Owner's Reference

Instructions for Use

PerfectWave Power Plant 3

15-065-01-1

Rev B

Table Of Contents

4826 Sterling Drive, Boulder, CO 80301
PH: 720.406.8946 support@psaudio.com www.psaudio.com

Important Safety
Instructions

Read these instructions
Heed all warnings
Follow all instructions

WARNING. TO REDUCE THE RISK OF FIRE OR ELECTRICAL SHOCK, DO NOT EXPOSE THIS
APPARATUS TO RAIN NOR MOISTURE.

Clean only with a dry cloth.

Do not place flammable material on top of or beneath the component.

The PS Audio P3 is an actively cooled component that requires adequate ventilation at all times
during operation. Please allow a minimum ½" space above and below the P3. If using the P3
with other PerfectWave devices, stacking the units with their standard ½" rubber feet will allow
adequate ventilation. If possible, to provide maximum ventilation, it is recommended the P3 be on
top of the stack of equipment.

Rack mounting is available with the aftermarket purchase of custom shelving. Please see Chapter
2: Getting Started; Section II: Mounting.

Do not remove nor bypass the ground pin on the end of the AC cord. All PS products ship with
a grounding-type plug. If the provided plug does not fit into your outlet, consult an electrician for
replacement of the obsolete outlet.

Protect the power cord from being walked on or pinched particularly at plugs, convenience
receptacles, and the point where they exit from the apparatus. Unplug this apparatus during
lightning storms or when unused for long periods of time.

When making connections to this or any other component, make sure all components are
powered off. Turn off the system's power before connecting the PS Audio component to any other
component. Make sure all cable terminations are of the highest quality.

There are no user serviceable fuses inside this product.

THERE ARE NO USER-SERVICEABLE PARTS INSIDE THIS PS AUDIO PRODUCT. REFER ALL
SERVICE NEEDS TO QUALIFIED SERVICE PERSONNEL.

Please contact your authorized dealer, your distributor, or PS Audio directly if you have any
questions or concerns that are not addressed in this reference manual.

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subsidiaries, and authorized agents.

The exclamation point within
triangle is intended to tell the
user that important operating
and servicing instructions are
in the papers with the
appliance.

The lightning flash with arrow-
head within a triangle is
intended to tell the user that
parts inside the product are a
risk of electric shock to
persons.

WARNING
RISK OF ELECTRIC SHOCK
DO NOT OPEN

WARNING: To reduce the risk of electric shock do not remove cover or back.
No user-serviceable parts inside. Refer servicing to qualified service personnel.

Thank You

Thank you for purchasing the PS Audio PerfectWave Power Plant 3 AC Regenerator.

The PerfectWave Power Plant 3 is a state-of-the-art AC regenerator that regulates and regenerates the AC line voltage, producing clean, low distortion AC power. The Power Plant 3, known as the P3, will provide up to 1000VA of pure, regulated AC power regardless of the condition of your home's power. Clean, regulated AC is essential to optimize the performance of your connected equipment.

Dynamics Never Restricted

The P3 will not restrict the dynamics nor the soundstage of your high-end system and will, in fact, provide superior levels of performance in micro and macro dynamics. In addition the P3 will maintain the harmonic integrity of your audio equipment while increasing color saturation and lowering video noise in video equipment.

Built to the Highest Standards

PS PerfectWave power products are built to the highest standards, both internally and externally, in Boulder Colorado. Every effort has been made to provide the highest quality performance and reliability possible. Every PerfectWave Power Plant is hand built, tested and then burned in to make sure what you receive is ready to go and will provide years of trouble free service.

Voltage vs VA (Volt-Amps)

All P3's labeled US or JP can output a continuous load of up to 800 Volt-Amps of pure, regulated AC, with peak momentary output capabilities of up to 1000 Volt-Amps. All P3's labeled EX, GR, or UK can output a continuous load of up to 900 Volt-Amps of pure, regulated AC, with peak momentary output capabilities of up to 1000 Volt-Amps. There is a practical difference between Volt-Amps and wattage, which can get somewhat confusing and may need clarification, especially if you have a large load and are intending to drive high-current-draw devices.

The power factor of an AC electric power system is defined as the ratio of the real power flowing to the load to the apparent power in the circuit. Real power is the capacity of the circuit for performing work in a particular time (Watts). Apparent power is the product of the current and voltage of the circuit (Volt-Amps); due to energy stored in the load, or due to a non-linear load that distorts the wave shape of the current drawn from the source, the apparent power will be greater than the real power.

