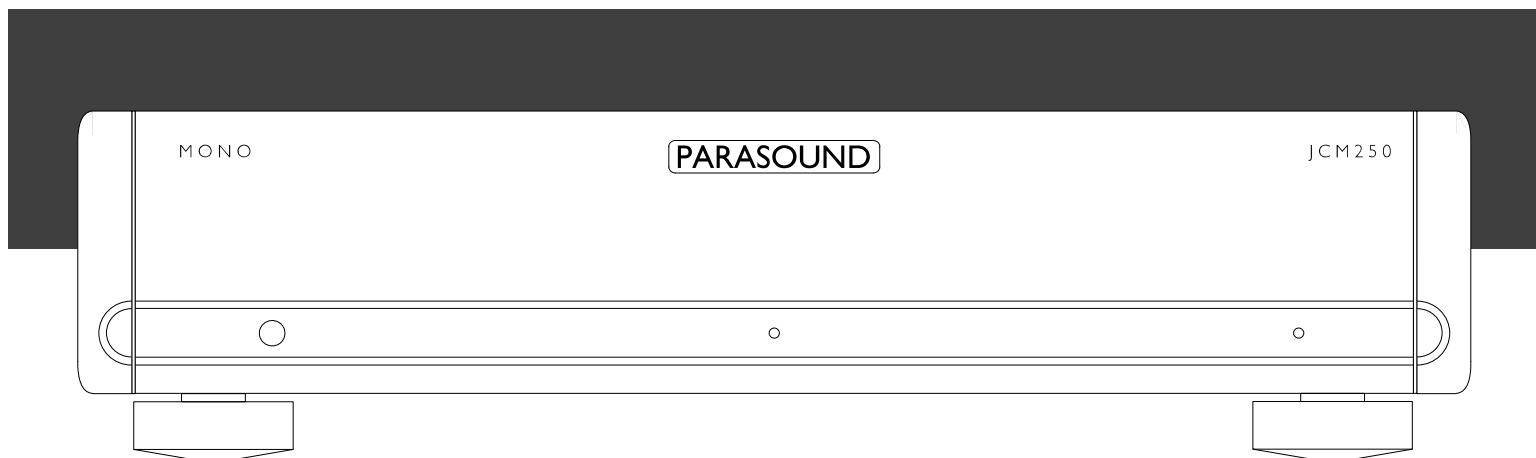


# JCM 250

Mono 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 this manual nearby in a safe location for future reference.

# 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:
  - If the power-supply cord or plug is damaged
  - If liquid has spilled 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.
  - If the product has been dropped or damaged in any way.
  - 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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## Keeping Records for Future Reference

Record the serial number located on the back panel or bottom of your JCM250 in the space below. Also note your Parasound dealer's name and telephone number. Your purchase receipt/bill of sale is required to determine if your JCM250 is eligible for Parasound warranty service. We recommend that you make an extra copy of your original purchase receipt/bill of sale and store it inside the JCM250 carton.

JCM250 Amplifier Serial #: \_\_\_\_\_ (7-digit number above the QR code on the box)

Parasound Dealer: \_\_\_\_\_

Date of Purchase: \_\_\_\_\_

## Important Warranty information

**There is no Parasound warranty for this unit if it was not purchased from an Authorized Parasound Dealer.** A list of Authorized Parasound Dealers and detailed warranty information is available at [www.parasound.com](http://www.parasound.com). A missing or altered serial number could indicate that this unit was re-sold by an unauthorized dealer or is stolen merchandise. If this unit is missing its serial number or the serial number has been altered, you should return it to your dealer immediately for a full refund.

Investigate any claims made by a dealer who is not listed on our web site very carefully. Statements an unauthorized dealer makes regarding their own coverage or third-party warranty coverage are undependable and misleading because **unauthorized dealers and warranty companies lack the capability to make repairs or arrange for repairs of Parasound equipment.**

# **Unpacking Your JCM250 & Placement Guidelines**

## **Unpacking Your JCM250**

Carefully remove your JCM250 from its shipping carton and locate the enclosed accessories: AC power cord, a 12V trigger wire for auto turn on, and rack-mounting brackets.

