

WORLD'S BRIGHTEST INCANDESCENT LAMP FLASHER

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FLASHING LIGHT systems are one of the most popular types of projects found in electronics experimenters' publications. But wait a minute! No matter how many flashers you may have seen or built, you are in for a surprise when you build the "Super Flash". It uses only a 117-volt, 6-watt lamp, but the amount of light emitted is practically blinding! In fact, an ordinary D26 Christmas-tree lamp was found to deliver slightly more than 500 foot candles in one flash. Because of this extreme brightness, it is recommended that the Super Flash *not* be used indoors where a person might stare at it at close range.

Although this new approach to flashers was designed for use with a disabled vehicle on a dark roadway, it can also be used as a boat light, a pier or dock indicator, or a sure-to-be-seen obstruction light.

Construction. The circuit for the Super Flash is shown in Fig. 1. The prototype was built in a 5" × 4" × 3" metal enclosure, though any type of construction can be used. If you use the metal enclosure, drill a hole in one end large enough to accommodate the two-pin bayonet socket. If you are going to use the Fresnel lens, also drill the four holes required to mount the lens retainer ring.

The two power transistors are mounted in sockets, each socket supported by a pair of insulated standoffs. The two sockets and the transformer are mounted on one long wall as shown in the photograph. Arrange the sockets so that the terminals are facing you and are accessible.

The dual potentiometers, along with a two-lug terminal strip (non-grounded) are mounted on the other half of the chassis. Arrange these parts so that,

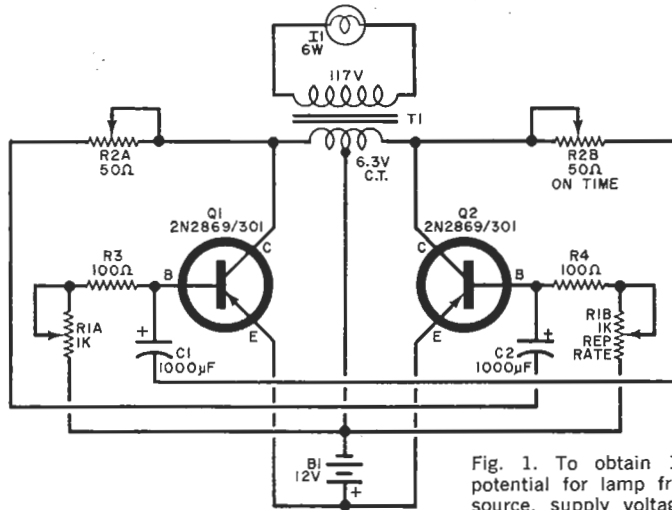


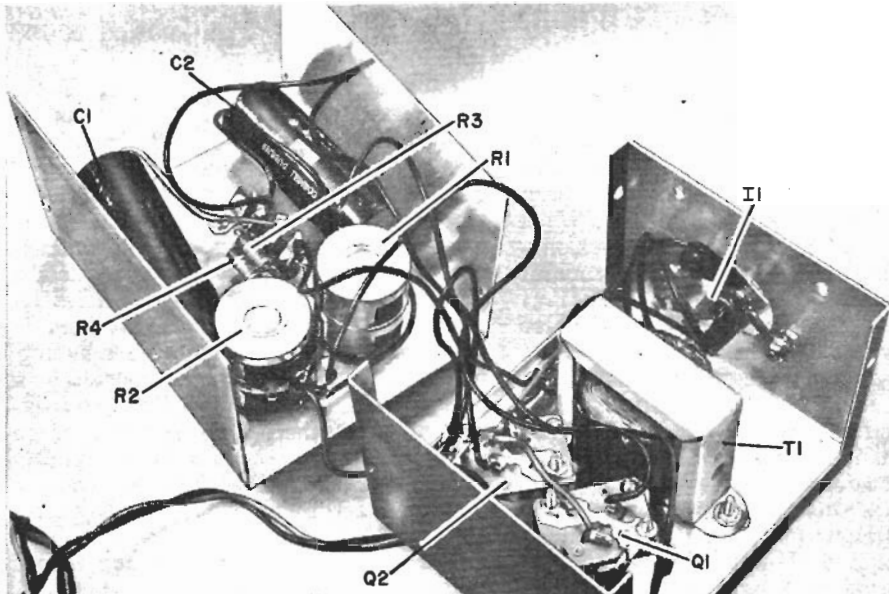
Fig. 1. To obtain 117-volt driving potential for lamp from 12-volt d.c. source, supply voltage is converted to a.c. via oscillator and stepped up.

