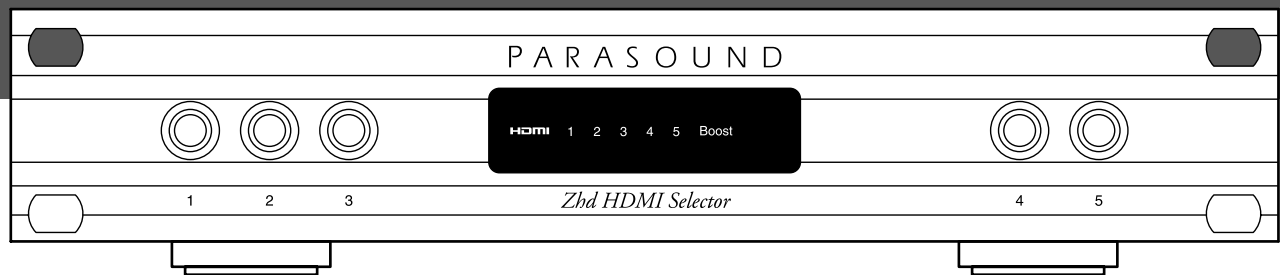


# PARASOUND



# Zhd

## HDMI Selector

OWNER'S GUIDE





## 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 and stoves.

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**Applications**

The Zhd is designed to select up to five HDMI sources and route them to a single HDMI output. It switches the entire HDMI signal, including video, audio and the critical encryption signal for copyright protection. It does not decode HDMI signals. It does not alter or degrade the HDMI signal in any way. The Zhd also includes a switchable HDMI boost function to increase the strength of the HDMI output when it is attached to a long HDMI cable run. The Zhd is fully HDCP compliant. You can control the Zhd by the front panel, IR remote, RS-232 or automatically, by linking it to a Parasound 7.1 Channel Surround Sound Controller (Halo C 1, C 2, or NewClassic Model 7100).

The Zhd does not have to be visible or accessible unless you wish to operate it manually with its front panel buttons.

*Please read this manual thoroughly before you begin installation.*

**Unpacking**

Carefully unpack your Zhd and these accessories:

- Detachable AC power cord
- Remote control handset with two AAA batteries
- RS-232 control cable with DB9 connectors (for use with Parasound 7.1 Channel Surround Controllers only; not for use with other Parasound models or house controllers such as Crestron or AMX)

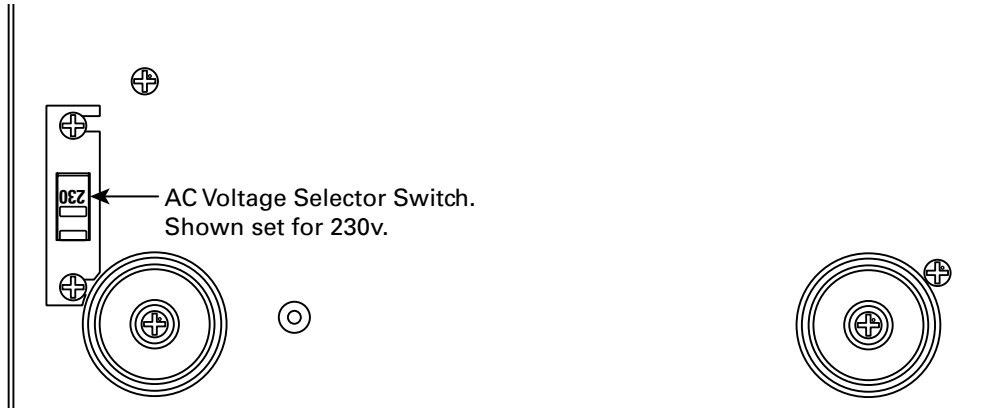
Please inspect the unit now and contact your Parasound Dealer promptly if you see evidence of shipping damage. Save the carton and packing inserts in case you move or in the event you need to ship your Zhd for repair. Before you proceed, locate the serial number on the rear panel or underside of the unit and record it here for future reference:

