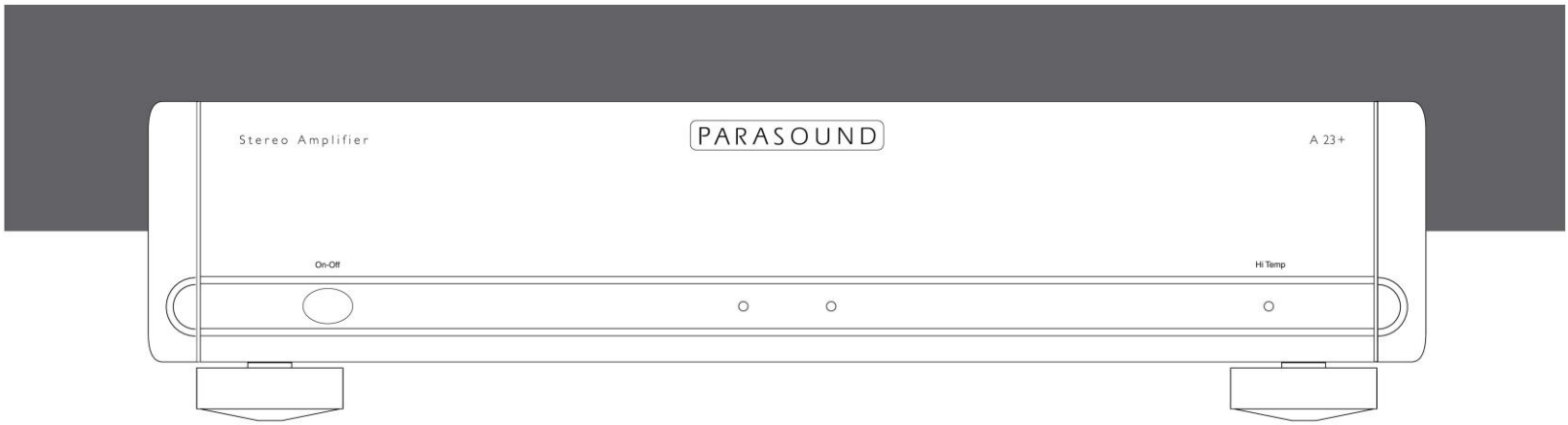
HALO by PARASOUND



A23+

Stereo Power Amplifier

OWNER'S GUIDE

Read this manual and all warning labels on the product before using this product. Failure to follow these instructions and safety precautions can result in serious injury or death.

Keep your packaging. The original carton and inserts are the only packaging designed to protect your A23+ if you ever move or ship it. Shipping damage caused by inadequate packaging is not covered by warranty.

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.
18. **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.
19. **Wall or ceiling mounting.** Mount the product to a wall or ceiling only as recommended.
20. **Heat.** The product should be situated away from heat sources such as radiators, heat registers, stoves, and other products (including amplifiers) that produce heat.

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Introduction

Thank You for Choosing Parasound

Your new Parasound Halo A23+ power amplifier has been designed with the most advanced, proven class A/AB amplifier technology. The A23+ is built to extremely strict quality and performance standards for which Parasound is renowned. We're proud to offer you this exceptional audio component that will bring you many years of enjoyment and dependability. We designed your new Halo A23+ amplifier to perform at a higher level of sonic performance than you may have expected and we encourage you to read this entire manual to maximize your enjoyment. We wish you many years of listening enjoyment.

Registering Your A23+

When you register your A23+ you can report an issue or ask a question about this exact unit right from your Parasound account, with your model and serial number already on file. Registered owners also receive priority support.

If you bought your A23+ directly from Parasound, it is already registered to you. If you bought it from a Parasound Registered Dealer, your dealer may register it on your behalf; if they do, you will receive a confirmation email from us within 7 days of your purchase. You can also register it yourself at any time; see How to Register at **parasound.com/pages/how-to-register**.

Parasound A23+ serial number: _____ (5 or 6 digit number below the bar code)

Important Warranty Information

There is no Parasound warranty for this unit if it was not purchased from Parasound or a Parasound Registered Dealer. Detailed warranty terms are available at **parasound.com/pages/support**.

