HALO
by
PARASOUND

Integrated Amplifier

PARASOUND

AUX   Bass   Treble   Tone   Input   Sub Level   Balance

On-Off   AUX   1   2   3   4   5   Phono   Opt   Coax   USB   Bypass   Mute

Halo Integrated ™

2.1 Channel Integrated Amplifier and DAC

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.

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 Integrated is an advanced 2.1 channel integrated amplifier that has been designed for the highest performance for serious two channel music listening and ease of integration with a surround sound system. The Halo Integrated is built to the 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. Because your new Halo Integrated amplifier performs at a higher level of sonic performance than you may have expected we encourage you to read this entire manual to maximize your enjoyment. We wish you many years of listening enjoyment.

-The Parasound Staff

Keeping Records for Future Reference

Record the serial number located on the back panel or bottom of your Halo Integrated 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 Halo Integrated 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 Halo Integrated's carton.

Halo Integrated Amplifier Serial #: _____ (5 digit number below the bar code)

Parasound Dealer: _____

Parasound Dealer Phone Number: _____

Date of Purchase: _____

Important Warranty information

There is no Parasound warranty for this unit if it was not purchased from an Authorized Parasound Dealer. Investigate warranty coverage statements made by an _unauthorized_ dealer very carefully, as you will need to depend entirely upon your dealer, and NOT upon Parasound. Unauthorized dealers lack the capability to make repairs or arrange for repairs of Parasound equipment. A list of Authorized Parasound Dealers and detailed warranty information is available at **www.parasound.com** or you can call **415-397-7100** between 9:00 am and 4 pm Pacific time. 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.

Unpacking Your Halo Integrated & Placement Guidelines

Unpacking Your Halo Integrated
Carefully remove your Halo Integrated from its shipping carton and locate the enclosed accessories:
- AC power cord
- Two 12V trigger wires, one with mono 3.5mm mini plugs, one with a mono 2.5mm sub-mini plug and a mono 3.5mm mini plug
- Remote Control with two AA batteries
- USB A to USB B cable for music playback from a computer
- Stereo audio cable with stereo 3.5mm mini plugs for using the front panel AUX input

While you are unpacking your Halo Integrated, 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 Halo Integrated's original packing.

Note: **The Halo Integrated should be shipped only in its original carton set and foam packing inserts.** Please save and store both the inner and outer cartons and, most especially, the foam packing inserts to protect the Halo Integrated if you have to 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 Halo Integrated will be easier to use and will last longer if you follow these simple guidelines:
- Use input and output cables that are long enough to leave some slack; that will enable you to pull the Halo Integrated out of a cabinet to check or to change connections without inadvertently disconnecting cables.
- Place your Halo Integrated where you can route input and output signal cables as far as possible from any AC cords.
- Where signal cables must cross AC cords they should do so only at a 90° right angle.

Ventilation Requirements
- Always position the Halo Integrated horizontally.
- The Halo Integrated should not be stacked on top of a power amplifier.
- The Halo Integrated should not be placed in a completely enclosed cabinet.

Rack Mounting your Halo Integrated

With its four feet removed, the Halo Integrated's front panel height occupies three rack spaces: 5.25" or 133mm. (A single standard rack space occupies 1.75" or 44.5mm vertical height.) For mounting in a standard 19" equipment rack, you must use the Parasound HRA 3 rack mount kit (purchased separately). The HRA 3 kit includes four bolts and eight plastic washers with raised "shoulders." Slide one washer onto each mounting bolt with its raised shoulder pointing toward the panel hole. Insert the bolt through the hole and slide the other washer on the bolt with its raised shoulder facing the rear side of the panel. The washers will sandwich the Halo Integrated panel and the four mounting bolts to prevent metal-to-metal contact between the Halo Integrated chassis, the equipment rack, and the other components mounted in the rack.

Note: Because of its high bias Class-A/AB design this amp can get very warm, even when no music is playing. At least 4" (or 10cm) of free space must be left above the unit. Other heat-producing components should not be positioned directly beneath the Halo Integrated.

Warning: Do not put the screws for the feet back into the bottom of the Halo Integrated without the feet. If you inserts the screws without the feet they could touch internal electrical circuitry and cause a short circuit and damage to the amp.
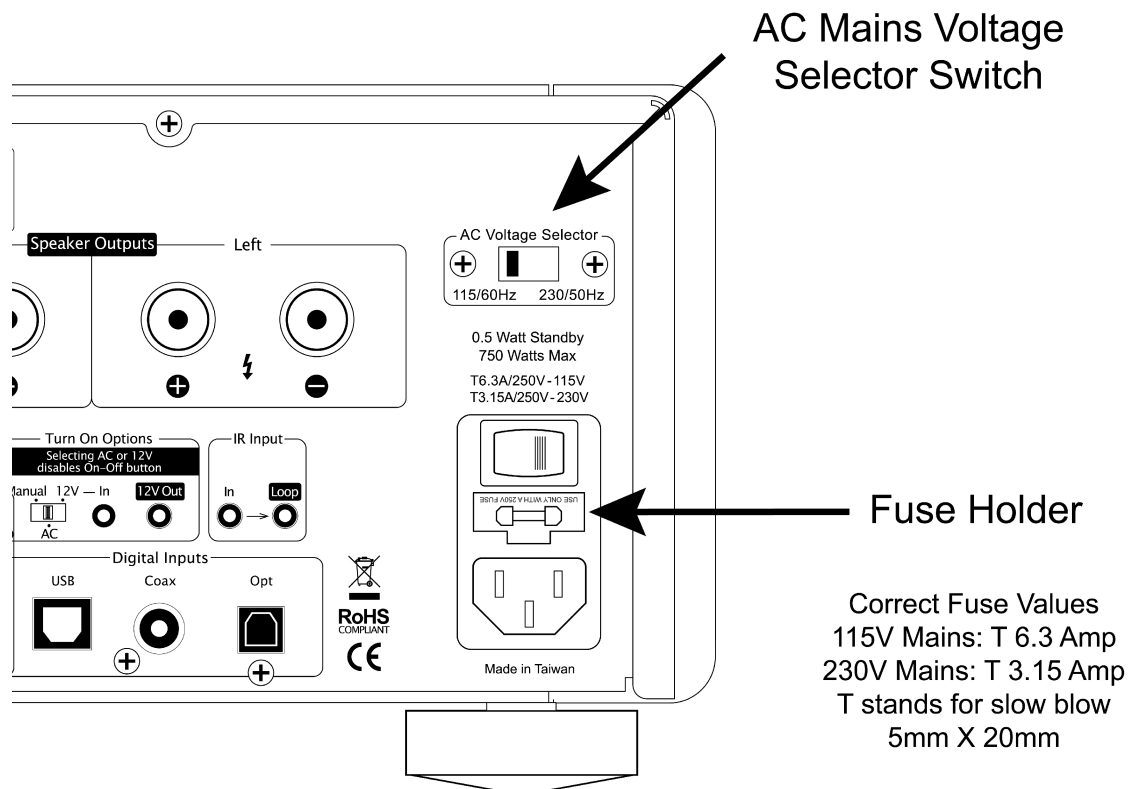
AC Mains Voltage Selection and Fuse

***Check the 115 V/230 V Voltage switch before plugging in
the Halo Integrated's AC mains power cord!***

**Make sure the 115 V/230 V Voltage Selector switch on the Halo Integrated's back panel is set
for the correct AC line (mains) voltage *before* you plug in the power cord. It can be
seriously damaged if this switch is set for the wrong AC mains voltage.**

In the 115 V position the Halo Integrated can safely operate with AC Line voltages between 110 V-
125 V which is correct for North America, including Mexico, and also in 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 Halo Integrated can operate safely with AC line voltages between 220 V-250
V. If the AC Voltage Selector is changed the mains fuse value must also be changed.

