Owner’s Reference

Instructions for use

PerfectWave Transport
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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 OR MOISTURE.

Clean only with a dry cloth. For the Piano Finish Top refer to the instructions on page 12 of the Quick Start Guide.

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

All PS Audio components require adequate ventilation at all times during operation. Rack mounting is acceptable where appropriate.

Do not remove or bypass the ground pin on the end of the AC cord unless absolutely necessary to reduce hum from ground loops of connected equipment. This may cause RFI (radio frequency interference) to be induced into your playback setup. Removing or bypassing the ground pin on any electrical component is potentially dangerous and should be avoided for safety reasons. A polarized plug has two blades, one wider than the other. A grounding type plug has two blades and a third grounding prong. 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 off. Turn off all systems' 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 PARTS INSIDE ANY PS AUDIO PRODUCT. REFER ALL SERVICING TO QUALIFIED SERVICE PERSONNEL.

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

This product is manufactured in the United States of America. PS Audio® is a registered trademark of PS Audio International Inc., and is restricted for use by PS Audio International, Inc., its subsidiaries, and authorized agents.
The PS Audio PerfectWave™ Transport Memory Player (PWT) is a state-of-the-art optical disc reader. The PWT can read standard as well as high-resolution audio media on both compact discs (CD) as well as Digital Video Discs (DVD).

Your PS Audio PWT represents a major advancement in the art of recreating the musical event. The sense of being “there” at the original performance, hearing the warmth and immediacy of the live performance is unmatched. From the elegant physical appearance to its superb construction, your PS Audio Transport will provide you with years of musical enjoyment and pleasure.

The PerfectWave series is a system – designed to be used together for best benefit - although each of the components within that system can be used as standalone pieces.

The system’s philosophical beginnings centered on a somewhat radical concept: that we could create a high-end digital audio system that transcended the performance issues of storage, media type and data delivery. We reasoned that all digital audio data should provide the same level of performance regardless of whether it was stored on optical discs, hard drives, solid state memory or even, for that matter, over the internet. After all, “bits-is-bits”. But we knew that “bits- aren’t- bits” because they sounded differently; CDs sounded different than the same recording ripped to a hard drive, or streamed over the internet. We knew that from a theoretical standpoint this shouldn’t be and set out to design a system that transcended these limitations.

We first experimented with modified PC motherboards and output cards to extract and manage the data from both a hard drive and a ROM drive. These experiments quickly convinced us that no PC equipment could be used as their environments were too noisy and the peripherals (sound cards and interfaces) measured well but relied on massive data manipulation and sample rate conversion to achieve low jitter. Had we stayed the course with using computer parts placed in a nice high-end audio chassis, we would have been to market a year earlier and competed with those manufacturers that have chosen this route. But our goals were loftier than this and we trudged onward from the ground up with a custom solution which you now are about to enjoy. No computer parts were used in the building of this remarkable system.

The transport you have in your possession is the first primary piece in that system demonstrating this concept’s successful conclusion. Two years in design and thousands of hours of programming later we are pleased to present the world’s best digital audio pieces.
The PS Audio PerfectWave Transport is easy to install and operate. The following guidelines will ensure that the installation goes smoothly.

LOCATION
A good location for your Transport is in a cabinet or on a shelf at an easily accessible height. The receiver for the remote is located to the left of the Touch Screen. A direct line of sight will ensure optimum operation, as the IR receiver in the PWT has a relatively narrow range of view. If the PWT is to be in a visually restricted space it might make sense to add an optional IR booster near the PWT to increase the range of the remote control.

USING WITH A PERFECTWAVE DAC
The PWT and PWD were designed to stack on top of each other if they are not placed on separate shelves. To do this, remove the feet from the unit you wish to place on top of the stack. Carefully place the top unit so it rests on the bottom unit. You will note that the bottom of the corners of each PerfectWave piece is specially designed to mate with the top corners of another PerfectWave.

