



PARASOUND

---

*Zamp v.2 Zone Amplifier*

## Table of Contents

Important Safety Instructions .....	3
Zamp v.2 Front and Rear Panel Drawings .....	4
Introduction .....	5
Installation and Rack Mounting .....	5
Ventilation Requirements .....	5
Connecting the Zamp v.2 .....	6
Speaker Connections .....	6
Bridged Mono Operation .....	6
Automatic Turn On Options .....	7
AC Power Connection and AC Grounding .....	8
Operating Your Zamp v.2 .....	8
Maintaining Your Parasound Amplifier .....	9
In Case of Trouble .....	9
Voltage Selection Switch for the Zamp v.2 .....	11
Zamp v.2 Specifications .....	12

### Features of the Parasound Zamp v.2

30 Watts Per Channel into 8  $\Omega$ , Less than 0.06% THD  
45 Watts Per Channel into 4  $\Omega$ , Less than 0.06% THD  
60 Watts Mono into 8  $\Omega$   
10 Amperes Peak Current Per Channel  
Direct Coupled with DC Servo Circuitry  
Toroidal Power Transformer  
8,800  $\mu$ F Power Supply Capacitance  
Fully Discrete Circuitry  
Discrete High Speed Output Transistors  
Automatic On-Off by 9 V to 12 V Trigger or Audio Signal  
Ground Lift Switch  
Level Controls for Each Channel  
Gold-Plated RCA Input Jacks  
Gold-Plated 5-Way Speaker Terminals  
Looping Output Connectors  
Removable IEC AC Cord  
Unique Half-Width Chassis

## IMPORTANT SAFETY INSTRUCTIONS



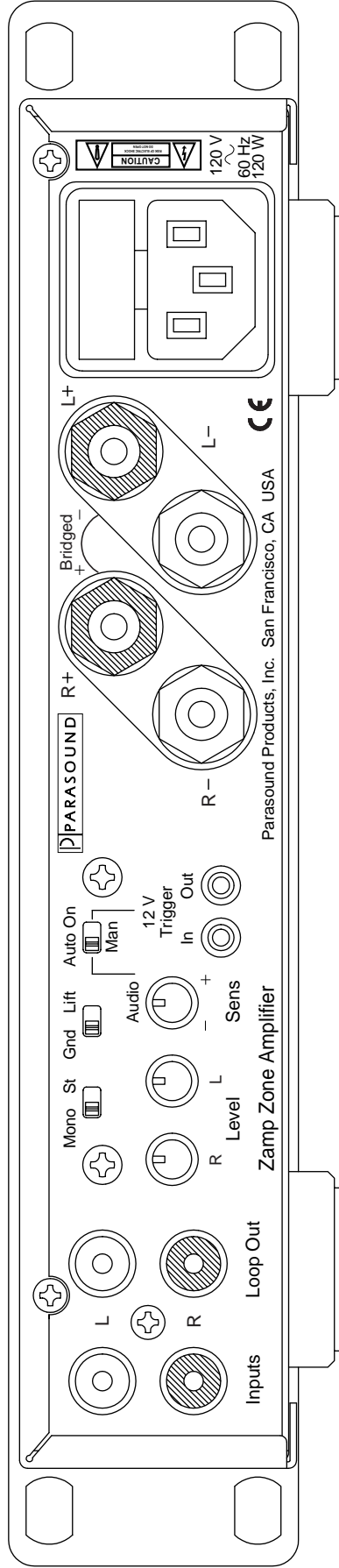
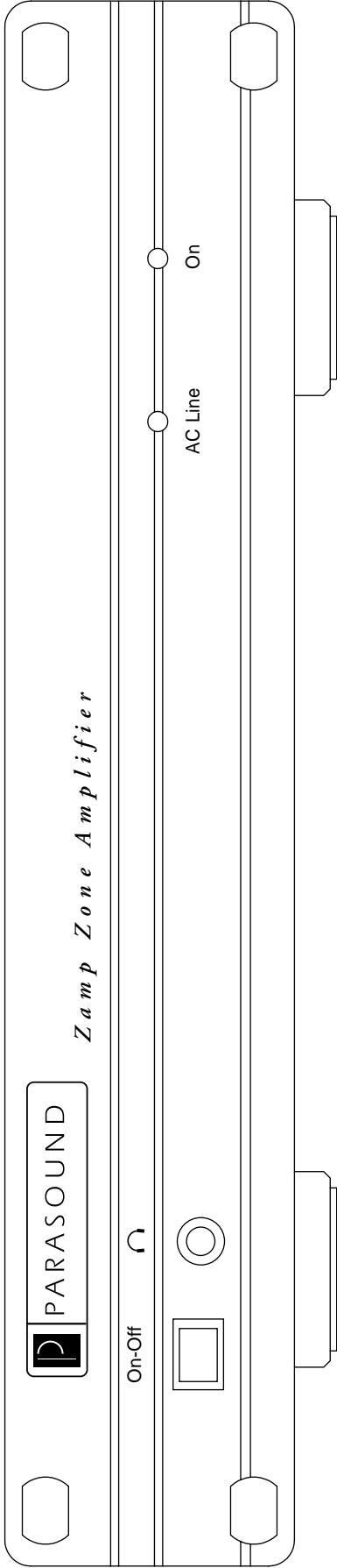
The lightning flash with the arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of “dangerous voltage” inside the product that may constitute a risk of electric shock.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance instructions in the literature accompanying the product.

### TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL

- 1. Read Instructions** — Read all the safety and operating instructions before operating this product.
- 2. Retain Instructions** — Retain safety and operating instructions for future reference.
- 3. Heed Warnings** — Adhere to all warnings on the product and in the operating instructions.
- 4. Follow Instructions** — Follow all operating and use instructions.
- 5. Cleaning** — Unplug this product from the wall outlet before cleaning. Use a damp cloth for cleaning. Clean the outside of the product only.
- 6. Attachments** — Do not use attachments that are not recommended by the product manufacturer; they may be hazardous.
- 7. Water and Moisture** — Do not use this product near water.
- 8. Accessories** — Do not place this product on an unstable cart or stand. The product may fall, causing bodily injury and damage to the product. A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart to overturn.
- 9. Ventilation** — Slots and openings in the cabinet are provided for ventilation to ensure reliable operation of the product and to protect it from overheating. These openings must not be blocked or covered. *This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided.*
- 10. Power Sources** — Operate this product only from the type of power source indicated on the label. If you are not sure of the type of power supply to your home, consult your dealer or local power company. This product is equipped with a three-prong grounding plug. This plug will only fit into a grounding power outlet. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding plug.
- 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.
- 12. Lightning** — Unplug the unit from the wall outlet for added protection during a lightning storm and when it is left unattended and unused for long periods of time. This will prevent damage to the product due to lightning and power line surges.
- 13. Overloading** — Do not overload wall outlets or extension cords. This can result in a fire or electric shock.
- 14. Inserting Objects into Unit** - Never push objects of any kind into this product through any openings; they may touch dangerous voltage points or short out parts that could result in fire or electric shock.
- 15. Servicing** — Do not attempt to repair or service this product yourself. Opening or removing covers may expose you to dangerous voltage and other hazards. Refer all servicing to qualified service personnel.
- 16. Damage Requiring Service** — Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions: a) If the power-supply cord or plug is damaged. b) If liquid has been spilled into the product. c) If the product has been exposed to rain or water. d) If the product does not operate normally by following the operating instructions. e) If the product has been dropped or damaged in any way. f) If the product exhibits a distinct change in performance.
- 17. Replacement Parts** — When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer. Unauthorized substitutions may result in fire, electric shock, and other hazards.
- 19. 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.
- 20. Wall or Ceiling Mounting** — Mount the product to a wall or ceiling only as recommended.
- 21. Heat** — The product should be situated away from heat sources such as radiators, heat registers, stoves, and other products (including amplifiers) that produce heat.



