

ART - PR8 PRO Professional Power Regulator

OPERATION MANUAL



INTRODUCTION

The PR8 PRO regulates incoming AC line voltages to deliver clean and stable power to your system for optimum operation and longer life. Output voltage at any of the 8 rear AC outlets is maintained within 5 Volts of 117 Volts even as the incoming AC line varies from 97 to 137 Volts. Extreme voltage shutdown protection, Advanced Power Filtering, and fast acting breaker, protect your system while the front panel LCD display gives you a constant read of the input and output line voltages. The PR8 PRO is designed to protect a wide range of equipment from sensitive vintage tube amplifiers to large displays or digital systems. Your equipment will sound and work better and live longer.

- Maintains 117VAC (+/-5VAC) when AC input is between 97 and 137VAC
- Output In Regulation LED indication
- Extreme voltage shutdown if input >140V or <80V
- LCD AC line input and output voltage display
- Front panel unswitched and unregulated output
- 1800 Watt total power capacity
- Front panel master breaker and power switch
- EMI and RFI filtering
- Surge and Spike Protection
- Very low stray magnetic field leakage
- Multitap toroidal autoformer design
- 1.75"(165mm) high x 19.0"(482mm) wide x 11.5"(292mm) deep
- 14.6 lbs. (6.6kg)

OPERATION

POWER SWITCH

The PR8 PRO has a master POWER switch for the rear outlets. This switch glows when the unit is on.

OUTPUT IN REGULATION

The OUTPUT IN REGULATION LED on the front panel is on whenever the output AC voltage is within the normal regulated range of 117 Volts (+/- 5 Volts). The PR8 PRO regulates the AC output voltage so that this light will remain lit even as input voltages vary from 97 to 137 Volts. If this LED is off it means that the input AC voltage is either below 97 Volts or above 137 Volts and the regulator is still increasing or reducing output voltage but cannot maintain the 117 Volt output.

EXTREME VOLTAGE SHUTDOWN

If input AC voltage ever drops below 80 Volts or exceeds 140 Volts this LED will come on and the rear outlets will immediately shutdown to protect any equipment that may be attached. Once the AC input voltage returns to normal, the LED will turn off and the rear outlets will automatically return to their regulated voltage.

MULTITAP TOROIDAL AUTOFORMER DESIGN

The PR8 PRO uses a design based on an eight-tap toroidal autoformer. The toroidal design assures minimal magnetic stray field leakage, and, because of its high efficiency, a very compact size for its rating. The PR8 PRO circuitry monitors the incoming line voltage with each cycle, comparing it to an internal voltage reference. If an incoming voltage fluctuation requires that a different tap be selected, the new tap is electronically switched at zero-crossing, to avoid distorting the AC waveform. If necessary, the PR8 PRO can switch taps as often as once each cycle. Most commercial voltage regulators using multiple-tapped transformers switch taps at uncontrolled times, thereby creating voltage spikes and clicks that can leak into the audio. Hysteresis in the switching circuits avoids "chatter" or unnecessary switching back and forth between adjacent taps. Unlike voltage regulators that employ ferro-resonant transformers, PR8 PRO is not sensitive to slight errors in the AC line frequency, making it ideal for use with portable generators.

LCD

The LCD display on the front panel monitors the AC line input voltage and the regulated AC output voltage that the PR8 PRO is supplying.

MAXIMUM LOAD

The eight circuit breaker protected outlets are rated at 15 amps total, which is equivalent to 1800 watts at 120 volts. If the total current coming into the PR8 PRO exceeds 15 amps, the circuit breaker on the front panel will trip, cutting off power to all outlets. If this happens, reduce the overall load by unplugging one or more units from the PR8, then push the circuit breaker button in to reset it.

ADVANCED POWER FILTERING

The PR8 PRO has specialized internal circuitry to filter out digital and dimmer hash as well as any high frequency noise that is above the audio range.

By using both Common Mode and Differential Mode topologies in series for the filter design we are able to block virtually all of the unwanted noise that is between the AC line and ground, and also the two sides of the AC line. This has the additional benefit of reducing ground loop problems in your system.

High frequency noise currents in particular are highly attenuated in both directions so that any line noise that could be generated by one of your components is not allowed to get back into your main AC wiring, so if you use a PR8 PRO in your setup, you can distribute and isolate the noisy components from the sensitive components in your system. Additionally, any signals above 10 kHz are filtered from the line with typically 40dB of attenuation above 100 kHz.

The PR8 PRO also protects your delicate electronic equipment with high voltage varistor (MOV) surge and transient suppressors. The fast-acting suppression circuit responds in less than a nanosecond, clamping transient voltages to safe levels.

WARNINGS

All operating instructions should be read before using this equipment.

To prevent the risk of electrical shock, do not remove the cover or the back.

There are no user-serviceable parts inside. Please refer servicing to a qualified service technician.

Do not expose this unit to rain or moisture or to heat sources such as radiators, stoves, or other items that generate excessive heat.

This unit should be cleaned only with a damp cloth. Do not get moisture inside the unit.

When moving this equipment, it should be placed in its original carton and packing, to reduce the risk of damage in transit.

WARRANTY INFORMATION

Limited Warranty

Applied Research and Technology will provide warranty and service for this unit in accordance with the following warrants:

Applied Research and Technology, (A R T) warrants to the original purchaser that this product and the components thereof will be free from defects in workmanship and materials for a period of **three years** from the date of purchase. Applied Research and Technology will, without charge, repair or replace, at its option, defective product or component parts upon prepaid delivery to the factory service department or authorized service center, accompanied by proof of purchase date in the form of a valid sales receipt.

Exclusions:

This warranty does not apply in the event of misuse or abuse of the product or as a result of unauthorized alterations or repairs. This warranty is void if the serial number is altered, defaced, or removed.

A R T reserves the right to make changes in design or make additions to or improvements upon this product without any obligation to install the same on products previously manufactured.

A R T shall not be liable for any consequential damages, including without limitation damages resulting from loss of use. Some states do not allow limitations of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific rights and you may have other rights, which vary, from state to state.

For units purchased outside the United States, an authorized distributor of Applied Research and Technology will provide service.

SERVICE

The following information is provided in the unlikely event that your unit requires service.

- 1) Be sure that the unit is the cause of the problem. Check to make sure the unit has power, all cables are connected correctly, and the cables themselves are in working condition. You may want to consult with your dealer for assistance in troubleshooting or testing your particular configuration.
- 2) If you believe the ART unit is at fault, go to www.artproaudio.com. You may contact Customer Service for more assistance, or directly request a Return Authorization for service in the "resources" area of the website.
- 3) If you are returning the unit for service, pack the unit in its original carton or a reasonable substitute. The original packaging may not be suitable as a shipping carton, so consider putting the packaged unit in another box for shipping. Print the RA number clearly on the outside of the shipping box.
- 4) Include, with your unit, a note with the RA number and your contact information including a daytime phone number, preferably attached to the top of the unit.