ELECTRONIC LIGHT FLASHER

Do visitors have trouble finding your house at night? Here's a project for you.

By Robert F. Scott

ARE EVENING VISITORS TO YOUR HOME OFTEN DELAYED because they cannot read your house number from the street? If so, you need some kind of identifier that can't be missed by someone in a passing vehicle. One such highly visible attention-getter is a flashing porch- or yard-light, or an illuminated house number that blinks. (If you have sensitive neighbors, the latter is preferable.) The electronic light-flasher described here is ideal for use in such an application.

Light Flasher

The circuit we've developed is shown in Fig. 1. The blinking or flashing rate is determined by U1, a 555 timer integrated circuit. Its output, at pin 3, feeds U2, a H11J triac driver. That driver consists of an infrared LED that is coupled internally to a light-activated silicon bilateral switch (DIAC). When the LED internal to U2 is turned on by the timer, U1, its light triggers the DIAC; effectively closing the circuit between pins 4 and 6, and fires the Triac, TR1, (a Radio-Shack 276-1001, or equivalent) through its gate circuit. When the Triac is firing, it acts as a closed circuit that turns on the light (or other device it may be controlling via SO1). When the timer turns off, the LED, the DIAC and Triac stop conducting and the light turns off. The sequence then repeats. The flashing rate can be varied by means of R1, a 500,000-ohm potentiometer.

Figure 2 shows how the flasher's components can be mounted on a simple experimenter's prototyping board. Bear

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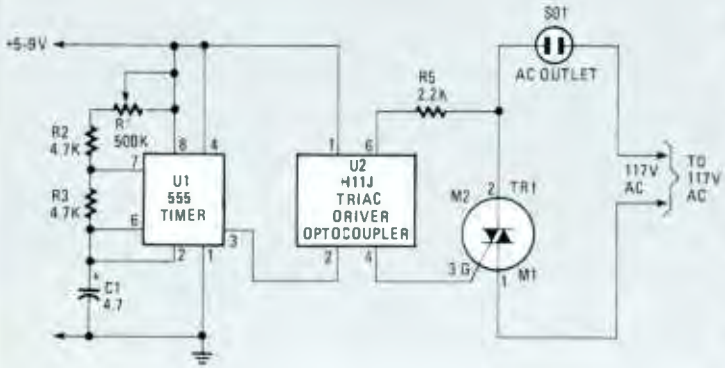

FIG. 1—SCHEMATIC DIAGRAM of the Electronic Light Flasher circuit. Although the device is primarily designed to flash a light on and off, the device can be used to turn any resistive device plugged into SO1 on and off rapidly.

PARTS LIST FOR ELECTRONIC LIGHT FLASHER

SEMICONDUCTORS

U1—555 timer integrater circuit

U2—H11J Triac-driver/optocoupler (GE), or equivalent (Radio-Shack's 276-134 appears suitable but it has not been tried)

Q1—Triac, 200-volts, 6-A (Radio-Shack 276-1001, or equivalent)

RESISTORS

(All fixed resistors are ½-watt, 5% units unless otherwise specified)

R1—500,000-ohm, linear-taper potentiometer

R2, R3—4700-ohm

R4—390-ohm

R5—2200-ohm, 1-watt

ADDITIONAL PARTS AND MATERIALS

C1—4.7-μF, 50-WVDC, electrolytic

SO1—AC receptacle

Line cord, circuit board, hook-up wire, suitable case or enclosure, etc.