



Zsolte Mathe, Z-Infinity Audio, demonstrates his wonderful tube electronics which he manufactures locally.

October 11th Meeting Recap

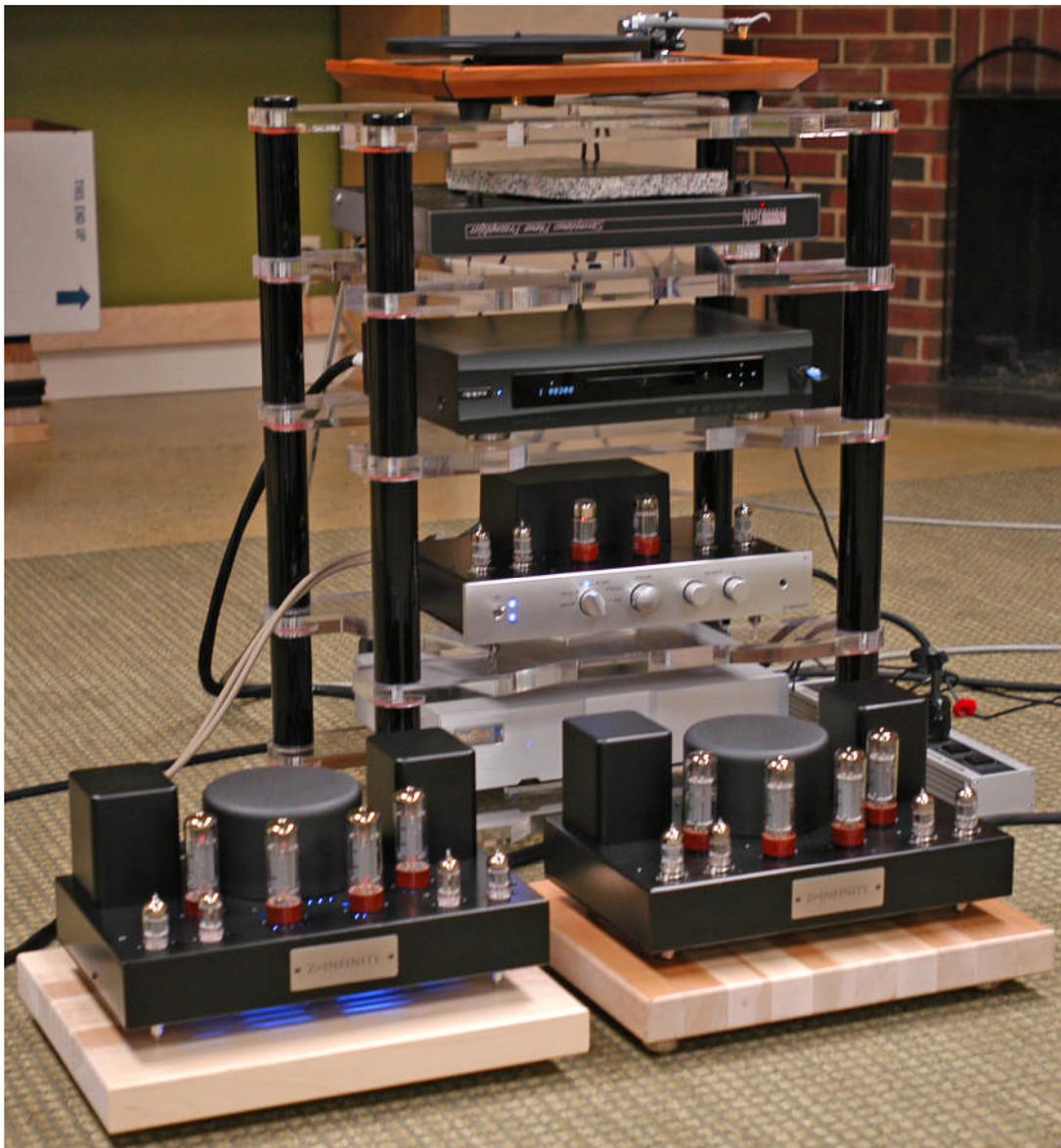
by Sean Archer

Wow, fall is here already and the holidays are coming fast. The weather has turned back to mostly rain. Gotta love Seattle. ;o) Our October meeting featured Zolt of Z-Infinity <http://www.zinfinityaudio.com> demonstrating his tube based preamp, and two tube amps. A 2 channel 20WPC SET

(single-ended triode with paralled output tubes) design and a 2 channel 50WPC push pull class A/B design both designed around the EL34 power tubes. We also had our 2012 speaker contest winners and runners up bring in their speakers so the club members could listen to them.

