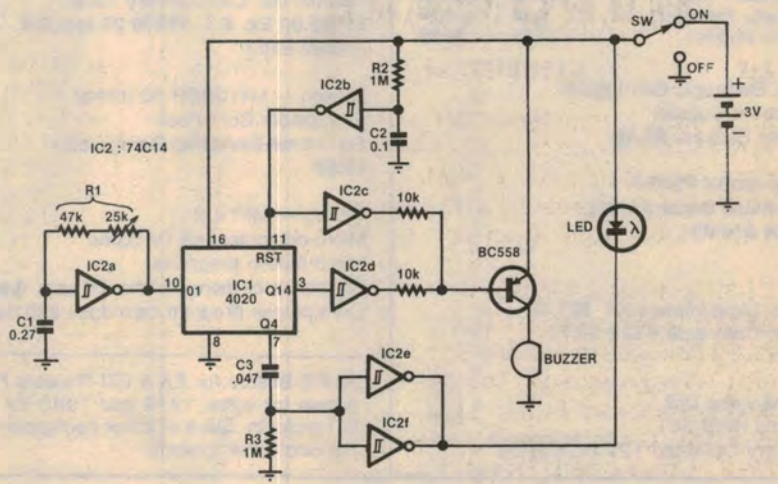
This timer takes very low current

When the timer is switched on, the circuit shown will provide a time lapse of from 5 to 30 minutes before an audible alarm is sounded. It takes extremely low current, typically 20uA at 3V and 10mA when the buzzer operates. Under these conditions, two AA-size dry cells should supply this timer for a year or more, provided the buzzer does not operate for too long periods.

The circuit includes a "switch-on reset" facility to ensure the proper operation of the 14-stage binary counter IC1. This is achieved through R2, C2 and IC2b. During the reset period, the buzzer is sounded. This confirms the reset procedure and doubles as a low battery warning indicator. If the buzzer does not operate during switch-on, it is likely that the battery needs replacement.

IC2e and IC2f are paralleled to flash the LED whenever the timer is sounding. The differentiating network of R3 and C3 ensures a short blink each time, in order to preserve battery life.



By changing the frequency of oscillation of IC2a with R1, the time lapse can be varied. As the output is taken from the 14th output stage of the counter, the time lapse is equal to 2^{14} times the period of oscillation of IC2a. At 3V, the period is given as approximately 1.4R1C1.

(By Mr T. G. Tang, PO Box 26, St Lucia, Qld 4067.)