**Note: A Halo Integrated that has been damaged by connection to the incorrect
AC mains voltage is not covered by the Parasound warranty.**

AC Mains Voltage
Selector Switch

Speaker Outputs   Left

AC Voltage Selector

115/60Hz   230/50Hz

0.5 Watt Standby
750 Watts Max

T6.3A/250V - 115V
T3.15A/250V - 230V

Turn On Options   IR Input

Selecting AC or 12V
disables On-Off button

Manual 12V — In   12V Out   In   Loop

AC

Digital Inputs

USB   Coax   Opt

RoHS
COMPLIANT

CE

Made in Taiwan

USE ONLY A 250V FUSE

Fuse Holder

Correct Fuse Values
115V Mains: T 6.3 Amp
230V Mains: T 3.15 Amp
T stands for slow blow
5mm X 20mm

Analog Audio Input Connections

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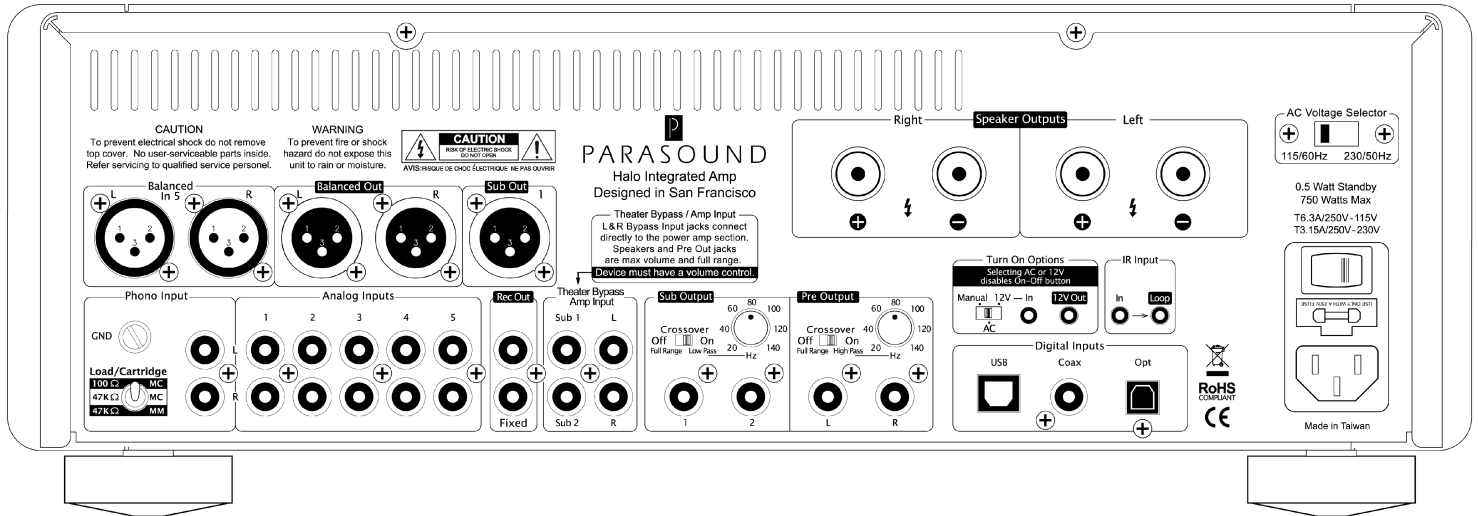
Phono Input

The Halo Integrated is equipped with a high quality phono stage. If you wish to connect a turntable, set the Load/Cartridge switch to MM (moving magnet) or MC (100   or 47k moving coil), depending on your cartridge type. Select MM if you are not sure which type of cartridge you have. If you use the MC setting with an MM cartridge the volume level will be very high and distorted.

> **Note:** Only a turntable can be connected to the Phono input.

Phono Load/Cartridge Switch

The Phono input has a three position load/cartridge selector switch. Select the switch position that matches your turntable cartridge type. We recommend that you contact the cartridge manufacturer if you are unsure which setting is best for your equipment. You may also try all three settings and use the setting which sounds the best in your system and listening room.
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- **MM** is for moving magnet cartridges. It provides a 47k ohm load and the appropriate gain for all MM cartridges. This is the most common cartridge type.

- **MC 100**   is for most moving coil cartridges. It provides the higher gain required for even very low output MC cartridges and a 100 ohm load that is ideal for the majority of MC cartridges.

- **MC 47k**   provides the appropriate gain for MC cartridges with an alternative 47k ohm load. You can try both the 100   and 47k   settings to see which sounds best in your system. The MC 47k   setting is also the load which Soundsmith™ and Grado™ recommend for their MI (moving iron) cartridges.

> **Note:** If your turntable won't reach adequate volume, or if it plays too loud, you have selected the incorrect cartridge type. Don't forget to connect the ground wire from your turntable to the Phono GND (ground) terminal on the Halo Integrated.

RCA line level Input Jacks (inputs 1-5)

Source inputs 1–5 all have the same input sensitivity and input impedance and they are compatible with any typical analog line level source.

> **Note:** Input 5 is shared with the XLR balanced input connectors, therefore the RCA and XLR jacks for input 5 should not be connected at the same time.

XLR Balanced Input (input 5)

Input 5 also uses balanced XLR type jacks. Use this input to connect an analog source which has balanced XLR outputs. A balanced line provides superior hum and noise cancellation, especially for long cable runs.

> **Note:** Input 5 is shared with the XLR balanced input, therefore the RCA and XLR jacks for Input 5 should not be connected at the same time.

Front Panel Aux Input

For your convenience there is an input jack on the front panel for a portable MP3 player or mobile phone. Connect the included cable with 3.5 mm stereo plugs between your portable player or phone's headphone jack and the Halo Integrated's Aux input jack. The Aux input has an additional gain stage that boosts the input signal by 12 dB so that the volume level remains consistent when you select your other audio sources. For the best result set your portable player or phone's volume to at least 75% of its maximum level.

> **Note:** If you connect a component other than a portable MP3 player or phone to the Aux Input jack, the volume level will probably be too high and likely distorted.

Theater Bypass / Amp Input

The Halo Integrated's Bypass/Amp input makes it suitable for both the highest quality stereo reproduction and for powering the L and R channels in a surround sound system. This unique feature benefits your system in a number of ways. It will improve the performance of your left and right speakers in a surround sound system because the power amp built into the Halo Integrated is superior to any receiver's amp. This will also relieve your receiver of the burden of driving the left and right speakers so that more power is available to drive the center and surround channels. This feature also enables your subwoofer(s) to operate with stereo sources and the sub channel(s) in your surround sound system.

