

Using the PS Audio PerfectWave DAC with Media Bridge & Network Music Source

Introduction

The PerfectWave™ Network Bridge is slide in board that instantly transforms the PerfectWave DAC (“PWD”) into a state-of-the-art network media server. You can stream high resolution music from a NAS or a computer, over your home network, directly to the PWD once the Bridge is installed. The Bridge makes high-end fun again and removes the need for the DAC to be connected directly to a computer allowing music lovers the freedom to enjoy their digital audio collections with high performance at the touch of a finger.

The PerfectWave Bridge and PWD combo will change everything in your system and allow you to build a musical library your friends and family can enjoy for years to come.

With the Network Bridge installed you can focus on what you really want, music and the joy of a high-end audio system.

- 192kHz 32 bit compatible
- Built in Digital Lens
- Decodes all popular formats
- Enables cover art and titles on the touch screen
- Connect via Ethernet
- Easy install
- UPnP compatible

Requirements

In essence, there are two requirements to use the PWD with a network music source – a music source (with music) and a network. Just as you require a clean and unrestricted source of power for your audio equipment, you also need a clean and unrestricted flow of data over the network to get the best out of your PWD.

Note that you can also connect the PWD to a computer using a USB connection and then don't need a network. There is a limit of 5m on a USB2 cable (without the aid of extenders / converters) so this essentially means you will need a computer close by to the PWD. The computer will then also need software to catalog and play the music, via USB. The setup is not discussed in this document.



Network Music Sources

A network connection is one means of connecting the PWD Media Bridge to a music source. Over the network, these devices use a protocol called “UPnP” (Universal Plug and Play) to communicate. UPnP has servers, that are sources of content such as music, and renderers, which are the devices that output the content as music (or video and images if applicable).

In order to use your PWD the following is required for reliable results –

- **A static network address for both the PWD and NAS is an absolute must for speed and reliability of the system. If you don’t know what this is or how to do this, please ask someone for help. Note that this is not the same as getting a static IP address from your internet service provider.**
- A hardwired network (that is, one that uses cables with a large telephone style connector on each end). A wireless network is not recommended.
- A network switch to allow connection of multiple devices such as the PWD, music server, computers and other devices that need a network connection. This is a bit like a powerboard for network connections, providing multiple sockets. An 8 port network switch can be purchased for less than \$100.
- Network speeds of 100Mbps or greater (most modern networks are this at a minimum).

Music Server

The music server is the device that stores all the music, maintains a catalog of it and advertises it over the network that it has music to play. The PWD will see the server, its music catalog and then play music from it. The music server does not need to be in the same room as the PWD, but must be connected to the same network.

There are basically two kinds of music servers –

- Computers running music server software.
- Dedicated devices, the most common of which is called a “NAS” (Network Attached Storage). A NAS with 3TB (3,000GB) of storage can be purchased for around \$400.

A NAS is the preferred device as a music server for the following reasons –

- It is a dedicated device designed to do one job – provide storage. As such, there are not the usual problems and risk associated with computer – viruses, crashing or slowness when running multiple applications.
- They are a physically small device (but can be large if they have space for 4 or 8 hard drives).
- They consume less power and tend to be quieter than a PC.
- They can be configured with multiple hard drives to provide redundancy if one disk fails.
- It can be set up as a network drive on your computer for easy access – simply copy music over and the server will add it to the catalog.
- They can also be used as a backup location for computers in your home.

Music Formats

Once you have storage, you obviously need music to play. There are a variety of formats and the most common are explained below –

- WAV – Uncompressed audio. Tags (see below) are not supported.
- MP3 – This is a lossy, compressed format. “Lossy” means that the audio produced after decompression contains less information than the uncompressed source it came from. Files can be 1/10th of the size of the original. Tags are supported.
- FLAC (Free Lossless Audio Codec) – this is the most common format for audiophile tracks. “Lossless” means that the audio produced after decompression should be identical to the uncompressed source it came from. Tags are supported.
- Tags – some music formats support the embedding of information in the file itself. This information includes artist, album name, track title, genre, year, album art, and more. Music server software looks at the tags in the music file to build its catalog.
- Please refer to this link for more information - http://en.wikipedia.org/wiki/Audio_file_format.