First we had a listen to Zolt's linestage preamp connected to his 50WPC push pull design driving the clubs Genesis G7.2f speakers. After a few songs we switched to the 20WPC SET amp. The source was the clubs stock Oppo BDP-95 player. The push pull amp drove the clubs speakers very

photos by Joe Pittman



well and the sound was very good. The SET amp was little rounder sounding and more romantic. Zolt custom build's these amps to your specs up to 120WPC in mono mode.

The second part of the meeting we listened to the loudspeakers from our 2012 "Puget Sound" DIY speaker contest. For these speakers we stuck with the Z-Infinity pre and 50WPC push pull amp. The contestants brought in some of their own tunes to hear. First up was Dave Rosgaards mini monitor entry. These speakers had orange ports. Dave said he forgot to order ports for these so he had to make do with what he had around the house. Turns out he had

some pill bottles that were just the right size for the job. :o) These speakers were sounding very musical and refined. Considering the cost of the materials (I believe less than \$60) I was very impressed. Dave uses a serial crossover of his own design. From what I heard they must be very good. From what I understand a good portion of the speakers entered were using Dave's crossover.

Next up was Howard Grim's 3-way speakers that won best of show. Unfortunately I had to leave the meeting early to catch an early morning flight to RMAF so I didn't get to hear the rest of the speakers that night. I did get to hear

Howards speakers at the contest after the judging was over. The sound was very well integrated and the frequency response was nice and smooth. I can understand why they were best of show. Well done Howard.

All Z-Infinity products are offered at a 20% discount to club members until the end of the year. Please use the discount code NWAUDIO at: <http://www.zinfinityaudio.com>



Dave Rosgaard's mini monitor entry.



Terry Olson's "Million Dollar" monitors.



Howard Grim's 3-way entry. And back view.



For more pictures and information, see:
<http://www.audiokarma.org/forums/showthread.php?t=467561>

November 8th Meeting Announcement

Playback Designs - Andreas Koch

by Bruce Brown

This meeting will consist of all things DSD! Andreas will be demonstrating his Playback Designs MPS-5 and hopefully the MPD-3 as well.

Andreas Koch got his start working for Studer ReVox in Switzerland back in 1982. It was his task to build the world's first fully asynchronous digital audio sample rate converter, patent granted in 1984. Also, in 1984, he designed one of the first filter banks for digital audio. 512 banks were used to perform digital noise reduction for old recordings. Some of the same ideas were used later in audio compression algorithms such as MP3, AC-3 and others.

Following his accomplishments at Studer Revox, he went to work with Dolby Labs in San Francisco. In 1985 he built the entire digital signal processing of the AC-1 encoder and decoder (delta modulator). This was a professional digital audio compression scheme used for television transmission. It was Dolby's first digital audio product and was sold quite successfully. In 1986 he built the hardware for the very first incarnation of what is today the widely used AC-3 compression algorithm.

In 1987 Studer ReVox in Switzerland required his return. Andreas managed the development of a professional

digital audio tape recorder which was a 48-channel DASH format on 1/2 inch tape. For the next two years he was involved in the market and technology research for hard disk (PC) recording in professional applications. This job required visiting many high profile recording studios worldwide which helped to establish his solid base in this industry.

Andreas continued his great work in Switzerland until his transfer to Studer Editech in Menlo Park, CA, in 1989, where he was tasked to manage a group of engineers designing the ultimate hard disc recorder for professional post production applications, launched "Dyaxis" in 1992 which is still used today. The user interface was so revolutionary that it was copied by many competing products still produced today.

In 1993 Sony in Florida needed his services. He oversaw product development for professional audio products and launched various mixing consoles. Sony recognized Andreas' great successes and asked him to relocate to San Francisco in 1997 where he started and managed the development for the world's first 8-channel DSD recording / editing / mixing machine. "Sonoma" is still used today in studios throughout the world and has been used for most SACD releases. He designed all the

digital parts of A/D and D/A converters that helped establish DSD as a superior sounding audio format in SACD. He followed that up by expanding the Sonoma to 32-channels of DSD on a single PC. Andreas also participated in all standardization committees for SACD in conjunction with Philips.