Before you buy, check that a seller is a Parasound Registered Dealer with Verify a dealer at **parasound.com/pages/verify-dealer**.

Investigate very carefully any claims made by a dealer who is not a Parasound Registered Dealer. Statements an unregistered dealer makes about their own or third-party warranty coverage are undependable and misleading; unregistered dealers lack the capability to make repairs or arrange for repairs of Parasound equipment.

A missing or altered serial number could indicate that a unit was re-sold by an unregistered dealer or is stolen merchandise. If this unit is missing its serial number, or the serial number has been altered, return it to your dealer immediately for a full refund.

Unpacking and Placement

Unpacking Your A23+

Carefully remove your A23+ from its shipping carton and locate the enclosed accessories:

- AC power cord
- 12 V trigger wire for auto turn on, with a mono 3.5 mm mini plug at each end

While you are unpacking your A23+, inspect it thoroughly for possible shipping damage and tell your Parasound dealer immediately if you find any evidence of shipping damage.

This would be a good time to make a copy of your sales receipt to store with the A23+'s original packing.

Important: keep all of your packaging. Save both the inner and outer cartons and, especially, the molded foam inserts. You will need the original packaging to safely move or ship your A23+, and any unit sent to Parasound for service must be shipped in its original packaging. Bubble wrap and other substitutes do not provide adequate protection and can cause shipping damage that is not covered by the warranty. You may flatten the cartons to save storage space after cutting the taped seams on the bottom flaps.

Placement Guidelines

The A23+ will be easier to use and will last longer if you follow these simple guidelines:

- Place the A23+ on a surface that will adequately support its weight.
- Use input and output cables that are long enough to leave some slack; that will enable you to pull the A23+ out of a cabinet to check or to change connections without inadvertently disconnecting cables.
- The A23+ should never be placed in a completely enclosed cabinet.
- Place your A23+ where you can route input and output signal cables as far as possible from any AC cords.
- Where input interconnects must cross AC cords they should do so only at a 90° right angle.

Ventilation Requirements

- Always position the A23+ horizontally.
- Allow at least 3 in on each side, 3 in above and 3 in behind.
- The A23+ should never be stacked directly above another power amplifier or directly below another component.
- Do not install the A23+ in an unventilated equipment cabinet or compartment. Pockets of stagnant hot air can build up even in a cabinet with an open front and back. A ventilation fan is recommended to prevent "hot spots" in confined spaces.

AC Mains Voltage

Make sure the 120 V/230 V voltage selector switch on the A23+'s back panel is set for the correct AC line (mains) voltage *before* you plug in the power cord. The A23+ can be seriously damaged if this switch is set for the wrong AC mains voltage.

In the 120 V position the A23+ can safely operate with AC line voltages between 110 and 125 V, which is correct for North America, Mexico, Colombia, and Taiwan. In some countries, such as Brazil, AC voltages differ by region. Most other countries require setting it to 230 V. With the 230 V setting the A23+ can operate safely with AC line voltages between 220 and 250 V. If the AC voltage selector is changed, the rear panel fuse value must also be changed. The A23+ operates on 50 Hz or 60 Hz AC.

> **Note: an A23+ that has been damaged by connection to the incorrect AC mains voltage is not covered by the Parasound warranty.**

AC Power Cord

The AC cord supplied with your A23+ is a high quality IEC type cord. Connect it directly to an AC wall outlet or power conditioner that is always "live." If possible, plug your A23+ into the same AC outlet that your preamplifier is plugged into. If different AC outlets are used for the A23+ and other components (including a TV or video projector), the ground potential may be higher or lower between the outlets, resulting in audible hum.

Rack Mounting

With its four feet removed, the A23+ occupies two rack spaces (3.5 in / 88 mm). For mounting in a standard 19 in equipment rack, use the Parasound HRA 2 rack mount kit, sold separately under **Rack Bracket and Mount Kits**. Its shouldered plastic washers sandwich the front panel so there is no metal-to-metal contact between the chassis, the rack, and other components.

Warning: never reinstall the feet screws without the feet attached. The screws can reach internal components and cause a short circuit.

