

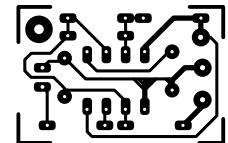
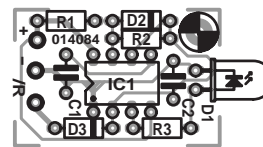
circuit begin to flash. You may then ask what the purpose of D3 is. Well, this has been added in order to prevent the various loads in the car from being connected in parallel with C2 — because that was not the intention, of course.

A minuscule printed circuit board has been designed for the circuit, that, when fully built-up will fit exactly in an old fluorescent tube starter. The latter also immediately solves the problem of finding a suitable enclosure.

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A flashing LED based on a 555 is not likely to win the first prize for originality, but such a circuit continues to be useful for all kinds of applications. The thing that makes this version special is the very low current consumption, because the LED flashes only very briefly each time (duty-cycle of only 10%) and because it was specifically designed to serve as a (fake) alarm indicator in a car. The circuit has been configured such that the flashing only starts when the ignition is switched off.

The latter could have been achieved in the usual way with the aid of two resistors and a transistor connected to the reset line. But by using a clever trick instead, this has become even simpler. The +12 V connection from 'behind' the ignition key is connected to the threshold input via diode D3. The astable multi-vibrator is held in the inactive state whenever this point is at +12 V. Only when the ignition is switched off, is the clamp removed and can the cir-



COMPONENTS LIST

Resistors:

R1 = 470kΩ
R2 = 1MΩ

Capacitors:

C1 = 100nF

C2 = 220nF

Semiconductors:

D1 = LED
D2, D3 = 1N4149
IC1 = 555