

Sonic pulse generator

This circuit produces an intense audible click, suitable for sonar experiments, by connecting the mains supply to a loudspeaker for part of a mains cycle. The 240V a.c. input provides a 9V supply and also an a.c. trigger waveform, which is fed to the first timer via a push switch. This timer will only trigger on

the negative slope zero-crossing point of the mains cycle. After a delay, set by the phase control, the second timer is triggered which then fires the thyristor. Timer 2 is used to prevent multiple firing, and is reset by releasing S_1 . The reed relay takes about one millisecond to provide a synchronizing output, but an opto-isolator can be used for faster operation.

Other applications of this circuit include driving a coil for producing permanent magnets. Because the circuit is not isolated from the mains supply, appropriate safety precautions must be taken.

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