In an electric power system, a load with a low power factor draws more current than a load with a high power factor for the same amount of useful power transferred. The higher currents increase the energy lost in the distribution system, and affect the ratings of the equipment.

Installation
Considerations

Location
Once your new P3 is unpacked, you'll need to find a convenient place to set it.

Mounting
The P3 is stackable on other PS Audio PerfectWave devices, however, because of ventilation issues it is recommended the P3 be on top of the stack of equipment if possible

If your equipment is located a long distance from the P3, it is preferable to use a long, heavy gauge shielded power cable between the AC receptacle in the wall and the Power Plant. This is better than long individual power cables between the connected components and the P3.

Vibration
The P3 can benefit from aftermarket isolation devices such as cones, spikes and Sorbothane pads. Once you have chosen the location for the P3 you can use the supplied AC power cord to connect to the wall receptacle, or you can use an aftermarket power cord and/or receptacle.

Conditioners
We discourage the use of any other power conditioning equipment before or after the P3 without considerable evaluation. A critical determination will have to be made as to whether there are any sonic or visual shortcomings. The P3 has a significant input & output passive filter design, and adding extra power cables to its input or additional filtering to its output may, in fact, be undesirable.

Network Connectivity
Connecting your P3 to the network is an option that provides extended functionality benefits. It is recommended that the P3 be connected to the router via hard-wire connection, however it will certainly function if connected to the network via wireless Ethernet bridge.

If a network connection is not available for the P3 it will in no way affect the P3's performance in your system in terms of the quality of regenerated, regulated AC. Connecting your P3 to the network allows functionality benefits only, not performance based benefits.

The online interface is user friendly and can be accessed by registering one's P3 at the following link powerplay.psaudio.com. The end-user will find a multitude of usability features including
• P3 consumption records and performance tracking.
• Individualized zone control.
• Naming of individual zones.
• Firmware updates (when available)

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Power-down First	We recommend that you power each device in your system down before attempting to connect equipment to the P3. Integrate the P3 into your system, plug in the desired gear and activate the P3 with the back-panel power switch. After the AC Regenerator inside your P3 has synchronized with your incoming power, your system components may now be powered up. Now just add music!

Plug the P3 into an AC receptacle with at least 15 amps of service (in the US) or 7.5 amps of service (in 230 volt regions), preferably using a dedicated AC line. A dedicated line means there is nothing else plugged into the wiring feeding the AC receptacle and that wiring returns directly to the AC breaker box.

Where you plug the P3 in is important
Our recommendation on where to connect your new P3 is a PS Power Port AC receptacle. It is preferable to a $1.99 "contractor special" brass contact AC receptacle found in most of our homes.

Use the heaviest-gauge, shielded power cable possible
Use the heaviest gauge shielded AC power cable you can to connect a P3 to its AC source. The heavier the gauge used, the less the chance for restricted dynamics in both audio and video systems. PS Audio offers an entire line of approved power cables for this purpose. Please see your dealer for details. Once the P3 has been connected to an AC source it is time to connect your equipment (with the P3 powered down).

Zones	Power zones should be used to isolate different genres of equipment from each other. For instance, you can group digital equipment together on a single zone and multiple analog sources on another zone. You should not mix digital, video or analog equipment on the same zone if possible. Digital equipment would be a DVD player, CD player, DAC, computer, TIVO, or satellite receiver. Video equipment would be a VCR, TV or computer monitor. Analog examples would be a power amp, preamp, projector, turntable, or any type of tube equipment. It is a good idea to keep in mind that all equipment generates radiated noise when it is operating. This radiated noise is harmful to both audio and video system performance and is typically carried down the AC power line.
High Current Zone	Zone D on the P3 is marked "HC" for High Current. Unlike zones A, B, and C, the HC zone does not output regenerated AC, and instead provides filtered and protected AC from the mains. This zone is intended for gear that could potentially draw more than the 800VA of regenerated AC the P3 is capable of outputting.
How to Turn It On	Once everything is connected you can flip the back panel power switch to power up the unit. The P3 will initialize for several seconds, and after this time you will hear an audible click, and the display will turn on. By default, the display will show you two readings. On the left, there is a volt meter that shows the incoming voltage the P3 is receiving from the mains. On the right, a watt meter will exhibit the current watt draw the P3 is under. Along the bottom of the display you will see five potential status indicators silk screened into the chassis of the P3. If the status is active there will be a colored LED lit above it.
Input	Upon powering on, this status will be lit with a green LED, and denotes that the display is showing the current input voltage.