DIGITAL OUTPUTS
The PWT offers multiple digital output choices including: XLR (AES/EBU), RCA and TOSLINK (S/PDIF) as well as I²S. All four digital connections are extremely low jitter, high-performance outputs, fed from the PWT’s internal fixed asynchronous low jitter master clock.

The PWT uses an HDMI cable to transfer I²S data. This data can only be used with another compatible PS Audio component, such as the PerfectWave DAC, and will not work in other HDMI equipment as the I²S format incorporated does not comply with the HDMI standards. The HDMI connector and cable were chosen to carry the I²S signal because of their superior high-speed data transmission capabilities for multiple clocks and data lines.

As in all high performance audio applications, the quality of the cable is important to the overall sound, although any manufacturer’s cables can be used. PS Audio manufactures two models of approved I²S ready HDMI cables, either of which are highly recommended for this application.

No HDMI cable was included with the PWT and to get started it is OK to use an off-the-shelf HDMI cable.

AC POWER
Your new PS Audio Transport is supplied with a removable AC Power cord. While the supplied cord is of good quality, it is recommended that you replace it with one of PS Audio’s matching PerfectWave AC power cords for optimum performance. It is also recommended that you connect your new PWT to one of PS Audio’s award-winning AC power products such as the Power Plant Premier. Performance can be improved by replacing the internal fuses with high end after market fuses, such as the Critical Link Fuse - 5x20mm 1 Amp TypeT (slow blow).
Unpacking and Connections

- Carefully unpack the unit. Your new PerfectWave Transport comes wrapped in a soft organic cotton bag to protect its beautiful finish. Use the included cotton gloves to remove the unit and place in the chosen location.
- The piano black top cover has a protective plastic film. Remove this film.
- The unit is shipped with an SD memory card installed in the rear of the unit, just below the Ethernet network connector. Make sure the SD card is in place.
- Connect the PWT to your DAC using one of the four connections. For comparison purposes, you may connect all 4 outputs at the same time to the DAC.
- Connect the AC cable into the receptacle in back and plug the unit into your power conditioner or into the wall.

Register the Unit

The PWT is a network capable transport that can download cover art and song titles to its front panel touch screen from PS Audio's GlobalNet™ servers and will store this information on its SD card memory. To take advantage of this feature, as well as access the full warranty period, it is necessary to register the unit with PS Audio. Registering the unit will setup the PWT’s web access page that allows you to add, delete and edit any of the song titles and cover art library. The web access page also provides optional communication with other PWT owners throughout the world, helping you gain access to the PWT community, their musical tastes and equipment choices.

To register your new unit, look on the back panel of the PWT and note the serial number. Using any web browser, go to www.psaudio.com and click on Register Products. Once you have completed the registration process you can then go to the PS Audio GlobalNet™ tab located on the PS website and view your personal web access page as soon as your PWT is connected. If you do not have web access you may register the unit via mail or phone. You must be connected to the internet to download cover art and song titles.

Connecting the PWT

**CONNECTING TO A DIGITAL TO ANALOG CONVERTER**

The PWT produces a digital audio output that must be connected to a Digital to Analog Converter (DAC) to hear music. Depending on your DAC’s input capabilities, it is always best to utilize the preferred connection method whenever possible.
In order of preference, from a high-performance standpoint, here are the recommendations for connecting the PWT to your DAC.

1. **I²S.** (Pronounced “I squared S”) This is the best performance option. This connection method will only work with a similarly equipped I²S input using the HDMI connection. This will not work into a standard HDMI connection and must go into a PS approved type such as that found on the PerfectWave DAC. This can output up to 192kHz 24 bit data.

2. **XLR.** This is a balanced S/PDIF encoded output that complies with standards set by the AES/EBU (Audio Engineering Society/European Broadcasting Union). This can output up to 192kHz 24 bit data.

3. **RCA.** Coaxial single ended S/PDIF encoded output. This can output up to 192kHz 24 bit data.

4. **Optical.** TOSLINK optically connected S/PDIF encoded output. This output is limited to 96kHz 24 bit data.