While you are unpacking your JCM250, inspect it thoroughly for possible shipping damage and tell your Parasound dealer immediately if you find any evidence of shipping damage. Note: Please save and store both the inner and outer cartons and, most especially, the foam packing inserts to protect the JCM250 if you must move it or ship it. You may wish to flatten the cardboard cartons to save room in storage after cutting the taped seams on the bottom flaps.

## **Placement Guidelines**

The JCM250 will be easier to use and will last longer if you follow these simple guidelines:

- The JCM250 should never be placed in a completely enclosed cabinet.
- Place the JCM250 on a surface that will adequately support its substantial weight.
- Use input and output cables that are long enough to leave some slack; that will enable you to pull the JCM250 out of a cabinet to check or to change connections without inadvertently disconnecting cables.
- Place your JCM250 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.
- Always position the JCM250 horizontally.
- The JCM250 should never be stacked directly above another power amplifier or directly below another component.
- Do not install the JCM250 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.

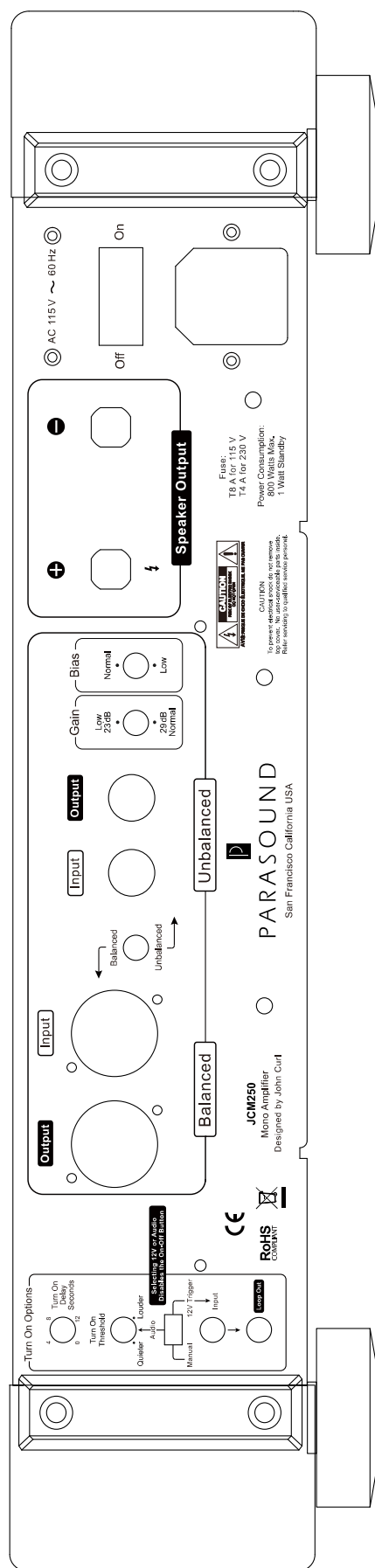
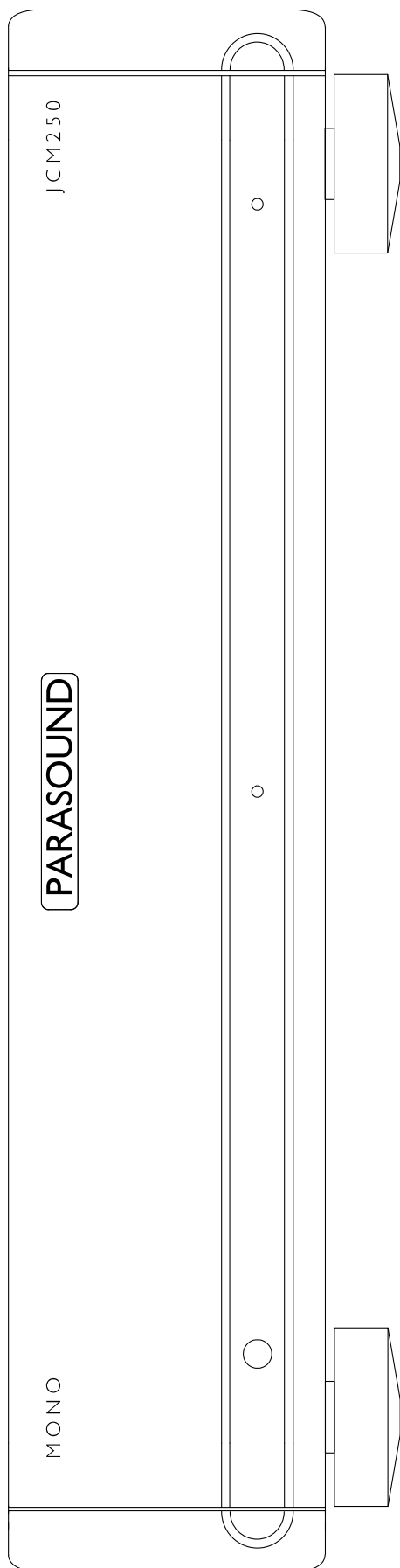
# **AC Mains Voltage (115V)**

