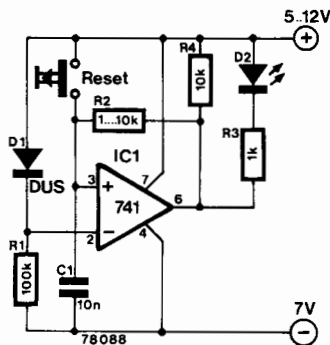# 3 | supply failure indicator

Many circuits, especially digital systems such as random access memories and digital clocks, must have a continuous power supply to ensure correct operation. If the supply to a RAM is interrupted then the stored information is lost, as is the time in the case of a digital clock.

The supply failure indicator described here will sense the interruption of the power supply and will light a LED when the supply is restored, thus informing the microprocessor user that the information stored in RAM is garbage and must be re-entered, and telling the digital clock owner that

his clock must be reset to the correct time.

When the supply is initially switched on the inverting input of IC1 is held at 0.6 V below positive supply by D1. Pressing the reset button takes the non-inverting input of IC1 to positive supply potential, so the output of IC1 swings high, holding the non-inverting input high even when the reset button is released. LED D2 is therefore not lit.

When the supply is interrupted all voltages, of course, fall to zero. Upon restoration of the supply the inverting input of IC1 is immediately pulled up to its previous potential via D1. However, C1 is uncharged and holds the non-inverting input low, so the output of IC1 remains low and D2 lights.