

JOURNAL OF MUSIC AND AUDIO

Copper

JUNE 20, 2016
— ISSUE 9



Credits

Issue 9, June 20, 2016

Publisher

Paul McGowan

Editor

Bill Leebens

Columnists

Richard Murison

Dan Schwartz

Bill Leebens

Lawrence Schenbeck

Duncan Taylor

WL Woodward

Writers

Bill Leebens

Paul McGowan

Haden Boardman

JOURNAL OF MUSIC AND AUDIO Copper

Inquiries

copper@psaudio.com

720 406 8946

Boulder, Colorado

USA

Copyright © 2016 PS Audio International

Copper magazine is a free publication made possible by its publisher, PS Audio. We make every effort to uphold our editorial integrity and strive to offer honest content for your enjoyment.

Opening Salvo

Letter from the Editor
Bill Leebens

As we rapidly approach the midway mark of 2016, I'm compelled to review the events of the year to date. Lest you fear that I'll ramble or pontificate over The Big Picture, be assured: I won't.

I'm astonished to realize that the first issue of Copper went live just over three months ago. My recollection of Copper's inception is---and this may not be exactly what happened, as my memory ain't what it used to be--- that Paul McGowan came to me while we were both recovering from CES and said, "I've been thinking about doing a magazine."

To my credit, I did not respond with, "are you INSANE?" I may have thought it, but I did NOT say it.

We discussed what we'd like the mag to be, and what it could be. And somehow, we got it going.

To be clear: we're not there yet. We've got a lot of ideas about how to broaden the scope of Copper, and its appeal. Getting things done always takes triple the time anticipated, but just so you know: bigger/better/badder is on the way.

As always, I invite your feedback, hopefully beyond the simplistic "you're great!/you suck!"

And if you're a pro or dedicated amateur in audio or music, and have some interesting insights or stories to write about, please pitch me your ideas. If you're not confident about your writing, I can help. I'm an Editor...it says so, right over there.



Meanwhile: welcome to Number 9. Number 9. Number 9.....

Write us
letters@psaudio.com

Letters



Acoustats and Other 'Stats

Hello Copper Magazine;

I enjoyed reading the article about electrostatic speakers. It should have included the Infinity Servo-Statik which appeared around 1970 or 71.

My friend in high school bought a Dynaco kit, and after waiting forever to receive from a mail order company, less than 3 weeks after he got it together it failed. We went to Music Systems Inc. in Ft. Lauderdale to get it repaired.

I walked in and the guy was soldering wires to the plastic grid of a fluorescent light fixture. and said it was an electrostatic loudspeaker. I had never heard of that. And Music Systems changed my life. I have been totally into electrostatic speakers ever since. He had hand built these speakers and used them in the Parker Playhouse which was next door. The Parker Playhouse was a small live theater and they used in 1966 electrostatic speakers as a pa system.

I think Acoustat continued to use the commercially available light speaker grids to make their speakers, to solder the stator wires to. A few years later I opened an audio store in New Orleans and the first speakers I ordered were JansZen electrostatic speakers. Roger West (now of Soundlab) designed and patented the grey element where the wires were wound around the plastic form used in the JansZen made by Electronic Industries. I sold hundreds, and in all those years, never had a element arc or fail. Roger said all the previous black JansZen elements that failed always failed where the wires were soldered. The new design had no soldering. I still have elements that are over 40 years old and working fine.

MCI went on to be a leading manufacturing company of professional reel to reel recorders and consoles for recording studios. Much later Sony bought them and my good friend at Sony, Hisashi Nakajima who helped developed Sony first integrated hifi amp, became President of MCI/Sony. MCI had nothing to do with the phone company of later years.

Henry Alterman

Write us
letters@psaudio.com

Letters



A Fan on the Move

Long time reader, first time writer. :) I'm taking a sabbatical of sorts from work with my family to Japan for 6 weeks. I used to live and work here. I have lots of free time to enjoy some Japanese alcohol each night and spend time with my wife, my friends, or music and the internet. I read all of the latest issue of Copper and thoroughly enjoyed it. Please keep it up - it's wonderful! I especially look forward to Richard Murison's enlightening column every time. Also - is there any way for me to give my money to "Rim of the Well" and get more tracks? Some internet searching got me nowhere. Thanks so much making something so great.

Clark Munson, usually found in Pittsburgh, PA, currently in Nikko, Japan

Other Other Brit Gear

I read with interest the article by Ken Kessler in Copper Mag "The Other British Invasion Part 2. I am from England and brought to the Cayman Islands both Naim and Arcam equipment.

The "old" stuff and have not had the interest in the Naim new equipment. I was, however, surprised Ken never mentioned Cyrus. They make and still do excellent equipment and are certainly up there with Arcam.

I also hope Ken mentions the English speakers. I still have a pair of Mordaunt Short's floor standers that I use as my rear speakers. They are certainly comparable to the Canadian Paradigm speakers that are excellent value for money.

I also 100% agree with you on wires. Anyone who says they make no difference do not use their ears. I upgrade to the best I can find and every wire upgrade I do is immediately noticeable - especially speaker wires.

That's my two coppers worth for the year. I appear to be the only audiophile on this island. Unless the

Write us
letters@psaudio.com

Letters



rest are hiding in the sand.

Keep up the good work.

Colin Wilson

No Apologies

Since I first discovered Copper a few weeks ago, I have eagerly inhaled all available issues, and hope the publication will long continue.

It was been a pleasure to see Mr. Schenbeck's columns become less apologetic in their advocacy of classical music, since no apologies need be made. As for Ken Kessler, he too is a great asset to the publication, even if he thinks audiophiles are overly left-wing, advocates Rolexes and other pointless baubles, and, now, advocates Brexit, writing that Britain "is about to go to the polls to commit mass country-side by voting to stay in Europe."

Tory or not, Kessler is entitled to his views. And Brexit would make my next visit to the UK more affordable via a plummeting pound. Anyway, I will always be grateful to him for his advocacy, in a 1990 review for Hi-Fi News, of the Celestion 3000. As a result of that write-up I purchased a pair and have been enjoying the -- to my mind -- exceptional sound of their ribbon tweeters ever since.

Yours,

Jonathan Angel

How Many Shows Are Too Many?

Silly me, I read that headline and thought the article would be about the pleasure of attending live music.

Write us
letters@psaudio.com

Letters



I'm a freak ... I've been to over 100 performances so far this year, and the vast majority were worth the time and money that I spent.

Audio shows? Sorry, haven't been to one yet: I like to get my music straight from the source!

Randy Vogel

The 92% Solution

Dear Editor:

There's a problem that has been ignored by the entire music industry which I believe is really important to music-lovers that I think you might want to investigate. Thank you for your interest. Approximately 32 years ago when digital media was introduced to the music consuming public as a media with "Perfect Sound Forever" the music industry made a huge screw up when it got the playback polarity of digital music on CDs and later DVD, etc reversed (inverted polarity). On a random basis that means that digital media and files are heard in the wrong polarity approximately 85% of the time and either 92% wrong or correct once their audio and video systems are set to a fixed playback polarity.

The bottom line is that the music played in inverted polarity sounds harsh and two dimensional which is probable the major reason that some music-lovers still believe (without knowing the real reason) that analog music media (that plays in the correct polarity over 99.9999 +% of the time and would also sound bad if played in inverted polarity) sounds better than digital media, when in fact it doesn't sound as good. That often cause music-lovers to spend untold sums of money and time trying to smooth out the edgy and somewhat irritating and flat sound of digital media. This should be an object lesson on how an entire industry with its experts and electrical engineers can get it wrong and not do anything about it for over 32 years and counting!

But there's some good news here because in many cases, all one has to do is reverse the connections of all their speakers wires at one end only to correct the mistake that's free for the doing. For more on how do that, see the homepage of my website: <http://www.AudioGeorge.com> and scroll down to just below the credit cards I accept. Many in the music industry agree with me. I'm know in the industr as The Perfect Polarity Pundit Chief Polarity Buster of the Polarity Police and come companies send me

Write us
letters@psaudio.com

Letters



their digital media/components to check its polarity, and I do that pro bono for the sake of the music.

Best regards,

George S. Louis, Esq., CEO

Incoherent Ramblings

I'm thinking that the Letters in Copper could be moved to the back of the document too, as the current crop is mostly incoherent ramblings of little value to anyone.

