

TOUCH ACTUATED GENERATOR

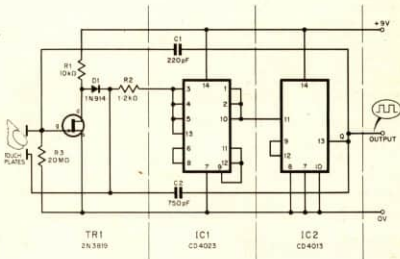


Fig. 1

THIS pulse generator provides extended pulses and is controlled by finger contact. It has the added advantage of the output being able to be held in a low or a high state.

The NAND gates of IC1 (Fig. 1), form a Schmitt trigger fed from the series diode/resistor combination D1-R2, connected to the gate of the f.e.t. The output from the Schmitt is fed to the clock of a D-type flip-flop (IC2) connected in the divide by two mode. Two capacitors provide feedback from the output of the flip-flop.

Capacitor C1, feeds the gate of the f.e.t., which, in turn controls the current flowing through R1, D1, and R2.

Hence the potential at the input to the Schmitt will rise and fall according to the state of charge of C1. The rate at which this potential changes is governed by the value of C2. With this absent the highest pulse frequency attained is 25Hz.

When the gate is low less current will flow through D1 and vice versa. Thus, the input at IC1/pin 3 is alternately low and high, giving a low and high output at Q, which is at one half the frequency.

It is interesting to note that if C2 is very much greater than C1, then it is C2 that controls the pulse width. For example when C2 is 4,700pF,

the pulse width is about 10s.

The values of capacitors shown in the diagram, give a pulse frequency of about 0.5Hz.

The generator is initiated, merely by finger contact on the lower plate. If it is desired to hold the output at one level or another, finger contact on the upper plate will hold the output until released. Both the touch plates should be situated close to mains wiring.

P. R. G. Reynolds,
Benfleet,
Essex