

# ROTEL®

## STEREO POWER AMPLIFIER

# RHB10

# OWNER'S MANUAL

ENGLISH..... 2

**WARNING**  
TO PREVENT FIRE OR SHOCK HAZARD,  
DO NOT EXPOSE THIS APPLIANCE  
TO RAIN OR MOISTURE

Write your SERIAL NUMBER here.  
The number is located near the name  
plate on the rear panel.

# 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.

1. Read Instructions — All the safety and operating instructions should be read before the appliance is operated.
2. Retain Instructions — The safety and operating instructions should be retained for future reference.
3. Head Warnings — All warnings on the appliance and in the operating instructions should be adhered to.
4. Follow Instructions — All operating and other instructions should be followed.
5. Water and Moisture — The appliance should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.
6. Carts and Stands — The appliance should be used only with a cart or stand that is recommended by the manufacturer.

## PORTABLE CART WARNING



S3125A

7. Wall or Ceiling Mounting — The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
8. Ventilation — The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

## EXCLUSIVE NOTE FOR U.K.

If your unit comes with a 2-core cable without a plug, make certain live and neutral leads are connected to the proper terminals. Check that the terminals are screwed down firmly and no loose strands of wire are present.

**IMPORTANT:** The wires in this mains lead are coloured in accordance with the following code:

BLUE: NEUTRAL

BROWN: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows. The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLUE or BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or colour BROWN or RED.

9. Heat — The appliance should be situated away from heat sources such as radiators, stoves, or other appliances that produce heat.
10. Power Source — The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
11. 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 appliance.
12. Cleaning — The appliance should be cleaned only as recommended by the manufacturer.
13. Nonuse Periods — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
14. Object and Liquid Entry — Care should be taken so that objects do not fall into and liquids not spilled into the inside of the appliance.
15. Damage Requiring Service — The appliance should be serviced by qualified service personnel when:
  - A. The power-supply cord or the plug has been damaged; or
  - B. Objects have fallen, or liquid has been spilled into the appliance; or
  - C. The appliance has been exposed to rain; or
  - D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
  - E. The appliance has been dropped, or the cabinet damaged.
16. Servicing — The user should not attempt to service the appliance beyond those means described in the operating instructions. All other servicing should be referred to qualified service personnel.
17. Grounding or Polarization — The precautions that should be taken so that the grounding or polarization means of an appliance is not defeated.

## Forward

Thank you for purchasing a Rotel high-end product.

This Rotel component has been endowed with years of our dedicated work in audio technologies, the result of countless technical experiments and stringent listening tests during development. That we have devoted so much time in conducting these tests has come about for no other reason than the fact that we at Rotel simply love good music.

In our pursuit of genuine musicality, Rotel has been very stubborn about circuit designs and uncommonly exacting in selection of parts so as not to depart in any way from the basic Rotel philosophy of balanced design and no-nonsense operation. The deciding factors behind the sound reproduced by this component were not determined by high-performance measuring instruments or computers but by human ears with heartfelt sensitivity. We believe that you, a devoted music lover, will be fully pleased with our rich musical sound that is of a caliber never before experienced in your room.

## Prior to Use

For safe use of this component, please adhere to the following cautions:

### 1. Power Source

Use the AC power for home use. Because of the high power output of this amplifier, please plug it only into an wall outlet. It is not recommended to plug it into the auxiliary AC outlet provided on another component.

### 2. Handling the Power Cord

When plugging the power cord into or unplugging it from the wall outlet, be sure that the power switch of the unit is first turned off.

### 3. Cooling

This unit gives off heat due to its high power output, but it has been designed to receive adequate cooling by the large external heatsinks and the natural flow of air into and out of the chassis. Cool air enters the unit from below and heated air rises out of the unit through the top. To allow this airflow to occur without obstruction, be sure that you leave sufficient clearance space between the unit and objects both above and below it. In addition, the heatsinks are exposed on both the left and right sides of this unit, so be sure that you allow at least 5cm clearance space at both sides for cooling to be effective.

