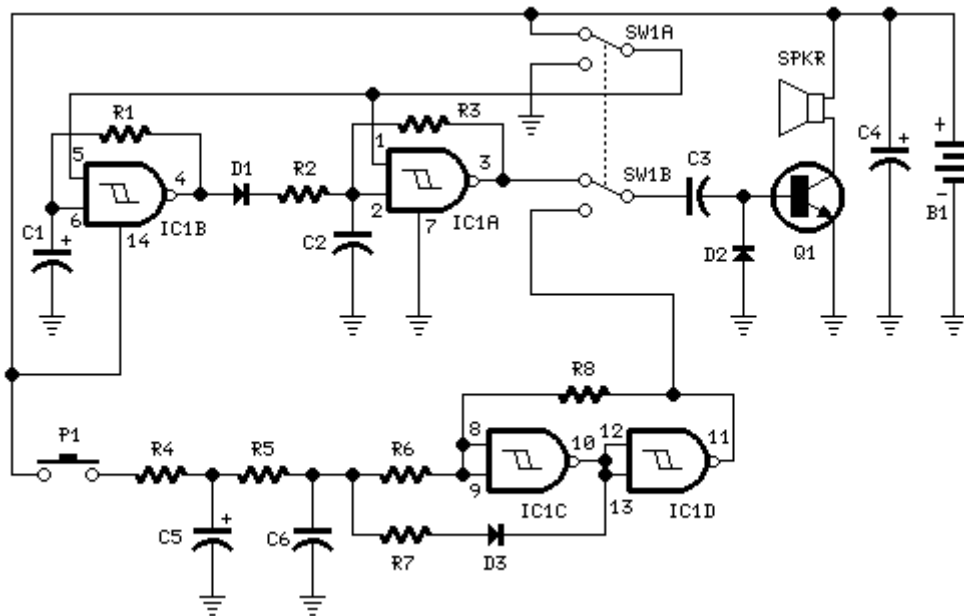


One-IC two-tones Siren

Double tone Police sound
Single tone old ambulance sound

Circuit diagram:



Parts:

R1,R3___470K 1/4W Resistors
R2_____680K 1/4W Resistor
R4_____82K 1/4W Resistor
R5_____330K 1/4W Resistor
R6_____10K 1/4W Resistor
R7_____33K 1/4W Resistor
R8_____3M3 1/4W Resistor

C1,C5_____10 μ F 25V Electrolytic Capacitors
C2,C6_____10nF 63V Polyester Capacitors
C3_____100nF 63V Polyester Capacitor
C4_____100 μ F 25V Electrolytic Capacitor

D1-D3___1N4148 75V 150mA Diodes

IC1_____4093 Quad 2 input Schmitt NAND Gate IC

Q1_____BC337 45V 800mA NPN Transistor

P1_____SPST Pushbutton

SW1_____DPDT Switch

SPKR_____8 Ohm Loudspeaker

B1_____6V Battery (4 AA 1.5V Cells in series)

Circuit operation:

This circuit is intended for children fun, and is suitable to be installed on bicycles, battery powered cars and motorcycles, but also in models and other games. With SW1 positioned as shown in the circuit diagram it reproduces the typical dual tone sound of Police or Fire-brigade cars, by the oscillation of IC1A and IC1B gates. With SW1 in the other position, the old siren sound increasing in frequency and then slowly decreasing is reproduced, by pushing on P1 that starts oscillation in IC1C and IC1D. The loudspeaker, driven by Q1, should be of reasonable dimensions and well encased, in order to obtain a more realistic and louder output. Tone and period of the sound oscillations can be varied changing the values of C1, C2, C5, C6 and/or associated resistors. There is no power switch: leave SW1 in the low position (old-type siren) and the circuit consumption will be negligible.