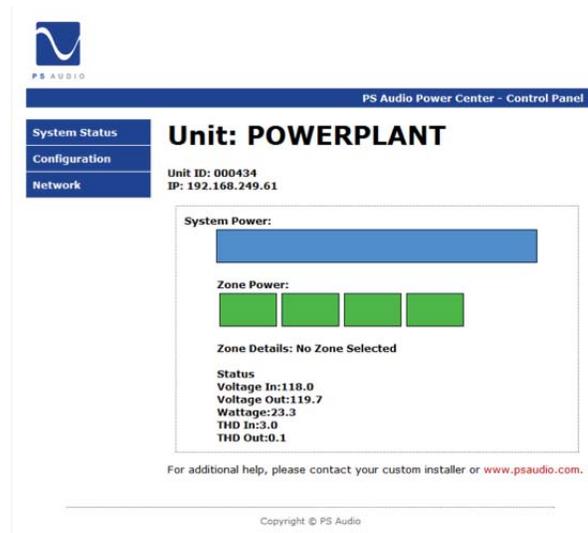|	
Set	Upon pressing either the left or right arrow button on the remote, a green LED will light above this status. In this mode you have the ability to raise or lower the output voltage of the P3 using the arrow buttons on your remote, and the display will show the user selected output voltage. After approximately four seconds the P3 will revert to displaying the input voltage.
IP	This indicator will be lit with a blue LED if the P3 has a viable internet connection.
90%	An orange LED will light above this status if the P3 is outputting 90% of its potential.
100%	If the P3 is outputting 100% of its potential a red LED will light above this status. If this status indicator is lit the P3 is being pushed too hard and it will be necessary to either lower your connected load or move some components to the HC zone.
Control Options	There is no way to control the P3 directly from the front panel of the unit, but there are three quick and easy ways to interact with and control your P3: a remote control that is included with the Power Plant, an internal webpage that is accessed over your home's Local Area Network via computer, and over the internet via GlobalNet.
Remote Control	Remote Control The remote control included with the P3 is going to be the easiest and most direct way to control the Perfect Wave P3. The remote is line of sight, so please note that the P3 must be in sight to be controlled in this manner. There are 7 buttons on the P3's remote control.

Power	The Power button will cycle power to any zone not set to Always On as well as the display.
MW	The MW button will toggle the waveform between either Multiwave or Sinewave that the P3 is outputting. When pressed, the display will show 'ON', indicating that Multiwave is currently selected. Pressing MW again will show the message 'OFF', indicating that Multiwave has been disabled. The default waveform for the P3 will be the traditional Sinewave. MultiWave is an exclusive feature of the Power Plant that extends the peak charging time of the sine wave and lowers ripple levels in connected power supplies for better sound.
Display	Pressing the display button will revert the P3's display to the default view of incoming voltage/wattage load.
Left and Right Arrow	These buttons are used to change the output voltage of the P3. Pressing the right arrow button will increase the output voltage of the P3, and conversely pressing the left arrow button will decrease the output voltage.
Home	This button has no function with the P3.
Cleanwave	Pressing the Cleanwave button will activate the degaussing feature. On the P3's display you will see the message 'CLn' and a timer counting down from 5. To initiate a longer cycle, simply tap the Cleanwave button twice for a 60 second degaussing. CleanWave modulates the sine wave amplitude slightly to help remove magnetic charges that can build up in connected transformers due to asymmetrical line conditions. Use of CleanWave is recommended on a regular basis for improved audio performance.
Internal Webpage	The P3 comes equipped with an internal webpage that can be accessed from any computer via a Local Area Network (LAN). This is the network that is created by a router in the home. To access the P3's internal webpage, first connect the P3 either directly to a router or to a wireless Ethernet bridge that is, in turn, connected to a router. This is done with a CAT5 Ethernet cable. The P3 will indicate that it is successfully connected to the LAN when the blue LED is lit on the unit's display. Next, open a web browser on your computer and type http://powerplant in the address bar. The P3's internal webpage should now be viewable in the browser.