**OWNERSHIP REFERENCE INFORMATION**

Parasound Serial Number:	<input type="text"/>
Date of Purchase:	<input type="text"/> / <input type="text"/> / <input type="text"/>
Name of Dealer:	<input type="text"/>
Dealer Street Address:	<input type="text"/>
Dealer Phone:	( <input type="text"/> ) - <input type="text"/>

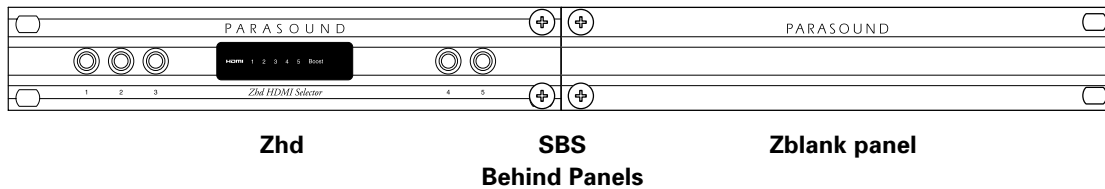
## 115v - 230v AC Voltage Selector Switch

This switch is found on the chassis bottom. The 115V position of this switch is correct for North America; most other countries require setting it to 230V. Make sure the 115/230V switch is set for the correct AC line (mains) voltage before you connect the Zhd's power cord and before you install it. The unit may be seriously damaged if this switch is set incorrectly.



## Rack Mounting

The Zhd occupies only half the width of a single rack space in a standard 19" equipment rack. For rack mounting, you can fasten it to another Parasound Z Custom model by using the Parasound SBS (Side-by-Side) mounting kit. You can also mount a single Zhd in the rack with the accessory Zblank panel. The SBS includes four rack mount bolts plus four pairs of plastic "shoulder washers." The washers are important because they insulate the Zhd front panel (chassis) from the metal equipment rack and from the four mounting bolts. Locate these washers on both sides of the front panel before the mounting bolts are screwed into the rack rail.



## Connection Precautions

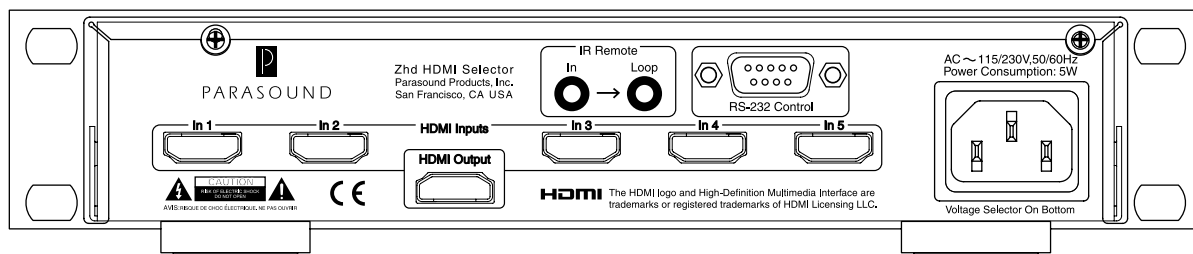
Disconnect the AC cord before making or changing any connections.

Make sure there is no strain or tension on any wires that could cause them to pull loose.

**Note:** HDMI connections in particular are not as mechanically robust as many others. It is easier for an HDMI plug to pull out of an HDMI jack, so we recommend you anchor the HDMI cables so their plugs are gently pushed against the Zhd HDMI jacks.

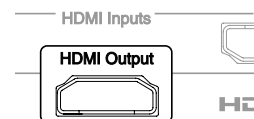
## HDMI In (Input) 1-5 Jacks

Attach the HDMI cable from your sources to the HDMI Input jacks. All five inputs have identical characteristics.



## HDMI Output Jack

Attach the HDMI output jack to your HDMI-equipped TV or display device.