**Note: In order to use the Halo Integrated's Theater Bypass function
your surround sound receiver must have preamp output jacks.**

How it Works

The Halo Integrated Theater Bypass function routes the incoming L and R (front) channels from your surround receiver's (or processor's) L and R pre out jacks directly to the L and R inputs of its power amp stage, bypassing the preamp stage. When the Halo Integrated is connected this way it functions as a pure power amplifier.

The subwoofer output(s) from your surround receiver are routed directly from the Integrated's Bypass Sub In jacks to its Sub Output jacks. When you select the Bypass input the Halo Integrated preamp circuits and controls are totally out of the signal path.

Note: The Halo Integrated must be turned on for the balanced XLR
outputs to function for the Bypass Input. This is because the XLR
balanced outputs require active driver circuitry.

All controls are removed from the Bypass signal path:

- *Adjusting the Halo Integrated's Volume knob or remote control volume buttons will not change the volume level of the Bypass input.*
- *The Bass and Treble Tone controls do not function and frequency response is flat, regardless of how these controls are adjusted.*
- *The Left-Right Balance control does not function. L and R channel balance is equal, regardless of how this control is adjusted.*
- *The Pre and Speaker Outputs are full range, regardless of the Pre Out Crossover settings.*
- *The Sub Outputs are full range, regardless of the Sub Out Crossover settings.*

The Surround Sound Receiver or Processor Stays in Control

The exclusions above are intentional so that your surround sound receiver volume control and bass management menu settings are preserved when you are listening to surround sound with the left, right and subwoofer channels routed through the Halo Integrated. Please see the owner's manual for your surround sound receiver to set and calibrate speaker levels, distance and bass management. After adding the Halo Integrated to an existing surround sound system you should recalibrate your system with the microphone that's typically included with surround sound receivers. Don't forget that the volume control on the Halo Integrated will not work when the Bypass Input is selected. Use the volume control on your surround sound receiver (or processor).

Connecting the Theater Bypass / Amp Input

Connect your surround sound receiver's or processor's Left, Right & Sub(s) preamp output jacks to the Halo Integrated's Left, Right & Sub Bypass Input jacks. With a single subwoofer you can use either the Sub 1 or Sub 2 Input jack. Connect your left and right speakers to the Left and Right speaker output terminals on the Halo Integrated. Connect your subwoofer(s) to the subwoofer outputs of the Halo Integrated.

Surround Sound Receiver or Processor

Halo Integrated

Side and Rear Surround Speakers   Center Speaker

Subwoofer   Front Right   Front Left
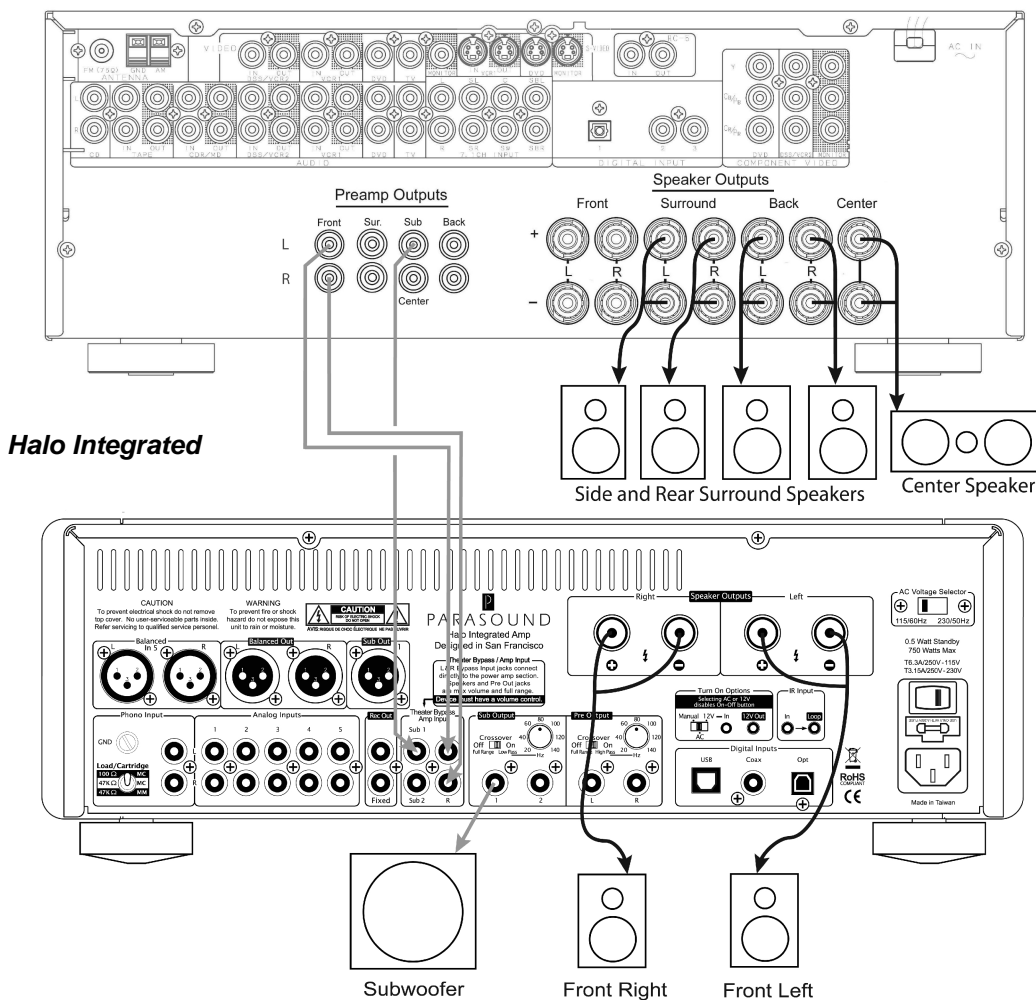
Selecting the Theater Bypass Input

When the Halo Integrated is turned on you can select the Bypass input with the remote control or with the front panel Input selector knob. The Bypass input will also be automatically routed to the RCA Pre Output jacks when the unit is turned off in case you are using an external power amplifier instead of the power amplifier stage in the Integrated. The Halo Integrated must be turned on for its preamp balanced XLR outputs to function in Bypass mode. This is because the XLR balanced outputs require active driver circuitry and the unbalanced RCA outputs do not.

CAUTION: Do not connect any source component such as a CD player, Blu-ray player, tape deck or tuner directly to the Bypass Input jacks. Since there is no volume control with the Bypass input the full voltage output from the source will go directly to the Integrated's power amplifier. The sound level could be extremely high and could damage your speakers.

Digital Inputs: OPT, COAX, USB

The Halo Integrated's built in 32 Bit DAC (Digital to Analog Converter) uses a very high resolution 384 kHz ESS® Sabre32 Reference DAC IC. Since the Halo Integrated's DAC is superior to the DACs in most source components, they will sound better if you connect one of their digital outputs to the Halo Integrated's DAC instead of connecting their analog output jacks.