## **Before Making Any Audio Connections**

Always turn off your JCM250 and disconnect the AC cord before making or changing any input, output, or trigger wire connections. Inserting or removing an input or output cable while the JCM250 and your preamp are turned on can result in a blast of sound that can damage your loudspeakers.

## **AC Power Cord**

The AC cord supplied with your JCM250 is a high-quality IEC type cord. Please connect it directly to an AC wall outlet or power conditioner that is always “live.” If possible, plug your JCM250 into the same AC outlet that your preamplifier is plugged into. If different AC outlets are used for the JCM250 and other components, (including a TV or video projector) the ground potential may be higher or lower between the outlets, resulting in audible hum.

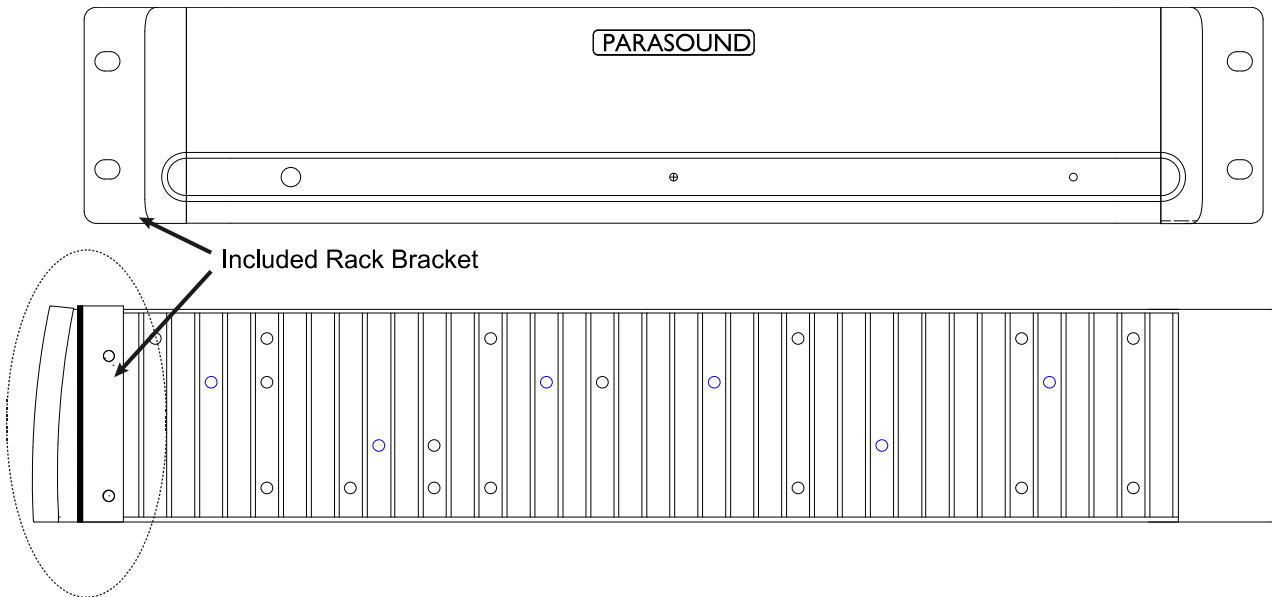


# Rack Mounting Your Parasound JCM250

To mount the JCM250 into a 19" wide equipment rack, you must first attach its two "L" shaped rack mount brackets (included). With its four feet removed, the JCM250 chassis and front panel height occupies two rack spaces (3.5" or 88.2 mm). You will also need to allow an additional 1/8" (3.2mm) or more below the JCM250 to allow for its bottom chassis screws when mounting other components below the JCM250. Since the JCM250 operates very warm, when rack mounting you must provide forced air cooling and/or set the Bias switch to low.

