10 Channel Bulb Sequencer

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Here's a 10 Channel bulb sequencer circuit wherein the bulbs glow up progressively. Once the last bulb has been lit up, the circuit goes to its reset state. The circuit diagram is shown in Figure 2.

The circuit for the 10 Channel Bulb Sequencer comprises a clock oscillator using the popular timer IC 555, a decade counter CD4017 and triacs BT136. The block diagram is shown in Figure 1.

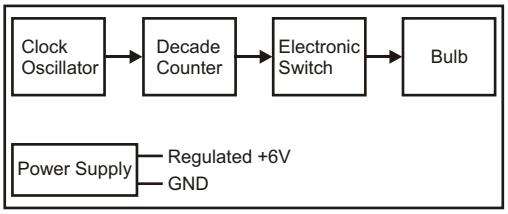

Fig.1: Block Diagram of 10 Channel Bulb Sequencer

The timer IC NE555 is wired as an astable multivibrator to produce a train of clock pulses at its output pin no.-3, The CD4017 IC, being a decade counter, counts the clock pulses. It is developed to operate at the rising edge of the clock pulses. It has 10 outputs from Q0 to Q9.

A triac BT136 is used in the circuit to operate a 230V bulb of up to 500W rating. The output pins of the counter are connected to the gates of triacs TR1 through TR10 (BT136) via current-limiting resistors R3 through R12 , respectively. whenever the counter counts a signal, it sends the output to its output pins which fires the gate of the triac which in turn makes a closed path for glowing of the bulbs.

Note: The polarity of mains (live and neutral) should be the same as shown in the circuit.

Caution :

Take Intensive care while connecting and testing the circuit since most of its components are at mains potential and hence dangerous.

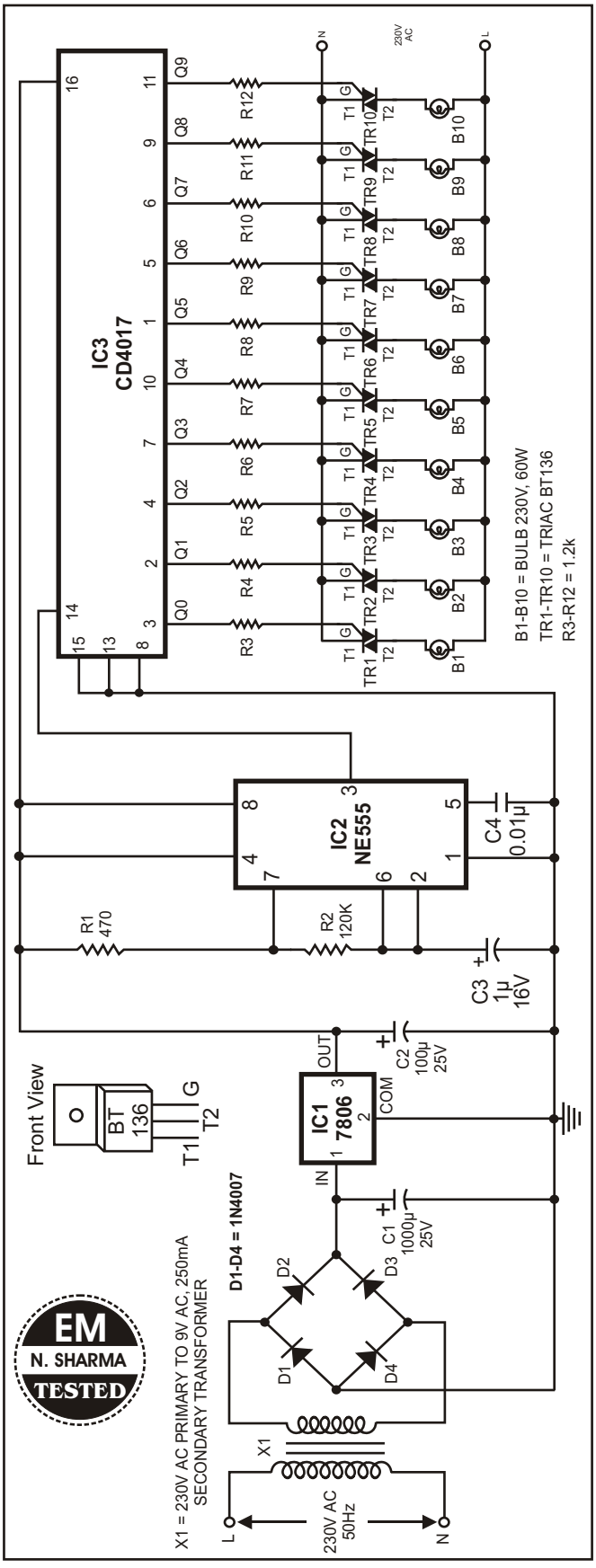

Fig. 2: Circuit Diagram of 10 Channel Bulb Sequencer.