Opt (Optical)
The Optical input is a high speed Toslink receiver. It accepts PCM digital signals up to 192 kHz with 16 or 24 bit word lengths.

> **Optical Interconnect Note:** 176.4 kHz and 192 kHz sampling rates will only play reliably with a short optical cable. Be careful when handling the optical cable. It cannot be bent at a sharp angle without impairing its ability to transfer the digital signal from your source to the Halo Integrated.

Coax (Coaxial)
The Coax (also called S/PDIF) input connector is an RCA jack. It accepts PCM digital signals up to 192 kHz with 16 or 24 bit word lengths.

> **Coaxial Cable Note:** A digital coaxial cable is different than a typical analog audio cable. The Coax input works best with a true 75 ohm cable which typically has 75 ohm, RG6 or RG59 printed on the cable jacket. The use of ordinary audio cables can make the signal unstable resulting in high levels of jitter, significantly impaired sound and even audio dropouts.

USB – *Windows® Users Must First Install Drivers*
The USB input is used to connect your Halo Integrated to your Windows® PC or Mac computer. This allows high quality playback of any music files that are stored on your computer and streaming music services you access over the internet. The USB Input accepts PCM sampling rates up to 384 kHz with 16, 24 or 32 bit word lengths. The USB input also accepts native DSD and DoP (DSD over PCM). The Halo Integrated uses USB 2.0 which requires Windows® users to first download and install drivers on their computer. Please visit the Downloads section on the Halo Integrated's web page www.parasound.com for the Windows® drivers and installation instructions.

> **USB Cable Note:** Inexpensive USB cables that are longer than 12' (4 m) are often unreliable and could cause audio drop outs. If a longer USB cable is required, a higher quality USB cable might offer more consistent results.

Using a Blu-ray, DVD Player or Gaming Console's Digital Output

If you use a Blu-ray player, DVD player, cable TV box, satellite receiver or gaming console's digital output with the Halo Integrated you must go to the device's setup menu and set the digital audio output to stereo PCM (2.0). The Halo Integrated's DAC accepts only two-channel stereo PCM. It does not accept signals in Dolby Digital or DTS formats.

USB - Computer Setup

For a Windows® PC

Windows users must first download and install the drivers before you can use the USB input. The driver package and additional instructions can be found at www.parasound.com in the Downloads section of the Halo Integrated's web page.

After installing the drivers, connect the USB cable (included in the Halo Integrated accessories carton) to your PC and then turn on the Halo Integrated. Next you will need to ensure that the Halo Integrated is selected as the computer's default audio output device. Follow these instructions to assign the Halo Integrated as the default audio device:

1. Right click on the loudspeaker icon 🔊 in the bottom right of your screen (on the tool bar)
2. Select "Playback Devices"
3. When the "Sound" window pops up click on the "PARASOUND - Digital Audio" and then click "Set as Default"
4. Click "OK" to close the "Sound" window

Note: If for some reason you cannot find the loudspeaker icon you will need to select Sound Options in the Control Panel and then select "PARASOUND - Digital Audio" as your default playback device.

For a Mac® with OS X

Apple® computers do not require the installation of drivers to use the USB input. Connect the USB cable (included in the Halo Integrated carton) to your Mac computer and then turn on the Halo Integrated. Next you will need to ensure that the Halo Integrated is selected as the computer's default audio output device. Follow these instructions to assign the Halo Integrated as the default audio device:

1. Go to the Apple menu
2. Select "System Preferences"
3. Select "Sound" from the Hardware menu
4. Select the "Output" tab
5. Select "PARASOUND - Digital Audio" in the Sounds menu
6. Close the Sounds menu

Playing Music from your Computer

Once initial setup is complete your Halo Integrated will be ready for use with your PC or Mac. Press the USB button on the Halo Integrated's remote control or rotate the Halo Integrated's Input select knob until the blue USB indicator is illuminated. Simply start playing any music on your computer and it will be sent to the Halo Integrated via the USB cable. Any sound that you would normally hear through your computer speakers will be heard through the Halo Integrated and your accompanying audio system.

Note: For the highest quality sound playback we recommend leaving the computer application's volume control at 100%. Then use the volume control on your Halo Integrated to set the listening level.

Audio Output Connections

Left and Right Speaker Outputs

The speaker binding posts will accept a wide variety of speaker wire and connectors including large spade connectors, banana connectors and bare wire as large as 8 gauge. The binding posts are spaced too far apart to accept older dual banana plug connectors with 3/4" (19mm) spacing. This wider spacing is intentional so that larger spade type connectors can be used without the risk of a short circuit.

Left and Right Pre Output Jacks (Balanced and Unbalanced)

The Pre Out jacks have the same preamp stage audio signal that goes to the power amp stage. The Pre Out jacks are used for connecting an external power amplifier. An external amp could be for bi-amping your speakers or for driving speakers in another room. Both RCA (unbalanced) and XLR (balanced) outputs are provided and both types may be used at the same time. If you are using two subwoofers in your system and wish them to be stereo (rather than mono) you could also use the Left and Right Pre Output jacks, rather than the Sub Out jacks for this purpose. If you are using stereo subs in this way, you would need the High Pass Crossover switch to be set to Off.

Subwoofer Outputs (Balanced and Unbalanced)

The Halo Integrated provides one XLR connector and two RCA jacks for one or more subwoofers. The two unbalanced and one balanced subwoofer outputs all carry the same mono signal. You can select whether the mono signal is full range or crossed over according to the frequency you select for the Low Pass crossover.

Using Stereo Subwoofers
If you have two subwoofers and want them to operate in stereo you can connect them to the Left and Right Pre Out jacks instead of to the Sub Output jacks which are mono. In this case you would need to set the High Pass crossover switch to Off. With this configuration the front panel Sub Level control does not function.

Record Out Jacks

The Record Out jacks connect to your analog audio recorder's record/input jacks. When you select an input on the Integrated the signal from the corresponding source component is available at the Record Out jacks whenever it is turned on. It is a fixed level signal that is unaffected by volume, balance, tone settings, audio mute or crossover settings. The fixed level Record Out jacks are also useful to connect a power amplifier for speakers in another room that has a passive in-wall volume control.

Note: When you select the Bypass input, there is no signal available at the Record Out jacks. The Halo Integrated does not offer simultaneous monitoring of a recording while you are making it.

Other Rear Panel Connections

12 V Input Jack

The 12 V In jack is used to automatically turn the Halo Integrated on and off by an external device. This input only functions when the Turn On Options switch is set to the 12 V position. When 12 volts is supplied to this jack the Halo Integrated will turn on and when the 12 volts is removed it will turn off.

12 V Output Jack

If you are using an additional power amplifier you may find it convenient for the Halo Integrated to turn it on and off automatically. If your power amplifier is equipped with a 12 V trigger input, connect the trigger cable (included) between the Halo Integrated's 12 V Out jack and the external amplifier's 12 V trigger input. When the Halo Integrated is powered on, 12 volts will be present at the 12 V output jack and your amp will turn on automatically.

