

WARRANTY INFORMATION



Triad Speakers Warranty Information

For your convenience, we have included space below for you to record your amplifier model and serial number, purchase date, dealer's name, and phone number. You will need the following information in the event your amplifier needs servicing. Please keep this manual and the sales receipt in a safe place.

Model: _____ Serial #: _____

Dealer Name: _____

Purchase Date: _____ Phone #: _____

Triad North American Warranty

Triad amplifiers are warranted to be free from defects in materials and workmanship for a period of three (3) years, when operated under normal conditions.

This limited warranty period begins on the date of purchase. This limited warranty is extended only to Triad products and is expressly in lieu of all other warranties expressed or implied.

Should any defect in materials or workmanship occur within the limited warranty period, customers in the United States should contact Triad Customer Service at 1-877-264-6315, to obtain a Return Authorization (RA) Number. Customers in Europe should contact their dealer for service.

The product should be returned in its original packaging together with proof and date of purchase with the RA number clearly visible on outside of the box. At our discretion, we will repair or replace the product and return it, free from charge. If you do not have the original packaging for the product, contact your dealer or Triad Service, and we will provide it for you.

Triad Speakers, Incorporated

15835 NE Cameron Blvd. • Portland, Oregon 97230
503.256.2600 Sales • 877.264.6315 Toll Free Service

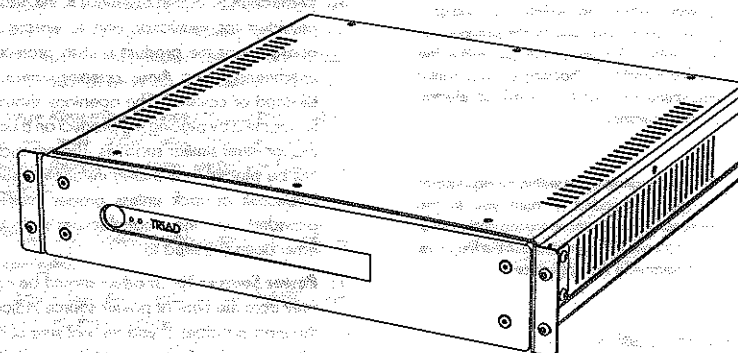
www.triadspeakers.com

Part #905-0500

AMPLIFIER MANUAL

TRIAD

RackAmp 500

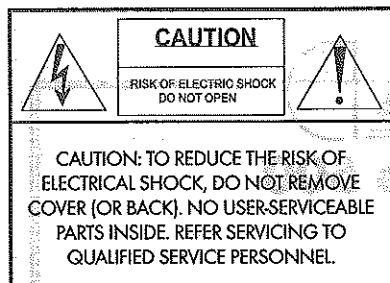


Engineered In The USA

Triad Speakers, Incorporated • Portland, Oregon

www.triadspeakers.com

IMPORTANT SAFETY INSTRUCTIONS



Explanation of Graphical Symbols



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert you to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Important Information

- Read Instructions** All the safety and operating instructions should be read before the product is operated.
- Retain Instructions** The safety and operating instructions should be retained for future reference.
- Heed Warnings** All warnings on the product and in the operating instructions should be adhered to.
- Follow Instructions** All operating and use instructions should be followed.
- Cleaning** Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- Attachments** Do not use attachments not recommended by the manufacturer, as they may cause hazards.
- Water and Moisture** Do not use this product near water—for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like. Follow the manufacturer's instructions, and use a mounting accessory recommended by the manufacturer.