## Zamp v.2 Front and Rear Panel

## Introduction

Congratulations and thank you for your purchase of this precision Parasound audio component. The Parasound Zamp v.2 is designed for a wide variety of applications, including multi-room, multi-zone installations, desktop audio, bedroom or den systems. The incredible versatility of the Zamp v.2 allows many connection and configuration options, so please be sure to read this manual thoroughly before you begin installation.

## Unpacking

Carefully unpack your Zamp v.2, remove the enclosed AC power cord and the sub-mini 2.5 mm trigger connection plug and wire. Be sure to inspect the unit for any possible shipping damage. If you notice any, contact your Parasound Dealer immediately. Save the carton and all of the packing materials in case you ever need to ship your amplifier for repair. Before you proceed, locate the serial number on the rear panel or underside of the unit and record it here for future reference:

Serial # \_\_\_\_\_ Purchase Date \_\_\_\_\_

Parasound Dealer \_\_\_\_\_ Phone Number \_\_\_\_\_

## Installation and Rack Mounting

Install your Zamp v.2 away from heat sources such as heating ducts and radiators. Always mount the amplifier horizontally.

Its panel dimensions are one rack space high (1 3/4" or 44 mm) by one-half rack space wide (9 1/2" or 242 mm). It will fit into a standard 19" wide equipment rack when mounted side-by-side with other Parasound half-width components. Optional accessory parts are available from Parasound to rack mount the Zamp v.2 by itself or alongside another Parasound half width unit.

## Ventilation Requirements

The Zamp v.2 can generate substantial heat and requires adequate ventilation to prevent overheating and shut down by its thermal protection circuit. Observe the following ventilation guidelines when installing the Zamp v.2 in a cabinet or other enclosed area:

- 1) If you are not using a ventilation fan, allow few inches on each side and above the unit. You should *never* install the Zamp v.2 in an unventilated equipment cabinet with a door or panel because hot air cannot exhaust adequately.
- 3) Do not place the Zamp v.2 on carpeting or any other material that could obstruct airflow through the ventilation holes in the bottom of its chassis.
- 4) Try to avoid stacking the Zamp v.2 tightly between other components because the heat it produces will not dissipate adequately and may cause overheating of the amplifier and the other units.

## **Connecting the Zamp v.2**

*Refer to the drawing on Page 4*

### **Connection Precautions**

Disconnect the AC cord before or while making or changing any input, trigger, or speaker connections. Make sure there is no strain or tension on any connections that could cause them to pull loose in the future.

### **Input Connections**

Use the Right and Left channel RCA jacks for normal stereo operation. Connect the outputs of your preamplifier or multi-room controller to these line level inputs.

### **Looping Output Connections**

The Right and Left Loop Out jacks are convenient connections to feed the input signals to an additional amplifier. This feature eliminates the need for “Y” connectors to split the source between your Zamp and the other amplifier.

## **Speaker Connections**

### **Five-Way Speaker Terminals**

You can connect bare speaker wires up to AWG 12, speaker wires terminated with 1/4" spade lugs or terminated with single or dual banana plugs.

If you use bare wires, remove only enough insulation so each exposed bare wire inserts through the small transverse hole in the terminal's binding post. Before inserting the wire, twist its strands tightly between your fingers to prevent strays that might cause a short circuit. You may want to “tin” the stripped bare wire with solder to prevent it from fraying and oxidizing.

### **Correct Speaker Polarity is Important**

Speaker wires are coded with printing or a ridge on the insulation of one of the two leads. This helps you identify which lead you connected to the positive terminal and which to the negative terminal when you are at the other end of the wire.

### **Mono Operation**

We recommend an 8  $\Omega$  minimum speaker load for mono operation. This is because one channel amplifies only the positive half and the other channel amplifies only the negative half of the audio signal. Each channel “sees” only half of the speaker's rated impedance. So an 8  $\Omega$  speaker becomes a 4  $\Omega$  load in mono and a 4  $\Omega$  speaker becomes a 2  $\Omega$  load in mono. A 2  $\Omega$  load may cause the Zamp v.2 to overheat and you should avoid it.

