

GENESIS
ADVANCED TECHNOLOGIES



Last meeting

By Gary Koh

PNWAS Playlist March 12th, 2009

I was once told that the sound of a loudspeaker reflected the personality of the designer. I beg to differ. I think that the sound of a loudspeaker reflected the music that was used during the design.

During design of the Genesis 7.1f, I probably spent a total of a day on the computer modeling the crossover. This gets me to the initial theoretical design and circuit. Next, a couple of days are spent measuring and tweaking. This is the part that we can measure using the equipment and

software at the disposal of loudspeaker designers – in our case it's the Clio software and a calibrated Earthworks microphone. Then, over three months was spent listening and tweaking to get to the sound that we want. This is the part that we can hear, but cannot – or don't know how – to measure. Over the three months, there are numerous times that we have to go back to measurement to make sure that the design doesn't deviate too far from "flat".

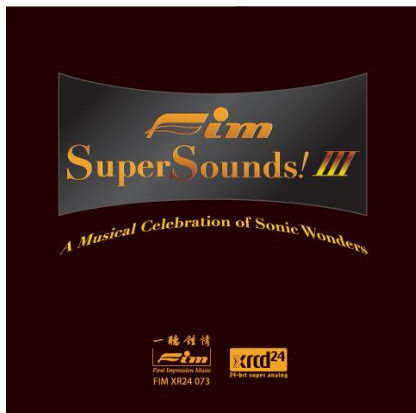
I know of some designers who only listen to one type of music during their design – if I had to spend a

month listening only to Mahler, I'd probably have to take my ear out with an ice-pick!! So, instead of trying to describe what the speaker sounds like, here are some of my favorite tracks – the music used to design the G7.1f loudspeaker.

I wanted to pick a nice opening number, and what better opening than the music used by the Rolling Stones to open their 1976 concert tour. It was also one of Emerson, Lake & Palmer's all time biggest hits, and as a result, is one of the most recognizable pieces of 20th century classical

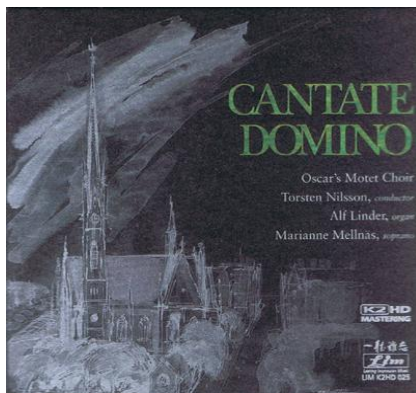
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music – Aaron Copland’s Fanfare for the Common Man. It was also significant that March 12th, the date of the meeting, was the 66th anniversary of the premier of the piece by the Cincinnati Symphony Orchestra.



This piece is full of tympani and brass instruments, and if there is any metallic distortion, it will hurt your ears. The fanfare is sharp but not edgy; stirring, but not shouty. This superlative version is from FIM’s Super Sound III.

The second piece is from one of Proprius’ two famous releases in 1976. This one is Cantate Domino, and is titled Mary’s Lullaby.



When the album was first issued, audiophiles used it to demo the power and fullness of bass in their systems. However, too many systems play bass as a distorted boom. I use this piece to evaluate tunefulness

of the low-end, each note should be distinct, and the pedal melody should be clear. Also, the bass should support and not overshadow the soprano solo. The long wavelength of accurate low bass also recreates the ambience of large spaces. The walls of the listening room melt away, and all of a sudden, you are magically transported to the Oscarskyrkan.

Next, another old recording – Dave Grusin in Discovered Again originally on Sheffield Labs. The original direct to disc LP by Sheffield Labs was remarkable in its fidelity and engineering – the CD versions less so. However, the latest version of the CD, remastered by FIM on



XRCD24, is as close to the original LP as it gets. The bonus is that on CD, you get four bonus tracks, and the track I played – the alternate take of Git Along Little Doggies – I felt was better than the original that was released on the LP. It showcases undistorted, sparkling high frequencies. Any tweeter resonance can be easily heard as the bells will then lose clarity, extension and decay.

One of the mainstays of the “audiophile repertoire” is a female vocal, and one of my favorite female singer is British singer Dusty Springfield. She has a particularly sensual sound to her voice that sends shivers down my spine. Unfortunately, most of her albums weren’t particularly

well engineered or mastered. However, Shelby Lynn came to the rescue with a tribute to Ms Springfield in 2008. The track I played was Springfield’s first hit – I Only Want



To Be With You – released as a single in 1963. One of the most important things that the loudspeaker needs to convey is the emotion of the singer. Shelby Lynn manages to convey the love and longing of the song very well and this was one of the final tracks I used during the fine-tuning stage of the design.