Whatever output you use, make sure the connecting cable is of the highest quality and shortest distance.

**CONNECTING TO THE INTERNET**

The PWT will automatically download the cover art and song titles of inserted CDs (but not DVD’s) if it is connected to the Internet. DVD’s display song titles on the PWT, and these can be viewed from the song title screen accessed by touching the cover art/PS logo on the screen when playing a DVD. To connect to the Internet you must plug in a network enabled Ethernet cable in the back of the PWT. This connection should be to an Internet connected router or through a wireless Ethernet bridge connected to a router.

Connection to the Internet through this network cable is automatic through any DHCP enabled network. 99% of all Internet setups in the home or office are DHCP enabled and connection should take place within a very short period of time.

You can look on the front touch screen for verification of connection. When you are connected to a network the words “Internet OK” will be displayed indicating the PS server is now connected. If the network is not connected, the words “No Connection” will be displayed.

The rear panel SD card must be in place for this to work.
Control and Operation

Turn the AC power switch in the rear of the PWT to the ON position. The power switch is located just above the AC inlet. It is not advisable to turn this switch on or off with your power amplifier on as it can cause a loud pop noise to come through the system under some circumstances.

As soon as the switch is activated the front panel touch screen will display the initializing screen. This screen shows when the PWT’s internal “engine” (FPGA) is being loaded with the firmware that runs the PWT.
After the **INITIALIZING SCREEN**, you will see the **OPENING SCREEN** that reads “Insert Disc”. The PWT is ready for operation.

**Ready Mode**
The front panel PS logo button, located on the far left hand corner of the unit, is the Ready/Operation Mode control for the PWT. This control has two modes: Ready Mode and Operational Mode. Ready Mode is designed to keep power on to critical internal circuitry including power supply capacitors, thermally sensitive semiconductors and integrated circuits.

Press this front panel button to activate the Ready Mode or to place the PWT in Operational Mode. When pressed to activate the Ready Mode, the display as well as the outputs are turned off, but all the unit’s critical internal circuitry remains active.

If you wish to conserve energy consumed by the PerfectWave Transport it will be necessary to use the rear panel power switch. Using this rear panel switch will remove power from critical components and in order to gain maximum performance levels you will need to turn the PerfectWave Transport’s power on at least 3 hours before use.

**OPENING THE DRAWER**
To open the Transport drawer, press the **OPEN/CLOSE** ICON either from the touch screen or from the remote.

Insert the disc. The PWT plays high-resolution audio WAV files, standard CDs, dual layer SACDs (that have a CD layer) and compilations on either CD, CDR, DVD or DVDR media. The PWT will not play SACD only or DVDA discs. As of this writing only DVDs using the UDF 2.0 file system will work.

After the disc is inserted, press the **OPEN/CLOSE** ICON on the touch screen (or remote) again to close the drawer.
EMERGENCY EJECT
If, for some reason, a disc gets caught in the drawer and the touch eject function is not working, there are two things you can do. The first is to turn off the rear panel power switch and reboot the PWT. As soon as the PWT has been restarted and the eject icon appears, press the eject icon and the drawer should open.

If this does not work it is possible to manually eject the drawer. To do this, turn off the rear panel power switch. Insert a paper clip or small stiff object near the right side, beneath the disk tray as shown, and push inwards until the drawer mechanically releases. This will allow you to pull the drawer open the rest of the way and remove the disc. Return power to the PWT and press the touch screen eject/insert icon to return to normal operation.

SELECT AND PLAY
To play from the beginning of the disc, once the drawer has closed, press the PLAY ICON. If you want to jump to the next track, touch the NEXT TRACK ICON located to the right of the progress bar. To go back to the previous track, touch the PREV TRACK ICON located to the left of the progress bar. Elapsed time for the track is on the left; time remaining is on the right.

To select a particular track, touch the touch screen’s PS logo or cover art. This will take you to the TRACK SELECTION SCREEN.