IR Input Jack

Your Halo Integrated is compatible with most popular infrared repeater systems for remote control operation from another room or when the Halo Integrated is installed in a cabinet where its remote handset signals cannot reach its front panel remote control sensor. The External Remote Input connector is a standard 1/8" (3.5 mm) mono "mini" jack. The center conductor (plug tip) is for signal and the outer conductor (plug sleeve) is for ground. Your Authorized Parasound dealer or custom installer can recommend a compatible IR repeater system.

IR Loop Output Jack

The loop output offers a convenient way to daisy chain an IR signal to another piece of equipment. Whatever IR control signal is present at the rear panel IR Input jack will also be present at the IR Loop Out jack.

AC Power Cord

The AC cord supplied with your Halo Integrated is a high quality IEC type cord. If possible, plug your Halo Integrated into the same AC outlet that your source components and power amplifier are plugged into. If different AC outlets are used for the Halo Integrated and your other components the ground potential may be higher or lower between the outlets, resulting in audible hum.

Subwoofer Setup

The crossover setup and level setup are two important steps in setting up your sub(s).
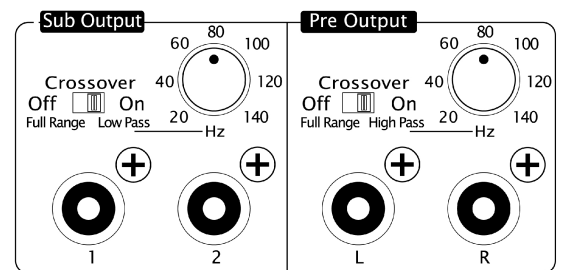
Subwoofer Crossover Setup

You will want to turn off the crossover built into your subwoofer's amplifier since the Halo Integrated has its own crossovers and leaving both the sub and Integrated's crossovers on will result in double filtering which restricts the sub output. Most powered subwoofers have a switch that might be labelled "Bypass", "Home Theater" or simply "Crossover Off." If your subwoofer's crossover cannot be switched off, set it to its highest frequency. Follow the Crossover setup section for the proper settings.

Subwoofer Level Setup

To set the proper subwoofer level, start with the Halo Integrated's front panel Sub Level control set to its 12 o'clock (0 dB) position and then play a variety of music. Adjust the level control built into your subwoofer until the bass level sounds balanced. Now, whenever you want to fine tune your subwoofer level you can simply use the Halo Integrated's front panel Sub Level control instead of walking over to your sub, bending down and reaching behind it to adjust its level control.

High and Low Pass Crossover Setup

The Halo Integrated is equipped with adjustable low pass and high pass crossovers. Crossovers are filters that allow certain frequencies to pass while blocking other frequencies. A low pass filter permits low frequencies to pass and blocks high frequencies. A high pass filter permits only high frequencies to pass and blocks low frequencies. 80 Hz is the best starting frequency for both the high and low pass crossovers if you are using a subwoofer and are not sure where to set the crossover frequency. If you are not using a subwoofer, set the Pre Output Crossover switch to the Off position. The Speaker Outputs and the Pre Outputs (both RCA and XLR) are affected by the crossover settings.

Low Pass Crossover (Subwoofer RCA and XLR Outputs)

The Low Pass crossover allows only low frequencies to be output from the Halo Integrated Sub Output jacks.

Note: If your subwoofer has a built-in crossover that cannot be switched off, set it to its highest frequency to minimize the negative effects on bass response from filtering in the Halo Integrated and again in the subwoofer.

High Pass Crossover (Left and Right Speakers and Pre Outputs)

The High Pass crossover for the Speaker Outputs and Pre Outputs (both XLR and RCA) allows you to prevent low frequencies from going to your main L and R speakers. This can be particularly useful if you are using small speakers (typically their woofers are 6.5" (165 mm) or smaller and you have a subwoofer. The most common settings are between 50 Hz and 80 Hz. If you are not using a subwoofer you will get the best results by turning the High Pass crossover off or setting it below 40 Hz. If you want your L and R speakers to operate full range with no frequencies blocked set the High Pass crossover switch to its Off position.

Crossover Setup (Continued)…

Crossover On/Off Switches:

Sub Output Crossover Off
A full frequency range mono signal will be sent to the sub(s). You will need to use the crossover frequency controls that are built into your subwoofer's amplifier.

Sub Output Crossover On
The point where the highest frequency going to the Sub(s) starts to roll-off is determined by the setting of the Low Pass frequency control.

Pre Output Crossover Off
Full Range signals will be sent to the left and right speakers and to the Pre Output jacks.

Main Output Crossover On
The point where the lowest frequency going to the left and right speaker terminals and the Pre Output jacks starts to roll off is determined by the setting of the High Pass frequency knob.

Crossovers and the Bypass/Amp Input
The High and Low Pass Crossovers are always off when the Bypass Input is selected. In this case the high and low pass filters are not active because it is preferable to use the bass management you already selected in your surround sound receiver or processor's setup menu.

Where to Start with Crossover Settings
If you don't know where to set the High and Low Pass Crossovers, these settings are a good place to start. From here you can experiment until you find a combination that sounds best to you:

No subwoofer
- Set the High Pass Crossover switch to Off
- The Low Pass Crossover will not be used so this setting does not matter

When using one or more subwoofers and your Left and Right speakers' woofers are 6.5" (165 mm) or smaller
- Set the High Pass Crossover switch to On and the Frequency knob to 80 Hz
- Set the Low Pass Crossover switch to On and the Frequency knob to 80 Hz

When using one or more subwoofers and your Left and Right speakers' woofers are larger than 6.5" (165 mm)
- Set the High Pass Crossover switch to On and the Frequency knob to 50 Hz
- Set the Low Pass Crossover switch to On and the Frequency knob to 50 Hz

Turn On Options

For your convenience, there are three ways the Halo Integrated can be turned on and off:

- **Manual -** Press the On-Off button on the front panel or use the On and Off buttons on the remote control.

- **Automatic (12 V) -** When 12 volts is applied to the 12 V Input jack the Halo Integrated will automatically power on.

- **Always On (AC) -** Whenever the Halo Integrated's AC power cord is plugged into a live outlet it will be powered on.

   Note: When either automatic turn on option is selected the front panel On-Off button is disabled so that power on/off is controlled solely by the triggering device or live AC power.

Turn On Options Switch:

Manual Position

When the Turn On Options switch is in its Manual position, the Halo Integrated must be turned on and off manually by pressing the front panel On-Off button or by using the remote control's On and Off buttons.

12 V Position (Automatic On/Off)

When the Turn On Options switch is set to its 12 V position, the Halo Integrated is automatically powered on only when an external +9 to +12 volts is present at its 12 V input jack. When the external voltage ceases the Halo Integrated will turn off immediately. The 12 V switch position disables the front panel On-Off button and the remote control's On and Off buttons.

AC (Always On)

The Halo Integrated will turn on automatically when the AC mains electrical outlet it's plugged into is live.