### 4. Do not attempt to modify or otherwise alter this product.

This component has been adjusted and inspected at our factory before being shipped. Attempts at alterations not only can cause problems and invite the danger of electrical shocks but can also contribute to

The entire staff of Rotel engineers who designed and developed this series of components honor you for having had a listen to this product and then selecting it. We are confident that it will provide you with many years of faithful service. We will also continue to devote ourselves to developing products that will meet the high standards of audio quality that you have come to expect from us. Please feel free to contact us at any time about this Rotel product, our audio philosophy, or any other Rotel audio-related matter.

### NOTE

The design philosophy of this product is different from that of conventional audio components. Because of this, several areas concerning how the product is used and how it is connected require special attention. Before you enjoy the rich musical sound provided by this product, please take some time to familiarize yourself with the contents of this manual to ensure that you will use it effectively and safely.

deterioration of sound quality. Should a need to make adjustments or other operations arise, please consult with the authorized Rotel dealer where you purchased the unit; do not open the top cover of the unit on your own.

### 5. Choosing a Safe Location

Place this component horizontally onto a rack or shelf that is strong enough to support the total weight of the units you plan to place with it. Be sure that this location is free of vibrations, humidity, dust, and away from direct sunlight.

### 6. Moving the Unit

In the event you want to move this unit, first be sure that the power switch is turned off. Next, disconnect all cords and cables including the power cord. Moving the unit with the power still turned on is dangerous.

### 7. In the event that water or other foreign matter enters the unit...

Water or other foreign matter entering the unit can cause problems such as shorted circuits which can result in breakdowns or damage. Please ensure that this does not occur. In the event problems of this type do occur, immediately turn off the power switch to the unit, unplug the power cord, and consult the authorized Rotel dealer where you purchased the unit.

### 8. Owner's manual

Keep this manual in a safe place with your warranty copy. Let it be available to you whenever you need to consult it.



## Speakers

The impedance of the speakers you wish to connect to this component must be 4-8 ohms. The impedance rating of your speakers may be found on the rear panel of the speakers or in the user's manual.

In the rare case you wish to use special high capacitance type speakers (0.1 $\mu$ F or more), for example, an electrostatic type, you will need to consult your authorized Rotel dealer to make a required adjustment inside the unit. For details, please refer to a later section of this manual.

## Speaker Terminals

During normal use, signals for output to the speakers pass through a speaker protection relay and are then output through the speaker terminals on the rear panel. If this unit is used in the condition it was at the time it left our factory, this relay will prevent any accidental damage to your speakers (Fig. 1).

### IMPORTANT

**When you wish to make changes in the speaker output terminal points, please consult the authorized Rotel dealer where you purchased this unit to do it for you. Please do not open the top cover and change the settings yourself. In addition, when you entrust us to do this job for you, we do it under the assumption that you yourself fully understand its inherent merits and risks.**

## Speaker Cables

Please use high-quality speaker cables to realize full potential of this unit's performance. In the rare case, however, you wish to use special high-capacitance speaker cables, you will need to consult your authorized Rotel dealer to make a required adjustment inside the unit. For details, please refer to a later section of this manual. Please note we do recommend you to use very high-quality cables with as low capacitance as possible.