Rick Zehr
Sampling Sampling

I used to play a game with myself. At the supermarket, I'd add items faster than seems possible, and come darn close to the actual total. I based it on whole and halves.. i.e.: 2.98 is \$3. 2.12 is \$2. , rounding each to the next or last dollar. Over the course of adding everything, it evens out (and you can mentally add \$3 a lot easier than \$2.98.

I realized this was akin to the sampling described in this issue.

Bob Wood

Value Versus Cost

Actually, the reason I don't subscribe to TAS or Stereophile is just because of the constant stream of glowing reports of many pieces of audio gear I can't possibly afford. As a teenager I remember the time my Dad was out shopping for cars and went to look at a piece-of-junk Fiat. While he was out back looking at the car, I was sitting in and drooling over the brand-new Ferrari in the showroom that was only \$21,000 (At the time when an entry-level car cost about \$2000, so it'd be the equivalent of a \$200,000

Write us
letters@psaudio.com

Letters



car today) I said, “Dad, get this! You can buy it!” He replied, “I can buy it, but I can’t afford it.”

Come to find out he was right, the quarterly maintenance needs of a V12 Ferrari are huge, last I heard they need about \$5000 (in today’s dollars) in regular maintenance every 4 to 6 months

But I digress. TAS and Sterophile, to me, seems the same (too rich for my blood) , so I don’t even bother. I’m just not their demographic. I’d rather buy a good piece of gear and keep it for a long time than keep changing.

And that brings me to my Acoustat 1+1’s I bought in 1984. I kept them for 25 years. One does have to lock their head in a ‘vise’ to listen properly, but once your head was there, it was magic. Loved them. Finally replaced them with the MartinLogan Spires 6 years ago.

But yeah, get the best piece of gear you can possibly afford and keep it for a long time. Your wallet will thank you

David Rosing

Off The Record

By Haden Boardman

Record players have an incredibly difficult job. That tiny, near-microscopic groove, contains a mass of information 'pressed' in to an incredibly tight space. The massive energy used by the cutter head in creating the 'groove', is some-what mirrored in disc replay.



The required force to track this groove by the stylus fitted to the end of your cartridge is enormous. The tracking force can be anywhere from 1.2 gram all the way up, and past 5 grams. Which on its own; really doesn't sound very significant at all. But, stop, think how microscopically small that stylus is, and it tends to be the rule that the more expensive the cartridge cost, the smaller that tip physically becomes. The result is a force in excess of THIRTY TONS PER SQUARE INCH! – You must agree, that is enormous amount of energy for a record player to deal with.

In a 'perfect world' all that energy would be channelled in to the moving parts of the stylus and cartridge, and turned in to a 'perfect' signal to be outputted to your amplifier. Sadly, Newton's laws of physics come along and spoil the party. For every force, there is, of course, an opposing force. So that enormous amount of energy 'loops' its way through every part of your deck, arm, cartridge, and even through the stand the deck is located on. Every mechanical 'joint', 'weakness' will change the way this energy, in the form of vibrations, travels through the turntable. Every single part of the deck, cartridge, arm, plinth, platter, feet, support, will change the actual sound of the deck, and not in a subtle way. As the gravitational forces 'drag' the stylus in to the record groove, the groove pushes back. This energy will also travel in to the platter mat, the platter, the bearing, the plinth, in to the base of the arm, through the arm tube, and in to the body of the cartridge. The energy being thrust in to the cartridge from the stylus also travels back down the arm tube, through the base of the arm, the plinth, the bearing, the platter, record, etc. It is very clear the choice of materials and constructional techniques will have a massive effect on the sound.

All parts of the turntable should be as inert and as rigid as possible, but of course, there needs to be some 'give' in the system, or else something may break, resulting in distortion. Most decks use a compliant fabric mat for this purpose. Any movements in the arm, its bearing, flexing in the plinth, a wobble in the platter, will see levels of detail totally lost and gone for ever...

Some designers go for ultra light weight, rigid, honeycomb structures to minimise weight, and therefore energy transfer (in the UK, this approach has been developed considerably by Arthur Khoubesserian at The Funk Firm, also previously at Pink Triangle) while other go for high mass (Mike Knowles, and the long-departed Alphason Sonata, which used a drop-cast pig-iron sub chassis to bolt his one piece titanium arm directly to). Both routes are valid, and both have advantages and disadvantages, (Some designers don't seem to have understood any of this, and do not pay it serious attention. It frankly amazes me when a manufacturer just doesn't grasp these basics. And it is a very long list, from budget to High End.)



My own set up, Garrard 401, uses a plinth of very solid walnut – and I am very much aware it has a 'sound'. All record players have some kind of 'sound' it is inevitable. The classic Linn LP12 is famous for an overly warm bass response, caused by the decks suspension system. Big heavy decks like the classic EMT, sound rather soulless and 'heavy', like their construction, to my pair of ears. Ever wonder why you see some Japanese audiophiles using different decks and set ups for different recordings?

At the other end of the scale, all of this shows just what a useless thing your average crummy \$60 plastic record players can be; quality engineering is going to cost something. Some of these



decks emerging from China are true horrors, and are a reminder to just how bad record replay can actually be made to sound. Small virtually insignificant record scratches on a decent set up will literally be transformed by these horrors in to something very significant. Inferior bearings and materials can actually put your precious record collection at risk, exaggerating record wear with a poor stylus fitted to an arm that doesn't track correctly.

We haven't even touched on how drive systems can change the pitch and timbre of the sound... The great thing is that serious record replay, well the turntable part of it anyway, can be bought new for under \$500. A few 'wise buys' second hand, and you are up and running. But in the shop, I really am fed up with guys owning a \$10,000+ system, wanting to 'drop' the aforementioned \$500, and expect to get High End results. You won't. Unlike most other components, doubling the cost of your turntable really will double the quality of sound. As our friends Linn advocated through the 1970s and 1980s, if you don't get it off the record in the first place, you cannot put it back in later...

(In our next instalment, Haden will discuss the variety of schools of playback: the idler-wheel camp (Thorens TD 124, Garrard 301/401, EMT) vs. Direct-drive (most-famously, Technics SP-10). As one of the leaders of the Back-To-Analog movement in the UK, decades ago, Haden is single-handedly responsible for the skyrocketing prices of vintage turntables. Thanks, Mate! ---Editor.)

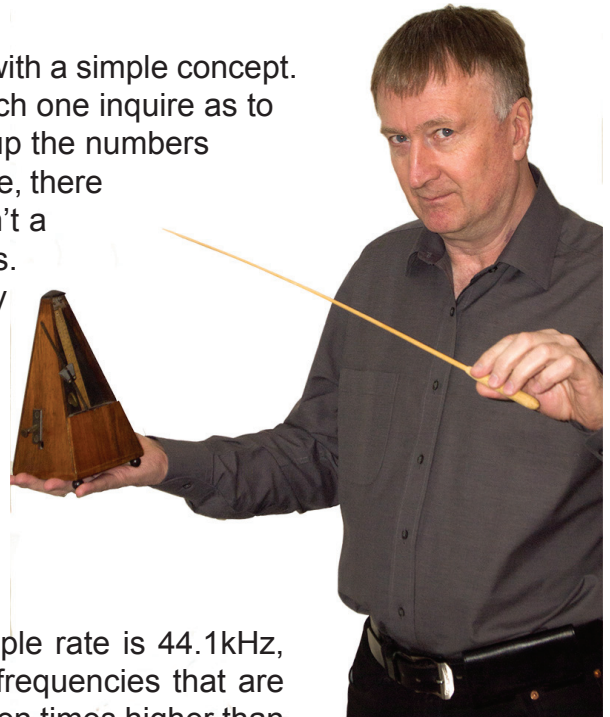
The Portals Of Discovery

By Richard Murison

QUIBBLES AND BITS

This is going to be a challenging post, so I'm starting it out with a simple concept. Suppose you knock on the doors of 100 houses, and at each one inquire as to how many people live there. At the end of the day you tot up the numbers and establish a potentially useful conclusion that, on average, there are 2.59 people living in each house. However, there wasn't a single house in which there were exactly 2.59 inhabitants. This is an illustration of the principle of 'oversampling'. By taking enough samples whose values are constrained to a limited precision, we can draw valid conclusions which have a greater precision than that of the raw data.