## **To attach the rack mount brackets:**

- Remove the three bolts from each side of the JCM250. These bolts are arranged vertically, behind its front panel and in front of its first heatsink fin.
- Line up the three holes on each bracket with the three holes on the JCM250 and reinsert the bolts.
- Make sure the bolts are tight because they will support the entire weight of the JCM250 in the equipment rack.



## **To secure the brackets to the rails of your equipment rack:**

Tighten each bolt just enough to keep the amplifier secure in the rack. This will avoid deforming the insulating shoulder washers. Eliminating metal-to-metal contact reduces the likelihood of creating a ground loop that might introduce hum into your system.

# **Rear Panel Controls & Audio Connections**

Always disconnect the AC cord to your JCM250 before making or changing any input, output, or trigger wire connections. Inserting or removing an input or output cable while the JCM250 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.

## **Bias Level Switch**

The Bias Level switch offers two bias settings for the output transistors. In its Normal (up) switch position, bias idle current is higher to perfectly match the characteristics of the JCM250's output devices. In its Low (down) position, bias idle current and class A operation are lowered to reduce heat output and power consumption.

With its Bias Level switch set to Normal, the JCM250 will run very warm and consume more AC power even when it is idling or playing music at low listening levels. If your JCM250 is well ventilated, you may find the Normal bias setting offers a sonic improvement. If your JCM250 is mounted in a cabinet, or ventilation is restricted in any way, we recommend you leave the Bias Level switch in the Low position.

Examples of when to use the Low Bias setting:

- If the JCM250 is getting too hot (if you cannot keep your hand on the heatsink for at least 5 seconds, it is too hot).
- The JCM250 is installed in a cabinet.
- The JCM250 is installed in a rack without forced air ventilation.
- Another component is placed on top of the JCM250.
- You wish to reduce energy consumption.
- Your room temperature is above 82°F (28°C).

## **Gain Switch**

The Gain switch has two positions: Low (23dB) and Normal (29dB). This switch would typically be left in the Normal position. If you have very high sensitivity speakers or your preamp already has very high gain, then you should use the Low setting.

Examples of when to use the Low (23dB) Gain setting:

- You have very high sensitivity speakers (typically above 96dB sensitivity).
- The volume control on your preamp ramps up too fast.
- You can hear some background hiss in your speakers.



# **Audio Input & Output Connections**

## **Balanced XLR Input Jacks**

In most systems balanced XLR connections will give you the best quality sound because of their ability to reject noise. Refer to the Balanced and Unbalanced Lines in the Technically Speaking section for additional information and why we recommend using balanced lines.

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 level increase.

## **Unbalanced RCA Input Jacks**

Use these inputs if your preamplifier does not have balanced XLR output connectors 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 purely 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 a surround processor.

## **Balanced XLR Pin Configuration**

The JCM250 XLR jacks conform to the industry standard of:

- Pin 1: Ground
- Pin 2: Positive (+)
- Pin 3: Negative (–)

## **XLR and RCA Output Jacks**

These Output jacks enable the incoming audio signal to pass along or “daisy chain” the incoming audio signal to an additional amplifier for bi-amping or for connecting a powered subwoofer. The XLR input signal is available at both the XLR and RCA Output jack. The XLR and RCA Output jacks are not affected by the Gain switch setting.

# **Speaker Connections**

## **Speaker Terminals**

The JCM250 has a single pair of speaker output terminals. The speaker terminals accept wires terminated with banana plugs, spade connectors up to 16mm wide or bare wire up to 8 AWG.

## **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 about a 1»2" (13 mm) length of bare wire. You can insert the stripped bare wire into the hole that goes vertically through each terminal's metal post. Before inserting the wire, twist its bare strands tightly so they are all contained within the speaker terminal, with no stray strands. 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 – speaker wire connections. Speaker wires are coded with color, printing, or a ridge on the insulation of one lead, 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 the sound quality.

## **Speaker Wire Length and Gauge (thickness)**

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 25 feet, use speaker wire with an AWG (gauge) of 14 or lower. The smaller the AWG number, the thicker the wire.