System Status

The first page available will be the System Status page. This gives a snapshot of the current status of the P3. Here, current input/output voltage and THD readings as well as the wattage will be displayed. The unit's name will also be displayed (all P3s will have a default name of POWERPLANT). Power to the entire unit can easily be cycled by clicking the 'System Power' button. Power to individual zones can also be easily cycled by clicking the desired zone's icon under 'Zone Power'.

Configuration

The next page available is the Configuration page. Here, the user is able to control some of the more advanced features of the P3, such as changing the device name, naming the individual outlets and changing the switch mode of the four controllable zones.

Unit Name

You may enter a description of your P3 to help you remember the location within your home, such as 'Family Room P3'.

Zone Name

You may label each outlet to match the device connected. Type the desired label in the text field above each outlet.

Delay Mode

Change the way each outlet interacts with the Master Power button by altering the switch mode as follows:

Always On

The outlet remains on regardless of the state of the Power Button.

Switched

The outlet will follow the state of the Power Button.

Delayed

The outlet will follow the state of the Power Button after a 3 second delay.

Program Delay

The outlet will follow the state of the Power Button after a programmed delay. Note: The Program Delay can only be altered through the web based interfaces, the default is 3 seconds.

Reboot	The outlet is ALWAYS ON, but may be rebooted through the web interface.
Auto Reboot	The outlet is ALWAYS ON, may be rebooted from the web interface, and automatically reboots when no web connection is detected for 10 minutes. When Auto Reboot is selected you may use the on and off delays to sequence power of all Auto Reboot outlets. When all desired changes have been made, simply click the Save button at the bottom of the page to put them into effect.
Network	The final page available is the Network page. This page allows you to modify the network settings of your P3 Power Plant. Please exercise extreme caution when modifying any settings on this page as the incorrect settings will result in loss of network connectivity.
Host Name	The Host Name can be used to access your P3 by typing a name into your browser rather than the local IP address. To alter the Host Name type the new name in the text field. The default host name for the P3 is POWERPLANT.
Enable DHCP	The P3 is setup to rely on a DHCP enabled router or switch. Most routers will have DHCP enabled by default, as does the P3. If you do not have DHCP enabled on your network or wish to set up your P3 with a static address on the local network you may choose to disable DHCP by removing the checkbox. In order to maintain network connectivity you must know and input the correct IP address, gateway, subnet mask, primary DNS and secondary DNS. When all desired changes have been made, click the 'Save Config' button at the bottom of the page to update the P3.

GlobalNet

The third and final way to control the P3 is through the use of PS Audio's own servers and the GlobalNet website. GlobalNet gives a user the unique ability to control and monitor a P3 from anywhere in the world on either a computer or web enabled mobile device. To access GlobalNet, first connect the P3 either directly to a router or to a wireless Ethernet bridge. This is done with an Ethernet cable. The P3 will indicate that it is successfully connected to the internet when the blue LED is lit on the unit's display. Next, open a web browser on your computer or mobile device and enter http://powerplay.psaudio.com in the address bar. Once a user has arrived at GlobalNet, first time users will need to register to gain access to control functions. To do so, click the 'Register' button located in the upper left hand corner of the screen. After inputting the necessary information and selecting 'End User' under 'User Type'. Once successfully registered, log in to GlobalNet with the username and password selected.

Next, click the 'Register Device' icon. In the window that appears, input the P3's unit ID in the 'Unit ID #' field (the unit ID number can be obtained from silver sticker on the rear panel of the device). Finally, click the 'Add' button, and the unit registration process is complete. Close this registration window and refresh the web browser being used. Click on the 'Command Center' icon to access the Control Panel.

New User Registration

Name
[ ] (Full Name First and Last)

Email
[ ] (This will be used to sign-in to your account.)

Password
[ ] (4 - 15 characters in length.)

Confirm Password
[ ]

Phone Number
[ ]

Address
[ ]

Country
[United States ▾] (optional)

State
[Alabama ▾] (optional)

City
[ ] (optional)

Zip
[ ] (optional)

User Type

Control Panel

The Control Panel is the first page available to the user and gives a snapshot of the current status of the P3. Here, current input/output voltage and THD readings as well as the wattage will be displayed. Power to the entire unit can easily be cycled by clicking the 'Master Power' button. Power to individual zones can also be easily cycled by clicking the desired zone's icon.