   Note: The Halo Integrated will turn off only when the AC mains outlet is switched off. Pressing the On-Off button on the front panel or the On and Off buttons on the remote control will not turn it off when AC (Always On) is selected.

Note: Whenever the Auto Turn On switch is set to 12 V or AC the On-Off button on the front panel and the remote control's On and Off buttons are disabled.

3.5 mm Mini Jack and 2.5 mm Sub-Mini Jacks

Some models of Parasound power amplifiers and preamplifiers use 2.5 mm "sub-mini" 12 volt trigger jacks. To connect the Halo Integrated with these models we include a trigger wire with a 3.5 mm plug at one end and a 2.5 mm plug at the other end.

Front Panel Controls
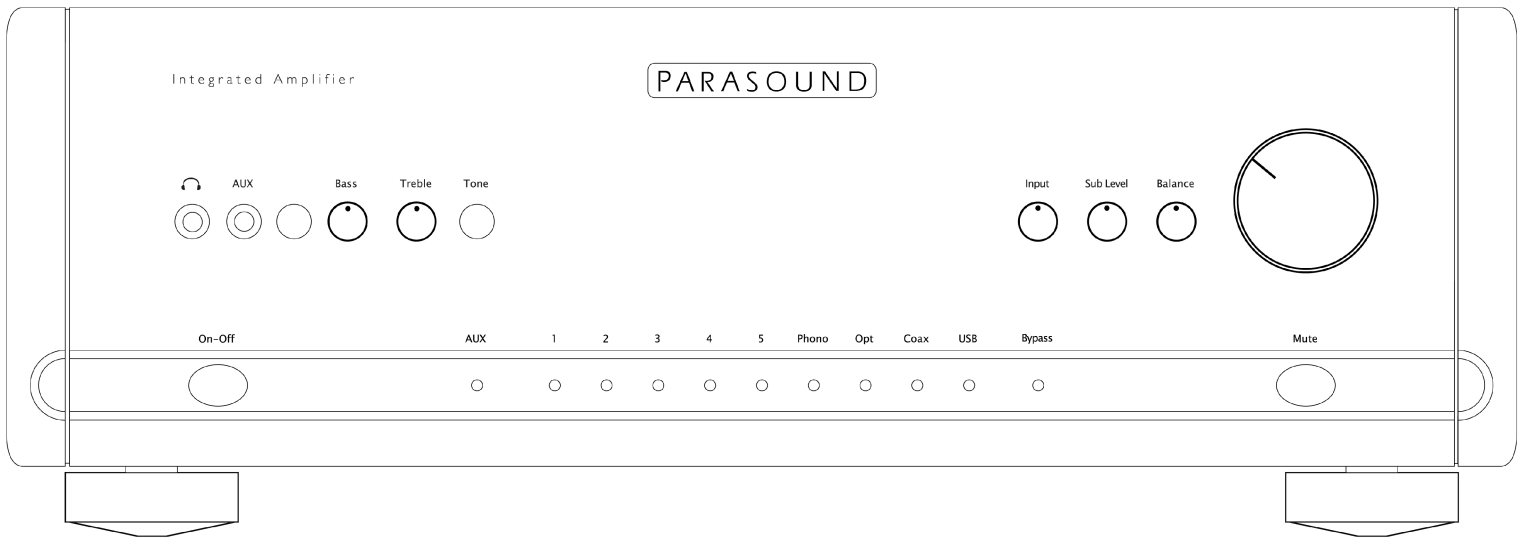
On-Off Button

Whenever the Halo Integrated is turned on, the soft blue glow behind its On-Off button will change to red for a few seconds while its circuits stabilize. Then the red glow will be replaced by a brighter blue glow to indicate normal operation. If the glow remains red after turn on or while the amp is in use, it indicates that the protection circuits have been activated and no sound will be heard from the speaker. The most common cause for the On-Off button to remain red is a shorted speaker connection or the unit has overheated. See page 21 for more details on the protection circuit.

Note: The front panel On-Off button and remote control On and Off buttons are disabled when the rear panel Turn On Options switch is set to 12 V or AC.

Headphone Output

The Halo Integrated is equipped with a dedicated high quality current-feedback headphone amplifier based on the top grade Texas Instruments TPA6120A. This superior design allows for an extremely high slew rate preventing odd order distortions which are responsible for listening fatigue. The virtually instantaneous response to musical dynamics doesn't raise the noise floor or degrade the s/n ratio like typical headphone amps. The headphone amp circuit was also designed with a low 10 ohms output impedance and high gain to drive headphones rated up to 600 ohms.

The headphone jack accepts a 1/8" (3.5 mm) stereo mini plug. The Left and Right Speaker Outputs and the Preamp output jacks (RCA and XLR) are muted whenever a headphone plug is inserted into this jack. The L and R Record out jacks are not muted.

CAUTION: Please note where the volume knob is set <u>before</u> unplugging your headphones to avoid a sudden unexpected high level of sound that could damage your speakers.

Aux Input Jack

For your convenience there is an input for a portable MP3 player or mobile phone on the front panel. Connect the included cable with 3.5 mm stereo plugs between the portable player or phone's headphone jack and the Halo Integrated's Aux Input jack. The Aux input has an additional gain stage that boosts the input signal by 12 dB so that the volume level will remain consistent as you listen to your other source components. For the best results set your portable player's volume to at least 75% of its maximum.

Front Panel Controls (Continued)…

Bass and Treble Control Knobs

These offer precision adjustment of tonal balance. You will find that very slight adjustments can add a degree of warmth, richness, clarity and "air." However, greater adjustments may obscure musical detail, and even risk overloading your speakers. The Bass and Treble controls are only active when the blue light surrounding the Tone button is illuminated. The Bass and Treble controls affect the Speaker Outputs, Pre Outputs and the Subwoofer Outputs.

Tone Button

By pressing this button, you can turn off the Bass and Treble tone controls, thereby completely bypassing the tone control circuitry. This will improve sonic purity by eliminating the small amount of noise and distortion inherent in tone control circuits. The tone controls can also be turned on and off from the remote control. The remote control does not adjust bass and treble tone controls. It can only engage and disengage them.

Input Select Knob

Rotating the Input selector will cycle through all of the inputs. The front panel LED under each input name indicates when it is selected.

Sub Level Knob

The Sub Level control knob adjusts the subwoofer level. The sub level can be adjusted between -10dB and +10dB, relative to the L and R channels. When the knob is in the 12 o'clock position the sub level boost is 0dB. When you first set up your subwoofer you should set this control to 12 o'clock (0dB) and then play some music. Adjust the level control built into your subwoofer until it sounds balanced. Now, whenever you want to fine tune your subwoofer level you can simply use the front panel Sub Level control instead walking over to your sub and bending over to adjust the level control on the subwoofer.

> **Note:** The Sub Level knob does not adjust the Sub level when the Bypass Input is selected.

Balance Knob

Adjusting left and right channel balance is helpful to compensate for speaker placement or room acoustics.

Volume Knob

Your Halo Integrated uses a high quality potentiometer to adjust the master volume level. The potentiometer is motorized for remote control use.