There are benefits and compromises with each format. The most obvious is that the better the quality, the larger the file size. WAV files usually sound very good but lack the ability to have tags so ordering and search your music collection is limited.

Music Sources

There are two main sources of music –

On-line Sources – there are a number of websites now that allow you to purchase and download high quality music files (FLAC is the most common format). A few are -

- HD Tracks - <https://www.hdtracks.com>
- Linn Records - <http://www.linnrecords.com>
- PS Tracks - <http://www.pstracks.com>

Note that some US based websites block international purchases.

Converting Your CDs – There are a number of programs what will read a CD, fetch the tags and album art and convert it to your chosen music format (mp3, FLAC, etc).

One of the best packages available is called dbPowerAmp (<http://www.dbpoweramp.com/>). This package also allows changing the sample rate and bit depth of the music. It is recommended that you experiment with the parameters that best suit your system and storage.

Note – please check your copyright laws to ensure that you are not infringing them by converting CDs.

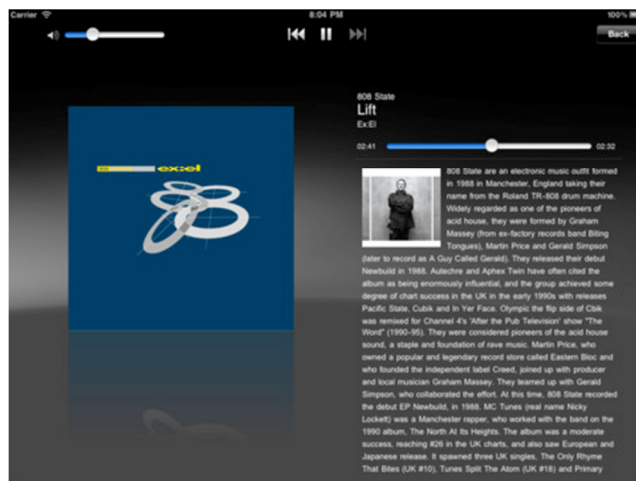
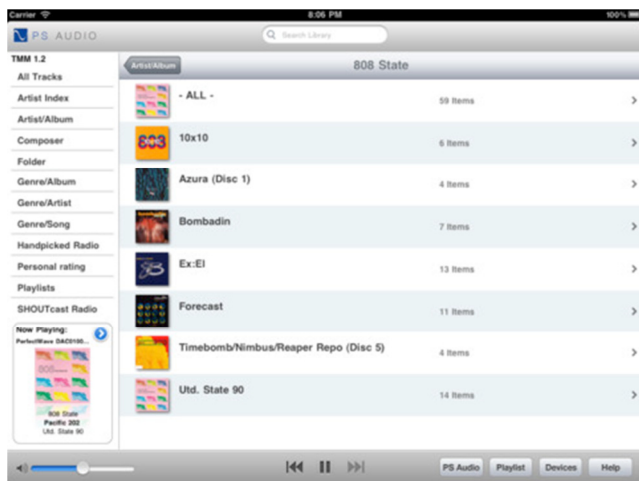
Selecting & Playing Music

Once the network and music server are set up, the only other requirement is the means to select and play music. To select and play music, you need a “control point”, which is basically software to pick a source (the NAS) and output (the PWD) and then direct music from one to the other. As the PWD is an UPnP device, in theory, it should work with any UPnP control point software. However, not all software will work as reliably as others, so results can't be guaranteed.

Some apps that have been tried are listed below –

iPad & iPhone - eLyric App

An iPad running PS Audio's eLyric app is the preferred and most enjoyable way of doing this. Note that wifi access for the iPad is required for this. The app will let you search by artist, album, track title, genre and more. When you select tracks, you can play them immediately, add them to a queue or build and save a playlist that you can use at another time. The eLyric app also provides control over the PWD (source, filters, and phase) and also provides interesting information on the artist currently playing.