This can equally be applied to audio data. We have already established that an audio waveform can be accurately represented in digital form provided it is sampled at a rate which is at least twice the bandwidth of the highest frequency contained within the waveform. But if such a sample rate is 44.1kHz, it is at the same time much higher than twice the lowest frequencies that are present in the waveform. For example, it will be more than ten times higher than the 400Hz component. We can say, therefore, that the ~400Hz components will have been 'oversampled'. Let's look at this in a little more detail.



A digitized signal can be thought of as the combination of two signals, the actual audio waveform plus an error waveform. The actual waveform has infinite precision, and the error waveform comprises the differences between the actual waveform and the quantized (i.e. limited precision) numbers that we choose to represent it. The guiding principle is that a smaller error waveform, all else being equal, is a better thing. If we are using 16-bit audio, those errors will be a lot larger than they would be if we were using 24-bit audio, which is the reason why 24-bit audio has the potential to sound better than 16-bit audio.

It is straightforward to recognize that the error waveform is constrained to a limited precision, much like the census example in my opening paragraph. So, if we consider only the lower frequency components of the error waveform which are sufficiently 'oversampled', then by averaging them out we can obtain a modified error waveform having a greater precision than that of the actual error values themselves. And we can use that greater precision to make the error waveform even smaller at those frequencies. In fact, the greater the amount of 'oversampling', the more of this attenuation we can introduce. Note

that ‘averaging’ is not exactly what we want to do here. What we actually use is a low-pass filter.

Let’s think about that, because it is a tough thing to get your head around. The actual error values are those induced by quantizing the original waveform to a 16-bit number. But James Joyce called errors “The Portals Of Discovery”. And, apparently, we can reduce the magnitude of the effective error waveform at oversampled frequencies. In other words, we can actually make those frequencies look as though they were encoded using a greater bit depth. In measurable terms, we reduce the noise floor. That sounds like powerful stuff, albeit maybe not what Joyce had in mind, but how can we make it happen in practice?

The key is to understand the process of quantization. In simple terms it is nothing more than rounding up or down to the nearest whole number, the same thing as rounding 5.697 up to 6 and 5.341 down to 5. But in digital audio there is nothing that obliges us to round up or down to the nearest whole number. We can, if there is a benefit to be had, round 5.697 up to 7 or down to 5. Or 4. Or 3. And indeed there is a benefit to be had. After all, that’s how dithering works – you add random numbers to the signal before quantizing it, which has the effect of rounding up or down to a whole number that isn’t necessarily the nearest one. In the case of dithering, as I previously wrote, this can have the beneficial effect of eliminating distortion components. As to a more general analysis, the question might be: How do we choose which whole numbers we round up or down to, in order to achieve a certain result?

So far, it would appear that the more oversampling we have, the lower we can push down the noise floor. Therefore the lower frequencies can benefit from it a lot more than the higher ones. But a fuller understanding of the effect requires some heavy mathematical analysis that I don’t want to get into. Thankfully, the outcome of such analysis is easily digested. And it starts, as you might expect of matters pertaining to digestion, with the fact that there is no free lunch. If you use dithering of this nature to lower the noise floor over a certain range of frequencies, the inescapable price you must pay is a raising of the noise floor at other frequencies. Specifically, we can’t entirely eliminate quantization noise – we can only move it from one place to another. If we take it away at the lowest frequencies (where there is more oversampling) we must add it back at the highest frequencies (where there is less oversampling).

For that reason, dithering of this type is referred to as “Noise Shaping”, because we are manipulating the shape of the noise spectrum. Noise shaping, unlike plain dithering, must be performed within a processing loop, where the quantization error is obtained from the difference signal between the input and output of the quantizer and is fed back to the input in a negative feedback loop. The shaping is done by incorporating a low-pass filter in the feedback loop, so that the lower, more oversampled frequencies, are preferentially fed back.

On the other hand, Hi-Res recordings, with a sample rate much higher than 44.1kHz, present us with a lot of inaudible frequency headroom above 20kHz that could conceivably be used to receive shaped noise carved out from the entire audio band. The thing is, though, that Hi-Res recordings inevitably use a 24-bit bit depth, and therefore have a quantization-limited noise floor which is way below the noise floor of any incoming audio signal. Noise shaping would not therefore be required in the first place.

For standard 16-bit 44.1kHz audio, noise shaping means that we can reduce the noise floor – and increase the apparent bit depth – across the sensitive frequencies of the audio band (say, those below 1kHz). However, the price we must pay is an increase in the noise at some of the higher frequencies at

which the ear is less sensitive (say, those above 15kHz). Many commercial CDs are mastered this way. This is important to know, because noise shaping is baked into the signal. Once in there, it cannot be separated out again at some point in the future.

Which leaves us, once again, with DSD. To which I shall come back next time when I have more column inches available.

Richard Murison enjoyed a long career working with lasers, as a researcher, engineer, and then as an entrepreneur. This enabled him to feed his life-long audiophile habit. Recently, though, he started an audiophile software company, BitPerfect, and consequently he can no longer afford it. Even stranger, therefore, that he has agreed to serve in an unpaid role as a columnist, which he writes from Montreal, Canada.

Women And Children First

AUDIO CYNIC

By Bill Leebens

I often find myself having to defend the act of being an audiophile, and once went so far as to write a piece for Gizmodo entitled, "In Defense of Audiophilia". Having recently attended the Newport show, I cannot, however, defend the behavior of many audiophiles.

Imagine a group of seven-year-olds waiting to dive into the plunder from a freshly-cracked piñata. That's about the level of self-control I saw exhibited over and over again during the course of the weekend.

I appreciate enthusiasm, and understand eagerness. I don't appreciate rudeness, and won't tolerate physicality towards anyone---but especially not towards women or kids.

Call me old-fashioned, but as an ex-offensive-tackle and single dad, I've had a lot of experience protecting those smaller than me.[1] I think it's an honorable thing to do, and given the proliferation of the clueless, the classless, and the cloddish these days, I think it's a necessity.

On more than one occasion I had to, shall we say, admonish an eager beaver attempting to elbow past me, or advise someone that as the elevator was mostly empty, they could back the hell off from me. The astonishment expressed by the offenders indicated that they considered me unreasonable and antisocial. So be it.

I'm more than capable of defending myself, and am not shy about doing so. What absolutely makes me see red, though, is abuse of those who cannot defend themselves, or shouldn't have to defend themselves.

I didn't see as many wives, under-25s and offspring at this year's Newport show as I've seen in previous years. But I did see times when wives or GFs were elbowed aside by YAFOWG (Yet Another Fat Old White Guy) to score a spot on an elevator. Had I not been yards away, I would've happily executed the time-honored collar-yank on said YAFOWG.



The most egregious act of the show was by a hapless wretch who tried to shove past a friend's wife, nearly planting an elbow in the face of the couple's seven-month-old child. My friend did do the collar-yank, nearly tossing dude to the floor.

I wish I'd been there to see it.

I don't like to focus on negatives, but this level of behavior cast a pall of disappointment over the show for me. We don't have that many occasions when audiophiles can fly their geek flag, and the last thing we need is to offend or injure civilians who happen to stumble into our little world: we need all the help we can get when it comes to recruiting newbies.

When I was in charge of the show at the Waldorf-Astoria in NYC in 2012, I gave free passes to every woman, kid, or college student I saw in line. I'm not sure if the practice gained any converts for Our Side, but by God, I tried.

So: just play nice, okay? Somebody's watching...and it may be me.

[1] My friends would say, "You're still plenty offensive, Leebens, and who isn't smaller than you?" As I've said: I have good friends.

Bill Leebens is Editor of Copper and Director of Marketing at PS Audio. He has been in and out of the audio business for over 40 years. Each time he returns to it, he becomes more cynical. He does not intend to go quietly.

I Have Tinnitus

By Dan Schwartz

MUSIC AUDIO AND OTHER ILLNESSES

I have tinnitus.

It started maybe ten or fifteen years ago, just a very faint whine; I couldn't hear it except late at night, when the house was very quiet. I assumed it would always be that way.

Wrong.