Mute Button

Pressing the Mute button once will mute the signal at all of the output jacks except the Record Out. The Mute button glow will change from blue to red when mute is engaged. Press the Mute button a second time to cancel mute. Mute is automatically canceled if you press the volume up or down buttons on the remote.

> **Note:** Mute is not canceled when you turn the front panel Volume knob. It is cancelled only from the remote control buttons or by pressing the Mute button a second time.

Remote Control Functions

The Halo Integrated remote control has a maximum range of approximately 20 - 25 feet (6 - 7.5 meters). Use only AA alkaline batteries in the handset and insert them according to the + and – polarity markings in the battery compartment.

On and Off Buttons

These buttons will turn the Halo Integrated on and off.

> **Note: The On and Off buttons are disabled whenever the rear panel Turn On Options switch is set to 12 V or AC**.

Remote Backlight Button

Pressing this button backlights the buttons with a blue glow. The backlight will time-out after approximately 8 seconds or you may press the button a second time to turn it off immediately.

Mute Button

Pressing the Mute button once mutes the signal at all of the Out jacks except the Record Out. The Mute button on the front panel will illuminate red while mute is engaged. Press the Mute button a second time to cancel mute.

Volume   and   Buttons

These buttons control the rotation of the motorized Volume knob to increase and decrease listening volume levels.

Tone On and Off Buttons

By pressing the Tone On button you engage the tone control circuit with the boost or cut determined by your settings of the front panel Bass and Treble knobs.

By pressing the Tone Off button you will bypass the tone control circuits. This will improve sonic purity by eliminating the small amount of noise and distortion inherent in tone control circuits. The tone control circuits can also be turned on and off from the front panel.

> **Note:** The remote control cannot make Bass and Treble adjustments. Tone adjustments are only made with the Bass and Treble knobs on the Halo Integrated's front panel.

Source Input Buttons

Press the input button of the source that you wish to hear.
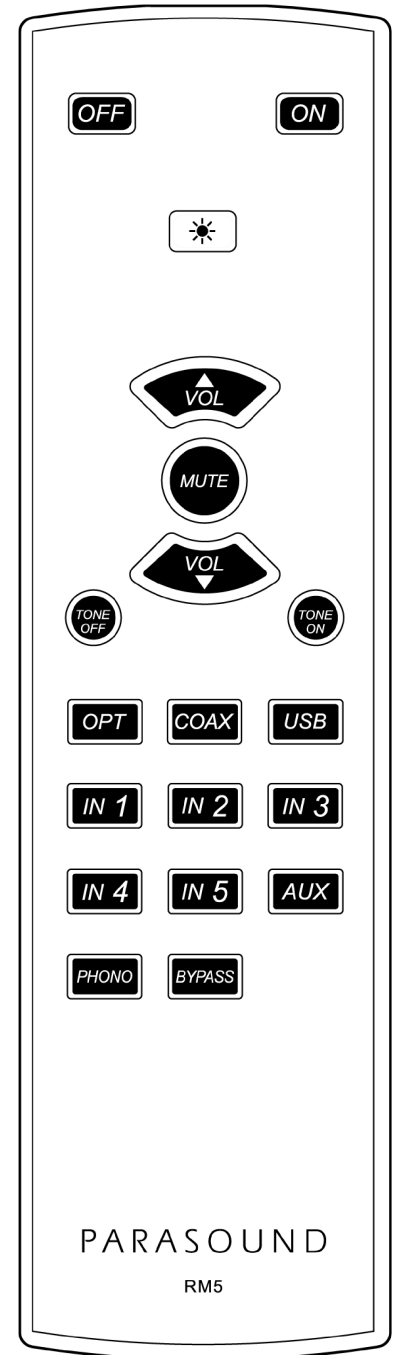
Power Amplifier Stage Protection Circuits

The Halo Integrated protects itself from external fault conditions such as excessive heat, load impedance that is too low, or a short-circuited speaker connection or wire. Under such conditions the On-Off button will glow red. After you correct the fault, the Halo Integrated will resume operation and the On-Off button will glow blue.

Current Overload (short circuit or load impedance below 1 ohm)

Specialized current sensors constantly monitor the current flow through the Halo Integrated's output stage transistors. If the current draw exceeds a predetermined safe level due to a load impedance below 1 ohm or a short circuit at the speaker terminals, the output protection relay will open immediately to prevent damage to the output transistors or other parts. This will cause the On-Off button to glow red. Immediately turn off the Halo Integrated and disconnect the speakers from the Integrated's speaker terminals. Turn the unit back on to see if the On-Off button now glows blue, indicating the fault has been removed. Carefully check your speaker wires and speaker connections for a short circuit and correct the problem.

Overheating Condition

If the unit overheats the On-Off button will glow red and the power amp section will shut down. If such a condition occurs you must provide better ventilation around the amplifier or check speakers for a fault that is causing the Halo Integrated to overheat. The over-temperature protection can also be activated if you are trying to drive more than one pair of speakers for an extended time and/or at extremely high listening levels. If the protection circuit has been activated because of overheating, normal operation will resume after the unit has cooled down.

DC Servo Protection

The Halo Integrated power amp stage is direct (DC) coupled from its input to its speaker terminals. Since direct current (DC) burns out speakers every power amplifier must have some way to insure that DC never reaches the + or - speaker terminals. Most amplifiers simply use trim controls to reduce their DC offset or capacitors that block DC. Unfortunately, trim controls can allow DC offset to creep up over time, and even the most expensive capacitors in the audio signal path attenuate bass response and place a veil between you and your music.

Parasound power amplifiers overcome this problem by incorporating ingenious and fast-acting DC servo circuits that monitor the audio signal (but are not *in* the audio signal path) to keep DC offset at the output of the Halo Integrated close to zero without using coupling and blocking capacitors. This advanced circuitry never needs adjustment or maintenance.and the results are startling clarity, freedom from listening fatigue, and formidable bass response.

Faulty source components and particularly vacuum tube preamps with leaky output coupling capacitors can have a large DC offset in their outputs that exceeds the capabilities of the DC servos. In this case the protection circuit will activate. If the On-Off button glows red try disconnecting your source components after trying the other two steps listed above.

Contact Parasound

If you believe you have confirmed the above three fault conditions are not present and the On-Off button still glows red it could indicate an internal problem. Please contact Parasound's Technical Service Department.

Problems and Remedies

Why is there no sound from the speakers?

- Check that input and output cables are secure at both ends.
- Make sure your Halo Integrated is switched to the correct input.
- If you are using the USB input with a Windows® computer you must first install the drivers.

The Halo Integrated won't turn on

- Make sure the rear panel Turn On Options Switch is set to the Manual position.
- Is the AC mains power live? You should see a faint blue glow around the On-Off button even when the unit is turned off.
- Make sure the rear panel master power switch is turned on.

The Halo Integrated won't turn off

- Make sure the rear panel Turn On Options Switch is set to the Manual position.

The On-Off button is glowing red

- The unit's protection circuits have been activated, see page 21 for more details.
- Check the speaker wire and connections for a short circuit.
- If the unit feels hot allow it to cool down and provide more ventilation for the unit.