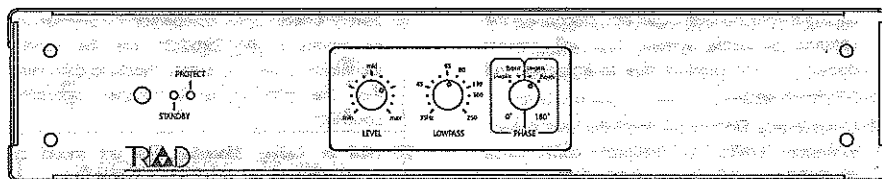
- Accessories** Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injuries to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.
- Movement** A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.
- Ventilation** Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surfaces. The product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
- Power Sources** This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.
- Grounding or Polarization** This product may be equipped with a polarized alternating current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
- Power-Cord Protection** Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.
- Lightning** For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time,

IMPORTANT SAFETY INSTRUCTIONS

- unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.
- Overloading** Do not overload the wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.
 - Object and Liquid Entry** Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
 - Servicing** Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage and other hazards. Refer all servicing to qualified personnel.
 - Damage Requiring Service** Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - When the power-supply cord or plug is damaged,
 - If liquid has been spilled, or objects have fallen into the product,
 - If the product has been exposed to rain or water,
 - If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in a damage and will often require extensive work by a qualified technician to restore the product to its normal operation,
 - If the product has been dropped or damaged in any way, and
 - When the product exhibits a distinct change in performance, this indicates a need for service.
 - Replacement Parts** When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

- Safety Check** Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
- Wall or Ceiling Mounting** The unit should be mounted to a wall or ceiling only as recommended by the manufacturer.
- Heat** The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

FRONT PANEL CONTROL INFO



Run / Stand-by Switch:

This push button switch is used to toggle the amplifier's operating mode between Run and Stand-by. In the Run mode the amplifier is operating normally. In the Stand-by mode the amplifier outputs are muted and the amp is in idle drawing virtually no current from the AC Mains and generating very little heat.

Run / Stand-by Indicator LED:

The BLUE LED on the front panel indicates amplifier status. When the LED is ON the amplifier is in the RUN mode. When the BLUE LED is OFF and the Protect LED is YELLOW the amplifier is in the STAND-BY (MUTE) mode.

Power-on / Fault Indicator LED:

The GREEN LED on the front panel indicates normal operation. RED indicates an over-temperature or fault condition. In the event of a RED LED at the time of installation, turn the amplifier off, unplug the AC Line Cord and check the output, cable, and speaker for a short-circuit condition. If found, clear the short circuit and continue the installation process. In the event of a RED LED during normal operation, mute the input signal to the amplifier and wait a few minutes for the GREEN LED to come on indicating the amplifier has cooled off and is ready to resume normal operation.

Level Control:

This potentiometer adjusts the RackAmp's gain when using the amplifier's Line Input. Use this control to match the amplifier/speaker loudness to the level of your front LCRs or Satellites. This control has no effect when the Theater Input is in use.

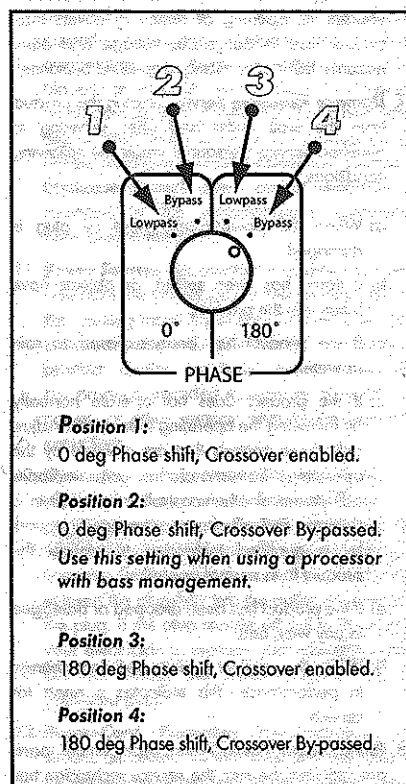
Lowpass / Crossover Control:

This control is used to adjust the frequency response of the amplifier. The crossover pot controls a fourth order (-24dB/oct) Linkwitz-Riley lowpass variable filter. The span of control for the -6dB turnover (or "knee") frequency is 35Hz to 250Hz with a Q of 0.707.