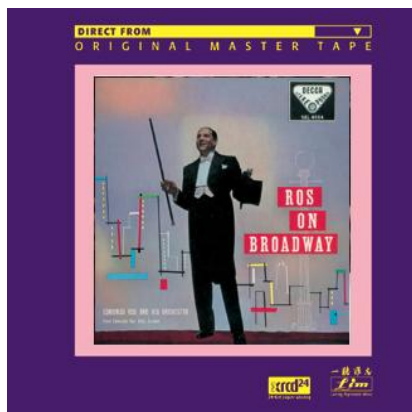
One of the things I always maintain is that the music playback system



must to bring you back to the creation of the musical event, and the musical intent of the performance. For this, I use Frank Sinatra’s live

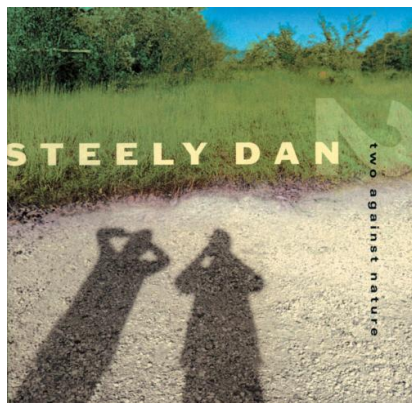
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performance with the Count Basie Big Band recorded at The Sands in 1966. The “liveliness” of the recording allows the listener to feel the emotions of the audience – even in the digital version. You can hear the smile on Frank Sinatra’s face as he



banters with the audience in the beginning of “Fly Me to the Moon”.

About the toughest thing for loudspeakers to do is to correctly maintain the pace and rhythm of the music throughout the bass, midrange and highs. As I used to ballroom dance, rhythm and integration of the band is extremely important to me – every member of the band has to be playing in time. For this aspect of design, I turn to Latin American dance beats, and the epitome of Latin American beat is Hernando’s Hideaway. I grew up with this tune as my



father used to play it all the time from a scratchy 78rpm lacquer.

Although originally a tango, it was performed as a cha-cha by Edmundo Ros and his Orchestra in 1958. Because speakers and systems then were not extended in the frequency extremes, the recording has a glorious midrange with the brass being particularly full-bodied. Despite being recorded over 50 years ago, the freshness of the performance is preserved on XRCD24 by FIM.

Undistorted bass is important for a speaker that goes down to 22Hz, and one of the tracks I used to evaluate this was by Chris Jones on his Roadhouses and Automobiles album on the Stockfish label. No Sanctuary has a fabulous deep driving bass guitar line that has a tune, and every note needs to be felt in the chest and belly. The track also showcases the



power in the upper mid bass of the male voice.

One of my favorite bands is Steely Dan, and I waited years for their next album after Gaucho. The album Two Against Nature came 20 years later, and with it the deliciously funky “Cousin DuPree”. Maybe she’s the daughter of the ditzzy bimbo that they sang about in Hey Nineteen, but the slightly incestuous lyrics are delightful. Brass is well-recorded as is Donald Fagan’s nasally vocals and his vicious guitar licks.

My favorite bassist is Ray Brown – he takes bass beyond the usual

“thump thump boom boom” to something profoundly tuneful. Dizzy Gillespie said that Brown’s sound was so deep and true, you can hear the wood. I picked “Moonglow”, from the album Happy Coat with the Shota Osabe Piano Trio. Harold Jones did duty on drums. This album



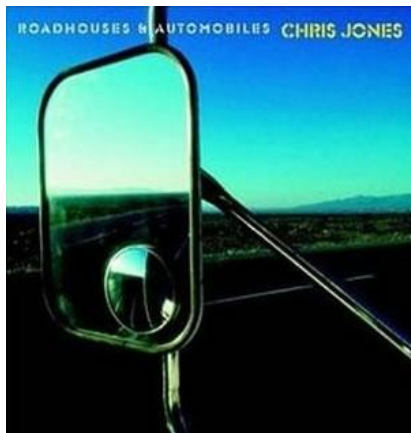
is Mr Winston Ma’s tribute to Ray Brown. Mastered on K2HD, it was the second to last studio session that Ray Brown did, recording a mere 123 days before his passing.

