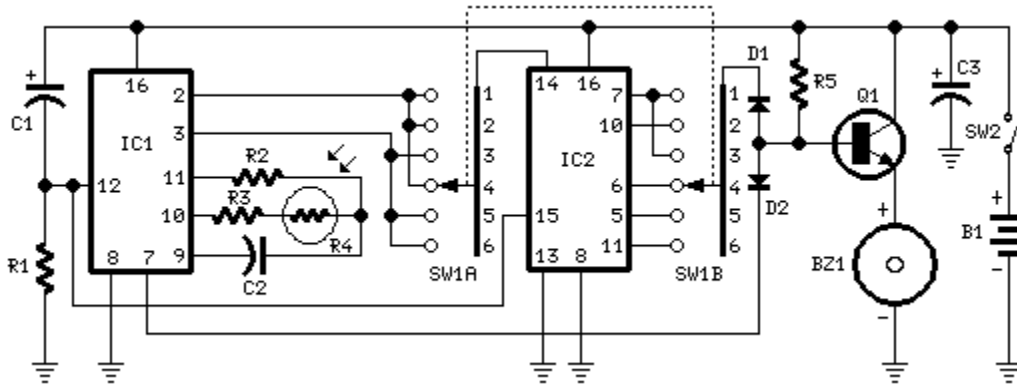


Tan Timer

Six timing positions suited to different skin types
Timing affected by sunlight intensity

Circuit diagram:



Parts:

R1 _____ 47K 1/4W Resistor
R2 _____ 1M 1/4W Resistor
R3,R5 _____ 120K 1/4W Resistors
R4 _____ Photo resistor (any type)

C1,C3 _____ 10 μ F 25V Electrolytic Capacitors
C2 _____ 220nF 63V Polyester Capacitor

D1,D2 _____ 1N4148 75V 150mA Diodes

IC1 _____ 4060 14 stage ripple counter and oscillator IC
IC2 _____ 4017 Decade counter with 10 decoded outputs IC

Q1 _____ BC337 45V 800mA NPN Transistor

SW1 _____ 2 poles 6 ways Rotary Switch (see notes)
SW2 _____ SPST Slider Switch

BZ1 _____ Piezo sounder (incorporating 3KHz oscillator)

B1 _____ 3V Battery (two 1.5V AA or AAA cells in series etc.)

Device purpose:

This timer was deliberately designed for people wanting to get tanned but at the same time wishing to avoid an excessive exposure to sunlight.

A Rotary Switch sets the timer according to six classified Photo-types (see table).

A Photo resistor extends the preset time value according to sunlight brightness (see table).

When preset time ends, the beeper emits an intermittent signal and, to stop it, a complete switch-off of the circuit via SW2 is necessary.

Photo-type	Features	Exposure time
I & children	Light-eyed, red-haired, light complexion, freckly	20 to 33 minutes
II	Light-eyed, fair-haired, light complexion	28 to 47 minutes
III	Light or brown-eyed, fair or brown-haired, light or slightly dark complexion	40 to 67 minutes
IV	Dark-eyed, brown-haired, dark complexion	52 to 87 minutes
V	Dark-eyed, dark-haired, olive complexion	88 to 147 minutes
VI	The darkest of all	136 to 227 minutes
Note that pregnant women belong to Photo-type I		

Notes:

- | Needing only one time set suitable for your own skin type, the rotary switch can be replaced by hard-wired links.
- | A DIP-Switch can be used in place of the rotary type. Pay attention to use only a switch at a time when the device is off, or the ICs could be damaged.