



Electronics for Model Railroads

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PS-2

AC - DC Converter & Regulator

GENERAL DESCRIPTION: The CIRCUITRON **PS-2** is an AC to DC converter and voltage reugulator that will provide a constant 12 volt DC output under varying load conditions and/or variations in input voltage. The **PS-2** has a maximum output of 1 amp and a maximum input voltage of 18 volts AC. A section of CIRCUITRON's Printed Circuit Mounting Track (**PCMT**) is provided for simple, snap-in mounting.

CIRCUIT DESIGN: Input to the **PS-2** passes through four diodes (D1-D4) which are connected as a full wave bridge rectifier. The resulting full wave DC is filtered by capacitor C1 and appears at the input of the integrated circuit voltage regulator as smooth, essentially ripple free DC. The IC regulator provides a constant 12 volts DC to the output terminals.

INSTRUCTIONS: The **PS-2** 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.

- 1) Mount the section of **PCMT** in a convenient location.
- 2) Snap the **PS-2** into the track so that the terminals are along the side rather than across it.
- 3) Connect a source of AC or DC to the [**INPUT**] terminals. Under no conditions should the input voltage exceed 22 volts, and for maximum current out, the input voltage should not exceed 18 volts.
- 4) Connect your accessories to the [**OUTPUT**] terminals.

*Note that there are approximately 3 volts of internal losses in the components on the **PS-2** and if the input voltage to the **PS-2** falls below about 14.7 volts, the output will drop out of regulation and fall below 12 volts. This is not normally a problem unless the full 12 volt*

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.
- c) lamps are not warranted against burnout.

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.