Audio Connections

Always disconnect the AC cord to your A23+ before making or changing any input, output or trigger wire connections. Inserting or removing an input or output cable while the A23+ is turned on can result in a blast of sound that can damage your loudspeakers. Make sure there is no strain or tension on any cables that could cause them to pull loose.

Audio Input Connections

Balanced XLR Input Jacks

In most systems balanced XLR connections will give you the best sound. If your stereo preamplifier has balanced XLR output jacks, we recommend that you connect them to the A23+ XLR inputs.

Note: using balanced XLR input connectors results in a 6 dB higher volume level compared with using the RCA input jacks. This is a noticeable increase.

Unbalanced RCA Input Jacks

Use these inputs if your preamplifier doesn't have balanced XLR output connections or if you simply prefer to use unbalanced connections.

Balanced/Unbalanced Selector Switch

Place the switch in the position for the input type you will be using.

Note: the Balanced/Unbalanced switch is not an input selector. Its function is to optimize the signal to noise ratio for each type of input. You should not connect both the balanced and unbalanced jacks at the same time with the expectation of switching between two different devices such as a preamp and surround processor.

Balanced XLR Pin Configuration

The A23+ XLR jacks conform to the industry standard:

Pin 1 ground, pin 2 positive (+), pin 3 negative (–).

Loop Output Jacks

These jacks enable the incoming audio signal to pass along or "daisy chain" from the left and right input jacks to an additional amplifier or powered subwoofer. The Loop Out jacks are not affected by the gain control settings. If you connect the preamp to the A23+ with balanced XLR input jacks the RCA Loop Out jack functions normally.

Bridged Mode and Bi-Amping

Bridged operation combines the left and right channels into a single, higher-power channel to drive one speaker, delivering far more than the sum of the two channels. In bridged mode the minimum speaker impedance is 8 Ω; do not use a 4 Ω speaker.

Set the Bridged/Stereo switch to Stereo for normal two-speaker use, and to Bridged only when driving a single 8 Ω speaker. If Bridged is selected by mistake during stereo use, the sound becomes weak and thin.

For bridged mono, connect the speaker's positive (+) wire to the right channel's positive (+) terminal and the speaker's negative (–) wire to the left channel's positive (+) terminal. Correct polarity is marked below the speaker terminals.

Bi-Amping is Often Superior to Bridged Mode

Bi-amping is often a better alternative to bridging: it delivers a meaningful sonic improvement without bridging's large, and often unnecessary, power increase. Like bridging, it requires one A23+ per speaker. This is passive bi-amping, so no external crossover is needed; the speaker's own low- and high-frequency crossovers are simply powered separately.

Bi-amping requires speakers with separate LF (low-frequency) and HF (high-frequency) input terminals. One A23+ drives both the LF and HF sections of one speaker, and the second A23+ drives the other speaker the same way. Use a standard RCA cable from each channel's Loop Output to feed the other channel's input (or a pair of XLR "Y" cables for balanced connections). Set both amplifiers' Bridged switches to Stereo and match the left and right gain controls.

Speaker Connections

Speaker Terminals

The A23+ speaker terminals accept speaker wires terminated with banana plugs, spade connectors or up to 10 AWG bare wire.

Bare Speaker Wire Ends

If you plan to connect your speaker cables with bare wire ends, use a wire stripper to remove just enough insulation to expose a ½ in (13 mm) length of bare wire. You can insert the stripped wire into the hole that goes vertically through each terminal's metal post. Before inserting the wire, twist its bare strands tightly to prevent any of the individual strands from making contact across the red plus and black minus speaker terminals. If you have a soldering iron, you can "tin" (apply a small amount of molten solder to) each stripped bare wire to prevent it from unraveling, fraying and oxidizing.

Correct Speaker Polarity is Important

Polarity refers to + and – connections. Speaker wires are coded with color, printing or a ridge on the insulation on one of the leads so you know which lead was connected to the + and – terminals at the other end. This coding will help you keep the + and – polarity consistent for all channels. If one speaker is wired with incorrect polarity it will significantly impair sound quality.