The double arrows on the top and bottom of the left portion of the track list will scroll through the tracks. Select the track by touching the TRACK NAME. Once selected, you will be taken back to the MAIN SCREEN with information about the track you are currently playing.

FAST FORWARD AND REWIND
Touching anywhere in the progress bar will move the PWT’s output to match. If you wish to go to the middle of the song, for example, simply touch the middle of the progress bar and the PWT will jump forward or backward to correspond.

Pressing the FAST FORWARD or REWIND button on the remote control will move forward or backward in small chunks and the results are displayed on the front panel touch screen progress bar.

MEMORY FUNCTION
The PWT reads everything on the optical disc and places that digital audio data into a large, 64mB memory known as the Digital Lens. The fact that you never listen directly to the output of the optical disc (CD or DVD), but rather directly out of the Digital Lens memory, is part of what differentiates this transport from nearly any other transport in the world.
To demonstrate the transport’s memory ability, simply eject the disc while it is playing (without pressing STOP), and the music will continue to play even though the disc is no longer in the transport. It is best to allow the track to play at least 15 to 30 seconds before ejecting the disc, in order to properly fill the buffer memory. The length of playtime through the memory depends on how long the disc has been read and what type of disc it is. High-resolution audio discs have only a few seconds of memory possible while a standard audio CD can have up to several minutes to play.

While the disc is removed from the transport and the memory is no longer being replenished, the PWT will display the DISC REMOVED screen. This screen has two options: OPEN/CLOSE and STOP. If you press the OPEN/CLOSE icon and reinsert the same CD, the PWT will find its place and continue playing that disc. If you insert a new disc you are returned to the main screen. If you press STOP the memory will be stopped and you are returned to the INSERT DISC screen.

The memory for the PWT is not located in the rear SD card as is commonly assumed. The rear panel SD card holds the cover art and song title information as it is acquired. In addition, the SD card is used to program new firmware in the PWT.
Remote Control

The “ON” and “OFF” buttons are at the top of the remote. Use them to turn the PWT ON and OFF. The rear panel AC power switch must be on for this to work.

Right below the section labeled “DAC” is a numeric keypad. This is used for selecting a track number directly. To the left of the “0” button is a button to select REPEAT modes. Push once for REPEAT TRACK. Push twice for REPEAT ALL and push a third time for REPEAT OFF.

The display on the PWT will reflect all the remote control selections.

Directly below, there are four buttons. From the left, these are; STOP, EJECT, REWIND and FAST FORWARD. Below that is a circular control. The center button is for PLAY/PAUSE. To the left is the PREVIOUS TRACK button and to the right is the NEXT TRACK button.

The top of the large center ring is for VOLUME UP and the bottom is for VOLUME DOWN, which apply only if you have a PerfectWave DAC.
Dimming the Display

The unit will automatically dim to adjust to light levels in the room. The display can be turned off by pressing the button labeled “DIM” located at bottom right of the remote. Once you press the DIM command on the remote, the unit is in DIM mode. The display will go black after a few seconds and nothing will appear. If you press any button on the remote control, or if you touch the screen, the display will light up again. To turn this feature off, press the “ON” button at the top of the remote.

Checking the Version Number of the Firmware

These units operate from sophisticated software that is built in to the device, but upgradable by the user through the rear panel mounted SD card. To check for the current firmware version, or the unit’s ID (for registration), follow these steps. First, turn off the rear panel power switch. Wait for 10 seconds, turn the rear panel switch back on. As soon as the touch screen displays the “Initializing” screen, touch and hold the PS logo in the middle of the initializing screen until the version screen appears.

DVD Compatibility

As of the release date of the PWT, only those DVDs recorded with WAV files can be played. WAV files of up to 24 bit 192kHz can be played without a problem. The DVD must have been recorded using the UDF 2.0 system. Reference Recording uses this UDF 2.0 system as their default as do many others. If you are making your own compilations in a program such as Nero, be sure and set the burn method to UDF 2.0. MAC computers default to UDF 2.0.