To round off the Redbook session and the first half of the evening, I played something that’s just plain fun, Cajun dance music or Zydeco to get the feet moving before the break. The C.J. Chenier with the Red Hot



Louisiana Band playing Monkey

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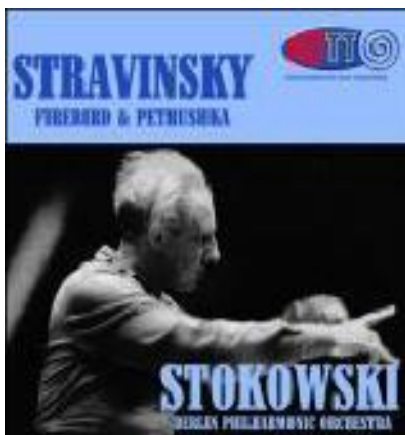
Business from the album Step it Up! Truly upbeat music that you can dance to, you'll find your feet tapping and your body moving to the groove!

After the break, the highlight of the evening was the introduction of high-resolution **24bit/96kHz** music to the members. Starting with the waves lashing in the Venetian lagoon, we hear Vivaldi's "La Tempesta di Mare – the Sea Tempest" on Musica Pacifica's "Fire Beneath My Fingers". Vivaldi's fiery personality and vivid imagination are clearly brought through by Elizabeth Blumenstock on violin and Judith Linsenberg on recorder.

Love him or hate him, Leopold Stokowski imposes his "sound" on to the best orchestras. This recording of Stravinsky's Firebird Suite with the Berlin Philharmonic Orchestra was recorded at Grunewaldkirche, Berlin in May 1957. It is unmistakably vintage Stokowski and still vibrates with the shattering energy of the performance. This is a FLAC file from the High Definition Tape Transfer project – re-mastered from 2-channel commercial tapes!

Moving on to **24-bit 192kHz** sampling, the first track is unknown. David Chesky walked into the Genesis suite during CES2009 and handed me a disc and encouraged me to copy it and demo. It was a spectacular rendition of "You Haven't" by an unknown singer.

Finally, to wrap up the evening, a track from Norwegian label 2L: Vivaldi again, with the Norwegian soprano Tone Wik and the Barokkanerne period instruments orchestra. The music played was the recitative and aria from the cantata "Che Giova il Sospirar, Provero Core".

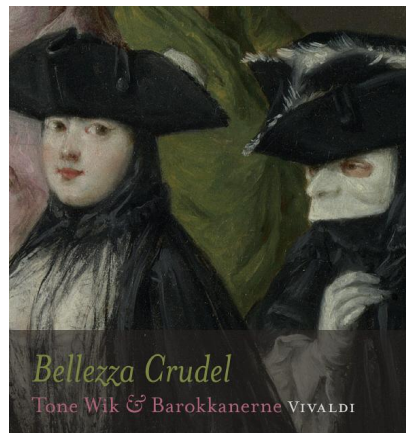


The Gear:

Genesis 7.1f loudspeakers (\$7,999)
Genesis Reference Amplifier 180 (\$4,850)
Genesis Maximum Dynamic Headroom Reservoir (\$3,850)

Weiss Minerva DAC (\$4,999)
Home-brewed music server comprising:

Shuttle XPC 100 fan-less computer and external power supply



OCZ 120GB SLC Solid State Drive for music storage

Microsoft Remote Control

Foobar 2000 player with Columns UI and Album Art

Weiss ASIO driver

IsoTek Titan powering loudspeakers
IsoTek Sigmas powering everything else

Sharp and Sony (66/34%) establish a joint venture. Located in Sakai Japan the LCD panel production facility will open in April of this year. *Sony* announced in January they would cut 16,000 jobs and close up to 6 factories. Hm!

Toshiba's 3840x2160 resolution LCD monitors were demonstrated at CES and are due state side in 2010. This is 4 times the resolution of current 1080 displays, the 56" flat panel is capable of showing 4 different 1080 displays simultaneously. Images are processed via cell technology as used in the Sony PS3.

Sony/Comcast will open a Brick and Mortar store in Philadelphia called SonyStyleComcast Labs.

China is now 4th country producing BluRay disc for *Sony*. Joining the US, Japan and Australia in the HD movie production, *Sony* hopes to lessen piracy, by manufacturing and releasing directly in China hence bypassing some trade laws. It remains to be seen if increased lead in the disc will result in a better image.

iPhone 3.0: *Apple* phone users have long been irritated spending upward of \$80 a month for 24/7 high speed internet access with out the ability to connect into a laptop or any other mobile device. The updated O.S. will allow for tethering if and when *AT&T* offers the service. A \$10/month fee for the additional service is rumored; I expect it will be more than that.