## IR Remote In Jack

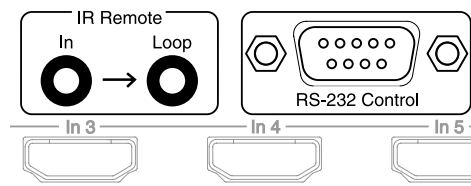
Your Zhd accepts the infrared signal of any popular infrared repeater system to facilitate remote control operation from another room or when it is installed within a closed cabinet.

This connector is a 1/8" (3.5 mm) two conductor mini jack; its center conductor (plug tip) is + and its outer conductor (plug sleeve) is -.

**Note:** The Zhd IR Remote input does not require an amplified IR connecting block, unlike Parasound Surround Controllers.

## IR Remote Loop Jack

The IR Remote Loop jack passes along the signal received at the IR Remote In jack to the next component which is IR controlled. It is provided as a courtesy to make your installation easier and neater.



**HDMI** The HDMI logo and High-Definition Multimedia Interface trademarks or registered trademarks of HDMI Licensing I

## RS-232 Control Port

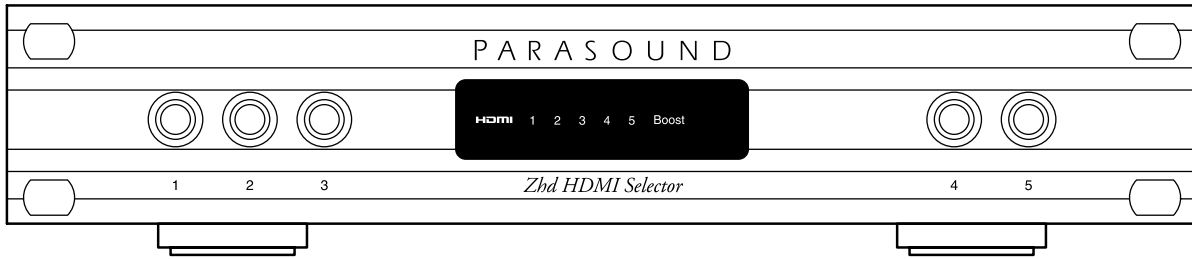
This is used for linking your Zhd to your Parasound 7.1 Channel Surround Controller, a computer, or a house control system, such as Crestron or AMX. This is a two-way communication port with full unsolicited feedback. The complete RS-232 protocol can be found on our website at [www.parasound.com](http://www.parasound.com).

**Note:** You must use only the "null modem" (crossover) cable supplied with the Zhd or an equivalent cable to link to a Parasound Surround 7.1 Channel Surround Controller. You may only use a "straight-through" (non-crossover) cable with a computer or house control system such as Crestron or AMX. The Zhd is not supplied with a straight-through cable.

## AC Inlet

Double check that Zhd's AC Voltage switch is set correctly for the AC line (mains) voltage in your region *before* before you install the unit and before you connect its power cord.

**Note:** The AC power source should be constant (unswitched) so the Zhd is always on and ready to pass the HDMI signal on to your TV.



## Operating the Zhd – Manual Operation

The Zhd power is always on and consumes very little energy, so there is no need for a power on/off button. The HDMI logo is illuminated green to indicate it is plugged into a live AC outlet.

### Inputs 1-5 Select Buttons

Press the button which corresponds to the HDMI source you wish to view. The selected input is indicated by the numbers in the display window.

### HDMI Boost Setup

The Zhd can modify the characteristics of the HDMI output for long cable runs between the Zhd output to your TV or display device. To activate the HDMI boost feature, press and hold the Input 1 button and then press the Input 5 button simultaneously. Boost will illuminate green in the Zhd display window when the HDMI boost is turned on. To de-activate the Boost feature, simply repeat the same steps.

HDMI boost feature may be necessary to preserve the HDMI signal if the HDMI cable run from the Zhd's output to your TV is longer than 15 feet (5 meters). The need or benefit of using HDMI boost will also depend on the quality of your HDMI cable and your HDMI source and receiving components. You may need to experiment to determine if your particular setup benefits from the boost feature. HDMI Boost selection is a one-time setup operation which you won't need to change after your initial setup.

