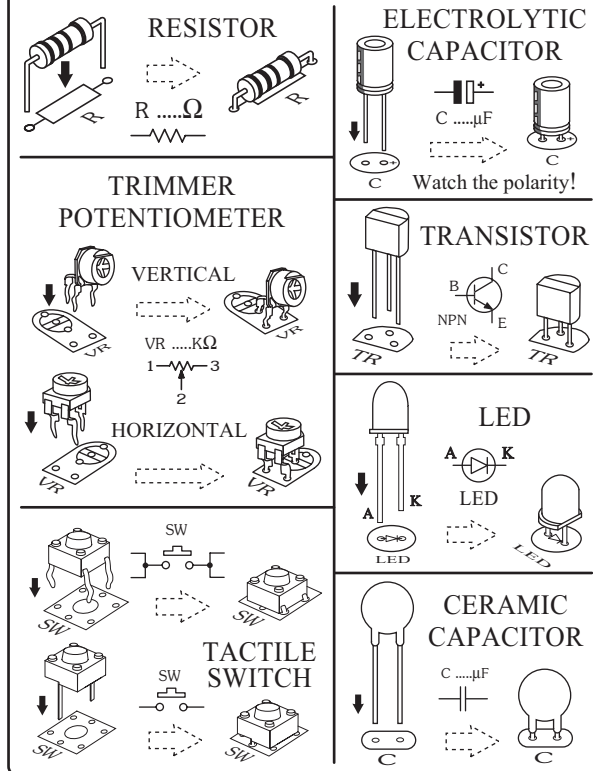
Circuit assembling:

External connecting and fitting of components are shown in figure 3. It is recommended to assemble the circuit starting with a less height component i.e. diodes, resistor, electrolyte capacitors and transistors etc. Be careful while assembling and check for the matching of PCB poles and components before soldering as shown in Figure 1. Use a max. 40W. solder and soldering lead with a tin and lead ratio of 60/40 together with a joint solution inside. Recheck the assembled circuit for your own confidence. Better using a lead sucker or a lead wire absorber in case of misplacing component to protect PCB damage.

Testing:

Supply voltage of 9VDC to the circuit, and then firmly press the switch SW. Sound from the speaker and brightly lit LEDs are noticed. Trying to adjust the trimmer potentiometer VR1, noise level frequency will be varied according to the adjustment. Those results will show that the circuit is workable.

Figure 1. Components installing



Troubleshooting:

As the circuit has only a few components, the main cause of troubles will come from component misplacing and defaulted soldering. When found out that the circuit does not work, check for the proper component placings and various soldering points.

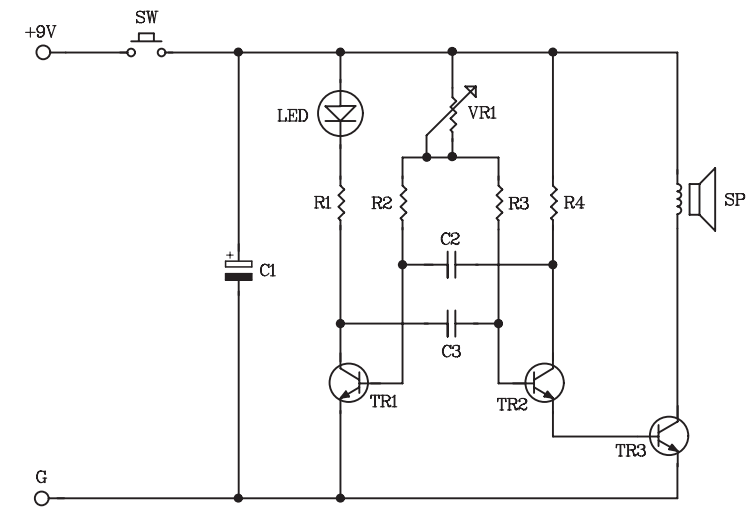
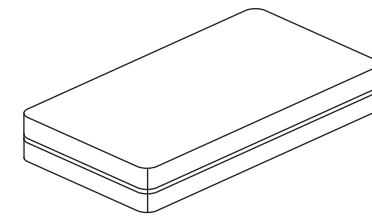
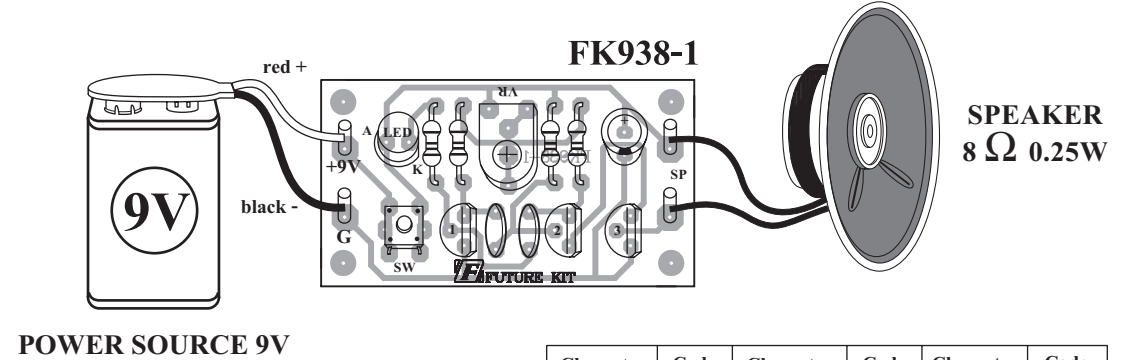


Figure 2. Morse code keyer with speaker circuit

Figure 3. Circuit assembling



NOTE:

FUTURE BOX FB17 is suitable for this kit.

Character	Code	Character	Code	Character	Code
A	.-	M	--	Y	-.--
B	-...	N	-.	Z	---.
C	-.-	O	---	0	-----
D	-..	P	.-.	1	-----
E	.	Q	--.	2	..---
F	..-	R	.-.	3	...--
G	---	S	...	4-
H	T	-	5
I	..	U	..-	6	-....
J	.-	V	...-	7	--...
K	-.-	W	.-.	8	---..
L	-.-	X	-.-	9	----.

Table of the Morse Code Letters and Numerals.

Morse code: A system for sending messages, using combinations of long and short sound or flashes of light to represent letters of the alphabet and numbers.