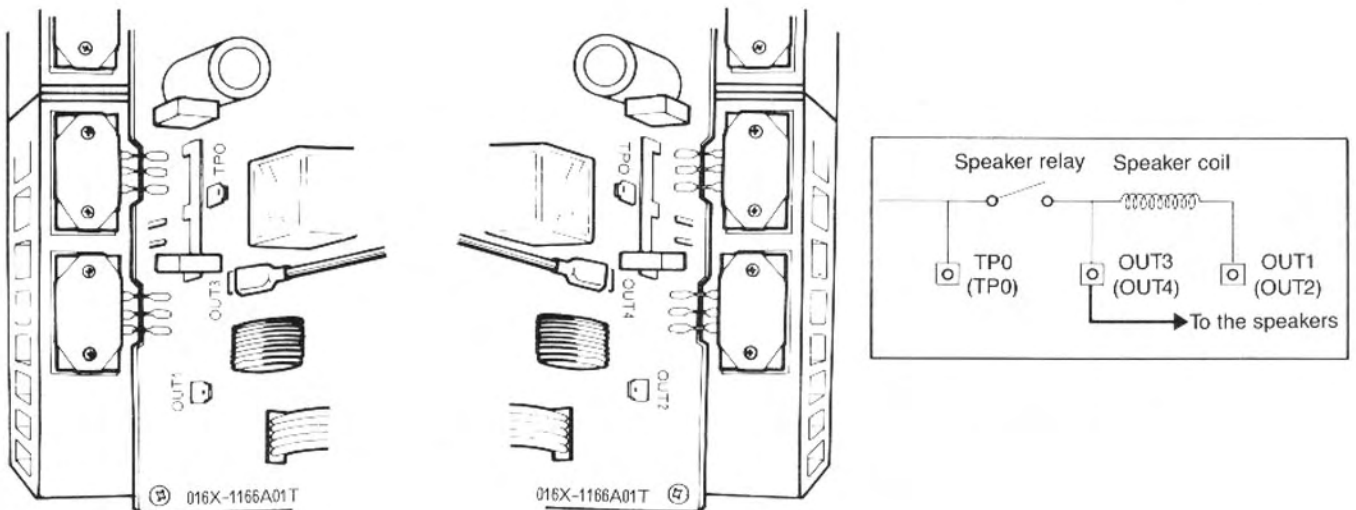
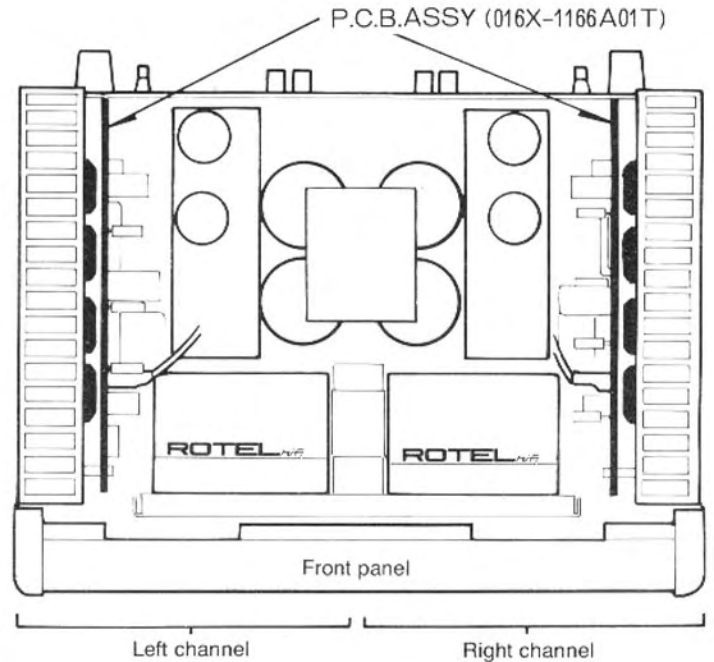


Figure 1

- In the condition upon shipment from our factory, the output bypasses the speaker coils.

Figure 1: The speaker output points on the PC board (016X-1166A01T) that touches both heatsinks are TP0, OUT3, OUT1 for the left channel and TP0, OUT4, OUT2 for the right channel. In the condition upon shipment from our factory, the Faston terminal plugs are connected to OUT3 and OUT4.

When you wish to use high-capacitance type ( $0.1\mu\text{F}$  or more) speakers or speaker cables with unusually high capacitance, this unit needs to be opened in order to make a change in the settings. This operation is not to be undertaken by the user; please have this done by the authorized Rotel dealer where you purchased the unit (Fig. 2).

• **Output to the speakers is now after the speaker protection relay and the speaker coils.**

Figure 2: By moving the speaker output points on the PC board (016X-1166A01T) attached to both heatsinks, i.e. moving the left channel Faston terminal plug from OUT3 to OUT1 and the right channel Faston terminal plug from OUT4 to OUT2, the signals for speaker output will pass through both the relays and the coils on their way to the speaker terminals on the rear panel.

