You have no idea what your CD's sound like

Until you hear them on the memory player

A CD player that changes everything

The PerfectWave CD and DVD Memory player is a ground breaking new category of device that removes all digital sound limitations and plays music with such an open spacious manner as to be ground breaking.

Our love of music and high-end audio is why we've created this remarkable instrument to simply plays music better than any other player we've heard. If you listen to discs, you need this player.

The PWD plays both standard and high resolution audio and sends perfected digital audio data from its solid state memory directly to your DAC and then onto your loudspeakers.

It works differently than other CD players by first extracting music from the CD – storing to a memory – then playing from the memory instead of the disc.

The results are remarkable and deliver better performance on any system by unlocking all the musical magic stored in your CD's and hidden from you until now.

The PerfectWave Memory Player

The idea behind the PWT started with the realization that there is no technical reason why storage mediums should affect the quality of the music. Properly designed and executed, digital audio should sound the same regardless of how it was stored: on an optical CD, DVD, magnetic hard drive or solid state memory. The reality is quite different before the advent of the PWT.

PS Engineers have understood since the early days of CD players and transports, that both CD mechanisms and computer hard drives are mechanical devices hopelessly trying to perform in a world of precise timing. These timing challenges must be handled with non-mechanical means.

What we discovered is there is only one reliable method to extract the music from the disc and play it back without any hint of compromise – from the output of a solid state memory rather than the mechanical disc itself.

This is what the PerfectWave Memory Player does and why it is so wonderful sounding.

The PWT is like the Power Plant of CD's

It is, in fact, a minor miracle that a CD mechanism works at all. The mechanical devices that control the laser reading mechanism, the varying rotational speed of the disc, the wobbling of the CD and the errors that must be corrected for even the best CD's all need separate feedback based systems to correct for their errors. While engineering marvels to be sure, these systems of error correction are themselves Band Aids and not perfect solutions.

Until the advent of the PerfectWave Transport, every CD player ever built relies on the same mechanical technologies and suffers from the same problems as every other. PS engineering realized that instead of applying better Band Aids to the problem of CD playback we needed to design an entirely new system that accepts any quality digital audio data and outputs perfect data in its place; a system that is not affected by disc, data or mechanical/optical performance issues.

To accomplish this we fashioned the PWT after the design concept of the Power Plant AC regenerator. The Power Plant concept acknowledges that we cannot control the quality of the home's incoming AC power, nor can we fully repair its problems. Instead we simply ignore the problems, start over and generate new AC, thus eliminating the problem entirely. There is no connection between the input and the output of a Power Plant.

The concept for the PWT is very similar in that there is no connection between the input and the output of the PWT. Unlike a traditional CD transport, you are never listening directly to the data from the optical disc. Instead the data is pulled off the disc and sent to the internal Digital Lens where it is rebuilt and stored for up to three minutes and then output by the asynchronous (unrelated) clock .

The color touch screen display

Building the perfect transport means more than just producing the perfect output. The transport should also be a joy to use and answer a higher level of expectation from its owners.

Every CD player and transport, since the inception of the CD in 1982, has included a compromised user interface. None of these interfaces addresses what music lovers really want; the cover art on the CD case. Albums have all had cover art as have CD's, but not CD players. Now that is changed forever with the introduction of the PerfectWave Memory Transport.

60 years after the introduction of the vinyl LP, there are still very few players that recognize and display cover art and song titles from the disc itself. The engineers at PS Audio determined to put this shortcoming behind us with the introduction of the PWT's touch screen display.

Once connected to an internet capable network connection, the PWT will display the cover art and song titles of just about any CD or DVD you place into it. Imagine how much closer to the music you'll find yourself with the picture of the artist on your player.

No longer do you have to have the CD case in-hand to figure out which track you wish to listen to.

Simply scroll through the actual song titles on the disc itself and touch the track you wish to hear. The PWT will instantly play the selected track.

Your personal library

Every time you play a disc in your PWT a copy of the cover art and song titles are kept for you on your own private library page, accessed through the My PS section of the website (providing you're connected to the internet).

Once in your personal library you can access every cover and song title you've ever played on your PerfectWave Transport. You can even see what other PWT owners are playing around the world. It's a community of music and high-end audio lovers from around the world.


INSERT DISC
PerfectWave Transport

High resolution WAV files on DVD

The future of audio is to be found in higher resolution media than CD's. CD's are limited to 44 kHz and 16 bits.

For CD's to approach the musicality of vinyl and master tapes, higher sample rates and bit depths are required. 24 bit, 96 kHz is a minimum for high resolution audio andhigher sample rates (up to 192 kHz) are best.

Sites like HD Tracks have growing selections for download typically in the FLAC or WAV format.