During 2003 Andreas decided to go into business for himself as an independent contract engineer. For the next four years he designed all of the digital componentry, algorithms and architecture for EMM Labs digital audio products; professional and audiophile. He designed and implemented various revolutionary algorithms for sample rate conversion (SRC), as can only be expected from one of the original inventors of SRC. He also developed a discrete D/A converter and unique architecture for clock management from digital audio transmission inputs. In 2008, Playback Designs, formed by Andreas Koch and Jonathan Tinn, launched an integrated SACD/CD player with a variety of digital inputs that incorporates all the experience, knowledge and algorithms Andreas gathered and developed over the last 25 years, right from the onset of digital audio."



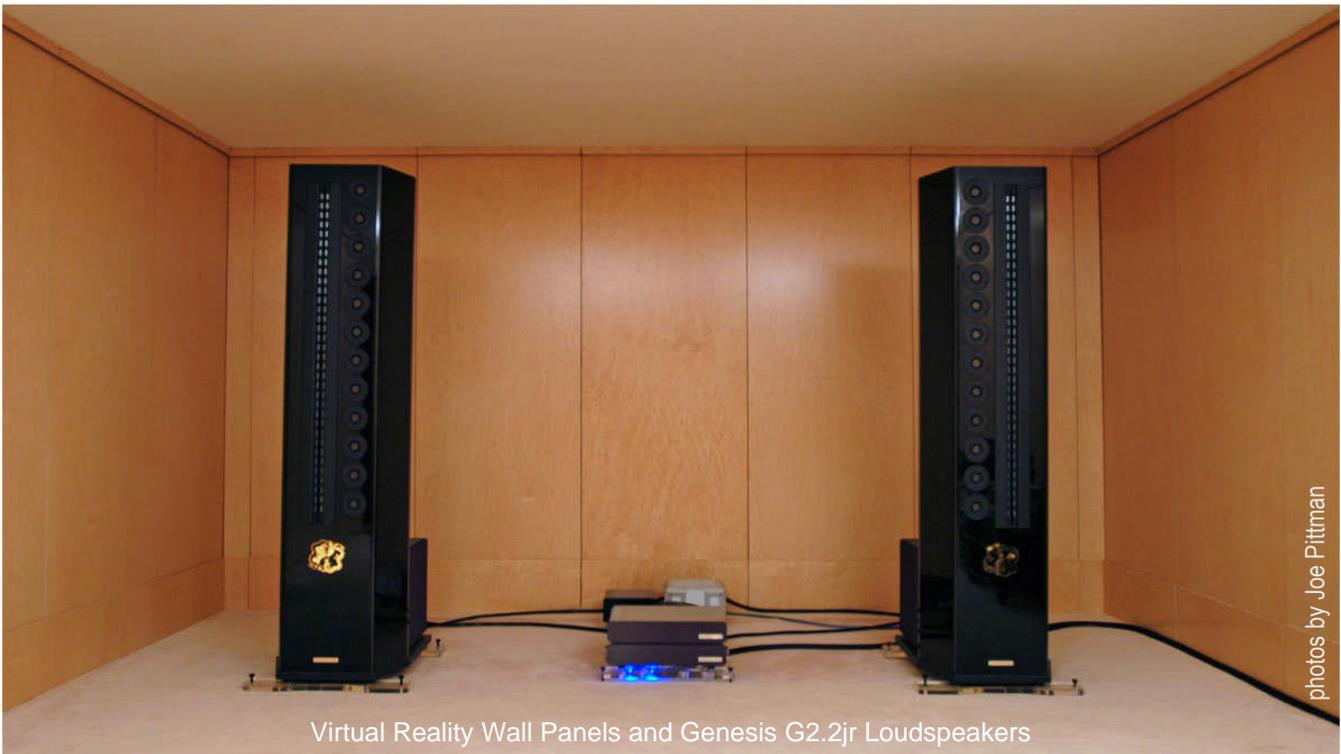
Playback Designs MPS-5



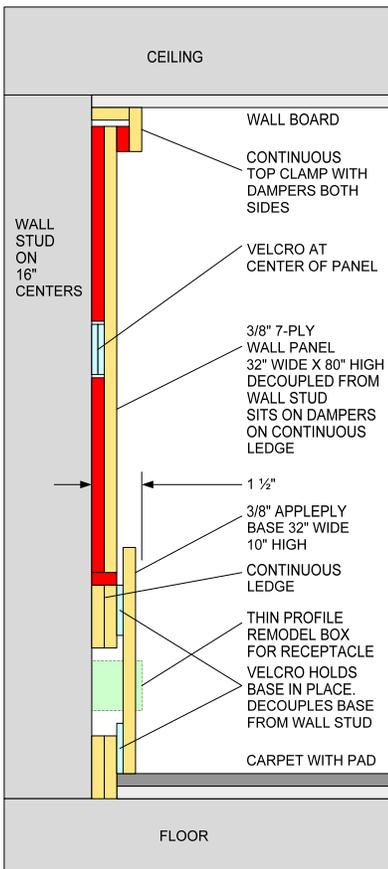
Playback Designs MPD-3

Virtual Reality Wall Panels

by Joe Pittman



Virtual Reality Wall Panels and Genesis G2.2jr Loudspeakers



WALL SECTION

I have been working on my room acoustics for many years now. There has been at least four major design iterations leading up to my current design which I'm calling Virtual Reality Wall Panels because my goal has always been to get the room to disappear and recreate a virtual reality environment.

My first room design used hard dense walls using underlayment (twice the mass of standard wall board). This was good to isolate the dedicated music room from the rest of the house, but bad because like a bunker low frequencies could not escape. Bass was wrong.

My second approach was to hire an acoustical engineer to correct my room problems. Lots of testing and cost/benefit analysis yielded the addition of a large custom made bass trap/diffuser at the front wall, side wall diffuser/absorbers and ceiling diffusers. It really didn't work, just changed the problems.

My third approach was to eliminate the custom side wall diffuser/absorbers and then install diffusers on all of the walls. Turns out that all of the side wall diffusers had a plastic sound and I still had the bunker effect.

So my fourth approach was to re-