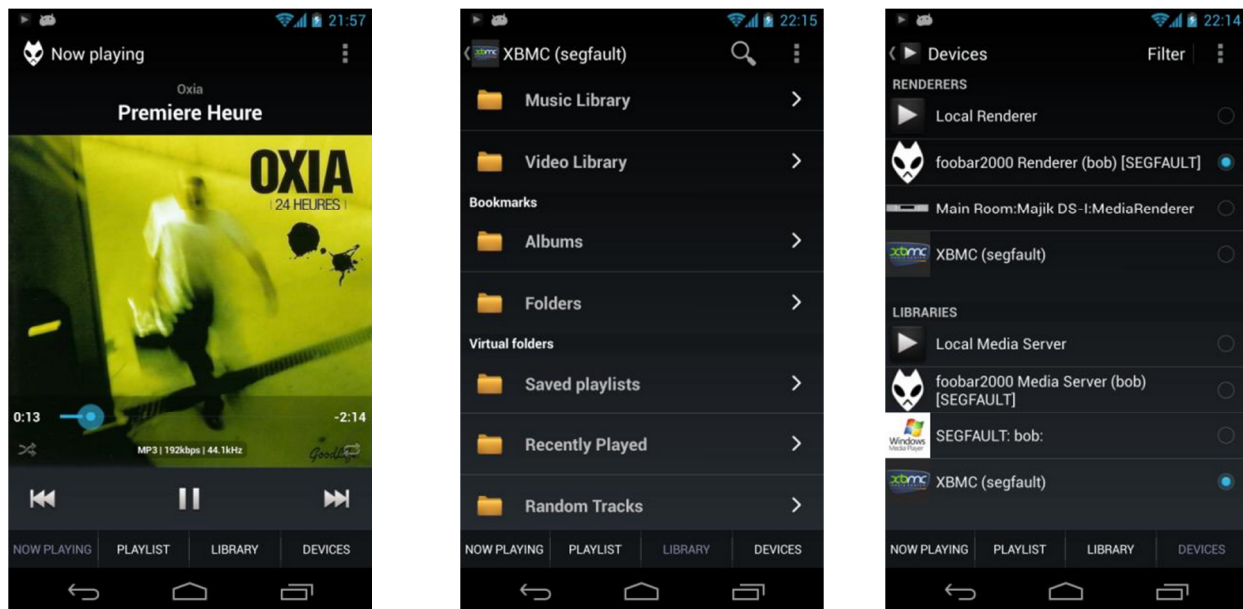


The eLyric app can be purchased from the iTunes store on your iPad for around \$10.

An alternative is also PlugPlayer (<http://www.plugplayer.com/>).



If you have an Android device there is not yet an eLyric app, but an app like “BubbleUPnP” will function.



In Summary

To connect and use the PWD the following is required –

- Hardwired network with 2 spare ports (one for the PWD and one for the music server).
- A music server – NAS recommended
- Static IP addresses for the NAS and PWD
- A controller device and software – iPad (preferred), iPhone, iTouch or Android device
- Music to play.

FAQ

Q: I only have wireless at home. What can I do?

A: You can purchase a small switch for the PWD and NAS and then connect it using a single cable to your internet connection (router).

Q: Can I use an “Ethernet over Power” adaptor to connect my system up?

A: Possibly. Some of these devices change network addressing around in a way that effectively introduces another network that is separate from the existing one. Consult the product details carefully.

Q: Do I need an iPad to control the system?

A: Windows 7 has a “play to” function that may be able to be used. Another free packaged called “Foobar” has a plugin that allows it to be a control point.

However, the best experience will come from using an iPad or another smart tablet.

Q: I don’t have an iPad, only Android.

A: Android packages such as BubbleUPnP will work with the PWD. There is a free version to try before you buy.

Disclaimer

This document is intended to assist in the setting up of a PWD and is not intended to be a definitive or exhaustive guide nor infer any guarantee of performance or reliability. For best results, please consult with specific details of your systems and requirements.