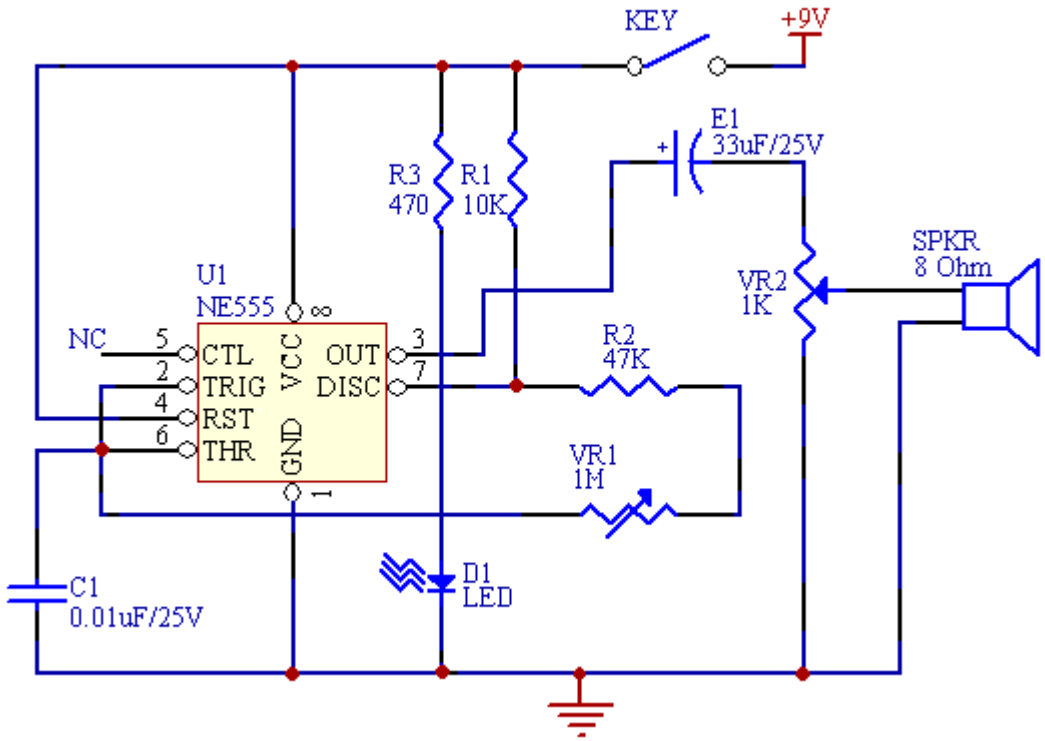
Make your own Morse Sidetone Oscillator
This project uses a 555 timer integrated circuit, one of the most fundamental types available today. This is one of the various ways for amateur radio enthusiasts and telegraphy professionals to practice the sending and receiving of Morse Code.

Schematic Diagram
The schematic of the project is as shown below.



In this circuit, a 555 timer integrated circuit is used and configured as a timer in astable mode. Once KEY is pressed, it will generate a frequency from its output at pin 3 and drive the 8 ohm loudspeaker which is connected in parallel to potentiometer VR2. The LED will also be activated and will turn on and off whilst keying.

The output frequency can be adjusted by varying potentiometer VR1.
The output volume can be adjusted by varying potentiometer VR2.
You can play with the value of VR2 (some others use a 10K pot) to tailor the volume action of the unit.
You can play with the value of VR1 (some others use a 100K pot) to tailor the pitch action of the unit.

Morse Sidetone Oscillator Parts List

Label	Description
U1	555 Timer IC - NE555, LM555 or similar
LED	Light Emitting Diode, Green Red or Amber
R1	10K 1/4W 5% Carbon Film Resistor
R2	47K 1/4W 5% Carbon Film Resistor
R3	470 1/4W 5% Carbon Film Resistor
VR1	1M linear Potentiometer
VR2	1K linear Potentiometer
C1	0.01uF ceramic or monolithic Capacitor
E1	33uF 25V electrolytic Capacitor
SPKR	8 ohm Speaker - maximum size that suits enclosure
KEY	Your Favourite Morse Key
BAT	9V dry cell battery
ENCL	an enclosure big enough to house everything

The circuit can be built up on veroboard or similar one-off board, with a layout that you will have to configure to meet your needs. It could even be rat-nested and shoved into a plastic box, or you could even design a printed circuit board for a deluxe result.

Have Fun getting your bleeper together !
Cheers from Gavin VK4ZZ