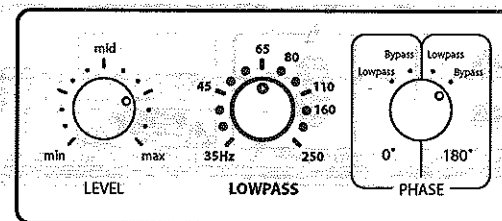
Phase / Crossover Switch:

This is a four position switch used to change output phase from 0 deg to 180 deg and to enable or by-pass the Crossover function.

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LOWPASS / CROSSOVER CONTROL



Using the RackAmp's Crossover Control

Low-frequency boost:

The entire RackAmp line is designed to provide an alternative between maximized headroom and extended bass response. The level control sets the overall playback balance between the RackAmp and associated satellite speakers.

Set the crossover to desired crossover frequency, normally at the point where the satellite's response starts to drop. Then set the level of the output from the RackAmp to match the output of the satellite. This provides extra low output, without the boominess associated with just turning up the level.

The benefit of this approach is that instead of increasing overall output from the subwoofer, only true bass is emphasized.

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Underlapping:

In the case of a room response bump at or around the crossover frequencies of the satellites, set the controls as follows:

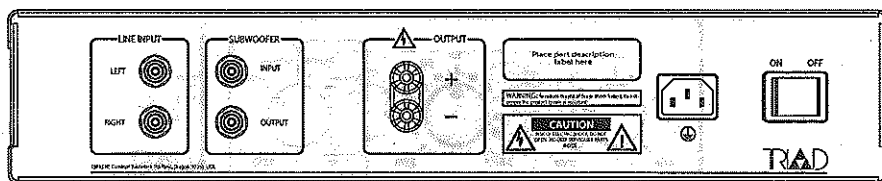
Set the level of the RackAmp so the extreme low frequency portion of the response curve (below 45Hz) is equal to that of the satellites. Then set the lowpass crossover frequency of the sub below the crossover frequency of the satellites. This causes a dip in the summed response, if set correctly, this can partially or completely compensate for the room's response.

Overlapping:

In the case of a room response dip at or around the crossover frequencies of the satellites, set the controls as follows:

Set the level of the RackAmp so the extreme low frequency portion of the response (below 45Hz) is equal to that of the satellites. Then set the lowpass crossover frequency control on the sub above the crossover frequency of the satellites. This causes a bump in the summed response, if set correctly, this can partially or completely compensate for the room response.

RackAmp REAR PANEL Info



Left and Right Line-Level Inputs:

These inputs accept full-range, line-level signals from an external source. The full-range Left and Right input signals are mixed together by the amplifier's input circuitry and applied to a lowpass filter. The lowpass filter removes unwanted mid- & high-frequency components from the signal and delivers low-frequency audio to the power amplifier.

Sub Line-Level Input:

The primary purpose of this input is to simplify wiring to the sub and aid in daisy chaining multiple subs. This input accepts a full-range, line-level signal from an external source. The signal is buffered and passed directly to the Sub Output without any processing then goes to the local input circuitry for conditioning by the low-frequency filter circuits in the same manner as the Left and Right Inputs.

Sub Line-Level Output:

The primary purpose of this output is to aid in daisy chaining multiple subs. This signal is a buffered output of the Left, Right or Sub inputs. The full-range signals from the line-level inputs are presented at this output, no signal conditioning, or filtering is done to this signal. The level control does not effect the gain of this output.

AC Input:

This amplifier is designed to operate from a 115-230VAC, 50-60Hz power source capable of delivering up to 10A of current.

Refer to the markings on the amplifier to determine the proper operating voltage for the model you are working with.

AC Power Switch:

This is a 16A/125vac, 10A/250vac double pole single throw power switch that complete disconnects the AC Mains from the amplifier circuitry.



THE OUTPUT OF THIS AMPLIFIER CAN GENERATE POTENTIALLY LETHAL VOLTAGES.



THERE ARE NO USER SERVICEABLE COMPONENTS IN THIS AMPLIFIER.

