

Three-component Oscillator

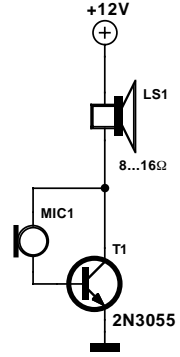
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P. Lay

At first glance, this circuit appears to be just a primitive microphone amplifier. Why then is the title of this article ‘Three-component Oscillator’? The answer is very simple: the microphone is not intended to pick up speech; instead, it is placed so close to the loudspeaker that massive positive feedback occurs. Here we intentionally exploit an effect that is assiduously avoided in public-address systems — the positive feedback results in a terribly loud whistle. The loudspeaker is connected directly to the 12-V supply voltage and the power transistor, so it must be able to handle a power of at least 1.5 W, and it should have an impedance of 8 to 16 Ω . An outstanding candidate can be cannibalised

from an old television set or discarded speaker box. The microphone should be a carbon-powder type from an old-fashioned telephone handset. If you place a switch in series with the power supply, this sound generator can also be used as an effective doorbell or siren. Surprisingly enough, the circuit can also be used as a simple microphone amplifier — hardly hi-fi, of course, but still usable.

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