# Turn On Options Switch

The setting of the rear panel three position Turn On Options switch determines how the JCM250 turns on and off. Setting this switch to Audio or 12 V disables the JCM250's front panel On-Off button. There are three turn-on options:

**Manual:** When the Turn On Options switch is set to Manual the JCM250 is turned on and off manually only by pressing the On-Off button on its front panel every time you want to listen to music.

**Audio:** When the Turn On Options switch is set to Audio the JCM250 will be turned on automatically when an audio signal is present at either of its Input jacks. After the audio signal ceases the amplifier will remain on for approximately 8-10 minutes before shutting itself off. This prevents unintended turn-off during pauses in your music.

Note: The actual turn-off delay can vary from unit to unit. This is normal.

**12V Trigger:** When the Turn On Options switch is set to 12 V, the JCM250 is turned on and off only with an external +9 V to +12 V DC voltage. When the external 12 V signal ceases the amp will turn off within a few seconds. The 12 V turn on trigger circuit is opto-coupled and draws a mere 5mA.

## Turn On Delay Adjustment (all turn on modes)

You can delay the JCM250 turn on time, so it does not turn on at the same instant as your other components (or other JCM250s). This avoids AC power turn-on surges and brownouts that might trip power strips or house wiring circuit breakers. If you're fortunate enough to own more than two JCM250s, select a different delay time for each unit. Turn the delay knob to the desired delay time from 0 seconds (fully counterclockwise) to 12 Seconds (fully clockwise).

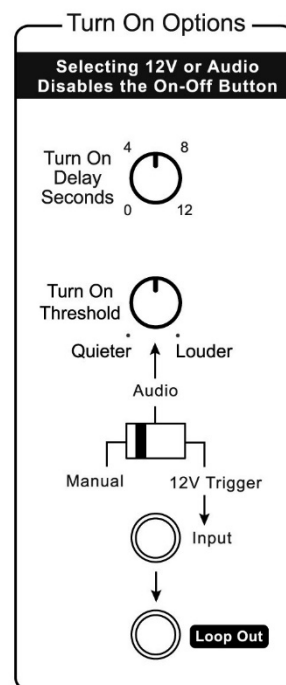
## Turn On Threshold Adjustment (audio turn on mode only)

This knob sets the audio signal level required for the JCM250 to automatically turn on when the Turn On Options switch is set to the Audio position. Fully counterclockwise is the most sensitive setting and requires the least audio signal voltage. It is therefore 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 close to the Quieter position. In some situations, the JCM250 might turn itself on if there is transient noise in your system, even when an audio signal is not present. Similarly, the JCM250 might never shut off after the music stops, even after waiting more than 10 minutes. In this case, try rotating the knob towards the Louder position.

## 12V Input Jack

The JCM250 12 V input is a 3.5 mm jack (mono). To use the 12 V trigger, insert the trigger wire plug into this jack and plug 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 JCM250 12 V trigger circuit draws a negligible 5 mA.

Note: If your preamplifier's 12 V trigger output is bare terminals with + and – screws terminal instead of a jack, 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 JCM250 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 preamp trigger outputs are rated to handle 50 mA to 100 mA.

## 3.5 mm and 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 JCM250 trigger with products that use a 2.5mm 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 the JCM250 on. Push the On-Off button again to turn the JCM250 off. The On-Off button will be disabled when the Turn On Options switch is set to Audio or 12 V. Whenever the JCM250 is turned on, the soft blue glow behind its On-Off button changes to red for a few seconds while its internal circuits stabilize. 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 JCM250’s protection circuits and no sound will be heard from the speakers.

The JCM250 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 JCM250 will resume operation. If the JCM250 remains in “protection mode” (with a red glow around the On-Off button) after it has cooled down and you have confirmed there are no external faults, it could indicate an internal problem. Please contact your Parasound dealer or [www.parasound.com/help](http://www.parasound.com/help).

## Channel Indicator

When the blue channel indicator is lit, the JCM250 is operating normally. If the indicator 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 front panel recess. It will glow red if the JCM250 overheats. The On-Off button will also glow red if the JCM250 overheats. If such a condition occurs you must provide better ventilation around the amplifier or check the speakers for faulty operation that is causing the JCM250 to overheat. You might find you need to set the Bias switch to the Low setting to reduce heat output.