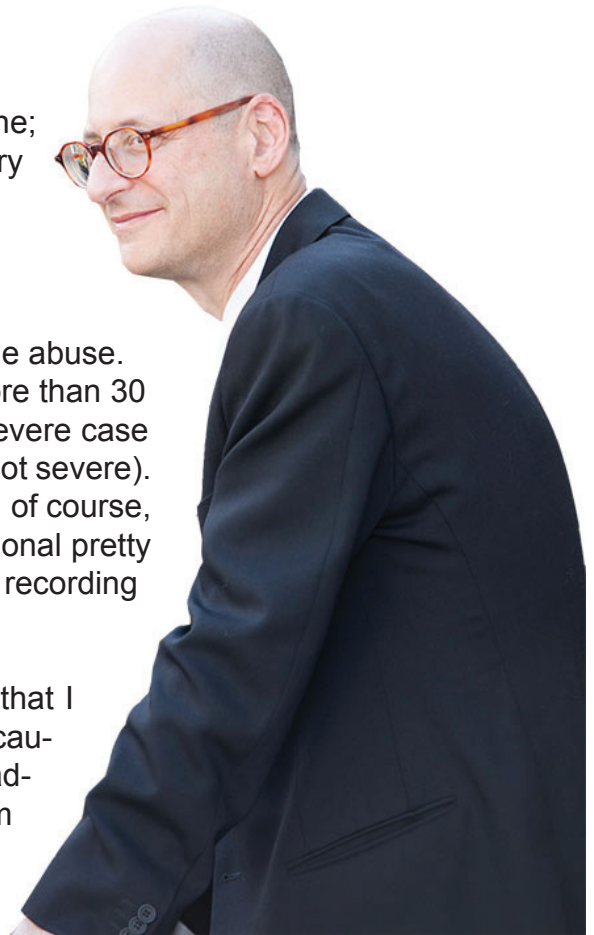
It may just be age, but most likely it came from years of subtle abuse. As a bass player who has been aware of the problem for more than 30 years, I thought I was reasonably protected from having a severe case of the occupational hazard of my profession (maybe it's still not severe). Electric guitar players and drummers have been asking for it, of course, and most that I know suffer from it. But except for the occasional pretty rare gig or tour, I was mostly in the controlled environment of recording studios for the last 30 years.

Headphones take their toll of course, but I at least thought that I was always reasonable with volume. Certainly, I was more cautious than those around me. I once picked up the wrong headphones off the Neve console, put them on and ripped them right off my head --- I don't know how anyone can listen at those levels!

But six months ago, it arrived, and gets worse as the day goes on, until it's pretty loud in the late evening. Generally ambient sounds cover it, but when I'm sitting in my living room during the day, and if I listen for it, it's right there. And I'm not sure if I'm hearing the waterfall of our pond through the front door or not. I listen for things like fluorescent lights and dimmers --- I hear them everywhere; alarms too. There's always the faint sound of electronics, or crickets, or maybe they're distant cicadas.

If you don't know what I'm writing about, count your blessings. If you do, I'm writing this, sharing my tsuris, in the vernacular, for you.

Tinnitus has been known to drive people literally to suicide (anecdotally). It's certainly annoying. But the only way in which it gets in the way, so far, is if music that I'm listening to modulates it. That's rare, but it has happened.



Interestingly, my hearing is still as acute as ever, well-beyond 15k. Most of the people I know who listen professionally, whether writers or engineers, suffer from something of it, but for the most part they all have pretty exceptional hearing too. There are multiple theories as to what's happening: one neurologist I was told about theorizes that the brain compensates for a notch and it just runs wild with it.

My friend Bill Mueller has a very interesting idea: "I am inclined to believe that tinnitus is more closely connected to flaccid tympanic membrane than hearing loss. Try this experiment. Play some music and gently pop your ears and hold them in the popped position. It takes a little practice, but if you have a flaccid tympanic membrane, you will experience as much as +6db in the 6k range immediately! This means that your cilia in that region are FINE. The tinnitus in that region comes in when the brain turns up the inner sensitivity in that region and internal noise replaces external stimulus. I'm betting that tightening the tympanic membrane could be a permanent fix for tinnitus."

He's looking into that, and I'm following along. He and another friend, Terry Manning, have recommended some supplements, which I'm trying. So consider this a first installment from my front, and by all means, let's hear your stories.

Is there hope? Of course – Hope is the thing with feathers, said Dickinson. Whether that hope pans out, to quote the great HP: "We shall see."

Dan Schwartz is a parent, sort of a husband, and has been a musician of some years, having played on quite a few records - and even a few good ones. He's recorded or played with Rosanne Cash, Bob Dylan, Jon Hassell, Brian Eno, Bernie Leadon, Dave Navarro, Linda Perry, Sheryl Crow, Stan Ridgeway, and was a member of the Tuesday Night Music Club. In his spare time, he used to write for Harry and Sallie at the absolute sound and the Perfect Vision. Professionally, he keeps trying to leave music, but it keeps coming to get him.

Brave New Hybrid World

TOO MUCH TCHAIKOVSKY

By Lawrence Schenbeck

We live in interesting times. The CD era is over, and not a moment too soon. (Except that it's not; see below.) Attractive alternatives have long since reared their heads: SACD (still a potent format in recorded classical music), DVD-Audio, Blu-ray Pure Audio, HDCD, newly resurgent vinyl. Downloads and streaming services abound. MQA beckons from the horizon. We should be so, so happy.

And yet. Remember that old Chinese curse: you can't always get what you want. (Sorry. Good curse, wrong wizened elder.)

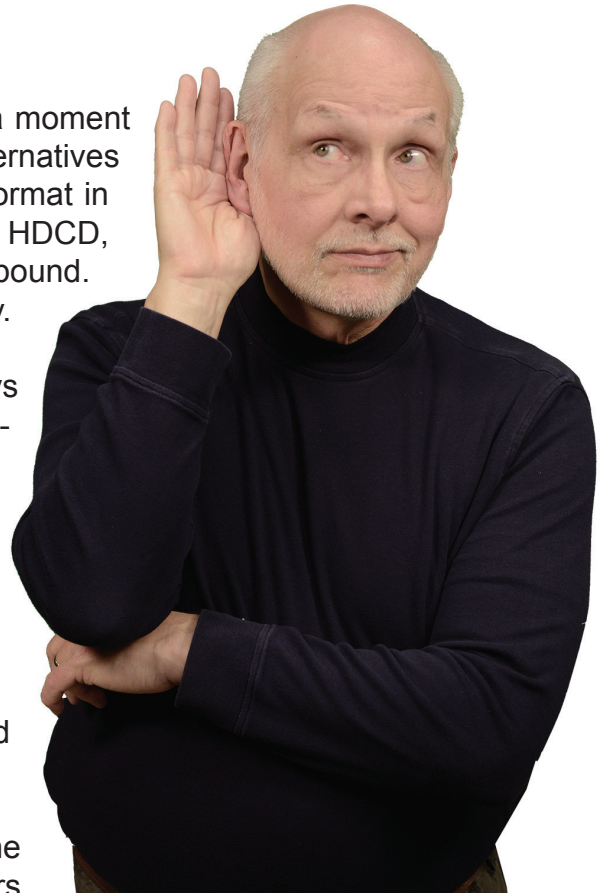
Last month I got a new Channel Classics release, cellist Nicolas Altstaedt playing concertos by Shostakovich and Weinberg (CCS 38116). It's a terrific set of performances, by the way, backed by the superb playing of the Deutsches Symphonie-Orchester Berlin. Anyway, as I was listening I began to switch back and forth between the two-channel and multichannel mixes.

But my remote didn't seem to be working. I couldn't get the mixes to switch. (On an SACD I know when the switch occurs because the track will start over; Blu-rays seem to be able to switch mixes mid-track.) Eventually I realized this was not an SACD. That explained why the soundstage seemed a bit congested, and why a slightly plastic sound hovered around both soloist and orchestra. It was a Redbook CD. A well-recorded RBCD, but still!

A quick survey of the Channel Classics website suggested that the label has stopped issuing hybrid SACDs. Sacre bleu! Lieber Himmel! Jared, say it isn't so!

They have a little "community poll" you can take. "How do you like listening to Channel recordings?" it asks. The choices are:

- Normal CD
- Super Audio stereo
- Super Audio multichannel
- Downloading mp3



Downloading CD quality
Downloading high-res 96
Downloading high-res 192
180 gram LP
DSD master file

If you take the poll, Channel cheerfully provides you with overall results. Guess what scores Number 1, with 62% of the vote?

If you guessed Normal CD, you were correct. (Sacre bleu, etc.) Okay, guess what comes in second, with 13% of the vote?

It's the DSD master file. In fact, a full 26% of CC voters choose some form of download. Besides the 13% choosing DSD, it's 8% for 24/192, 4% for 24/96, and 1% for "CD quality." (Sorry, no joke here about "jumbo shrimp" and "military intelligence.")