The PWT can read WAV files directly off a DVD and present jitter-free digital music to your DAC with resolution up to 24 bit and samples rates as high as 192 kHz.

High resolution downloads that are in the FLAC format can easily be converted to WAV files on your computer, transferred to a DVD and played in all their glory on the PWD.

Inside the PWT

Inside, the PWT is all technology and innovation running on a 440,000 gate FPGA . An FPGA (Field Programmable Gate Array) is like a giant customized microprocessor that can be configured to do whatever the engineers want. It has no built-in functionality and is hundreds of thousands of assignable cells or gates operating from a custom bit of software.

It is through this FPGA that the music extracted from the disc is sent and handed off to the Digital Lens.

The internal FPGA can be programmed for updates that happen by you, the music lover at home.

Getting the music off the disc

The PWT's CD/DVD read device is a DVD ROM drive like that in a computer.

Using a ROM drive, we can read the music on the disc using an entirely different approach that requires no error correction, something you cannot do with a standard CD/DVD mechanism. To get bit perfect results the PWT uses the PS Audio Multiple Read Error Correction system (MREC) which looks at the music on the disc multiple times until it's verified as bit perfect.

Everything is played from memory

Inside the PWT there is a built-in Digital Lens that stores the music from your disc before playing it. Unlike other approaches it is unnecessary to play the entire disc and place it into memory before listening. Instead, the intelligent Digital Lens stores only what is needed for perfect playback and the user experience is nearly instantaneous.

Just push play as you would on any CD player and the PerfectWave Memory Player does the rest instantly.

If you wish to see the lens in action, simply eject the disc while you're listening and note how the music continues to play even when the disc has been removed from the PWT .

It is the fact that you are listening to the stored version of what's on the disc that helps the music sound so lifelike and spacious. CD players all stream music directly off the CD while a PerfectWave Memory Player always plays out of its memory; never the disc.

The output asynchronous clock

Once the music leaves the Memory Player's Digital lens storage it is raw, clean audio and contains no clocking or timing information at all.

The transport is expected to provide the critical master clocks and timing information in order for the connected D to A processor to even work.

It is at this critical juncture that we add back in the clocking signals needed by the DAC. The chance for error and sonic degradation is great so it is with care and skill PS Engineering add back in the clocking signals.

The clocks are not referenced to the CD or the memory and this allows them to run independent of any potential sonic degrading noise, interrupts and timing errors. Only the finest low noise, precision, low jitter clocking mechanisms are used to fulfill this need.

The results are music without peer when reproduced by a great DAC.

I^2S through HDMI output

There are two ways to get the digital audio data out of the PWT: S/PDIF or I^2S HDMI. I^2S is the preferred method if you have the PS Audio PerfectWave DAC that can receive it.

S/PDIF (and AES/EBU) are the standard delivery methods but are not the best sounding ones. They take three separate internal clocks along with the raw music data and combine them into one stream to the DAC. This mashup of music and clocks causes the audio to sound flat and harsh compared to I^2S and is one of the reasons we designed NativeX on the PWD. NativeX eliminates many of the problems associated with S/PDIF.

A much better way of delivering the music is what I^2S does and the audible results are simply stunning. Simply use any HDMI cable between the PWT and the PWD and you are transferring data perfectly, through I^2S.

Outside the PWT

The chassis of the PWT is a metal sculpture that rivals the best ever built. A combination of aluminum and steel, the PWT weighs in at 20 pounds of elegance and beauty. The top cover is a hand painted, hand polished piano black cover that has been lavished over for hours.

When you receive your PWT, you'll find a pair of soft white gloves to pull the unit out of its protective cotton sleeve and unveil its beauty. Every person who has had the opportunity to see a PerfectWave in person has the same initial reaction: they reach out and softly caress its finish and admire its beautiful lines.

Built in Boulder

The PerfectWave series is assembled, programmed and tested at our new production facility in Boulder Colorado.

There is a measure of pride of workmanship that goes into every one of these PerfectWave products and it shows from the moment you open the unit up and plug it in.

The last transport you'll ever need

The PerfectWave Transport is a revolution in product development and a pure joy to use. It plays both DVD as well as CD. It finds and displays cover art and song titles on its beautiful color touch screen and you can connect to this art through your own personalized webpage.

It easily handles both standard CD playback as well as high resolution audio files directly in the machine. These aren't just "medium" resolution files but full on, 192kHz 24 bit.

The PerfectWave Transport is the last optical disc player you will ever need or want and for the love of music and high-end audio that we all share, this is the player to get.

This is one gorgeous piece of equipment and just the beginning of the most beautiful natural sounding audio equipment you have ever had the privilege to own.

Visit your local PS Audio dealer for details on investing in PS Audio products.