



Electronics for Model Railroads

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SQ-8

SEQUENCING STROBE CIRCUIT

GENERAL DESCRIPTION: The CIRCUITRON **SQ-8** provides a flashing sequence of 8 high intensity white strobe lamps. When the lamps are arranged in a linear fashion, the effect is one of a light sweep from one end to the other. This type of lighting effect is commonly used on the approach towers near airports, but can also be very effective on signs and other applications.

INSTRUCTIONS: The **SQ-8** can be connected with .110" solderless connectors or by soldering leads directly to the terminals on the printed circuit board. If soldering, use a small pencil-type iron and electronics-grade rosin core 60/40 solder (available at Radio Shack). Use only as much heat as necessary to obtain a good joint and do not wiggle the terminal until the solder has cooled completely.

LAMP LOCATION

If the **SQ-8** is to be used for an airport approach scene, the towers can be constructed of wood, plastic or metal. Construction details are not provided here as the prototypes vary widely. Typically, the towers consist of a raised platform supported by one or two upright columns. The uprights may be wood poles or metal I-beams. The platform is usually a simple wood deck with a railing surround. The strobe faces away from the runway and is housed in a louvered case. In addition, the tower will also have constantly lit red and/or other color lamps on it which can be simulated with small LEDs. The tower height decreases approaching the runway end. Tower spacing will likely be compressed on the model since prototype spacing is 500-1000 feet or more.

NOTE: *Although the lamps provided with the **SQ-8** should last a long time, we recommend allowing for the eventual failure or burnout of the lamps. **DO NOT** seal the lamps into a closed model that might have to be destroyed in order to replace them.*

CIRCUIT BOARD WIRING

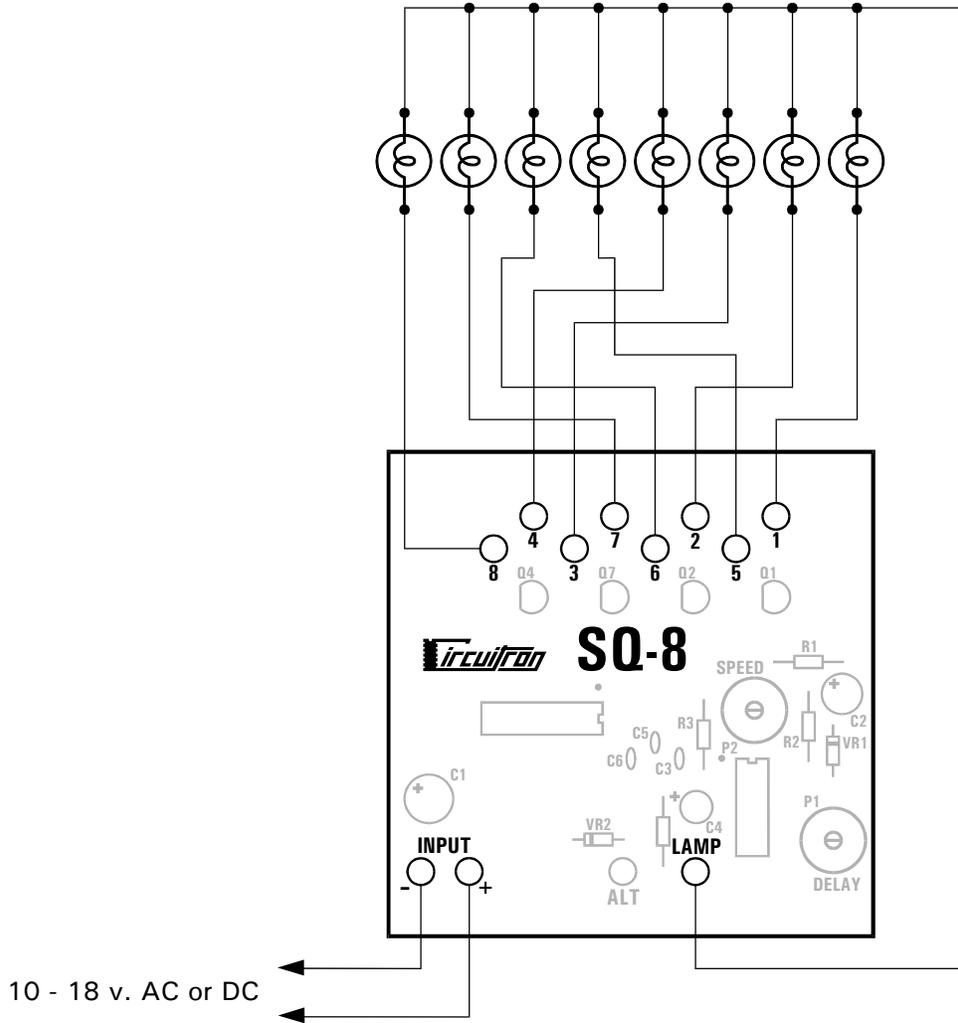
The following steps cover the basic wiring hookup using the supplied 5 volt lamps. If you wish to use the **SQ-8** to power different voltage lamps, please send a SSAE and request Application Note AN-5838-01.

- 1) Mount the **SQ-8** in a convenient location near the lamps. You may drill holes in the 4 corner mounting pads or use a section of CIRCUITRON's **PCMT** for simple snap-in mounting.
- 2) Connect one lead from each lamp to the Lamp Output Terminal [**LAMP**] on the **SQ-8** circuit board.
- 3) Connect the remaining leads from each lamp in sequence to the terminals labeled 1 - 8 on the circuit board.
- 4) There is no connection to the [**ALT**] terminal for the standard wiring hookup.
- 5) Set both the **SPEED** and **DELAY** adjustment trimmers to the midpoints of their rotation.
- 6) Connect a 10 - 18 volt AC or DC power source to the [+] and [-] input terminals. If DC is used, be sure to observe proper polarity. The lamps should start flashing immediately.

ADJUSTMENTS AND OPTIONS

- 1) The **SPEED** trimmer sets the step speed. Clockwise rotation increases the speed. As the speed is increased, the time each lamp is lit will decrease. Beyond a certain point, increasing the speed will decrease the lamp intensity, and at the maximum clockwise setting, the lamps may not light at all.
- 2) The **DELAY** trimmer sets the time between sweeps. Clockwise adjustment increases the time.

FIGURE 1: Standard Wiring



WARRANTY

CIRCUITRON warrants this device against defects in materials and workmanship for a period of one year from the date of purchase. This warranty covers all defects incurred in normal use of the device and does not apply in the following cases:

- a) damage to the device resulting from abuse, mishandling, accident or failure to follow operating instructions.*
- b) if the device has been serviced or modified by other than the CIRCUITRON factory.*

Exclusion: Lamps are not warranted against burnout or breakage.

EXCEPT AS MENTIONED ABOVE, NO OTHER WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED INCLUDING MERCHANTABILITY, ON THE PART OF THE UNDERSIGNED OR ANY OTHER PERSON, FIRM OR CORPORATION, APPLIES TO THIS DEVICE.

CIRCUITRON, INC.