Downloads far outpace those who choose "Super Audio stereo" (6%) or "Super Audio multichannel" (5%). This hits me hard. For years, I've persisted in thinking of SACD as a non-problem that doesn't need fixing. I love DSD sound. I can tell the difference, and as they say, it's not subtle. Plus, it's physical media. Just load the disc and press "play." What's not to like?

Channel's poll contains other surprises. Only 1% of voters choose "180 gram LP." I would've thought the LP vote would reach 2 or even 3%, given that polls always turn up a few souls who believe the earth is flat and they like it that way.

Have I missed the more obvious conclusions? No, I haven't: most classical-record lovers, even those who frequent the Channel website, are just fine with CD. Those who want better—always a minority—may once have purchased SACD but appear to be migrating to high-res downloads. Is the poll skewed, since downloaders are more likely to visit the website? Maybe, but what about that 62%? Did they just sorta show up, determined to support Perfect Sound Forever?

Maybe Channel is feeding us a con disguised as a poll. Yeah, that's it. They've teamed up with the Illuminati, the Masons, and Dan Brown to manipulate us into believing CDs are okay, although downloads may be better. You get what you pay for.

Except when you don't. Yesterday I listened to a Warner Classics RBCD of Verdi's *Aida*, purchased last November. Best studio opera recording I've heard in years. Well engineered, well cast, superbly conducted by Antonio Pappano. Exciting, musical, a joy.

I kept the program booklet—a miniature book, actually—in hand. A good thing, since the opera moves quickly, often with several characters singing at once. The booklet itself has been beautifully designed. Its visual motifs (e.g., title logo and page-number pyramids) provide another level of aesthetic pleasure, like the session photos scattered throughout. Gilded title letters complement black-on-black rows of hieroglyphs, a background that preserves the covers' velvety touch. Unlike EMI's ratty opera booklets from the 80's and 90's, this book is signature-bound, ensuring that pages won't fall out anytime soon.

There's a high-res download of Warner's *Aida* available. But why in the world would anyone forsake

the booklet? Don't mention the dandy PDF file available. (It's listed on iTunes but not HDTracks, which, according to online gossips, sometimes skimps on liner notes and album art). A PDF is no substitute for a booklet's tactile pleasure and easily mastered "search engine." If you want Aida with top sound and a nice book, you may have to buy the CD set and the HDTracks download, an outlay of \$65. (I sense impatient snorts out there from the nostrils of the One Percent. Hey, at the very least this reveals some growing pains on the cutting edge.)

Harmonia Mundi's packaging practice seems kinder: purchase a physical disc, get a free high-res download. Unfortunately Harmonia Mundi is just one player, and not the biggest one in the post-physical universe.

Meanwhile Channel Classics, longtime champion of SACD, seems to have abandoned physical high-res media. If this becomes a trend, we will have no choice but to acquire streaming equipment, current designs of which cater not to Wagnerites but to kids who want ready access to their 5,000 favorite songs.

Incidentally, my son came to lunch yesterday, and we had a grand time sharing music over our portable players and an assortment of DACs and headphones. So I do understand the attraction. Part of me is already a believer. The rest of me isn't quite ready to buy software and hardware that has Version 1.0 written all over it. (Yes, I realize I'm being unfair to the vanguard designers among us.)

But this has always been part of the fun, right? Constantly upgrading. Keeping our options open. I've never yet met an audiophile who lived by that other ancient Chinese curse:

May you live in plug-'n'-play times.

Lawrence Schenbeck was born on a mountaintop in Tennessee. In spite of that, he became a historical musicologist. He is the author of two books, many more scholarly articles, and countless liner notes, music reviews, and "casuals." He lives in the Atlanta area with his family and too much music, Tchaikovsky being the least of it. Literally.

Dance Party Time Machine

BEHIND THE GLASS

By Duncan Taylor

The Freddi-Henchi Band. Chris Daniels & The Kings. Those in the know recognize these as the premier Colorado party bands from the 70s, 80s (CD & Kings founded in 1984) and on into the 90s. Freddi-Henchi Band has been called “the greatest party ensemble in Colorado music history.”

As you can tell from my column picture, I wasn't around to witness these famous locals in their hey-days. But that doesn't mean that members of the band and I have nothing in common. More on that later.

When we got the call from Chris Daniels' publicist about a reunion of the Kings and a collaboration with Freddi Gowdy of the Freddi-Henchi Band, the more cultured among us got a little wide-eyed. Apparently I was lacking in my Colorado music history, and was soon brought up to speed. These used to be the absolute hottest acts around, and their following has been fervent.

Chris Daniels, a member of the Chicago Music Hall of Fame, is a longtime bandleader, songwriter and funk icon. His group Chris Daniels & the Kings over the years recorded 14 albums and toured the world, playing for three presidents and the former queen of the Netherlands. Chris' involvement in the Colorado music scene has been extensive, and interesting. For instance, before forming Chris Daniels & the R&B Kings (later shortened to “the Kings”), Chris founded the “After Hours Jam” at the Sheridan Opera House in Telluride. Notable players that appeared in the jam include Lyle Lovett, Vince Gill, Edgar Meyer, Victor Wooten, Al Kooper and David Bromberg, just to name a few.

Likewise, his buddy Freddy “Freddi” Gowdy is a riveting force at center stage. Freddy brings class to a seriously funky affair. Onstage when he asks you to get down, you ask “how low?” Until his longtime music partner Marvin “Henchi” Graves died of cancer in 2009, both were still involved with the Freddi-Henchi Band. After a couple years Freddy eventually teamed up with Chris and The Kings for the ultimate Colorado funk mashup. In his 60s now, Freddy still has more energy than seems possible



when the lights are on and the mics are live. It was great to see him overcome the challenge and let his musical light shine brightly again.

When you go through as much life as both Chris and Freddy have, you see some dark times along with the light ones. In 2010, Chris was diagnosed with a type of leukemia, and went through a brutal ordeal and received a bone marrow transplant from his sister. He got through it, and eventually wrote an album about the challenges that appeared on national Americana charts.

So Chris, Freddy and the five Kings showed up one fine Friday at the newsroom of Boulder's newspaper of record, the Daily Camera, the location of my live tracking studio. They were supporting the general reuniting of the band and the collaboration with Freddy, and had some serious gigs lined up. Like most bands, the benefit for them to record with us was for free promotional recordings and modern exposure. They came to us though, because of our growing reputation for sound and video quality. I never want a band to strip down before recording with me, because that doesn't represent the true experience of the group and the original arrangements. So we have a standing exhortation to "come as you are," and leave no gear in the van.

For this session, I knew I had my work cut out for me. This was a typical funk setup replete with horns, multiple singers and plenty of guitars. Our live room is fairly small for a band this size, so I got right to work cramming everyone in, being mindful of positions of instruments and the effects of their sound waves moving through the room.

For instance, because we were shooting video I knew I could have the horns on one side and firing out beyond the cameras. All of the space behind the cameras can absorb and contain the pure energy coming out of those bells, and that would keep the energy out of the rest of the mics. I always want to keep horns together because they play together in the songs, and it helps to encourage them to mix themselves. Crescendos and swells also turn out much better doing it this way.

But a particular challenge from having them next to each other was that they were a trumpet and a saxophone -- one horn is naturally louder than the other. I like the sound of horns recorded by my figure-8 ribbon mics, and I decided to use one figure-8 for better sonic cohesion. The solution for the volume imbalance was to have them staggered, with the sax closest. I also asked the trumpet player to aim above the microphone, but as you see in the video sometimes you can't always get what you want!

Another clear challenge was that I had to have the two vocal mics hot all the time, without using any "gating" which would have had an unnatural effect on the sound. This is always the challenge for me in that room - the overall character of the sound changes when you take the vocal mics in and out, for one thing because of the compressor/expander used to keep the vocals on top of the mix. But also, with the drums in the same room albeit attenuated through the drum shield, the ever-present danger for me is too much snare drum showing up in the vocals.

But because I record live with no overdubs, getting vocals concurrent with the rest of the tune is a necessity. So often I chose not to affix a specific microphone to the snare, knowing that as long as I had the phase right of the drum overhead mics, I could expect the vocal mic pickup of the snare sound to

add to the “room” effect of the drum kit, solidifying the snare without making it sound like the mic is too close.