Configure

The CONFIGURE tab is the most powerful page for your P3. From this page you can label each outlet to match the device connected, toggle the power for each of the zones, set the switch mode for each zone.

Outlet Labeling	You may label each outlet to match the device connected. Type the desired label in the text field above each outlet and click the 'Submit Changes' icon.
Power Toggle	By clicking on the Power Switch you may turn the power to the selected zone on or off.
Switch Mode	You may change the way each outlet interacts with the Master Power button by altering the switch mode as follows.
Always On	The outlet remains on regardless of the state of the Power Button.
Switched	The outlet will follow the state of the Power Button.
Delayed	The outlet will follow the state of the Power Button after a 3 second delay.
Program Delay	The outlet will follow the state of the Power Button after a programmed delay. Note: The Program Delay can only be altered through the web based interfaces, the default is 3 seconds.
Reboot	The outlet is ALWAYS ON, but may be rebooted through the web Interface.
Auto Reboot	The outlet is ALWAYS ON, may be rebooted from the web interface, and automatically reboots when no web connection is detected for 10 minutes. When Auto Reboot is selected one may use the on and off delays to sequence power of all Auto Reboot outlets.

** Important: Changes made in the configuration tab must be confirmed by clicking on the Submit Changes button at the top of the page. **

Alerts	One of the most distinguishing features of GlobalNet and the P3 is its ability to alert you to possible problems with your system. The Email Alerts tab will allow you to configure email alerts. Configuring email alerts is easy, just check the boxes next to the alerts you wish to receive, enter the email address or addresses you wish them to be sent to and click SAVE CHANGES.
Performance	The Performance tab will allow you to monitor the incoming power conditions and wattage consumption over time of your P3.
Wattage	The Wattage tab allows you to configure high and low wattage tolerances, and actions based off of exceeded tolerances.
Network	The networking tab allows some controls of the network settings for the Perfect Wave P3.
IP Ping	Offers the ability to monitor various IP addressed devices on the local network then Reboot devices based off of a failed response. This feature is sometime referred to as the network watchdog. The feature can even alert you via email alerts to reboot events or failed responses on the local network.
IP Address	Enter the IP address of the device that you would like the P3 to monitor.

Failed Response Timeouts

Enter the number of failed responses you are willing to accept before initiating a reboot or alert.

Action

Enter the desired action. You may select the device to reboot or to send alert.

Scheduling

Enable future reboot, on, or off events with an easy to use calendar. Events may also be repeated. In order to create an event simply select any day, then tell GlobalNet what you would like the P3 to do. Custom names will carry over from the settings in the Configuration tab. From here you may choose the outlet you would like to reboot, turn on, or turn off. The event can be configured to repeat on a daily, weekly or monthly basis at your designated time.

NOTE: Scheduling features require that the P3 be connected to the web for events to take place.

Back Panel Hardware

Identification and Instruction

Power Switch: "O" denotes the off position, whereas "—" denotes the on position.

Fuse: The P3, for all units marked US and JP, takes a 5 amp, 250 volt, 5mm/20mm Slow-Blow fuse. For all units marked EX, GR, UK, and AU, the P3 takes a 3 amp, 250 volt, 5mm/20mm Slow-Blow fuse

Reset Button: It is white and inscribed with a numeral written in red to denote that the amperage of the circuit breaker. If the PerfectWave P3 is driven to output more than its maximum usage (please see QUICK START GUIDE, section: Power Down First for details regarding maximum output) the breaker will trip and the unit will shut down. Please reduce the load connected to the P3 by removing high-current-draw components thereby bringing the unit's wattage output within acceptable range, reset the circuit breaker by pressing the white button, and power on your PerfectWave P3. 240V units employ a 10 amp circuit breaker, whereas 120V units employ a 15 amp circuit breaker.

Trigger: As described in QUICK START GUIDE, section: Trigger and IR Commands, these are the input and output connectors which accept the 3.5mm tip-sleeve connector for 12-Volt Trigger operations as well as IR controls.

USB Input: Is not necessary for unit operation but will be necessary in the event of a firmware update should a network connection be unavailable.

Limited Three Year Warranty

Registering

Should I Register My Product?