move all of the side wall underlayment, including the custom front wall bass trap/diffuser, which exposed all of the wall studs. This eliminated the bunker effect. I installed MDF panels instead of the plastic diffusers this time. The sound was better, but the bass was still wrong and now more obviously imbalanced.

All of my previous acoustic experiments eventually led me to my current fifth design iteration. Since my front wall and right side wall are essentially concrete retaining walls, they don't move. Whereas my left wall is a load bearing stud wall, which does move at low frequencies. The structure was a major contributor to bass feedback.

What to do? The solution was to decouple the walls from structure, creating a room-within-a-room. A dense naturally non-resonant plywood was chosen for the panels which is manufactured in the Pacific Northwest. Using panels with maple veneer, it also looks really good. The neat thing about this design is that it can be applied to existing walls (only adds 3/4"), creates a wire cavity at the bass board and is easily removed.

My room acoustics will continue to evolve for sure. Stillpoints dampers next.

Stocking Stuffers

by Joe Pittman

The holiday season is upon us and I have a few cool computer audio gift recommendations this year. Many of you have probably heard about the [Audioquest DragonFly](#) by now and it is the real deal. It's a USB DAC and headphone amp in one. For road warriors, students, or just plain normal people (ie; non-audiophiles) looking to get improved sound out of their laptops and computers, the DragonFly offers real high-end performance for only \$249.

So how does this DAC, the size of a USB stick do it? Well it was designed by Gordon Rankin, of Wavelength Audio, the father of the asynchronous USB protocol (which allows the clock in the DragonFly to override the clock in the datastream coming from the computer and thus lower jitter). Rankin has licensed his asynchronous USB software code under the trade name Streamlength, and is now used by most asynchronous USB DACs. The Streamlength software code resides in the Texas Instruments TAS1020 USB receiver controller chip in the DragonFly, so you don't have to download software from the internet to make it work. It's almost plug-and-play, all you need to do is make some simple set-up steps in your operating system (Apple or Micro-

soft) and you are good to go. It only took me 15 minutes to make sound, and I read the manual.