Good mic technique solves a lot of issues, and after trying a few different placements I settled on locations for Chris and Freddy’s vocal mics. You can hear Chris’ is hot enough to get that snare in a good way. A bonus of doing this is that when he moved in front of the mic to sing, his head blocked a little of the snare. It’s like a natural acoustic compressor effect.

One fun memory from the session was that during guitar warmup, I instantly recognized a solo that Colin “Bones” Jones was noodling on.

“That’s Pat Metheny, isn’t it?” I asked. “From ‘Third Wind’ ?”

“Oh Chris, we’re in good hands,” Bones said to Mr. Daniels. Little did they know I was basically placed in a crib with that album of Pat’s, *Still Life (Talking)*, and it will remain a favorite of mine forever.

In the end I think we got a good balance, though I would have liked a little more bass oomph in the final product. But Chris and his people were very happy with the session, in part due to the sound but also because of the raw energy of the performances. The videos eventually featured on a local PBS show about the ensemble, and continue to be used by the band for promotion.

Witness some Colorado music history, also consider they’re Colorado music present and future. Being in the same room while the band was rocking, I got the feeling these artists won’t be slowing down any time soon.

Duncan Taylor is a product specialist at PS Audio, and recording engineer and producer of live-track video recording studio Second Story Garage. He also plays a few instruments, pens a weekly music column for college students, and likes to build speakers and amps in his spare time.

Jensen: The Man, the Company, Both Forgotten---Part 1

VINTAGE
AUDIO

By Bill Leebens

Anyone who grew up reading High Fidelity or Stereo Review in the '60's or '70's was familiar with the Jensen brand of loudspeakers. The company was long-established, predating the post-war hi-fi boom; their acoustic suspension bookshelf speakers were heavily advertised, and were seemingly sold everywhere. While generally not the choice of either the cognoscenti or bottom-feeders, Jensen speakers were solidly-made and offered good value and decent performance.

But where did the name and the brand come from? Both are far more important in the history of audio than those mass-market speakers---or the present-day discount accessories that are the only vestige of the name--- would lead you to believe.

Peter Laurits Jensen---- pronounced "yensen"---was Danish, as you might suspect. Born in 1886 on the 200-square-mile Danish island of Falster in the Baltic Sea, Jensen's family were seagoing folk, and his father piloted ships in the local waters. The family's aspirations for Peter were for him to continue the family tradition, starting as a cabin boy at age 14.

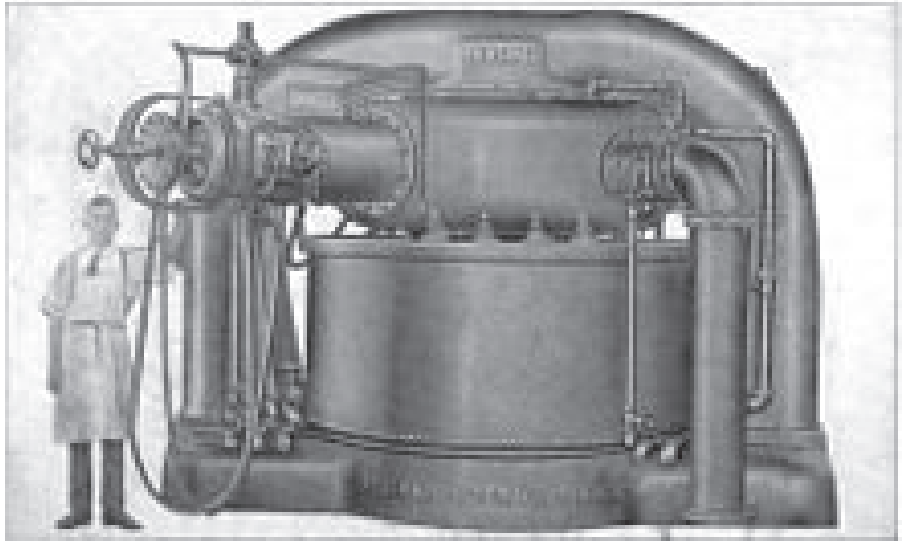
The family's aspirations were not Peter's aspirations. Beginning at age seven, he assisted his father in the business of piloting, guiding large vessels through the often-treacherous currents around the local islands. Peter's academic abilities were noted, however, and he was offered a scholarship to a boarding school, the first in his village to go beyond age 14 in school. When Peter was 15, Jensen the elder perished as the result of injuries sustained in being washed overboard. Peter managed to complete his studies in short order, and returned home to support his mother following his graduation at age 16.

Following a brief stint as a day-laborer, locals convinced Jensen that his education was being wasted, and that his fortune and future would be found in The Big City. Copenhagen was only 60 miles or so away as the crow flies, on the far larger island of Zealand, but was essentially another world.

Just after the turn of the twentieth century, Denmark's population approached 2.5 million. Copenhagen was by far the largest city, with a little over 400,000 residents. The city dates back to at least the 12th



century---some say far earlier--- and has long been a hub of technical and scientific development. Hans-Christian Oersted, the Danish physicist and chemist who discovered the fundamentals of electromagnetism, founded the College of Advanced Technology in Copenhagen in 1829. By the time of Jensen's arrival at the end of 1902, the city had a major railway station, a trans-Atlantic port, automobiles, power plants, and one of the oldest telephone networks in the world.



It was a propitious time and place for a young man with an inquisitive bent, and Jensen found a spot as an apprentice in the lab of Valdemar Poulsen on New Year's Day, 1903.

The pay was bad, food was scarce, and Jensen had to wear his dead father's clothes. In spite of that, he couldn't have landed in a better position. Poulsen was already known worldwide as the developer of the "telegraphone", a rudimentary magnetic recorder. Soon after Jensen's arrival, Poulsen became far better-known for developing the Poulsen Arc Converter, also known as the Arc Transmitter. Poulsen's device was the first practical (although "practical" may be a reach) transmitter of wireless signals. Pre-dating vacuum tubes, the Arc Converter relied upon an electrical arc to convert DC to radio frequency AC. Originally used for wireless telegraphy, the Converter was used as a radio transmitter until vacuum tube transmitters made it impractical and obsolete.

Soon after Jensen's arrival, the lab was split into two units in order to allow intensive development of the Arc. Jensen was included in the Arc team because, as one of the engineers said, "he always knew where things were put". Besides which, Jensen was adept at tuning the arc, a tricky business which enabled it to be set to a fixed frequency. The rival Marconi transmitter was capable of far less precision, allowing only a single transmission over a broad frequency spectrum. Jensen also taught himself Morse code, enabling him to monitor incoming signals, as well as send outgoing transmissions.

In 1906, Jensen came in after hours to experiment with a crystal detector in combination with the "ticker" which registered the dots and dashes of Morse code. Jensen sent a cohort into a shed with a microphone and transmitter, and inadvertently stumbled upon the receiver configuration which allowed him to hear his friend's voice, counting from 1 to 10, over and over. It was the first known wireless transmission of human voice. Jensen's accidental discovery ensured his future, and that of the Poulsen Converter.

Poulsen's Arc Converter proved to be superior to rival transmitters, including Marconi's and one developed for General Electric by Reginald Fessenden. A group associated with Stanford University in California felt Poulsen's device had unlimited potential for development in the wide expanses of the West. After several unsuccessful attempts to reach a licensing agreement, a deal was finally struck