- Registering your product validates the warranty start date.
- If you do not register your product within 30 days of service, a copy of your purchase receipt from an authorized PS Audio dealer may be used as a proof of purchase to establish the warranty start date.
- If no proof of purchase from an authorized PS Audio dealer or registration is provided, the production date of the product will be used to determine the warranty start date.
- Registration can be completed online, by phone, by mail, or by email.
- You may wish to sign up for PS Audio's monthly newsletters, specials, product updates, and/or Paul's Daily Posts.

Coverage

What Does this Warranty Cover?

This warranty covers defects in material and workmanship for products purchased from PS Audio or its authorized dealers and agents.

What Will PS Audio Do to Correct the Problem?

In the event your product fails your sole remedy under this limited warranty shall be to return the product to PS Audio or an authorized PS Audio repair center. The product will be repaired without charge for parts or labor, replaced, or the purchase price refunded through the original point of purchase, at the option of PS Audio.

What is the Period of Coverage?

This limited warranty is in effect for 3 years from the date the unit was first purchased from PS Audio or its dealers and agents.

Shipping

Who Pays for Shipping?

You are responsible to pay for the safe and proper shipment of the warrantied product to PS Audio or its authorized repair center.

The PS Audio authorized repair center will pay the cost of returning the repaired or replacement product to you under this warranty.

Not Covered

What Does this Warranty Not Cover?

This warranty does not cover damage due to:
- Accidents, carelessness, improper transportation, misuse, neglect, or abuse
- Failure to follow the operating instructions that are provided by PS Audio in the owner's manuals (available for download at psaudio.com)
- Use in any manner inconsistent with PS Audio's operating instructions (available for download at psaudio.com)
- Lack of routine maintenance
- Connection to an improper voltage supply
- Alterations or modifications to the unit
- Improper or unauthorized repair, including repairs not authorized by PS Audio or a PS Audio authorized repair center
- Fire, lightning, flood, "acts of God," or other contingencies beyond the control of PS Audio
- Products purchased through an unauthorized source (if you have questions as to whether or not a dealer is authorized, please contact customer support at psaudio.com)
- Products with a factory-applied serial number that has in any way been altered, defaced, or removed

Limitations

Limitations on PS Audio's Obligations Under this Warranty

- In no event will PS Audio's liability to you exceed the original purchase price of the unit.
- This warranty does not cover the cost of custom installation, customer instruction, setup adjustments, or signal reception problems.
- This warranty does not cover consequential and incidental damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.
- In the event your warrantied product cannot be repaired, PS Audio will replace or refund the unit. We reserve the right to replace any out-of-stock, discontinued, or limited edition products with a comparable product. Discontinued products may not be available for warranty replacement.

Warranty Transfer

How Can the Warranty be Transferred?

This warranty is for the benefit of the original purchaser of the product. The warranty may be transferred to a subsequent purchaser during the 3 year warranty period. To do this, you must contact PS Audio directly to set up transfer of registration.

If you require service in North America

How Do I Get Warranty Service?

To locate an authorized PS Audio repair center, for service assistance, or for help with the operation of a product or just for information, please contact PS Audio customer support.

Warranty Service Within the US

Obtain an RMA number

- You must first obtain a Return Merchandise Authorization Number (RMA#) to receive warranty service and prior to returning any item. Contact PS Audio or an authorized PS Audio repair center to receive an RMA#.
- You must put the RMA# on all returns. If it is not clearly marked, PS Audio will return the package back to you, freight collect.
- You should include a description of the problem, along with the RMA# inside the packaging.
- Original packaging should be used for the safe transit of your PS Audio unit to the repair center. If you do not have the original packing, PS Audio can sell and ship to you replacement packaging.
- You are responsible for the cost of shipping the product to a PS Audio authorized repair center. You should insure the product for its full retail cost in the event it gets lost or damaged in transit. PS Audio is not responsible for damage incurred in products sent to us.

Use original packing

- Shipping your product in non-PS Audio packaging may void this warranty. PS Audio reserves the right to charge you for new factory packaging to return your product after a repair.

State law

How State Law Applies

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

If you are outside the US

Warranty Service Outside of the US

PS Audio has authorized distribution in many countries of the world. In each country, the authorized importing distributor has accepted the responsibility for warranty of products sold by that distributor. Warranty service should be obtained where the product was purchased.

Changes to Our Products

PS Audio reserves the right to modify the design of any product without obligation to purchasers of previously manufactured products and to change the prices or specifications of any products without notice or obligation to any person.

Your Serial
Number

Your Purchase
Information

Date of Purchase

16

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