LETHAL VOLTAGES PRESENT INSIDE THIS EQUIPMENT DO NOT OPEN OR DISASSEMBLE THIS UNIT FOR ANY REASON. IN THE EVENT OF FAILURE, TURN OFF THE AMPLIFIER AND CONTACT TRIAD SPEAKERS INC FOR SERVICE.

Specialized Setup Information

Maximum Bass Extension:

For fully extended bass response to 20Hz, use Left and/or Right or the Sub Input.

Maximum SPL Output:

Drive both the Left and Right Inputs from separate sources.

Amplifier Output:

This is the amplifier's high current output, used to drive a speaker with 4-ohm or greater impedance.

Line Level Inputs:

The sub Input and the Left & Right Inputs are the same; all three signals are processed by the amplifier's level control, crossover, and phase controls of the amplifier.

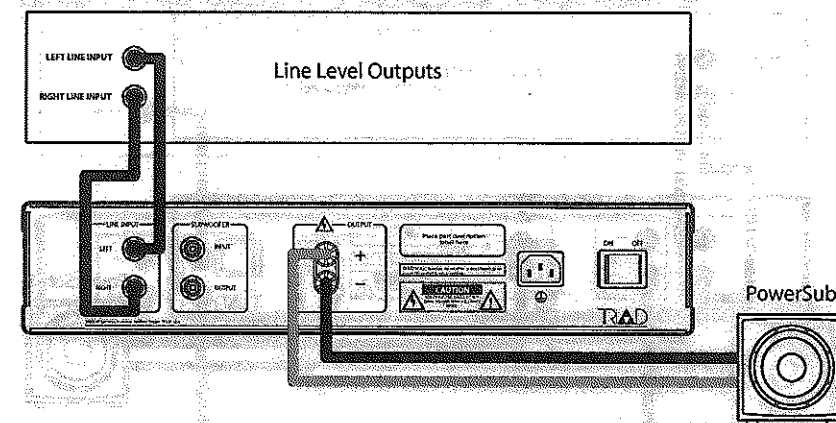
Sub Output:

The Sub Output is a buffered output of the summed Left & Right and Sub Inputs. Level, Crossover, and Phase control have no effect on Sub output level. The buffered Sub Out allows you to daisy chain as many amplifiers as you want without loss of signal level.

RackAmp LINE-LEVEL Hookup Info

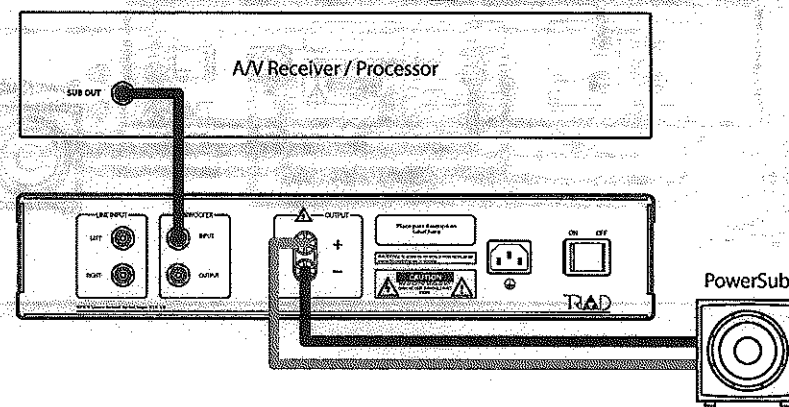
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AV Receiver / Processor Line-Level Output 2 RackAmp Line-Level Input



