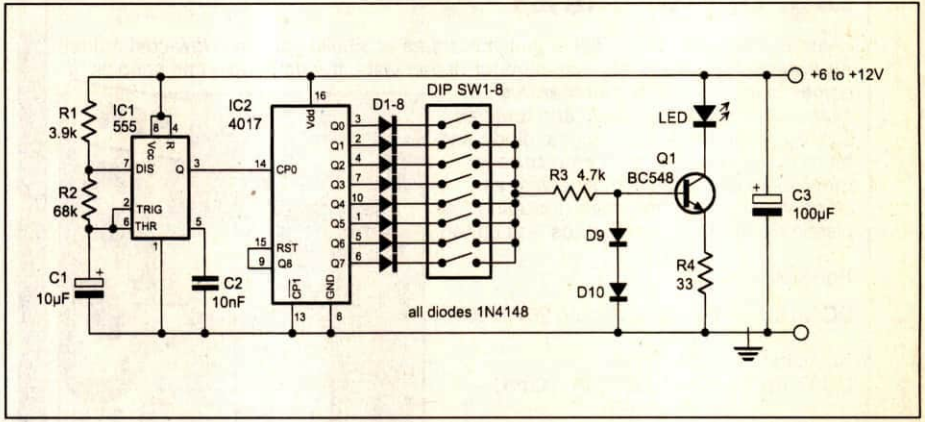
Flashing beacon

This circuit was designed after seeing an advertisement in an American magazine for a programmable beacon, with an output of about 700mCd provided by what appeared to be three LEDs.

It consists of a 555 timer running in astable mode at about 1Hz. This clocks a 4017 decade counter/divider with outputs 0 to 7 going high for one second each in a continuous loop, since the reset pin (15) is connected to output eight (pin 9).

Each output is connected to the base of Q1 via an isolating diode (D1 - D8) and a switch (DIP SW 1-8). Transistor Q1, R4, D8 and D9 form a constant current source for the LED. The current is 0.65 divided by the value of R4. Various flash patterns are possible, depending on the setting of the switches. For instance, one second on, then seven seconds off, or four seconds on and four seconds off.



I used a 3000mCd LED (available from Jaycar) operating at a current of 20mA. For best light output, use two or three LEDs in series, depending on the supply voltage.

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