

O W N E R ' S M A N U A L



PARASOUND

HCA-1201A High Current Power Amplifier

www.parasound.com

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Special Features for the Parasound HCA-1201A

THX Ultra certified by Lucasfilm Ltd.
280 VA Toroid Power Transformer
20,000 uF filter capacitance
Multiple polystyrene film bypass capacitors in power supply
Output relay can be activated with external DC source
Cascode Class A input stages with matched J-FET pairs
Complementary transistors in high voltage driver stage
12 ampere 50 MHz output transistors
Output transistors direct-coupled to speakers without LRC networks
Direct-coupled audio circuits with 0.8 Hz rolloff
High-bias Class A/AB operation
Gold-plated RCA input jacks
Multiple protection circuits
Glass epoxy circuit boards, double-sided for precision
Audiophile-grade AC power cord



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IMPORTANT SAFETY INSTRUCTIONS



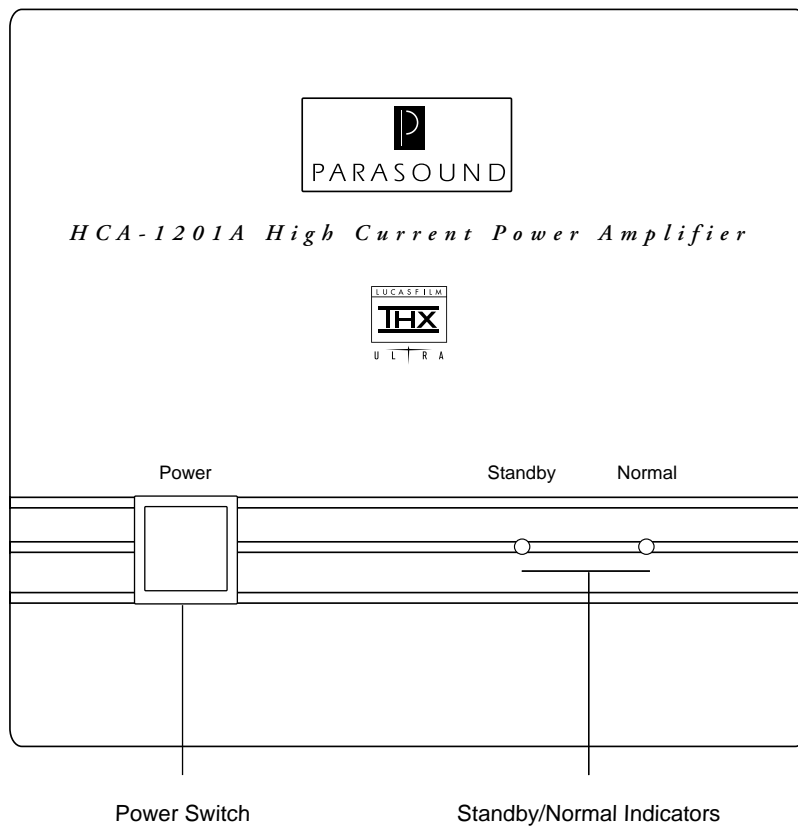
The lightning flash with the arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of “dangerous voltage” inside the product that may constitute a risk of electric shock.



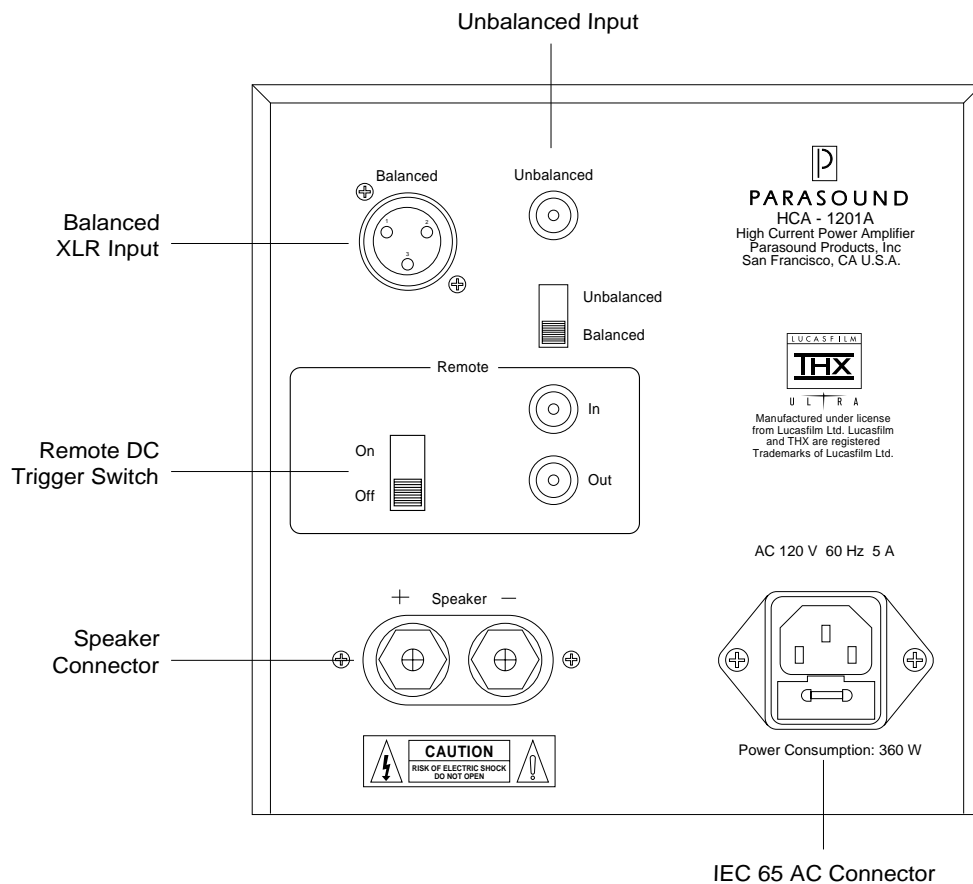
The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance instructions in the literature accompanying the product.

