



Power Failure Audible Alarm

For motor homes and boats

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It's often little things that make outdoor living more amenable. This circuit makes its presence felt vociferously when the fixed electricity supply fails or is cut.

Any skipper or RV (motor home) driver whose solar or fuel cells do not deliver sufficient mobile energy is often directed towards coin-operated power points, which are provided at many camping sites and marinas for recharging the onboard batteries. These power points are generally consumption-controlled and cut out directly once the amount of power paid for has been extracted.

Often the quantity of electricity bought is unclear and even knowing your own usage is a tough call. It can then happen that the recharging supply shuts off and instead of starting the next day replete with power, your battery needs to feed itself again.

Accordingly I constructed this small circuit, which beeps for a couple of seconds when the AC power supply fails or drops out. For the power supply (PSU) we'll use a small 5 V switch-mode power module (not shown here), which most people will have in their box of bits. All the time that AC power is present, the switch-mode PSU will cheerfully produce its +5 V. In the schematic shown in Figure 1 the chubby 1000 µF capacitor is charged via the diode D1 and the 220 Ω resistor. At the same time the 5 volts are applied via the 1 kΩ resistor to the base of the PNP transistor, so that it does not conduct.

If the AC power is cut, killing the +5 V, the transistor conducts, assisted by the 68 kΩ

resistor. The capacitor now discharges through the beeper and the transistor. The beeper makes a noisy account of itself for around 5 s, depending on the capacitor value and type of sounder used (the duration can be extended of course using a larger capacitor).

The complete circuit, as seen above, can be built on a scrap of perf board (for best fit in the case) and made shockproof along with the switch-mode PSU inside a plug-in wall-wart enclosure.

As soon as you have hooked up to a coin-operated power point, you can plug this gadget into a spare receptacle (socket) in the motor home or boat and receive a timely warning when the juice fails.

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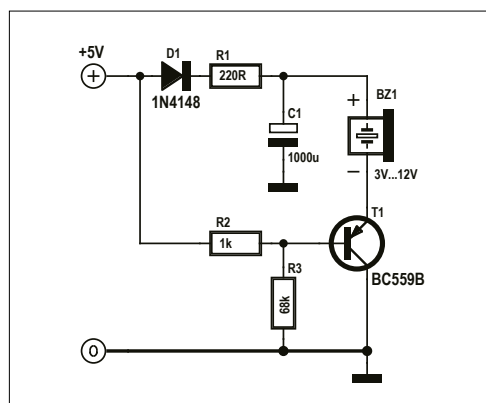


Figure 1. This small circuit is connected to a 5 V switch-mode power supply and raises the alarm when the AC power fails.