# Are You Having Difficulty?

Repair or Service - Call your Parasound dealer first. If the dealer can't help you with your problem, fill out the form at [Parasound.com/help](http://Parasound.com/help) and we'll get back to you promptly. You will need to supply a copy of your purchase receipt, since this document establishes the validity of this unit's warranty. Support and warranty repairs are only performed by Parasound or Parasound Authorized Warranty Centers when your purchase receipt is from a Parasound Authorized Dealer or Parasound Authorized Seller.

If we determine that your JCM250 should be returned to an Authorized Parasound Warranty Center for inspection and possible servicing, we will provide shipping instructions to begin the RMA process.

## **Before You Return Any Unit to Parasound for Service**

Before you send your unit to Parasound, you will need to obtain a specific Return Material Authorization (RMA) number and shipping instructions from Parasound's Technical Department. The RMA number must be clearly marked on the shipping label. Use the original factory packing materials and arrange adequate insurance to cover its value.

## **Shipments Will Be Refused by Parasound Under the Following Conditions:**

- Unit was sent without the Parasound-assigned RMA number marked on the label.
- Unit was sent in an unsuitable shipping carton and/or without packing inserts and was likely to have been damaged in transit. **Wrapping the JCM250 with bubble wrap will not protect it during shipment.**
- Unit was shipped collect for shipping charges. We do not accept collect shipments.
- Unit was shipped via the US Postal Service. We do not accept USPS shipments.
- Unit was sent to an address other than the address instructed by our Technical Department on the RMA authorization.

## **Warranty Repair-USA**

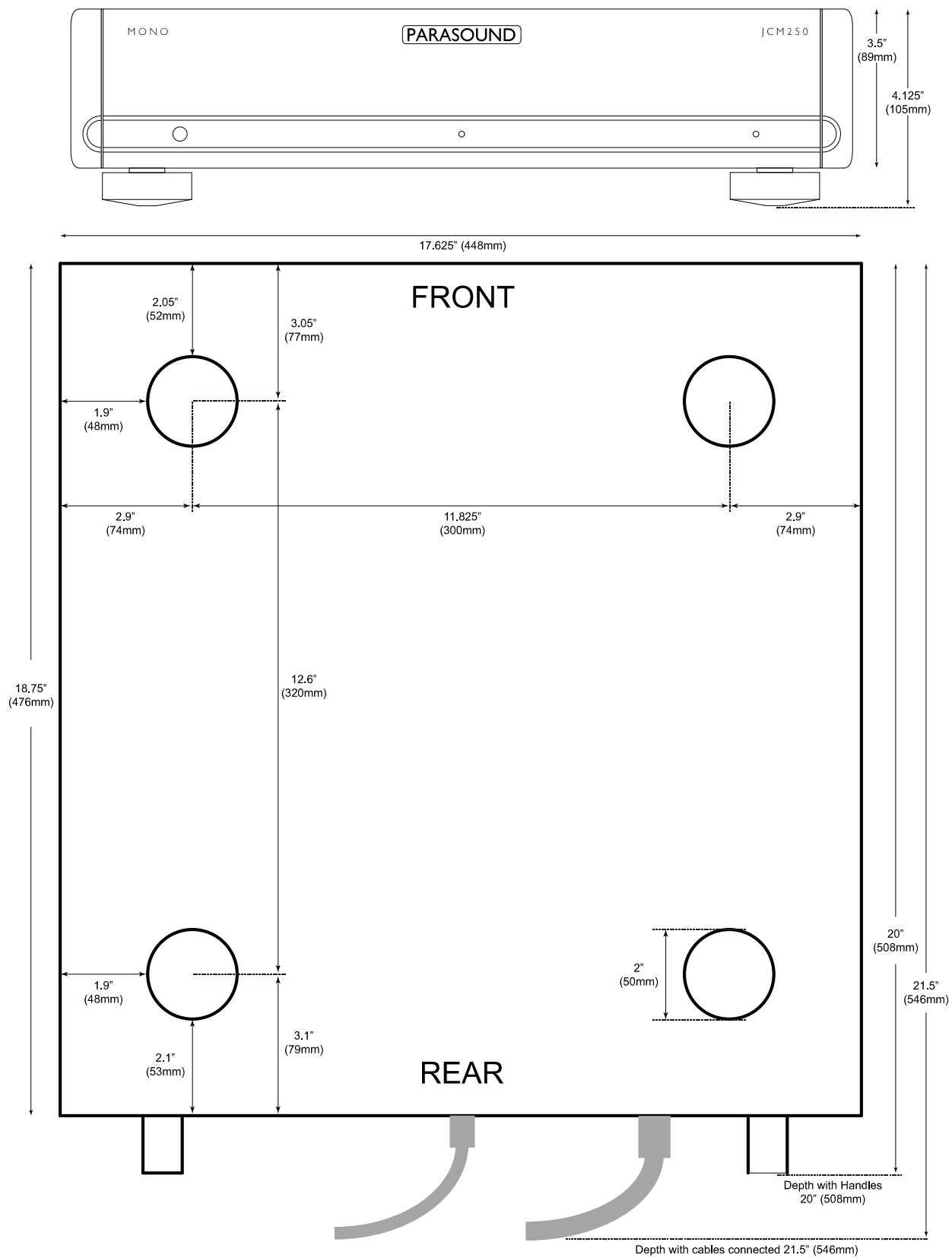
Please read the Parasound Limited Warranty carefully to understand the applicable rights and limitations. This section provides instructions for obtaining repairs, both for units covered under the Parasound Limited Warranty and for units or situations which are outside the Warranty. The complete warranty can be found at [www.parasound.com](http://www.parasound.com).

