

Random Flashing LED

011

In recent years, the chapter 'flashing lights' in its many incarnations, has already received plenty of attention in *Elektor Electronics*. Therefore, a newly presented flasher circuit has to have at least one special characteristic in order to be considered for publication.

The version described here is therefore definitely not an 'ordinary' flasher. Unlike most other circuits, the on/off rhythm of this circuit is not regular, but random. The circuit will undoubtedly find applications in various games, while it may also be very appropriate as a 'pseudo-alarm-indicator' to deter potential burglars.

Obviously, a random flasher will require a little more circuitry than a standard version. As is shown in the schematic, Schmitt-trigger IC3a is used to build a conventional oscillator, which runs at a relatively low frequency. This signal is used to clock a shift register IC. By feeding back the various outputs of the shift register through three inverting XOR gates (IC2a/b/c), the level changes at the output QH of the shift register will exhibit a quasi-random characteristic. This voltage is applied to a high-efficiency LED (D1), which completes the flasher.

The circuit has been designed for a power supply voltage of 5 V. The current consumption is about 8 mA when the LED is on.

