

## Emergency Light Cum Power Failure Indicator with Audio Alarm

Many a times AC mains power fails all of a sudden. This may cause inconvenience, particularly late in the evenings. Here is a circuit which can give visual as well as audio alarm whenever AC mains power is interrupted.

Whenever AC power is present, a green LED (D1) will be glowing. But if the power goes off, then a red LED (D4) will start blinking and the green LED will go off. Simultaneously an audio alarm will start indicating failure of mains power. The alarm shuts after the preset time, but the red blinking LED continues to glow until AC mains power is restored back.

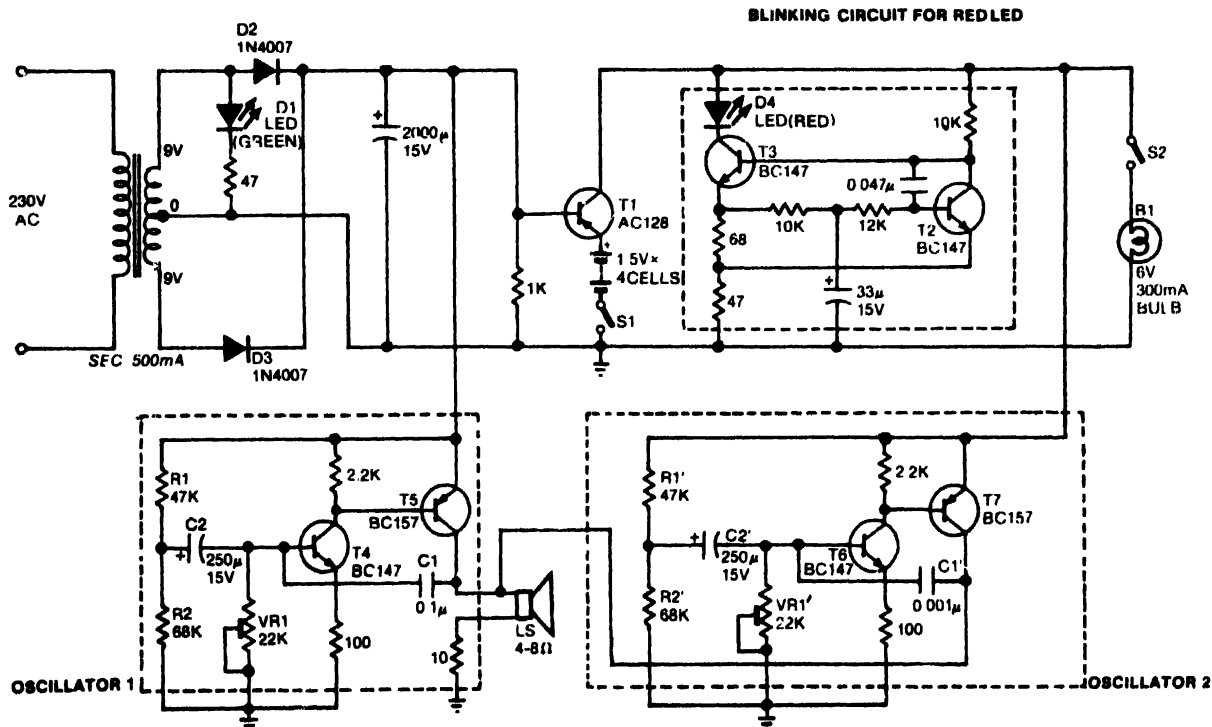
When power resumes, again an alarm starts but this time with a different sound. This alarm also shuts off after the preset time. The blinking red LED now goes off and the green LED glows, indicating presence of mains power.

choice by changing the value of capacitors C1 and C1'. The preset time to shut off the alarm can be adjusted by varying potentiometers VR1 and VR1' in the circuit shown for oscillators.

Also, the blinking circuit of red LED comprising T2 and T3 and some other components can be removed and red LED can be connected directly between collector of T1 and ground, with a suitable resistance in series with it. This makes the circuit simple and easy to assemble.

The whole circuit is built around transistor T1. When mains power is present, T1 is kept off so that the supply to red blinking LED and oscillator 2 is cut off; supply is available to green LED and oscillator 1 from the stepped-down AC mains. Capacitor C2 acts as a short in the beginning and therefore T4 gets supply through R1 and the oscillator operates. As capacitor C2 starts charging through VR1, it cuts off the supply to T4 after having fully charged. Hence the oscillator stops its operation after some time.

As soon as mains power goes off, the capacitor discharges



With this facility one can easily say whether the power has gone off or has been restored back merely by hearing the sound. Moreover, one need not rush to the equipment when the alarm starts to shut it off, because the alarm shuts off automatically.

Lots of variations are possible in the circuit shown. The frequency of the two oscillators can be changed to one's

through R2, and T1 is now 'on'. Thus, red LED and oscillator 2 gets supply from cells and supply to green LED as well as oscillator 1 is cut off. Bulb B1 also gets supply from the cells and it acts as an emergency light source, when even switch S2 is closed in absence of mains power. Switch S1 is provided to switch off the circuit when not required.

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