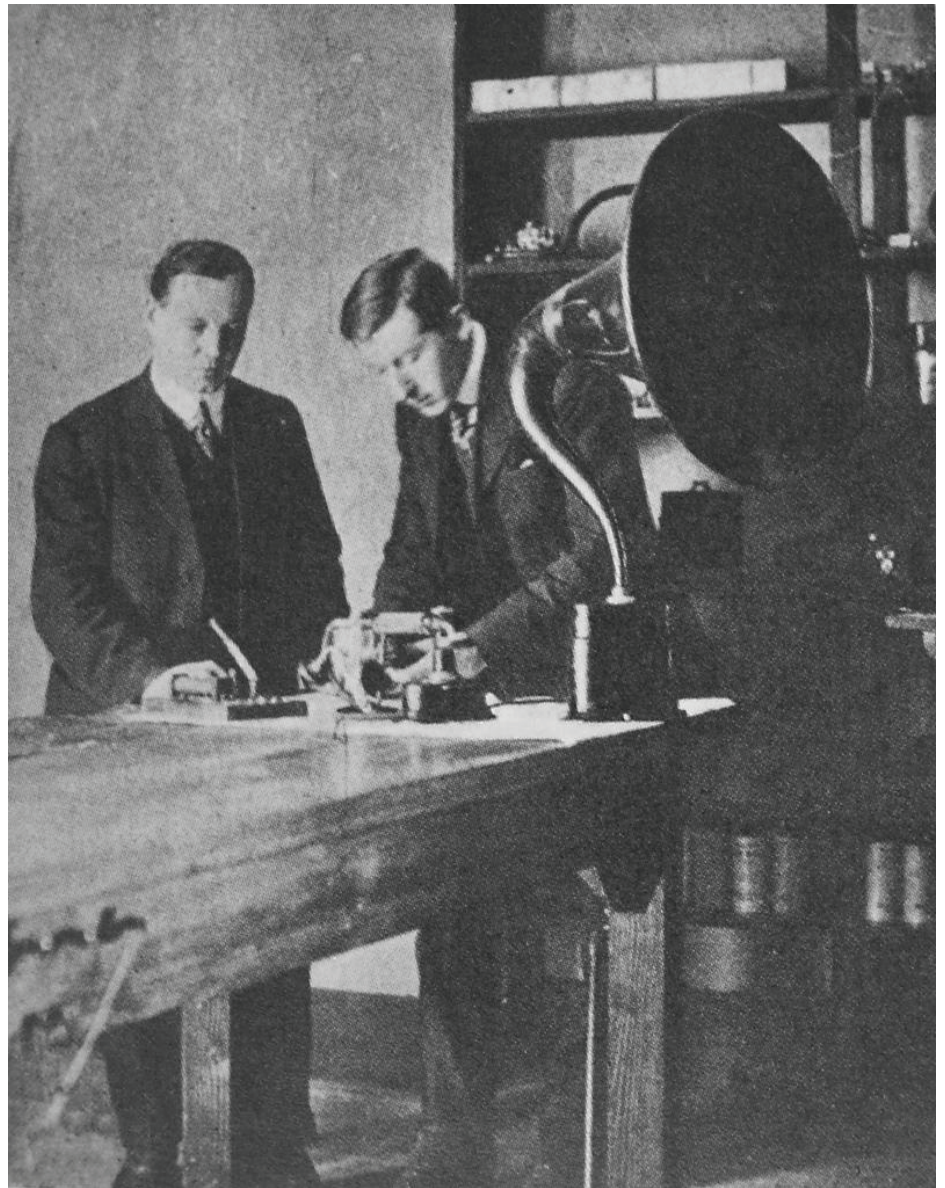
in the summer of 1909, and Jensen---then 23 and completing a six-month stint in national service---was chosen to go to California as part of the "Poulsen Wireless Telephone & Telegraph Group". The company would be headquartered in Palo Alto--- the center of Silicon Valley, decades later.

Less than two years later the Poulsen group was broken up in a regulatory dispute, and Jensen and his colleague Edwin Pridham, an engineer and graduate of Stanford, were set up in an R&D lab in rural Napa by a group set up by former Poulsen investors. While continuing to develop and refine the Arc transmitter, Jensen and Pridham made an interesting discovery: a rapid-receiving device that recorded incoming telegraphic messages was capable of recording dots and dashes at such a rate that the pair theorized that it could respond to human speech, and be used as a telephone receiver.

At that time---1911--- there had been no real advancements in Bell's original magnetic diaphragm receiver. Quality of reproduction was not great, and output was low. Experiments followed, attaching a string to the moving arm of the rapid receiver in order to drive a diaphragm. While intelligible, output was low. In order to increase output and improve tracking of the input signal, the two wound a coil of wire and attached it to the back of a cone. The coil would move inside the small annular gap of an electromagnet.

In his (long out of print) autobiography, Jensen wrote, "It was so surprisingly good that Pridham said: 'Well, I'll be damned! Say it ain't so!'" Now Pridham seldom swore, and he never used incorrect grammar, but what he meant to convey was that it seemed incredible that such an excellent telephone receiver could have escaped from being developed and known to all the world before this."

Experiments and improvements continued, and a patent was applied for. In due time, the patent was rejected, citing prior art. Jensen noted that previous experimenters included Ernst Siemens in Germany, Oliver Lodge in England, and Dudley Field, President of Western Union, in the US. None, however, had



developed the “electro-dynamic” or “moving coil” receiver beyond recognizing the principle.

Pridham and Jensen refined their application, and were issued patents later recognized as fundamental and basic. They attempted to sell the device to AT&T; Jensen wrote, “DeForest was probably very pleased with his \$140,000 (the amount paid him for his triode patents); we might have accepted half that amount.” The irony is that De Forest’s invention was ultimately worth hundreds of millions; Pridham and Jensen were likely fortunate that AT&T rejected their device, after their divisions Western Electric and Bell Labs examined it and declared it worthless.

Back in Napa, development continued. In 1915, a blacksmith friend suggested that “if you can make it talk a little louder and put a horn on it...and put enough of them around a ball park,maybe we can understand what is being said a little better”,referring to a local ballpark announcer who used a megaphone to be heard---with marginal success. Pridham and Jensen, who had been thinking only in terms of telephone and radio receivers, were stunned.

Eager to deliver a workable product for their increasingly-impatient investors (how little things have changed in a century!), Jensen and Pridham quickly cobbled together a prototype as proof of concept:

“The term ‘loudspeaker’ was not used or known at the time. Everyone would have assumed the word described a person. We used the term “loud speaking telephone”....I am not personally responsible for the word ‘loudspeaker’ which I think is an ugly-sounding word.”

The duo set out to see just how loud their “loud speaking telephone” could be, by coupling their moving-coil unit to a large horn. For the input , they grouped together six high-output microphones in a common mouthpiece; as vacuum tube amplifiers were not yet available, the signal level was totally dependent upon the level of the input. Stronger input signal=stronger output.

Mar. 13, 1923.

E. S. PRIDHAM ET AL
ELECTRODYNAMIC RECEIVER

1,448,279

Filed Apr. 28, 1920

2 sheets-sheet 1

Fig. 1.

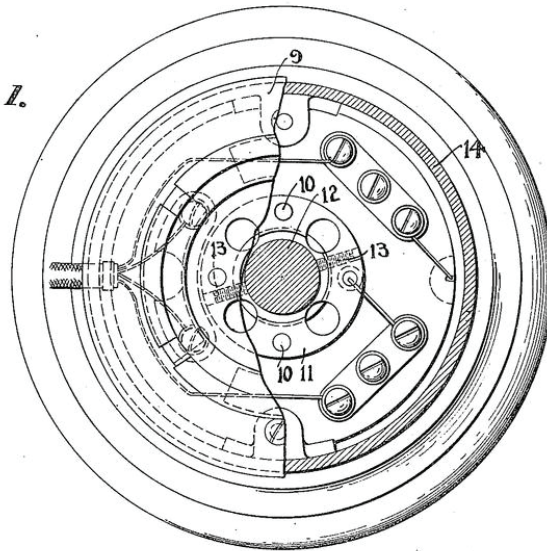
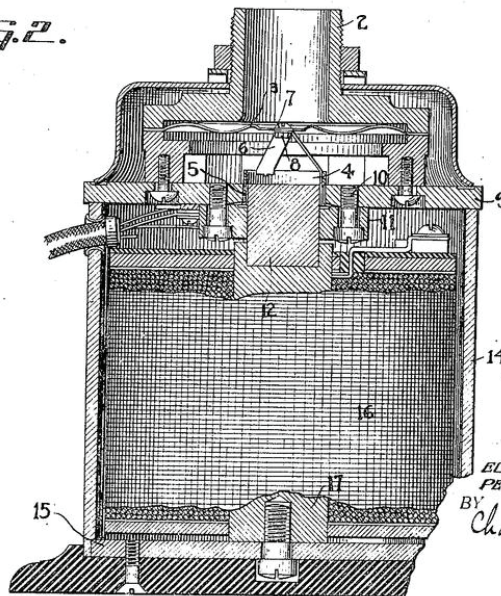


Fig. 2.



INVENTORS
EDWIN S. PRIDHAM
PETER L. JENSEN
BY
Chas. E. Townsend
ATTORNEY

The initial test will sound familiar to any audio experimenter: “We put the loudspeaker on the table next to the microphones, and began connecting the various pieces of apparatus together. Without knowing it, we had on our hands a ten to twenty-five watt sound system by present standards, and up to this moment, all sound systems, such as telephones, had been on the scale of microwatts, or at most milliwatts, which meant ours was thousands of times more than any put together heretofore. We had no suspicion this was the case, but we soon found out.