PARTS LIST

C1,C2—1000- μ F, 50-volt electrolytic capacitor
 I1—117-volt, 6-watt incandescent lamp, Chicago Miniature 6S6, or similar
 Q1,Q2—2N2869/301 power transistor
 R1—1000-ohm, linear-taper, dual potentiometer
 R2—50-ohm, linear-taper, dual potentiometer
 R3,R4—100-ohm, 1-watt resistor
 T1—Filament transformer, 117-volt primary, 6.3-volt, 1.5-amp CT secondary (Chicago Stancor P-3064 or similar)

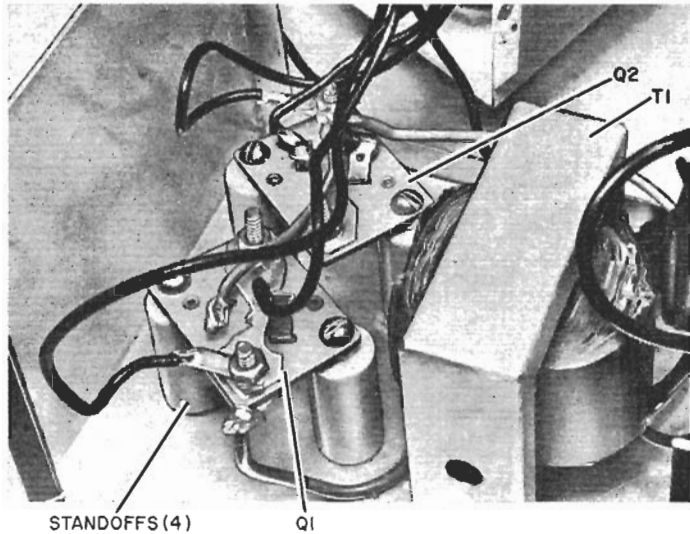
Misc.—5" x 4" x 3" metal enclosure, 2-pin bayonet socket, power transistor socket (2), insulated standoff with mounting hardware (4), terminal strip, length of twin-conductor lead with cigarette-lighter attachment, Fresnel lens (optional).

Note—A clear Fresnel lens, with gasket and retaining ring, is available at #2826 for \$5.00 from Gordon S. Anderson, Mfg. Co., Mabbittsville County Rd., RD #1, Millbrook, NY 12545.



Due to simplicity of circuit, point-to-point wiring, using stranded hookup wire, is best for assembling project. Mount controls on front, lamp and lens assembly to top of chassis box.

With aid of standard phenolic sockets and insulated spacers, mount transistors to rear of chassis below transformer T1 as shown.



The Fresnel lens assembly bolts to the top of the chassis box with four sets of #6 machine hardware.

when the two halves of the metal enclosure are fitted together, the potentiometer metal shells do not contact the transistor socket terminals.

Once these parts have been assembled, wire the circuit in accordance with Fig. 1. Note that *T1* is wired "backwards." That is, the center-tapped low-voltage winding is used as the primary, while the 117-volt winding is used as the secondary. To avoid component damage, make sure that no part of the electrical circuit is connected to the metal chassis.

Power for the Super Flash is obtained from an external 12-volt vehicle battery capable of delivering 2 amperes. A length of two-conductor cable is terminated in a conventional cigarette-lighter plug. Be sure that the proper connections are made to the plug. On a negative-ground vehicle system, the center pole of the cigarette lighter is positive.

If you want to test the flasher on your workbench, use a low-impedance 12-volt d.c. power supply capable of delivering 2 amperes.

Insert the 6-watt lamp in the socket and mount the Fresnel lens. Do not use a lamp with a power rating any higher than 6 or 7 watts as the load may keep the circuit from oscillating.

With the lamp installed, connect up the power. Do not stare at the lamp when it is operating as a very bright flash of light

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