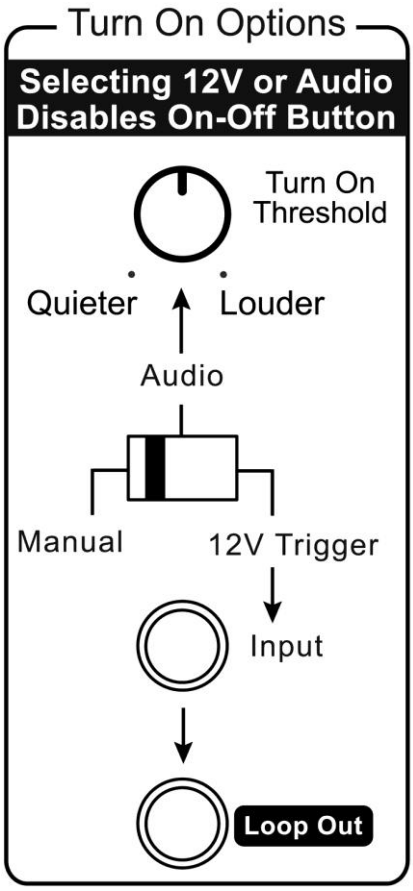
Speaker Wire Length and Gauge

When selecting speaker wire, follow these guidelines:

- Keep the length of your speaker wire as short as possible.
- Use the thickest wire practical. For lengths greater than 50 feet, use speaker wire with an AWG (gauge) of 14 or lower. The smaller the AWG number, the thicker the wire.

Turn On Options

The setting of the rear panel Turn On Options switch determines how the amplifier turns on and off. Setting the Turn On Options switch to Audio or 12 V disables the A23+'s front panel Power button. There are three positions for this switch:



Manual:

When the Turn On Options switch is set to **Manual** the A23+ is turned on and off manually only by pressing the Power button on its front panel every time you want to listen to music.

Audio:

When the Turn On Options switch is set to the **Audio** position, the A23+ will be turned on automatically when an audio signal is present at the L or R Input jacks. After the audio signal ceases the amplifier will remain on for about 10 minutes before shutting itself off. This prevents unintended turn-off during pauses in your music.

12 V Trigger:

When the Turn On Options switch is set to its **12 V** position, the A23+ is turned on and off only with an external +9 V to +12 V DC voltage. When the external voltage ceases the amp will turn off within a few seconds. The 12 V turn on trigger circuit in the A23+ requires a mere 5 mA from the 12 V trigger source.

Turn On Threshold

This knob sets the audio signal level required for the A23+ to automatically turn on when the Turn On Options switch is set to the Audio position. Fully counter-clockwise is the most sensitive setting and therefore is labeled "Quieter." Fully clockwise requires a higher audio signal voltage and is therefore labeled "Louder." In most systems the best results will be with the Turn On Threshold knob set at or toward the Quieter position. In some systems the A23+ might turn itself on if there is a transient noise in the AC power line, even when an audio signal is not present. Similarly, the A23+ might never shut off even after waiting more than 10 minutes. In this case, try rotating the knob toward the Louder position.

12 V In Jack

The A23+ 12 V input uses a 3.5 mm jack (mono). To use the 12 V trigger, insert the trigger wire plug into this jack and the plug at the wire's other end into your preamplifier's 12 V output jack. For your convenience we have included a 12 V trigger wire with mono 3.5 mm plugs at both ends. The A23+ 12 V trigger circuit draws a negligible 5 mA.

Note: if your preamplifier's 12 V trigger output is a terminal with + and – screws, you can cut the 3.5 mm plug off one end of the included trigger wire and attach the bare wires to these terminals. 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. The trigger plug tip is + (positive) and its sleeve – (negative).

12 V Loop Out Jack

The Trigger Out jack lets you loop or "daisy-chain" the incoming trigger voltage to an additional A23+ or other component(s). The total load on your triggering device's 12 V output is the sum of the trigger current drawn by each of the components you plan to loop together. Check the maximum capacity of your preamplifier's trigger output so you do not overload it by connecting too many power amplifiers. Typical triggering devices are rated to handle 50 mA to 100 mA.

3.5 mm vs. 2.5 mm jacks

Some other Parasound power amplifiers and preamplifiers might use a 2.5 mm "sub-mini" (mono) trigger jack. To use the A23+ trigger with products that use a 2.5 mm jack you will need a 3.5 mm to 2.5 mm mono adapter for one of the plugs on the included trigger wire.