Unit is not eligible for repair under the terms of the Parasound warranty if (see Warranty for full exclusion list)

- Unit was not purchased from a Parasound Authorized Dealer.
- You do not have the original bill of sale receipt from the Parasound Authorized Dealer.
- You are not the original owner. The Parasound warranty is not transferable.
- Unit original serial number was removed, modified, or defaced.
- Unit shows evidence of abuse and/or misuse.
- Unit was altered in any way.
- A prior repair was attempted by an unauthorized repair station.

Warranty for products purchased outside the USA: Please refer to [www.parasound.com](http://www.parasound.com)

## Chassis Illustration and Dimensions



# **Specifications**

Specifications and features subject to change or improvement without notice.

## **Power Output**

250 watts@8  $\Omega$

450 watts@4  $\Omega$

800 watts @2  $\Omega$

Power measurements are with 120 VAC:  
0.15% THD, RMS continuous power,  
full audio band (20 Hz - 20 kHz)

## **Class A Power Output**

8 Watts, bias set to high

4 Watts, bias set to low

## **Current Capacity**

100 amps, peak

## **Slew Rate**

> 130 volts per microsecond

## **Frequency Response**

2 Hz - 110 kHz, +0/-2 dB

20 Hz - 20 kHz, +0/-0.25 dB

## **Total Harmonic Distortion (THD)**

< 0.15 % at full power

< 0.02 % at typical listening levels

## **IM Distortion**

< 0.03 %

## **TIM**

Unmeasurable

## **Input Impedance**

Unbalanced: 50 k $\Omega$

Balanced: 100 k $\Omega$ , (50 k $\Omega$  per leg)

## **S/N Ratio, inputs shorted**

>120 dB, IHF A-weighted, bias set to Low

>118 dB, IHF A-weighted, bias set to High

>110 dB, Unweighted, bias set to Low

>108 dB, Unweighted, bias set to High

## **Total Gain**

29 dB (Gain switch set to normal)

23 dB (Gain switch set to low)

## **Input Sensitivity for 28.28V into 8 $\Omega$**

Unbalanced: 1V

Balanced: 1V per leg

(Gain switch set to normal)

## **DC Trigger Requirements**

+9 Vdc to +12 Vdc, 5 mA

## **Audio Trigger Requirement**

2.5 mV - 10 mV

## **XLR Pin Identification**

1 = Ground (Shield)

2 = Positive

3 = Negative (Return)

## **Dimensions**

Width: 17.25" (437 mm)

Height without feet: 3.5" (89 mm), 2U

Height with feet: 4.125" (105 mm)

Depth: 20" (508 mm)

Depth with cables: 21.5" (546 mm)

## **Net Weight**

42lbs (19.1 kg)

## **Shipping Weight**

50lbs (22.6 kg)

## **Power Requirement**

Standby:<1 Watt

Idle (bias set to low): 125 Watts

Idle (bias set to high): 240 Watts

Typical Listening levels: 300 Watts

Maximum: 800 Watts