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.



HCA-1201A Front Panel



HCA-1201A Rear Panel

Introduction

Congratulations on your purchase of this precision audio component and thank you for your selection of Parasound. Your Parasound HCA-1201A High Current Mono-Block Power Amplifier was built using only the finest precision components available for optimum musical quality and performance.

The HCA-1201A High Current Power Amplifier has a 280 VA toroidal power transformer and 20,000 uF of filter capacitance to provide the high levels of power needed for some of today's more sophisticated speaker systems. The inherently low output impedance of the HCA-1201A easily maintains control of your loudspeakers even during demanding impedance variations.

Unique circuit topology of the direct coupled HCA-1201A includes balanced JFET input transistors, bipolar drivers and ultra high current output devices. Additionally, there are no inductors or capacitors in the signal path. These design refinements reduce high odd-order harmonic distortion, improve overall clarity and preserve low-level musical details.

Please take a few moments to read these instructions so that you may fully understand the capabilities of your new Parasound power amplifier.

Unpacking Your HCA-1201A

Carefully unpack your amplifier and remove all the enclosed accessories. These accessories include one 14 AWG AC cord, and this manual. Be sure to inspect the unit for any possible shipping damage. If you see any, contact your Parasound Dealer immediately. Save all the packing material in case you need to ship the amplifier for repair. Before you proceed, find the serial number located on the rear panel of your amplifier and record it here for reference:

Serial # _____

Date of Purchase _____

Installing Your Amplifier

Place your amplifier away from heat sources such as air ducts and radiators. Always mount the amplifier horizontally and make sure that your cabinet or shelf can support its weight. It is best to provide a separate shelf for your amplifiers rather than stacking it directly above or below other components.

Ventilation Requirements

To insure safe and reliable operation, it is very important that the amplifier has *plenty of ventilation* to prevent overheating and automatic shut down from its thermal protection circuitry. Please observe the following ventilation guidelines when installing your amplifier in a cabinet or other enclosed area:

- 1) If you are not using a fan, allow *at least* six inches on each side and above the amplifier, and *do not* close off the front with a cabinet door or panel.
- 2) If you are enclosing the amplifier within an equipment cabinet, use a fan to draw in cool air and exhaust warm air. Two vent holes are required: one for intake and one for exhaust.
- 3) Do not place the amplifier on carpeting that will obstruct the air flow into the bottom of the amplifier chassis and heatsinks.
- 4) Avoid stacking components. If you do stack components, you *must* use a fan to circulate the warm air that will quickly become trapped between them when they are powered on.

Making Connections to the HCA-1201A

Refer to Drawing on Page 4

Leave the AC cord disconnected before making any signal or speaker connections. When making connections to the amplifier, make sure there is no strain or tension on the input leads, speaker wires, or AC cord that could cause them to pull loose.

Unbalanced Input

Connect the unbalanced outputs of your preamplifier to the RCA input jack. With this connection, the HCA-1201A's output is non-inverted; a positive signal at the input results in a positive signal at the output.

XLR Input Connections

If your preamplifier is equipped with balanced XLR output connectors, you can use these connections as an alternative to the RCA jacks. The industry standard pin assignment for the HCA-1201A's XLR input connector is Pin 1: Ground, Pin 2: Positive (+), and Pin 3: Negative (—).

Input Selector Switch

Once you have decided which input connectors you will use, set the input selector switch accordingly to the Unbalanced or Balanced position.

Speaker Connections

You may connect bare wire up to AWG 12, speaker wire terminated with 1/4" spade lugs, or banana plugs to the five-way binding posts of your power amplifier. If you use bare wire without terminals, make sure you remove only enough insulation so the wire can fit through the hole that runs sideways through the terminal's binding post. Before inserting the wire, twist all its strands tightly to prevent strays that could cause a short circuit. (You may want to "tin" the stripped wire with solder to prevent it from fraying and oxidizing.)

Observing Correct Polarity

When you connect speakers to your amplifier, you will notice that one side of the two conductor speaker wire will have some sort of mark: either printing, a raised ridge on the insulation, or a different color of conductor to let you know which wire to connect to the positive and which to the negative speaker terminals so you can repeat the connection on the power amplifier's binding posts.

