

micro-squeaker

This circuit is by way of being an electronic joke. The complete circuit comprises only one transistor, one capacitor, a miniature transformer and a headphone. The transistor can be any germanium type; the transformer can be any miniature type with a turns ratio between 3:1 and 10:1. At supply voltages as low as 0.2 V the headphone produces a distinct sound. Current consumption is then of the order of $10\mu\text{A}$, power consumption is less than $2\mu\text{W}$. The joke of this microsqueaker is that it is not fed from a 'normal' current source, but that the gifts of nature are called upon. The positive connection is a piece of bare copper wire, the negative connection is a bare piece of steel or silver wire. If both ends are stuck into an apple, a lemon or a potato, at some distance from each other, the apparatus produces a tone. A solar cell could also serve as the voltage source. The squeaker may also be used as an indicator for D.C. voltages in the range of 0.2 V ... 10 V.