2

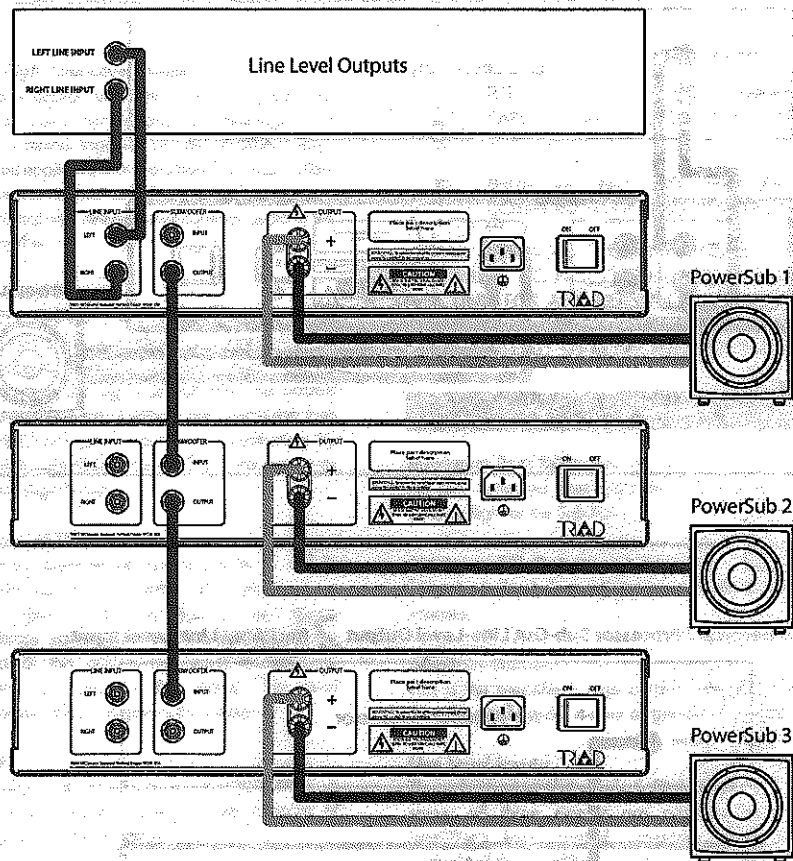
AV Receiver / Processor Sub-Out Line-Level Output 2 RackAmp Line-Level Input



RackAmp LINE-LEVEL Hookup Info

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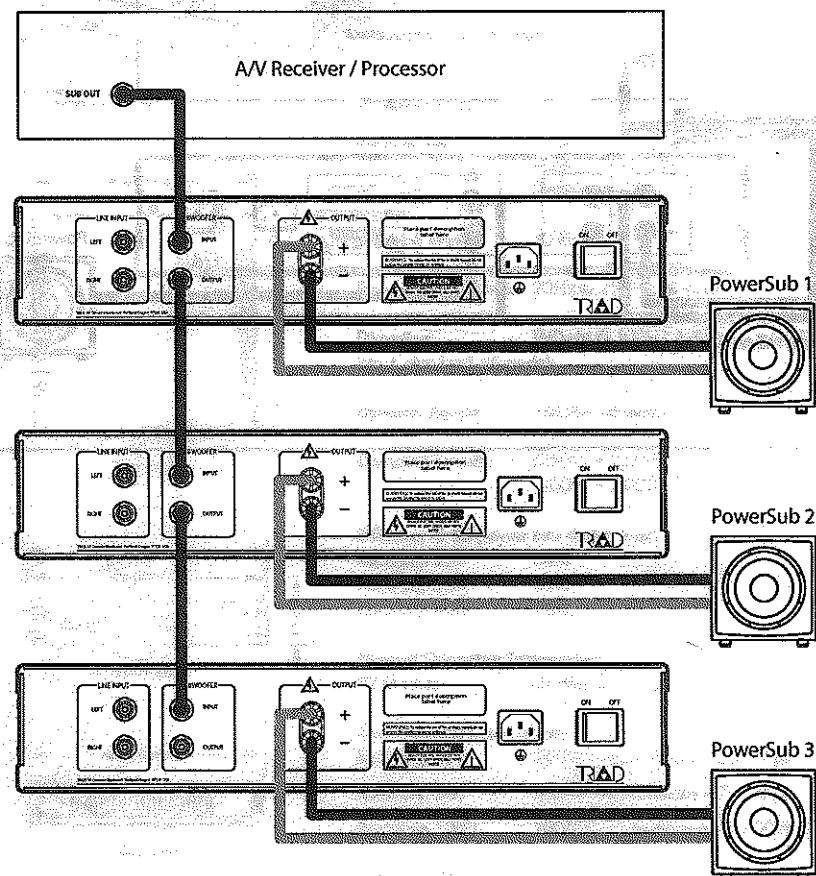
Full Range Line-Level Audio Source ² RackAmp Line-Level Input / Daisy Chain