### **Stereo - Mono Switch**

The unit should be turned off before moving this switch. Set the Stereo-Mono switch to its Mono (left) position for mono operation. Stereo output will be weak and distorted if you accidentally leave this switch in its Mono position.

## **Configuring the Zamp v.2 for Mono operation**

1. Turn the unit off.
2. Connect the single cable from your mono source to the Right channel Input jack.
3. Set the Stereo-Mono Switch to its Mono position.
4. Connect the positive lead of the speaker wire to the red R+ channel speaker terminal.
5. Connect the negative lead of the speaker wire to the red L+ channel speaker terminal.

Note: the R+ and L+ terminals are not spaced to accept a dual banana plug.

## **Automatic Turn On Options**

For automation and convenience, the Zamp v.2 can be turned on and off by applying a voltage to the Trigger In jack or by the presence of an audio signal at the input.

### **Auto On Select Switch**

In the right position of the Auto On Switch, the Zamp v.2 is triggered on and off with an external +9 V to + 12 V voltage. When the external voltage ceases the Zamp v.2 will turn off immediately.

In the middle position of the Auto On Switch, the auto on function is disabled and the Zamp v.2 can only be turned on and off manually by the On-Off button on the front panel.

In the left position of the Auto On Switch, the Zamp v.2 is turned on and off when an audio signal is present at the Left and Right Input jacks. When the audio signal ceases, the Zamp v.2 will remain on for about five minutes. This prevents unwanted turn off during pauses in the music.

### **Trigger Input Connection**

The Zamp v.2 can be triggered on with an external DC voltage source from +9 V to +12 V. Many audio video controllers, and all Parasound audio video surround controllers produced since 1997, include trigger outputs for this task.

To activate the Zamp v.2 with an external voltage source, plug one end of the provided cord to the +12 V Trigger Input of the Zamp v.2 and the other end to the source component's +12 V output. Parasound sources will have a matching 2.5mm jack, but if the source trigger is a terminal, you can cut off the plug at one end and attach the bare wires. The lead with the white stripe on it corresponds to the plug's tip and the unmarked lead corresponds to the sleeve of the plug.

If the trigger voltage source is DC, the trigger plug tip must be positive and its sleeve negative. The trigger circuit is optically coupled and thus only draws 15 mA of current for activation.

## **Trigger Out Connection**

The Trigger Out jack lets you loop or “daisy-chain” the trigger voltage to additional amplifiers or other components.

## **Audio Trigger Sensitivity Adjustment**

The Auto On Audio Sensitivity Control adjusts the audio signal level threshold to turn on the Zamp v.2. It adjusts the audio trigger sensitivity from 30 mV (fully clockwise) to 2 V (fully counterclockwise). The center position corresponds to 50 mV, which is suitable in most cases.

## **Ground Lift Switch**

The Ground Lift Switch isolates the circuit ground from chassis ground. This often helps eliminate hum that results from ground loops caused by multiple ground paths such as metal-to-metal contact with other components in an equipment rack plus the ground of the AC cord. If you experience hum in the system, try moving the Ground Lift Switch to its Lift position.

## **AC Power Connections and AC Grounding**

If possible, plug your Zamp v.2 into the same AC outlet that powers your accompanying audio components and especially the system controller. If you use a different AC outlet, you may encounter AC hum caused by its differing ground potential.

## **Operating the Zamp v.2**

*Refer to the drawing on Page 4*

### **On-Off Button**

#### **Manual Turn On**

Press the On-Off button once to turn the unit on, press it again to turn the unit off.

#### **Automatic Turn On**

Your Zamp v.2 can be turned on automatically. See Automatic Turn On Options for details about automatic triggering.

### **Level Controls**

Each channel has an input level knob so you can adjust the input sensitivity of the Zamp v.2 for the best signal-to-noise ratio with your preamplifier or system controller. If there is no increase in background noise, we recommend setting both Level controls fully clockwise.