Meridian purchased Soolos last December and has announced their new *Control 10 Touch screen 17"* monitor.

Musical Gaming: The likes of *Rack Band* and *Guitar Hero* have experienced tremendous growth of over the last two years. The market for such games is slowing and may level off

this year. The ability for the average Joe to set at home and play to popular rock songs has lead a resurgence in classic rock and musical instrument sales. *Best Buy* has an instrument sections inside some of their stores.

Title Track by Jerry

On the club home front I have started planning meetings for the next year. One of the meetings I am looking forward to will be a 70s theme meeting. First I thought the idea seemed a bit corny just playing 70s music. That small vision lasted a few days before realizing the challenge of this meeting will be assembling the finest sounding equipment we can get for the evening produced prior to 1980. This means no CD players. Turntables like *Acoustic Research Inc*(A.R.), *Linn*, *Thorens Garrard* and Reel to Reel decks like *Ampex* or *Revox* ruled the decade. Cassette decks by *Nakamichi* or *Tandberg* along with 8-Tracks were prevalent in performance audio systems. Some popular electronics were: *Audio Research Corporation* (ARC) conrad-johnson, *McIntosh*, *Phase Linear*, *Threshold*, and *Mark Levinson*. Some hot speakers at the time were *B&W*, *Infinity*, *JBL*, *Dahlquist*, *KEF*, *Klipsch*, *Bose* and who can forget the Seattle based *SpeakerLab*.

Quality equipment of this vintage is available especially if we allow modified equipment and TTs with non-vintage correct cartridges. The hardest thing to find may be vintage quality cables, was there such a thing? I pulled out a 1974 *Stereophile* (Winter#4), read it cover to cover and found nothing concerning cables except suggestions on making them neat and keeping the AC

away from signal conductors. The flavor of the day was to use ordinary wire; speaker cable was just zip cord. Interconnect Cables were just smaller wire with Phono (Cinch) connectors developed by *RCA* in the 1940s soldered on the ends. *Monster Cable* was founded in 1979 so there must have been some quality cables around before that. In a 1984 *Stereophile* (Volume 7#2) amidst the CD reviews I discovered adds for *Interlink Reference I.C.s* by *Monster Cable* and a half page add for *Tiffany* connectors, this seem to be the start of the mega buck cable craze. I remember a Physics Professor/Audiophile at Highline College with *Dahlquist DQ10s* he used 50' runs of *Romex* for speaker cables. I don't think it would be feasible to pursue vintage cables but will certainly try *Romex* vs. Zip. With members help we should be able to assemble a killer system. If you have any equipment of 70s vintage you could loan for this summer event please send me an email. Does anyone know how to Tie-Die shirts?

The April 9th meeting will be at Mike Lavigne's Barn (house) in North Bend. The subject will be format comparison. Mike has some of the best sources ever made with his Rockport TT and a couple of R2R machines with *Tape Project* tapes, it is always a treat to go to Mikes for a listen. The meeting will be at our standard 7:30pm, the best seats go fast, allow about 10-15 minutes to get to his house after you get off Interstate 90. If you need Mikes address and directions please send me an Email or call (253-350-3916), I will have my cell phone on that evening incase you get lost.

One of the things discussed but never implemented in the club was an audio visitation program for members; like an open house.

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Wouldn't it be fun to share your system with other members on an evening of your choosing?

This could be a lot of fun and a chance to socialize with other club members. If anyone is so inclined to help co-ordinate this let me know.

See Ya!

Last Word

by Bruce A.

I figured since I had a blank page to fill up, I get to have the last rant... I mean word.

I have the best job in the world! As most of you know, we are the sole provider of hi-rez 24/88.2 files to HDtracks. We also provide many 24/96 files as well. We have completed the PentaTone label, the BIS label, the Chandos label and most of the Naxos, Classic and MDG labels. In the studio, we receive boxes of SACD's, DVD-A's, Reel to Reel tape, AIT tape, Exabyte tape and Magneto-optical discs. While the wife is upstairs toiling away on house cleaning, yard work and general home maintenance, I'm just sitting in front of the speakers and listening to some of the world's greatest music.