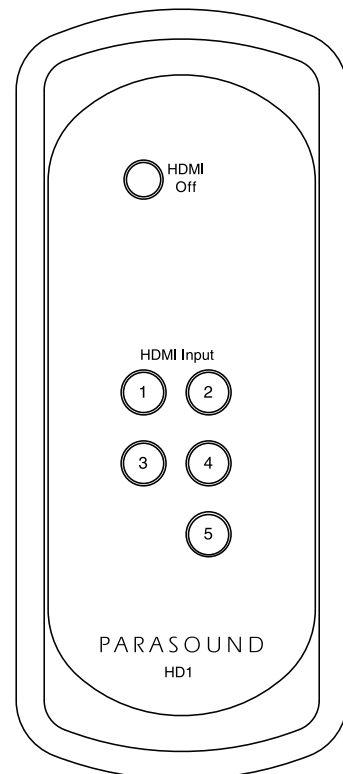
**Note:** You may activate or de-activate HDMI Boost only with the Input 1 and 5 buttons on the front panel, not from the remote.

## Operating the Zhd – Remote Control

The Zhd's remote control has a range of approximately 20 - 25 feet (6 - 7.5 meters). Use only AAA alkaline batteries in the handset and insert them according to the + and - polarity markings in the battery compartment.

### HDMI Off Button

Pressing the HDMI Off button on the remote turns off the HDMI output. It is equivalent to an audio mute, but for HDMI video and audio. You may wish to temporarily turn off the HDMI output, removing the image on your TV or video display. This could be especially useful as it allows your video display to go into its power-saving mode. Additionally, if your TV is equipped with auto signal-sensing, turning off the Zhd's HDMI output will enable you to switch your TV to a different input when it would otherwise remain on the HDMI input with the live signal.



**Automatic Input Select when used with a Parasound Surround Controller**

The Zhd inputs are selected automatically if its RS-232 Control port is connected to the RS-232 port of a Parasound 7.1 Channel Surround Controller (C 1, C 2, 7100). Selecting the Video 1 source on the C 1 or C 2 ("DVD" source on the 7100) will instruct the Zhd to select HDMI Input 1. Selecting the Video 2 source on the C 1 or C 2 ("SAT" source on the 7100) will instruct the Zhd to select HDMI Input 2, and so on. To use the automatic feature, connect the supplied RS-232 serial cable between your Parasound controller and the Zhd. The supplied cable or equivalent "null-modem" (crossover) cable must be used as a "straight-through" (non-crossover) cable will not work. The Zhd will switch its HDMI input according to the source you have selected on your Parasound 7.1 Channel Surround Controller, according to this chart:

<b>C 1 and C 2</b>	<b>7100</b>	<b>HDMI Input</b>
Video 1	DVD	1
Video 2	SAT	2
Video 3	VCR	3
Video 4	IN 4	4
Video 5	IN 5	5
Video 6	IN 6	No control

Remember, you might have renamed the source input on your C 1, C 2 or 7100.

**Note:** If you require a different input selection from above you must operate the Zhd manually or program an IR macro into your system's master remote.

**Note for Crestron or AMX users:** If the RS-232 port on your Parasound 7.1 Channel Surround Controller is already connected to a Crestron or AMX type house controller you can not use this automatic selection feature. In this case you must run an additional serial cable from your house controller to the Zhd and program the house controller according to the Zhd's RS-232 codes, which are supplied with the unit and also available at our website, [www.parasound.com](http://www.parasound.com).

**Programming Zhd IR Codes**

You may program the Zhd's RC-5 IR codes into another remote handset, such as Pronto, or a house control system which uses IR, rather than RS-232. The RC-5 code table is included on a separate sheet and is also available at our website, [www.parasound.com](http://www.parasound.com).



## Are You Having Difficulty?

### Front panel HDMI is not illuminated

- Make sure the AC power cord plug is firmly seated in the AC receptacle.
- Is the AC outlet where the Zhd is plugged in live?