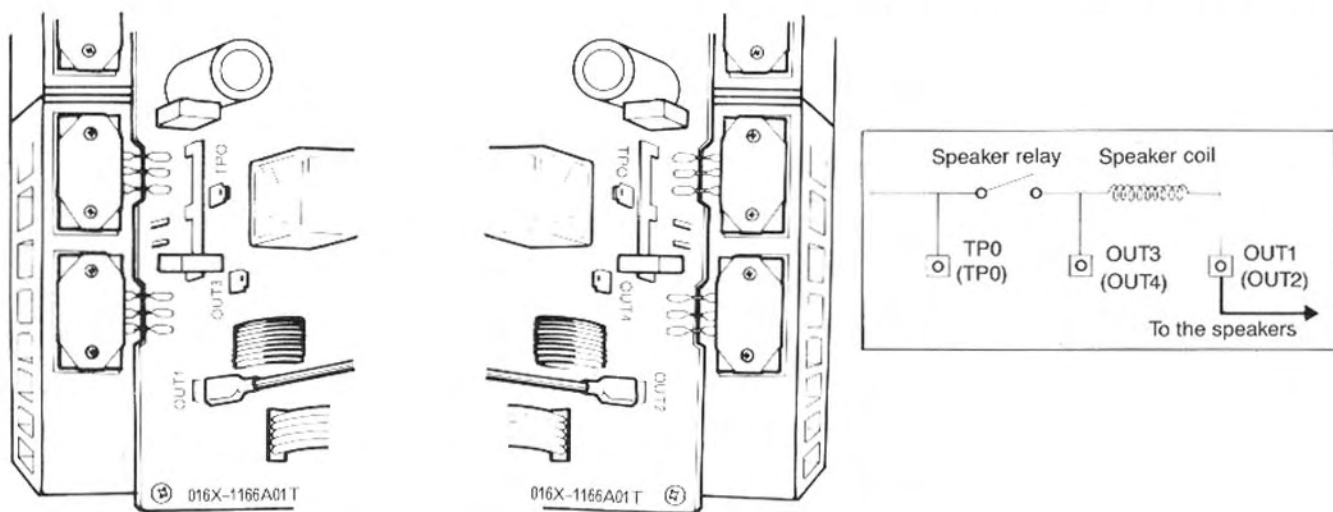


Figure 2

## Connecting the Speakers

Connect the cable from the right speaker to the RIGHT SPEAKER terminal on the rear panel of the unit, and the cable from the left speaker to the LEFT SPEAKER terminal. Be sure that you connect the + and - lines of the cables to the correct + and - terminals on this unit.

## Connecting the RHC-10 (Passive Controller) or a Control Amp

Using high-quality interconnect cables, connect the right channel output of the RHC-10 (or control amplifier) to the RIGHT INPUT terminal on the rear panel of this unit, and the left channel output to the LEFT INPUT terminal.