RackAmp LINE-LEVEL Hookup Info

4

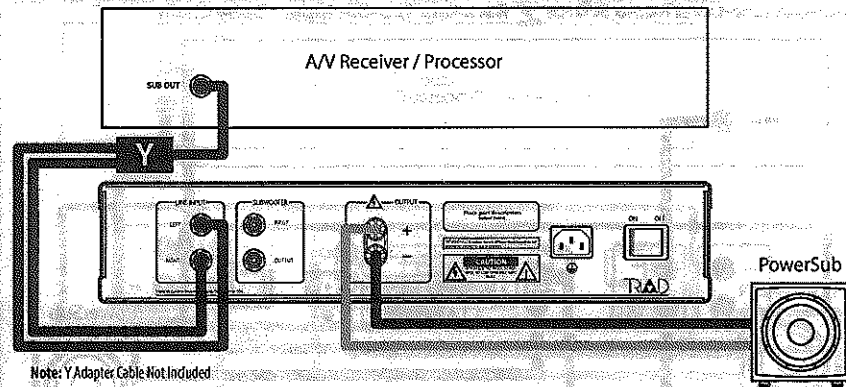
Sub-Out Line-Level Audio Source ² RackAmp Sub-Out Input / Daisy Chain



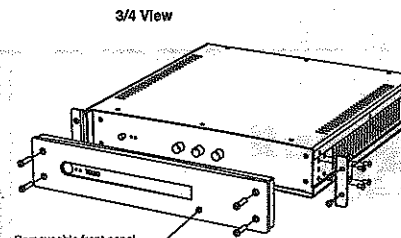
RackAmp LINE-LEVEL Hookup Info

5

AV Receiver / Processor Sub-Out Line-Level Output 2 RackAmp Line-Level Input using a Y Adapter Cable



RackAmp Specifications



Specifications

Dimensions:

Height: 3-1/2" (2U)
Width: 19" w/ears
Depth: 18-1/2"

Shipping Weight:

20 lbs.

Frequency Response:

20Hz to 250Hz, all models

Distortion:

THD+N @ 100Hz, Full Power = 0.2% into 4 ohm load, all models

Dynamic Range:

118dBA, all models

Damping Factors:

(250W = 2,000)
(500W = 2,000) (1000W = 1,000)

Efficiency @ full power into 4 ohm load:

RackAmp 250	84%
RackAmp 500	84%
RackAmp 1000	78%

Normal Operating Temperature:

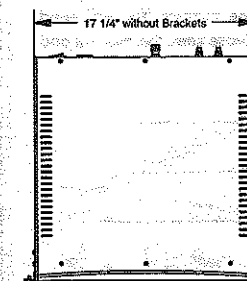
All Models 37 deg. C

Output Power into 4 ohms:

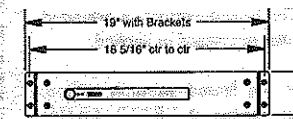
RackAmp 250	209W rms continuous - 350W pk
RackAmp 500	500W rms continuous - 700W pk
RackAmp 1000	1000W rms continuous - 1,400W pk

AC Power (Run):

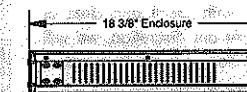
RackAmp 250	120VAC @ 3.15A - Stand-by 100 ma 240VAC @ 2.50A - Stand-by 50 ma
RackAmp 500	120VAC @ 6.30A - Stand-by 108 ma 240VAC @ 3.15A - Stand-by 54 ma
RackAmp 1000	120VAC @ 10.0A - Stand-by 116 ma 240VAC @ 6.30A - Stand-by 58 ma



Top View



Front View



Side View



Rear View