I can hear a background hum from the speakers

- Try unplugging the incoming Cable TV line. If the noise goes away you need a cable TV ground isolator.
- Read the section on ground loops in this manual.
- Move audio cables and AC cords away from each other (while power is off).
- Try to route audio cables and AC cords perpendicular to each other (while power is off).
- Make sure insulating shoulder washers are used if unit is rack mounted.
- Insure that the power amps and the Halo Integrated are plugged into the same AC outlet.
- Try plugging your subwoofer into the same AC mains outlet as the Halo Integrated.
- The turntable ground wire must be attached to the GND terminal.

When I use the Bypass/Amp Input the sound is very loud and cannot be turned down.

The Bypass/Amp input should never be connected directly to a source component (CD, DVD, Tape deck, etc.). It should only be used in conjunction with a surround sound receiver or processor. The volume control on the surround sound receiver or processor should be used to adjust the volume level when the Bypass/Amp input is selected.

What is the Bypass/Amp Input?

The Bypass/Amp input jacks are used to incorporate the Halo Integrated into a surround sound system. This enables you to use the power amplifier built into the Halo Integrated to drive your Left and Right front speakers with both the stereo sources connected to the Halo Integrated and with your surround sound system.

Ground Loops - Eliminating Hum and Buzz

Audible hum and buzzing noises in a system are usually related to issues with the component grounds. Ground (sometimes called common) is a point of reference for voltages in virtually all audio and video components. Ground is supposed to remain at zero volts while the audio signal swings positive (voltage above ground) and negative (voltage below ground). If the ground isn't at zero, there can be an audible 60 Hz hum (or 50 Hz hum in regions with 50 Hz AC). The harmonics of these frequencies (120 Hz, 240 Hz, 480 Hz or 100 Hz, 200 Hz, 400 Hz) may add buzz in addition to the hum.

The ideal of a zero voltage ground for all the components in a system is practically impossible, because some resistance between the ground points of different components is inevitable. By keeping components close together with their power cords plugged into a common AC outlet or power strip, you'll avoid the problems created by resistance in the house's wiring.

Hum and buzz is also caused when unwanted voltage flows through multiple component ground points called ground loops. Here are three tips to avoid ground loops:

1. **Your Cable TV receiver box might require a Cable TV ground isolator. To determine if this is the case, unplug your incoming cable signal and see if the buzz/hum goes away.**

2. Plug your subwoofer and amplifier(s) into the same outlet as the Halo Integrated.

3. When rack mounting, always use the insulated "shoulder" washers. These break the ground loops caused by metal-to-metal contact between the rack, the components, and their rack-mount bolts.

Maintaining Your Halo Integrated

Your Halo Integrated requires no periodic maintenance and has no user serviceable parts inside. To avoid risk of electric shock do not remove the top cover. To keep it clean use only a soft cloth moistened with a few drops of clear water or Windex. Never use any solvents or abrasives. The remote control handset batteries should be removed whenever it will be unused for an extended period. Remove the battery cover annually to inspect and remove leaking batteries.

Assistance or Warranty Repair

Repair or Service

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 at **415-397-7100**, Monday to Friday, 8am - 4pm Pacific Time. We can suggest other diagnostic tests you can easily perform.
If we determine that your Halo Integrated 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.

Shipments 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 and packing inserts and is likely to have been damaged in transit.

3. Unit has inadequate packing materials and is likely to have been damaged in transit. Wrapping the Halo Integrated with bubble wrap will not protect it during shipment.

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.

Warranty Repair

Please 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. The complete warranty can be found at www.parasound.com.

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

1. Unit was not purchased from a Parasound Authorized Dealer.

2. You do not have the original bill of sale or sales receipt from a Parasound Authorized Dealer.

3. You are not the original owner. The Parasound warranty is not transferable.

4. Unit's serial number was removed, modified, or defaced.

5. Unit shows evidence of abuse and/or misuse.

6. Unit was modified in any way.

7. A prior repair was attempted by an unauthorized repair station.

Specifications

Power Output - *Both channels driven*
(0.05% THD, RMS, 20 Hz - 20 kHz)
    160 watts x 2 @ 8Ω
    240 watts x 2 @ 4Ω

Power Output - *Both channels driven*
(0.9% THD, RMS, 20 Hz - 20 kHz)
    180 watts x 2 @ 8Ω
    270 watts x 2 @ 4Ω

Current Capacity
    45 amps peak per channel

Frequency Response
    10 Hz - 100 kHz, +0/-3 dB

Total Harmonic Distortion (THD)
    < 0.01 %, average listening levels
    < 0.05 %, 160 watts x 2 @ 8Ω

Interchannel Crosstalk
    > 50 dB at 20 kHz
    > 70 dB at 1 kHz

Signal to Noise Ratio - *IHF A-weighted*
    Line in: - 103 dB (input shorted)
    Digital in: - 106 dB

Amplifier Damping Factor
    > 800 at 20 Hz

Preamp Stage Input Sensitivity
    300 mV in for 1 V at Pre Out jacks
    Total Preamp Stage Gain: 10 dB
    Max Output Unbalanced: 7 V
    Max Output Balanced: 9 V

Power Amplifier Stage Sensitivity
    1 V at Bypass/Amp In for 28 V at Speaker Out
    Total Amp Stage Gain: 28 dB

Phono Stage Sensitivity / Input Impedance
    MM: 35 dB / 47 kΩ
    MC: 52 dB / 47 kΩ or 100 Ω

High & Low Pass Crossover Slopes
    12 dB per octave

Supported DAC Sampling Rates
    USB: up to 384 kHz / 32-bit PCM
        DSD Native: DSD 64, DSD 128, DSD 256
        DSD over PCM (DoP) at 384 kHz

    Coax/Opt: up to 192 kHz / 24-bit PCM

Digital to Analog Converter
    ESS Sabre[32] Reference ES9018K2M
    384 kHz / 32-bit

USB 2.0 Controller
    VIA VT1731, 384 kHz / 32-bit

Headphone Amplifier
    Texas Instruments TPA6120A
    Output Impedance 10 ohms

XLR Pin Identification
    1 = Ground (Shield)
    2 = Positive
    3 = Negative (Return)

Input Impedance
    Unbalanced: 24 kΩ
    Balanced: 100 kΩ per leg

Output Impedance
    Unbalanced: 100 Ω
    Balanced: 470 Ω per leg

Dimensions
    Width: 17-$\frac{1}{4}$" (437 mm)
    Depth: 16-$\frac{1}{4}$" (413 mm)
    Depth, with cables 17-$\frac{1}{4}$" (437 mm)
    Height, with feet: 5-$\frac{7}{8}$" (150 mm)
    Height, without feet: 5-$\frac{1}{4}$" (133 mm), 3U

Net Weight
    33 lb. (15 kg)

Shipping Weight
    45 lb. (20.4 kg)

Power Requirement
    Standby: 0.5 watts
    Idling power: 70 watts
    Maximum: 750 watts
    110-125 VAC 60 Hz or 220-250 VAC 50 Hz
        AC mains voltage is set on rear panel

Specifications and features subject to change or improvement without notice.
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PARASOUND

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