Front Panel Operation

On-Off Button

Push once to turn on the A23+. When the A23+ is turned on the dim blue glow around the On-Off button will become brighter and the two blue channel indicators will illuminate. Push the button again to turn off the A23+. The front panel On-Off button will be disabled when the Turn On Options switch is set to Audio or 12 V.

Whenever the A23+ is turned on, the soft blue glow behind its On-Off button changes to red for a few seconds until its internal circuits have stabilized. Then the red glow is replaced by a brighter blue glow to indicate normal operation. If the glow remains red after turn on or while the amp is playing, it indicates activation of the A23+'s protection circuits and no sound will be heard from the speakers. The A23+ protects itself from external conditions such as excessive heat, load impedance that is too low, or a short-circuited speaker connection or wire. After you correct the fault, the A23+ will resume operation. If the A23+ remains in "protection mode" after it has cooled down and you've confirmed there are no external faults, it could indicate an internal problem. Please contact us at **www.parasound.com/help**.

Channel Indicators

When the two blue channel indicators are lit, the A23+ is operating normally. If one or both of the indicators does not light, even though the amp is turned on, there is a fault in your system. In the case of a fault first check that there is no short circuit with your speaker wire or speakers.

Hi Temp Indicator

This indicator is near the right side of the panel recess. It will glow red if any channel overheats. The On-Off button will also glow red if the A23+ overheats. If such a condition occurs you must provide for better ventilation around the amplifier or check speakers for faulty operation that is causing the A23+ to overheat.

Getting Help and Service

Start With Your Dealer

If something doesn't seem right, contact your Parasound Registered Dealer first. As the original owner, the dealer who sold you your A23+ is your first stop for help. Your dealer knows your system and can resolve most issues quickly.

Parasound Support

If your dealer can't resolve the issue, or you purchased directly from Parasound, visit www.parasound.com/help. Sign in and open Owner Support to ask a question or report an issue with your registered A23+; your model and serial number are already on file.

Warranty Service

- The A23+ is covered by Parasound's Limited Warranty for the original owner when purchased from Parasound or a Parasound Registered Dealer. Applicable warranty periods and complete terms are at parasound.com/pages/support.
- Never ship your unit anywhere without first obtaining a Return Material Authorization (RMA) at www.parasound.com/help. The RMA number must be clearly marked on the shipping label or the shipment will be refused.
- Ship only in the original carton with its molded foam inserts, and insure the shipment for its value. Damage caused by inadequate packaging is not covered by the warranty.
- Keep your original purchase receipt from Parasound or your Parasound Registered Dealer; it establishes your warranty. The Parasound warranty is not transferable.

Outside the USA

Warranty coverage for units purchased outside the USA is provided by the authorized Parasound distributor for your country.

Specifications

Power Output – Stereo Mode (0.06% THD)

160 watts x 2, 8 Ω both channels driven

240 watts x 2, 4 Ω both channels driven

Power Output – Bridged Mode (0.06% THD)

500 watts x 1, 8 Ω

Bridged 4 Ω operation is not recommended

All power measurements are at 120 VAC, RMS continuous power, full audio band (20 Hz – 20 kHz).

Total Harmonic Distortion (THD)

< 0.06 % at full power

< 0.03 % at typical listening levels

Dimensions

Width: 17-1/4" (437 mm)

Depth: 15-1/4" (388 mm)

Depth, with cables 17" (432 mm)

Height, with feet: 4-1/8" (105 mm)

Height, without feet: 3-1/2" (89 mm), 2U

Net Weight

27 lb. (12.2 kg)

Shipping Weight

36 lb (16.3 kg)

Power Requirement

Standby: <1 Watt

Idle (no music playing): 75 Watts

Typical Listening levels: 125 Watts

Maximum: 800 Watts

110 to 125 VAC, 60 Hz, or 220 to 250 VAC, 50 Hz

AC mains voltage is set on the rear panel

Full, current specifications for the A23+ are available at parasound.com/products/a23.

Specifications and features subject to change or improvement without notice.
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