I subscribe to and contribute to many on-line forums. On these forums, there are many industry heavy weights. Some are proponents of high sampling rates and some aren't. It just amazes me that the non-believers have something to gain economically by saying so. We all have heard of the Nyquist/Shannon theorem, Myer/Moran AES paper, Moore's Law and the Dan Lavry White paper.

http://www.lavryengineering.com/documents/Sampling_Theory.pdf

Dan Lavry has beaten the dead horse many times saying anything above a 60kHz sampling rate is all you would ever need... period! Now here is where I have a problem. I am in the trenches every single day (as well as 100's of other mastering/recording engineers) listening to sample rates as high as 384kHz and also DSD rates. A quick A/B test reveals there is a discernable difference. Even in a blind test, anyone can pick out these files 100% of the time.

I pick on Dan Lavry because he relies only on bench testing and does no DBT nor does he have a purpose-built listening room with high-end equipment where he can do critical listening. Though, by some people, his word is gospel.

Now... you say that the human hearing is capable of discerning frequencies from 20Hz to 20kHz and you can't hear above or below these frequencies. Well now we enter the realm of psychoacoustics. You say you can't hear below 20Hz? Ever see Jurassic Park and feel that 12Hz dinosaur stomp? That's psychoacoustics. The same applies to frequencies above 20kHz. There are several papers how musical instruments have overtones much higher than 20kHz. If you put a filter on the music at 18kHz were RedBook CD does, you're missing 2 or 3 octaves of music. There have been several studies where the brain has been scanned with MRI while music has been played containing frequencies above 18kHz and without.

I know a lot of people that can get fatigue and headaches with having to listen to music that has been compressed or truncated. (ie: MP3, digital clipping and the latest from Metallica!) It happens to me all the time when I get something to master that has already been crushed and limited. We're trying to fight mediocrity one track at a time.

It was announced today that the Beatles re-masters will be available

sometime next year on CD... just in time when CD's are becoming obsolete and hi-rez digital downloads are hitting their stride.

With the new Korg MR2000S, the MR1000 and the Tascam DV-RA1000HD, there should not be any excuses for anyone to be recording at 44.1kHz. I'm really sorry to see that SACD is not the hit it should have been, but DSD is alive and well. It's not that complicated people. You can get free software like Reaper or Audacity and a nice converter and start making hi-rez recordings of your own.

If you're on a MAC.. get a Metric Halo or Apogee Duet. If you're on a PC, get a Lynx or RME. It's that simple. There is enough information on the internet to get you out of trouble if you hit a snag. We have many members in our own club that would be more than happy to lend you a hand. Just pick up the phone or shoot an email. I spend quite a bit of time during the day answering technical questions from people. Knowledge is powerful and the more you know, the less afraid you'll be.

Later this year we'll be having meetings on building music servers, archiving your vinyl collection and recording a live event. Start now by volunteering for opening we have in our upcoming elections. Be a part of this great movement. Make a difference. I'm probably preaching to the choir, but we need more people to say that they're tired of mediocrity and to us, AUDIO QUALITY MATTERS!!

I encourage everyone to view the following video about Why Audio Quality Matters. It's the best 2 hours you'll ever spend.
http://philoctetes.org/Past_Programs/Deep_Listening_Why_Audio_Quality_Matters

Disclaimer: This article was written by me and is my own opinion and does not represent the opinion of the PNWAS.

Classified Ads

Ads are free to members and will run for three consecutive issues unless renewed. Please limit ads to make, model, short description, condition, MSRP, asking price, contact information.

Gallo Reference 3.1 speakers

Black and stainless with black base. Great for 2 channel audio or home theatre.
Very good condition. New \$3400 asking \$1800
Call Ken at 425-785-7517

Club discounts

Northwest Sinfonietta

The Northwest Sinfonietta (a classical chamber orchestra) provides discounts to members of our club for performances of the 2007-2008 season. The regular single ticket price of \$38 will be only \$20 per person per performance at the door (or by phone or mail). Just tell them or note on your order that you are a member of the PNWAS. Information and order forms are also available at their website: www.nwsinfonietta.org.

Kosmic

www.kosmic.us
Contact Joe Pittman
206-878-3833

Pro Sound and Vision

Contact George H. Pro
425-889-9499, 425-445-3308 (cell)

Revolution Power

[Www.revolutionpower.com](http://www.revolutionpower.com)
Contact: Ken Garza

Visitors Welcome!

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

PNWAS Mission Statement

- ◆ To bring together 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 audiophiles 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 membership deems appropriate.

Club website

www.audiosociety.org

E-mail

info@audiosociety.org

U.S. Mail

Pacific Northwest Audio Society, P.O. Box 435, Mercer Island, WA 98040

Annual dues

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

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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 or 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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