### **Front Panel Indicators**

#### **AC Line**

The amber AC Line indicator lights whenever the unit is plugged into a live AC source.

#### **On**

The On indicator lights green when the Zamp v.2 is on.

## **Headphone Jack**

The headphone jack on the front panel accepts a 1/8" (3.5 mm) plug. The high current headphone circuit will easily drive headphones with an impedance of 8  $\Omega$  or higher. The output to the speakers is muted when you plug headphones into the Zamp v.2.

## **Maintaining Your Parasound Amplifier**

Your Parasound Zamp v.2 power amplifier requires no periodic maintenance except an occasional flattering remark. It has no user-serviceable parts inside. To avoid the risk of electric shock, do not remove the top cover. The amplifier's exterior can easily be cleaned with a soft cloth pre-moistened only with a few drops of water or glass cleaner.

## **Main Power Fuse**

There is an external fuse mounted on the rear panel. This fuse protects the unit from possible damage to internal parts.

*Never replace this fuse with a higher value than originally installed. Substitution of a larger fuse may seriously damage internal parts and will void your warranty.*

## **In Case of Trouble**

If you suspect a problem with your Zamp v.2, first turn the unit off and check all your connections. Another component or even a defective hookup cable may be causing the trouble. If you hear hum, turn off the amplifier and disconnect the inputs to it. If the hum is gone when you turn the amplifier back on, it was probably caused by your preamplifier, system controller, or other source component connected to it.

Also, make sure that the AC cords of all components are connected to the same AC outlet. In rack mounted systems, ground loops and hum will often develop via ground loops caused by redundant grounding of the metal rack rails of the equipment rack. This problem is usually solved with front and back nylon insulating shoulder washers (refer to the Rack Mounting section in this owner's manual).

## **If All Else Fails**

Call your Parasound dealer or Parasound Technical Service Department. We can usually suggest other diagnostic tests you can easily perform. Should we determine that your Zamp needs further inspection or service, Parasound can recommend the location of a warranty center near you or shipping instructions for return to Parasound Technical Services.

## **Returning your Zamp to Parasound for Service**

If we determine that you should send your Zamp v.2 to Parasound, you will need to obtain a Return Authorization (RA) number. The RA number must be clearly marked on the outer carton only. Ship the unit with adequate insurance and a copy of your purchase receipt inside to validate your warranty. You must provide an original purchase receipt from an Authorized Parasound Dealer for warranty repair. Units purchased from unauthorized dealers are not eligible for warranty repair.

Units that arrive without an RA number, without a suitable shipping carton or with evidence of improper internal packing materials may be refused. We do not accept collect shipments. After repair under warranty, the unit will be returned to you via prepaid UPS within the Continental United States.

In the case of a non-warranty repair, contact us and we will advise you of the repair charges before you ship the unit to us. The same packing and Return Authorization number requirements apply.

### **Important Notice before Shipping your Zamp v.2**

Before you ship the unit to Parasound, you **MUST** repack the unit into its fitted insert sandwich and its original carton. If you do not have the original packing cartons and foam inserts, call us for new packing material that we can provide to you at a nominal charge. Use of any other carton and packing materials will probably result in shipping damage. Common carriers such as UPS will not pay claims for damage incurred during shipment when products are surrounded only with Styrofoam “peanuts” or packed in non-original factory cartons. Repairs for shipping damages because of mis-packing are your sole responsibility.