Rankin designed every aspect of the DragonFly except the connectors and cosmetics. The DragonFly uses high-end parts including a 24-bit ESS Sabre DAC, a Burr-Brown headphone amp/line amp, a digitally controlled 64-

DRAGONFLY



step analog volume control, and 5 regulated power supplies. All that (107 parts) are packed into the compact zinc-alloy case. Micro-dot LED's (1mm) illuminate the DragonFly emblem to change color in accordance with the sampling rate; green for 44.1kHz, blue for 48kHz, amber for 88.2kHz and pur-

ple for 96kHz. Higher sampling rates are down-sampled by half, for example 192kHz is played at 96kHz, etc. (Make sure you use playback software such as J River Media Center which has the ability to change the sampling rate on the fly, whereas iTunes does not.)

The 3.5mm output jack and USB plug have silver plated plugs. All this and it's made in the USA, not in Asia.

I've tried the DragonFly with a couple of headphones, and like using my [Etymotic ER-4](#) in-ear units when traveling.

As a source for a conventional hi-fi, the DragonFly does an outstanding job in my small system and I recommend a good mini jack-to-RCA interconnect such as the [Audioquest Golden Gate](#) (\$59 for 1m) and the better [Audioquest Victoria](#) with DBS (\$295 for 1m).

I'm using my [Genesis Gen6 laptop](#) with optimized software, running [J River Media Center 17](#) (\$49.98) for playback and [JRemote](#) for remote control of JRMC via my iPad (available at the Apple App Store for \$9.99). And for steaming music to JRMC from network attached storage, I highly recommend the [Lacie 2Big 6TB NAS](#).



DragonFly with Etymotic ER-4 In-ear headphones and Genesis Gen6 laptop.

Coming Attractions

November 8 PNWAS Meeting

Andreas Koch will talk about DSD through USB and all things DSD (tentative).

December 13 PNWAS Meeting

Annual Christmas party and Best and Funniest Holiday music competition. We may also have a Home Theater demo (tentative).



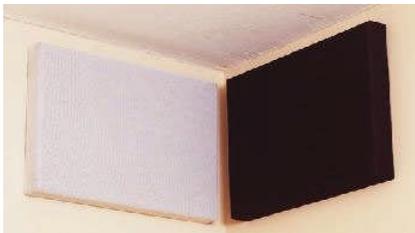
January 8-11 2012 CES

The annual electronics mega show in Las Vegas. Attend at your own risk (bring lots of cash).

January 10 PNWAS Meeting

TBD

Classified Ads



Cathedral Sound Room Damping Panels with black cloth. Four each in like new condition. Retail \$360. Sell for \$150 including shipping and PayPal fee. Contact Joe at 206-878-3833 or email joe@kosmic.us.



Squeezebox Boom. Like new. \$150 including shipping and PayPal fee. Contact Joe at 206-878-3833 or email joe@kosmic.us.



Blumenstein Orca Loudspeaker pair in natural bamboo. Condition 7/10. Retail \$595 Sell \$300 including shipping and PayPal fee. Contact Joe at 206-878-3833 or email joe@kosmic.us.

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Visitors Welcome!

Meetings are held on the second Thursday of every month at 7:30pm at 4545 Island Crest Way, Mercer Island, WA 98040.

PNWAS Mission Statement

- ◆ To bring people with a common interest in music reproduced at its best, for their mutual edification and pleasure.
- ◆ To facilitate the exchange and dissemination of accurate data concerning audio equipment and musical recordings.
- ◆ To promote, sponsor, and cultivate the highest quality reproduction of music in the home.
- ◆ To encourage maintenance of high standards in the performance, recording and transmission of music.

PNWAS Objectives

1. Provide a forum for meeting other audio-philes and exchanging information on musical recordings and audio equipment.
2. Demonstrate and compare equipment and recordings.
3. Give members opportunities to become familiar with the techniques of audio manufacturing, testing, repair, recording, broadcasting, etc.
4. Explore related avenues as the member-

ship deems appropriate.

Club Website

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US Mail

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Annual Dues

\$60 due each January. New members pay a prorated \$5 per month for remainder of year.

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Music: Vacant– Volunteers?

Refreshment: Vacant– Volunteers?

Editorial

Editorial submissions are welcome.

Content must be audio-related or of general interest to the club in plain text or Word document format without automation (macros and scripts). We reserve the right to edit for style, content, and length.

Editorial Deadline: two weeks before meeting date.

Publishing any editorial material is contingent upon the approval of the Executive Committee.

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