Minimum Speaker Impedance Precautions

Although the HCA-1201A is capable of driving speakers with occasional impedance dips well below 2 Ω , it is primarily designed to drive loudspeakers with a 4 Ω or 8 Ω nominal impedance. This is because sustained high power operation into loads of less than 4 Ω may cause overheating and subsequent thermal shutdown.

Remote DC Trigger Connection

The Remote DC Trigger allows you to control the internal speaker relay with an external DC voltage source so you can remotely activate the speaker relay to allow the output of the amplifier pass to the speakers. The trigger circuit can be activated with an external DC source that ranges between + 9 Vdc to +12 Vdc. To properly terminate the DC trigger cable for the HCA-1201A, first determine the + DC voltage and ground conductor from the external DC source. For example, the Parasound AVC-2500 has a DC trigger that incorporates a two-conductor 1/8" mini connector. The tip of this connector is positive and the ring is negative (ground). In this case, you would terminate one end with an 1/8" mini plug and the other end with an RCA jack. The tip of the RCA jack of the HCA-1201A is also positive and the sleeve is negative. Once you have terminated the DC trigger cable, connect the RCA connector to the jack labeled Remote In on the HCA-1201A and the other end to the external DC trigger source.

Remote DC Trigger On-Off switch

When you are using the DC trigger circuitry, set the Remote switch to the On position. If you are not using the DC trigger circuit, set the switch to the Off position. *Important note: The output relay will not let the signal pass to the speakers if this switch is in the on position and no DC voltage is present.*

Daisy Chaining DC trigger Connections

You can "daisy chain" the DC trigger output to activate additional HCA-1201A amplifiers. Connect the Remote Out on the first HCA-1201A to the Remote In on the second HCA-1201A, and so on.

AC Power Connections and AC Grounding

Before you connect the AC cords, make sure the HCA-1201A's power switch is in the off or down position. If possible, plug your amplifier directly into an AC wall outlet. Do not connect the AC cord to the accessory AC outlet on your preamplifier because the amplifier's current draw exceeds the ratings of most preamplifier's power switches and power cords. If you use an external AC line conditioner, make sure it can withstand the HCA-1201A's power requirements listed in the specification section of this manual.

Operating the HCA-1201A

Refer to Figure #1

Power Switch

Press the upper side to turn the unit on manually; press the lower side to turn the unit off.

Standby/Normal Operation LEDs

The red Standby LED will light when the amplifier is turned on either with the power switch or an external DC trigger. It will stay lit about four to five seconds while the amplifier circuits stabilize. After that, the red LED will turn off and the green normal LED will signal that the protection relays have switched off and that the amplifier is ready to operate. The Standby LED will also light whenever there is a short circuit or other fault that triggers the protection circuitry. This may indicate one of the following conditions: DC present at the amplifier's input, a speaker impedance overload, a short circuited speaker line, or possible internal fault. If this LED remains lit, remove power to the amplifier and check all connections. During this time, the protection circuits should automatically reset. If the red LED stays lit after you reapply power, contact your Parasound Dealer for further advice.

Maintaining Your HCA-1201A

Your HCA-1201A requires no periodic maintenance and has no user serviceable parts inside. To avoid the risk of electric shock, do not remove the top cover. If necessary, clean the chassis with a soft cloth moistened only with window cleaner or clear water. Never use solvents or abrasives.

Main Power Fuse

There is an external fuse located within the AC receptacle that may blow as a result of an internal fault condition. This fuse protects the unit from possible damage to internal parts. *Never replace this fuse with a fuse of higher value than installed from the factory.* Substitution of a larger fuse may create serious stress and damage to internal parts and *will void your warranty.*

In Case of Trouble

Call your Parasound dealer who should be able to suggest simple diagnostic tests you can easily perform. If you determine that your HCA-1201A should be serviced, Contact Parasound or an Authorized Parasound Warranty Center for inspection and possible servicing.

Returning your HCA-1201A to Parasound for Service (USA Only)

If we determine that you should send your HCA-1201A 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. Warranty repairs will only be performed by Parasound or authorized warranty centers on sets where your purchase receipt is from an Authorized Parasound Dealer or Parasound Reseller. 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 common carrier 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.

Parasound HCA-1201A Specifications

Continuous Power Output

150 watts RMS, 20 Hz-20 kHz, 8 Ω

240 watts RMS, 20 Hz-20 kHz, 4 Ω

Current Capacity

36 amps peak

Slew Rate

> 130 V/microsecond

Power Bandwidth

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

Total Harmonic Distortion

< 0.03 % at full power; < 0.01 % typical levels

IM Distortion

< 0.03 %

TIM

Unmeasurable

Dynamic Headroom

> 1.5 dB

Input Impedance

33 k Ω

Input Sensitivity

1 V for 28.28 V; THX Reference Level; 1.2 V for full output

S/N Ratio

> 120 dB full power A Weighted; > 96 dB THX reference level

Damping Factor

> 800 at 20 Hz

Dimensions

6 1/4" wide x 5 1/2" high x 16" deep

Power Requirements

110 Vac-120 Vac 360 Watts

Net Weight

12 lb



PARASOUND

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