### **Finally**

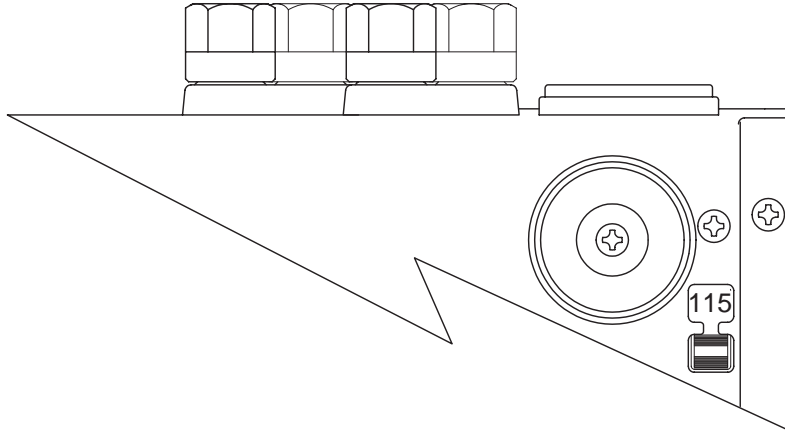
Thanks for taking the time to read through these instructions and getting to know your Zamp v.2 a little better. We sincerely hope you enjoy your new Zamp v.2 for many years to come!

### **The Parasound Staff**

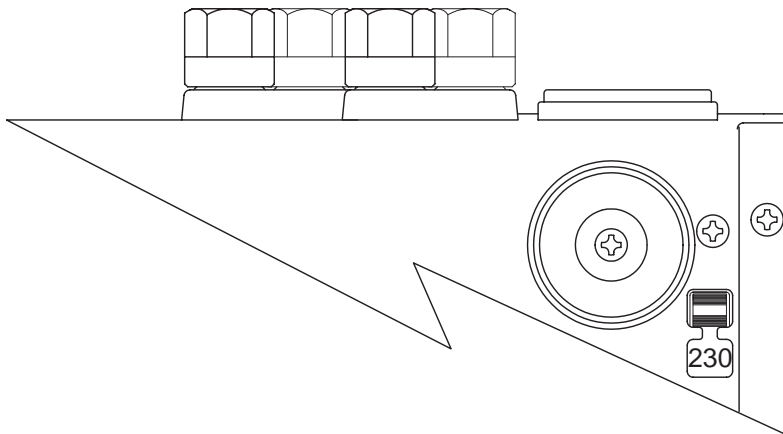
## Voltage Selection Switch for the Zamp v.2

The Zamp v.2 can be easily converted for 110-120 Vac or 220-240 V operation by using the voltage selector switch located on the bottom of the unit.

For 110-120 Vac operation. Slide the switch into the position until the section of switch labeled "115" appears through the opening in the chassis.



For 220-240 Vac operation. Slide the switch into the position until the section of switch labeled "230" appears through the opening in the chassis.



## Parasound Zamp v.2 Specifications

### Continuous Power Output - Stereo

30 watts RMS x 2, 20 Hz-20 kHz, 8  $\Omega$ , both channels driven

45 watts RMS x 2, 20 Hz-20 kHz, 4  $\Omega$ , both channels driven

### Continuous Power Output - Mono

60 watts RMS, 20 Hz-20 kHz, 8  $\Omega$  minimum Impedance

### Current Capacity

10 amps peak per channel

### Slew Rate

> 90 V/ $\mu$ second

### Frequency Response

5 Hz-100 kHz, +0/-3 dB at 1 watt

### Total Harmonic Distortion

< 0.06 % at full power; < 0.03 % typical levels

### IM Distortion

< 0.03 %

### TIM

Unmeasurable

### Dynamic Headroom

> 1.5 dB

### Interchannel Crosstalk

> 80 dB at 1 kHz

> 60 dB at 20 kHz

### Input Impedance

33 k $\Omega$

### Input Sensitivity

1 V

### S/N Ratio

> 100 dB, input shorted, IHF A-weighted

### Damping Factor

> 400 at 20 Hz

### Audio Triggering Sensitivity Range

20 mV to 200 mV

### DC Triggering Current Requirement

< 15 mA

### Dimensions

9 1/2" W x 1 3/4" H (2" with feet) x 7" D

### Weight

9 lb net



PARASOUND

*Parasound Products, Inc. 950 Battery Street, San Francisco, CA 94111  
415-397-7100 / FAX 415-397-0144 [www.parasound.com](http://www.parasound.com)*

© 2001 Parasound Products, Inc. Rev 2.0