If you are having any problems with reading a DVD, make sure that all the audio files have been placed in the DVD root directory and are not contained in a folder. The same applies if you are burning a DVD for playback. Do not place a folder on the DVD as the PWT cannot open a folder. Simply drag the actual audio files right into the DVD or CD and they will play fine.

You can only play WAV files. 192kHz, 24 bit is the current limit.

Power

The PWT does need some care and is appreciative of being fed proper AC power. A Power Plant Premier is recommended for this task.

Cleaning

Should minor scratches occur, simply purchase any type of high quality automotive scratch removal polish such as Kit’s Scratch Out or McGuire’s products. Car finish polish and wax can both be used on this surface for a beautiful luster.

The top cover is a beautiful piano black painted surface over MDF (wood).

The front panel touch screen can be cleaned with Windex or similar spray on glass cleaners. To clean, spray the cleaner on a soft lint free towel and carefully clean. Do not spray cleaner directly on the unit.
PS Audio provides a 90 day manufacturer’s warranty on all new PS Audio components. PS Audio offers for purchase an optional extended 3 year warranty in exchange for completing a valid product registration. This optional extended warranty is available for new products, when that product is registered through PS Audio with the serial number and name of the authorized dealer or distributor that sold it to you.

This optional extended 3 year warranty is available only under the above terms and conditions. The extended warranty is optional and sold worldwide in exchange for your registration information. Failure to register your product will preclude PS Audio from selling you its extended warranty. Products can be registered either on the web at www.psaudio.com, via the mail, or by calling PS Audio directly with the information.

This Warranty is subject to the following conditions and limitations: the Warranty is void and inapplicable if the product has been used or handled other than in accordance with the instructions in the owner’s manual, abused, or misused, damaged by accident or neglect or in being transported, or the defect is due to the product being repaired or tampered with by anyone other than PS Audio or an authorized PS Audio repair center.

a. The product must be packaged and returned to PS Audio or an authorized PS Audio repair center by the customer at his or her sole expense in the original packing material. PS Audio will pay return freight of its choice for original purchasers.

b. Return Authorization Number (RA Number) is required before any product is returned to our factory for any reason. This number must be visible on the exterior of the shipping container for PS Audio to accept the return. Units shipped to us without a Return Authorization Number or without a visible RA Number on the exterior of the shipping container will be returned to the sender, freight collect.

c. RETURNED PRODUCT MUST BE ACCOMPANIED BY A WRITTEN DESCRIPTION OF THE DEFECT.

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 product without notice or obligation to any person.

In the event the product fails to meet this Warranty and the above conditions have been met, the purchaser’s sole remedy under this Limited Warranty shall be to return the product to PS Audio or an authorized PS Audio repair center where the defect will be repaired without charge for parts or labor.
Transfer of Warranty

This Warranty is for the benefit of the original purchaser of the covered product and may be transferred to a subsequent purchaser of the product.

Extended warranty policies:

1. By registering this product, via mail or internet, within 90 days of purchase, the warranty period will be extended to 3 years from the date of purchase.

2. To qualify for the extended warranty the Product must be purchased through an authorized PS Audio dealer or distributor.

3. All of the policies of the extended warranty are the same as the limited warranty

Miscellaneous

This warranty does not cover the cost of custom installation, customer instruction, setup adjustments or signal reception problems.

This warranty does not cover cosmetic damage or any damage due to accident, misuse, abuse, negligence or modification of, or to any part of the Product, without initial express consent from PS Audio. This warranty does not cover damage due to improper operation or maintenance, connection to improper voltage supply, or attempted repair by anyone other than a facility authorized by PS Audio to service the Product.

This warranty is invalid if the factory applied serial number has been altered or removed from the Product.

To locate the servicer or dealer nearest you, or for service assistance or resolution of a service problem, or for product information or operation, call or email PS Audio.