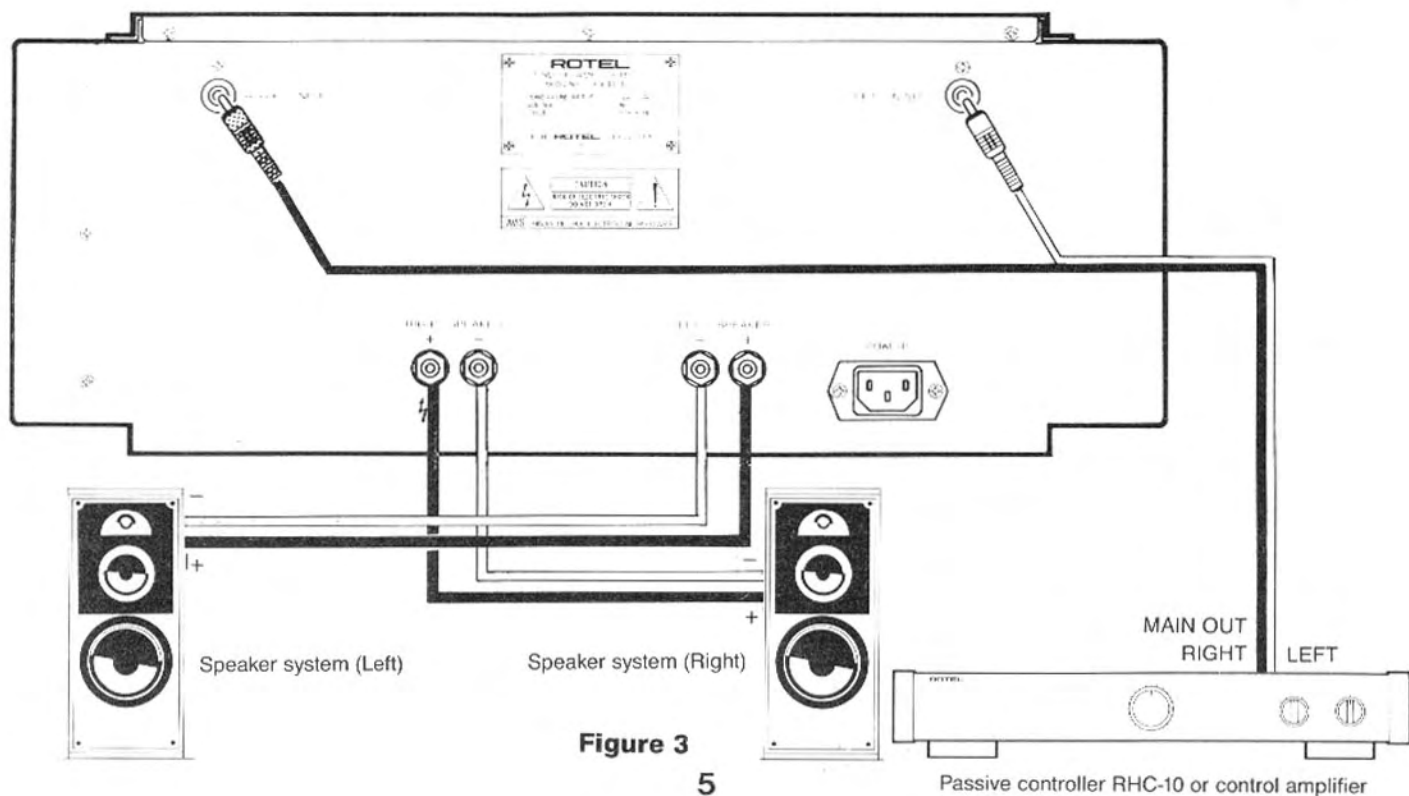


Figure 3

# Front Panel

## (1) Power Switch

Power is turned on or off by pushing the power switch. When the power is turned on, an indicator lamp on the switch illuminates. The lamp goes off again when the power is turned off.

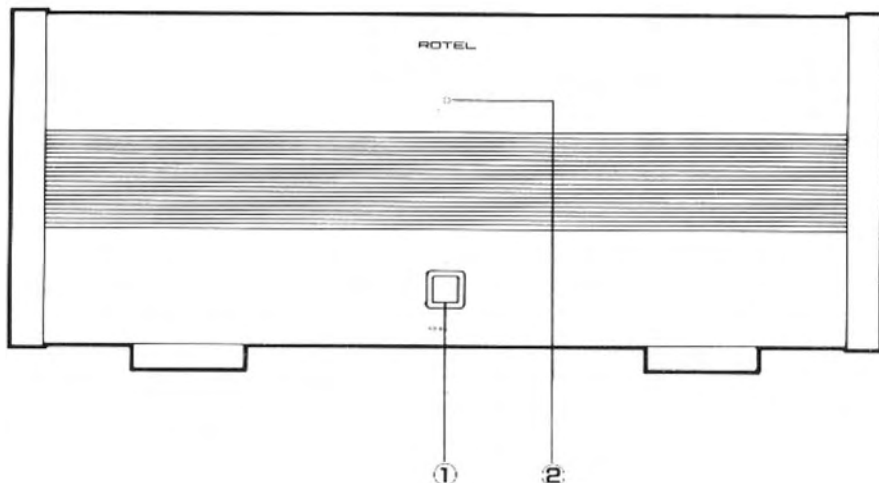
## (2) Protection Indicator

The protection indicator illuminates when the

temperature of this unit rises to an abnormal level. This indicator will automatically turn itself off when the cause of the high temperature is removed and the temperature lowered.