### No response to the remote control

- Remote handset is too far away. You need to use an IR repeater to extend its reach.
- Batteries are too weak and should be replaced.
- The IR receiver on the Zhd front panel is blocked.
- Your Plasma TV is too close to the Zhd and interfering with its IR receiver operation. Move Zhd further away or use a plasma proof IR repeater system.

### Zhd does not automatically switch inputs when linked to a Parasound controller

- Serial (RS-232) cable must be a "null modem" (crossover) type cable.

### Video image is not clear or pixels are dropping out

- HDMI cable is defective and/or the cable run is too long.
- Try turning the boost feature on and off to see which looks better.
- Your HDMI interconnect cables are not certified by HDMI, replace with HDMI-certified cables.

### Video image is unclear with boost turned on

- The boost is only for long cable runs (typically over 15 feet, or about 5 meters). Switch boost off by pressing and holding both the Input 1 button and the Input 5 button simultaneously. The Boost indicator is only illuminated when boost is turned on.

**Note:** Successful viewing and listening with HDMI depends on the HDMI capabilities of your HDMI sources, HDMI TV and HDMI cable. You should not expect good results unless all of your HDMI products and HDMI connectors are HDMI certified. There is more information about HDMI on our website [www.parasound.com](http://www.parasound.com)

## Warranty Repair Information

Call your Parasound dealer first. If the dealer can't help you with your problem we encourage you to call Parasound's Technical Service Department, toll-free at **1-866-770-8324**, Monday – Friday, 8am – 4pm Pacific time. We can suggest other diagnostic tests you can easily perform. If we determine that your Zhd should be returned to Parasound or an Authorized Parasound Warranty Center for inspection and possible servicing, we will provide the location of a warranty center near you or shipping instructions for the unit's return to Parasound.

## Before You Return Any Unit to Parasound for Service

Before you send your unit to Parasound, you will need to obtain a specific Return Authorization (RA) number and shipping instructions from Parasound's Technical Department. The RA number must be clearly marked on the outer carton. Use the original factory packing materials and arrange adequate insurance to cover its value. You must include a copy of your purchase receipt, since this document establishes the validity of this unit's warranty. 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 Reseller.

### Units Will Be Refused by Parasound Under the Following Conditions:

1. Unit was sent without the Parasound-assigned RA number marked on the carton.
2. Unit was sent in an unsuitable shipping carton, likely to have been damaged in transit.
3. Unit has inadequate packing, unit likely to have been damaged in transit.
4. Unit was shipped collect for shipping charges. We do not accept collect shipments.
5. Unit was shipped via the US Postal Service.
6. Unit was sent to an address other than the address instructed by our Technical Department.

**Note:** The shipping address is not the same as Parasound's office address.

**Warranty Repair (cont'd)**

Read your accompanying 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.

**Unit is not eligible for repair under the terms of the Parasound warranty if:**

1. Unit was not purchased from a Parasound Authorized Dealer or Parasound Authorized Reseller.
2. You are not the original owner. The Parasound warranty is not transferable.
3. Unit's serial number was removed, modified, or defaced.
4. Unit shows evidence of abuse and/or misuse.
5. Unit was modified in any way.
6. A prior repair was attempted by an unauthorized repair station.

**AC Power Requirement**

110 – 120 V / 220 -240 V, 50 – 60 Hz

5 watts

**Dimensions**

9½" Wide

10" Deep with connectors

2" High with feet, 1¾" panel only

241 x 254 x 50mm, 44.1mm panel only

**Net Weight**

3.6 lbs / 1.7 Kg

**Rack Mount Accessory**

May be Purchased Separately

SBS: Bracket and bolts to attach any two Z Custom units side-by-side in a standard 19" equipment rack.

Zblank: 9½" x 1¾" blank panel, required to mount a single Zhd unit;  
Zblank kit includes one SBS.

Specifications and features subject to change or improvement without notice.



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We invite you to visit [www.parasound.com](http://www.parasound.com) for the most up-to-date information on your unit and to find out about other Parasound products. Learn why Parasound has been a quality and value favorite of magazine reviewers, sound professionals and listeners like you since we were founded in 1981.



PARASOUND®

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