ANY IMPLIED WARRANTIES RELATING TO THE ABOVE PRODUCT SHALL BE LIMITED TO THE DURATION OF THIS WARRANTY. THE WARRANTY DOES NOT EXTEND TO ANY INCIDENTAL OR CONSEQUENTIAL COSTS OR DAMAGES TO THE PURCHASER. Some states do not allow limitations on how long an implied warranty lasts or an exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This Warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

Inquiries regarding the above Limited Warranty may be sent to the following address: PS Audio International, Inc., 4826 Sterling Drive, Boulder, Colorado 80301 ATTN: Customer Service; Email: customerservice@psaudio.com; Voice 720-406-8946; FAX: 720-406-8967.

Outside the US

PS Audio has authorized distribution in many countries of the world. In each country, the authorized importing retailer or distributor has accepted the responsibility for warranty of products sold by that retailer or distributor. Warranty service should normally be obtained from the importing retailer or distributor from whom you purchased your product. In the unlikely event of service required beyond the capability of the importer, PS Audio will fulfill the conditions of the warranty. Such product must be returned at the owner’s expense to the PS Audio factory, together with a photocopy of the bill of sale for that product, a detailed description of the problem, and any information necessary for return shipment.
If you require service in North America

In the unlikely event there is a problem with your PS Audio component, please contact your dealer, distributor, or the PS Audio corporate research center to discuss the problem before you return the component to our facilities for repair. Products shipped to the corporate research facilities will be refused and returned freight collect if not accompanied by a PS Audio Service Department issued return authorization number (RA Number).

Return authorization numbers must be prominently displayed on the outside of the box and an accompanying letter describing the problem and re-listing the RA number must be inside the box to qualify for service.

If you are transferring your warranty, you must first contact PS Audio or your dealer or distributor for details.

To contact the PS Audio Service Department:

TELEPHONE 720-406-8946
HOURS Monday-Friday, 9:00 am to 5:00 pm MST
FAX 720-406-8967
E-MAIL service@psaudio.com
WEBSITE http://www.psaudio.com

If you are in the United States use the following procedure:

1. Obtain a Return Authorization Number (RA number) and shipping address from the PS Audio Service Department.

2. Insure and accept all liability for loss or damage to the product during shipment to the PS Audio factory and ensure all freight (shipping) charges are prepaid.

The product may also be hand delivered to the California or Colorado facilities if arrangements with the Service Department have been made in advance. Proof of purchase will be required for warranty validation at the time of hand delivery.

Use original packing

Use the original packaging to ensure the safe transit of the product to the factory, dealer, or distributor. PS Audio may, at its discretion, return a product in new packaging and bill the owner for such packaging if the product received by PS Audio was boxed in nonstandard packaging or if the original packaging was so damaged to the point it was unusable. If PS Audio determines that new packaging is required, the owner will be notified before the product is returned.

To purchase additional packaging, please contact your authorized PS Audio dealer, distributor, or the PS Audio Service Department for assistance.

If you are outside the US

If you are outside the United States and require service you must contact your country’s dealer or distributor for instructions. PS Audio warranties its products (see warranty section)
worldwide. Service for PS Audio products outside the United States is handled through your country’s distributor or dealer.

1. Obtain a Return Authorization Number (RA number) and shipping address from your dealer or distributor’s Service Department.

2. Insure and accept all liability for loss or damage to the product during shipment to the dealer or distributor’s Service Department and ensure all freight (shipping) charges are prepaid.

If you have problems

If you feel your country’s dealer or distributor is either unwilling or unable to service your PS Audio products, please contact our service department at service@psaudio.com or at the above contact numbers to discuss the situation.

Voltage changes

Voltage changes to match your country’s voltage and frequency requirements to your PS Audio product are possible only through your dealer, your country’s authorized PS Audio distributor or the factory. Units purchased outside your country of residence will not be changed to the appropriate voltage unless prior arrangements have been made at the time of purchase. Please refer any questions to your dealer or distributor or by contacting the PS Audio service department.

Your serial number

Your PS Audio product serial number is:

Your purchase information

Please fill in the dealer or distributor’s information from where you originally purchased the unit.

Date of purchase