Also, this indicator will illuminate for a few seconds immediately after the power to the unit is turned on, but this is completely normal. It will go off again when the unit's circuitry has stabilized.

Figure 4



## Operations

Check to be sure that the speaker cables, the RHC-10 (or control amplifier), and the power cord have all been properly connected. And before turning on the power switch, turn the attenuator on the RHC-10 (or the volume control knob on the control amplifier) all the way

down.

1. Turn ON the power switch.
2. Start up play of the source, then operate the RHC-10, turning up the attenuator to a desired level.

## “Aging”

### “Aging”

New components need to be “aged” or “burned in” in order to stabilize the sound and obtain the best sound quality. We recommend that you let this unit “age” for about 100 hours.

### IMPORTANT

It is not necessary to “age” this unit by leaving it turned on for 100 hours continuously. Instead, let the unit “age” for a few hours a day over several days while you enjoy normal listening. During this “aging” period, it is important that you are within eye’s reach of the system; when going out or sleeping, for instance, stop the “aging” for the time and turn off the power to the entire system.

## Humming and Noise

Even though all components may be properly connected, factors such as locations and how cables are laid out can cause noise to occur.

If humming or noise is detected, disconnect all the components except the speakers. After checking the locations of the components and their proximities to each other, and also the placement of cables, try connecting the components again, one at a time.

Other possible causes are electromagnetic waves leaking from a large transformer, high-frequency radio

noise, or noise from other electrical devices entering the power lines. Influences such as these should be thoroughly checked.

# Protection Circuit

This unit is equipped with a built-in protector so that the unit can be used safely and without worry. Should this protection circuit ever activate, the protection indicator lamp will illuminate and sound will immediately stop whether the unit is in use or not. Check to see if there is a problem and remove the cause of it.

Once the temperature protector activates, it will only automatically reset itself when the temperature inside the unit is lowered. If the protection circuit activates repeatedly, another cause must be investigated. In this

event, turn off the power, unplug the power cord, and consult the authorized Rotel dealer where you purchased the unit.

\* This unit's protection circuit also activates whenever the power is turned on, and the protection indicator always illuminates accordingly. This occurs in order to protect against pop noises. No sound will be heard during the few seconds until the unit's circuits stabilize, but this is completely normal.

## Specifications

### Continuous Power

Output ..... 200 watts per channel, Min. RMS, both channels driven into 8 ohms from 20 to 20,000Hz with no more than 0.03% total harmonic distortion

### Continuous Power

Output ..... 330 watts per channel, Min. RMS, both channels driven into 4 ohms from 20 to 20,000Hz with no more than 0.03% total harmonic distortion

### Total Harmonic Distortion (20-20,000Hz) .....

No more than 0.03% (continuous rated power output)

### Intermodulation Output (60Hz:7kHz=4:1) .....

No more than 0.03% (continuous rated power output)

### Output Speaker..... 4-8 ohms

### Peak Current (0.1 ohms, 10μsec, 1 Puls).....

150 A

Slew Rate .....  $\pm 40V/\mu\text{sec}$

Damping Factor ..... 550 (20 to 20,000Hz, 8 ohms)

### Input Sensitivity/

Impedance..... 0.775V/30 kohms

Frequency Response ... 10-130,000Hz, +0dB, -1dB

### Single-to-Noise Ratio

(IHF, A Network)..... 130dB

Crosstalk (20-20kHz) .... 100dB

Power Requirement..... 120V/60Hz, 220V/50Hz, 240V/50Hz

Power Requirement..... 550 watts

Dimensions (overall)..... 470(W) x 195(H) x 375(D) mm  
18-1/2" x 7-11/16" x 14-25/32"

Weight (net) ..... 28.5kg/62.7 lbs

• Specifications and design subject to possible modification without notice.

\* Measured pursuant to the Federal Trade Commission's Trade Regulation Rule on Power Claims for Amplifiers (applicable to the U.S.A. only).