

## Neon Torch – Electronic Gas Light

**A**N electronic version of a torch which uses a neon gas-filled bulb instead of a filament bulb, is shown in Fig. 6. It is based on a 555 running in astable mode. T1 is a 3V-0V-3V transformer wired in reverse “step up” mode which is used to step up pulses delivered by the timer.

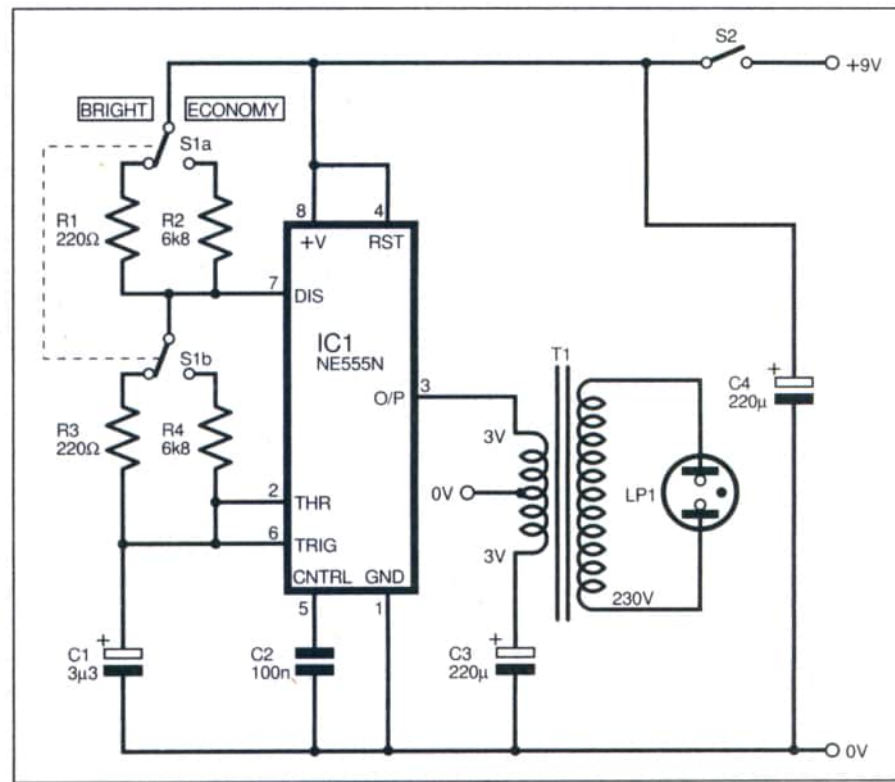
A small neon indicator (LP1), of a type called a “green fluorescent glow lamp” (an ordinary neon indicator will give poor results) is used for the bulb.

The neon bulb also has a much longer life expectancy than a traditional filament bulb.

The frequency of operation is determined by the resistor-capacitor network R1-R4/C1, and this is adjusted using a d.p.d.t. switch (S1) to offer “bright” and “economy” settings. Although not as bright as a conventional torch, the Neon Torch can easily light the way three or four metres in front.

Whereas an ordinary krypton torch consumes some 3W of electricity, this novel design uses 0.7W in “bright” modes and 0.3W in “economy” setting – one tenth that of an ordinary torch. Powered by six AA size alkaline cells in bright mode, the torch will shine for two days and two nights continuously. For best results, the neon bulb should be set into a reflector salvaged from a torch.

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*Fig.6. Circuit diagram for a Neon Torch.*