“When the final connection was made to the terminal of the storage battery, a crack like the report from a gun came out of the horn, followed by a screaming howling noise which was ear-splitting and terrifying.

“Pridham shouted at the top of his voice: ‘Disconnect the battery...’At this point, the connection was broken, but Pridham was unaware of that, and he finished the sentence by hollering in a deadstill room, ‘before the house BLOWS UP!’”

So Jensen and Pridham, like Frankenstein, determined that their creature was indeed alive, and discovered the terrors of feedback. Their next steps, which formed the basis of today’s audio industry, will be covered in Part 2.

Bill Leebens has bought and sold vintage gear since the days when it was new. He regrets that a goodly number of classic American components now reside in Japan, because of him. Mea culpa.

Playing In The Band

MUSIC TO MY EARS

By WL Woodward

In my 13th year my Mom and Dad bought me an electric guitar. No amp. They believed they'd gone far enough.

The guitar was a classic, a middle of the line Sears' Silvertone with a whammy bar. If my parents knew what a whammy bar was they might've stopped me. But truthfully, without an amp this was low risk. You couldn't wake a squirrel on that guitar without an amp.

God bless my Mom and Pop, they fronted lessons as well as getting me the guitar. After all, I was 13. The only money I had, I had stolen from them.

Christmas of that year my parents got me a book of songs for guitar so I could continue my studies. The Tom Jones Songbook. Sigh.

Like all towns across America, there was a music shop next to Rexall's Drug that made their living renting instruments to the local schools, but would carry a couple a hundred watered down books of piano music transposed possibly for guitar, and/or clarinet.

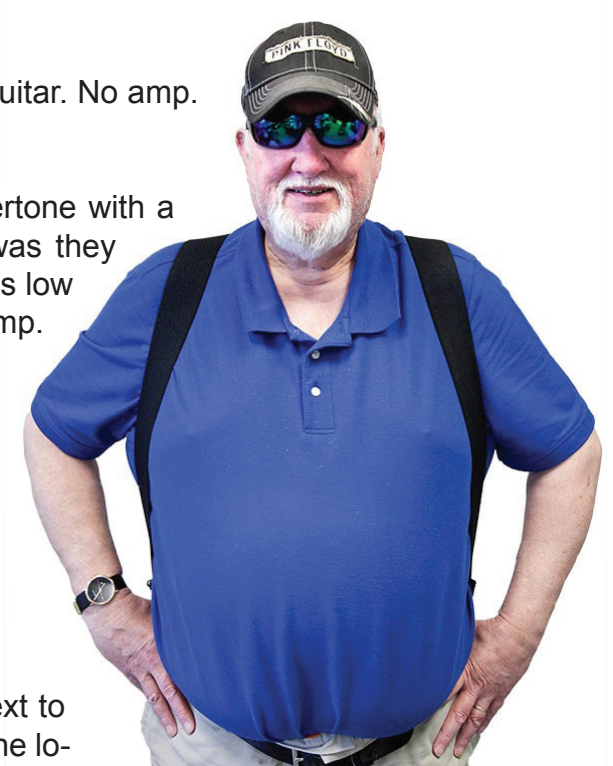
Classics like The Lennon Sisters Sing the Blues, or The Tom Jones Songbook.

Some things never change. I will bet my teeth I can walk into any music store in America and find The Sound of Music for ukulele.

These cheese shops across the country, as they do to this day, kept lesson rooms for music teachers with no more credentials than they could play "Camptown Races" on kazoo twice without stopping.

I was in love with that guitar. Unfortunately, I was not in love with the lessons. Apparently at that time, in order to become Johnny Smith or Wes Montgomery, you had to start with Twinkle Twinkle Little Star.

We weren't poor, but we weren't getting better. When I announced I had had enough with practicing the theme from "The Girl From Ipanema" and hated it, they were thrilled to stop the lessons.



Before I lost track of that guitar I played in a neighborhood band that practiced in Barry Zaugg's back yard. We played "(I'm Not Your) Steppin' Stone" by the Monkees so many times his parents broke up.

That was the possibly the last band experience I had without learning something about some new music.

In the summer of '73 I had a very bright chum from childhood who copped a full ride to Cornell. David spent that first year learning how to play guitar like Jimi. He came home that first summer, thrust a Hagstrom bass in my hands, and told me I was in a band.

I had to learn ZZ Top, Jeff Beck Group, Aerosmith, Led Zeppelin, Hendrix songs that I KNEW I knew. I did not. You don't know the stuff until you have to analyze it, play it back 149 times, then play it yourself.

What followed were a series of bands that continued to bring new music. I moved to a new town and while washing dishes in a diner I met a guy in a three piece country folk combo who needed a bass player. In the Pass The Hat Band I learned and loved for life Jimmy Buffet, John Prine, Guy Clark, Jerry Jeff Walker.

We added a drummer, an actual drummer, who pulled me aside and asked me what the hell I was doing. At the same time I met an actual bass player, Jerry Lelancette, who came to listen to us and knew exactly what I was doing, or wasn't.

Jerry turned me onto Jaco Pastorius, Stanley Clarke, and the concept of listening to your instrument in these recordings. Up to that point I was listening to the guitar, like everyone else. But not the bottom, which defined everything. On top of listening to the bass, I heard new rhythms and whacks. Guys like Zawinul, Shorter, Corea. That led me to Miles, Bird, Cannonball, Diz, Mingus, Monk. Damn.

I discovered that when you concentrated on listening to the bottom, in the sluice trace created by the drummer and the bass player you heard shit you never heard before, top and bottom.

The Pass The Hat Band turned into Getting Even with some heart breaking personnel changes but playing more R&B stuff just at the time that stuff was becoming fun, Steely Dan, Blues Brothers, NRBQ (!!!). Again, I had to learn a whole new bass style and it was a gas, but more than that I was discovering more new directions like Commander Cody, Bob Wills and the Texas Playboys. David Bromberg.

I got drunk with a guy I worked with, and whom I absolutely adored, who had a real Groucho Marx/Buster Keaton/Frank Zappa sense of humor. Dave had some friends in a small jazz combo, two guitars and a female vocal. Toy Boat took me on as a bass dude and taught me about more jazz and blues. Man, we couldn't make a dime but we played some wonderful shit. Oh yeah. First exposure to Dan Hicks and His Hot Licks.

While I wasn't making money with Toy Boat I met a couple of guys who wanted to start a three piece power trio to do new wave music. This was the early 80's, and the really interesting stuff was being done by guys like the Police, Joe Jackson, Elvis Costello, the Romantics. Again, I got exposed to a

whole new genre. To audition I had to learn songs like “Walkin’ On The Moon”, “Different For Girls”, “Sunday Papers”. Because a lot of the stuff was written for or, in the case of the Police, by bass players, listening and having to learn those parts was an experience I will never forget.

The Uh Oh Squad would be the last band of that period before I grew up. But growing up can be an illusory, hangover type of thing.

Many years later my son was going to a music school in LA, and I ended up getting a job out there. Dean was playing with a really talented guitar player, Charlie, who played a red Gretsch and was completely in love with rockabilly, especially new and psycho-billy. They needed a bass player, and I was like right there. I had to learn all these great songs. Heavy walking bass oriented, but better than that the most fun three guys can have on this planet without twins. The Reverend Horton Heat. Nuff said.

My Editor just whispered in my ear to get to the point. The point. Yeah..Oh Yeah! The point is for me learning all these nuances about great music came because I was a musician and discovered because I was forced into the lower sewer lines of amazing shit. But it doesn’t have to be that way. I have been pointed in as many directions by friends with as crackling ears as musicians. But I honestly cannot overstate how playing in the band can teach you about hearing.

Look. We’re getting older, not dumber. Pick up an instrument you always wanted to play, and take some lessons. If you’ve lasted through this tome you may already have started thinking about it. You don’t have to be playing in the band, but playing with the band? Oh yeah.

W L Woodward is the Director of Operations at PS Audio. He has been married since 1974 to his high school sweetheart and should practice his guitar more.

Dan Schwartz Does Newport

By Dan Schwartz

I spent a couple days at THE Show, the hi-fi mini-extravaganza in Irvine --- I was there for the theoretical press day, and the closing day. (Apropos of nothing, the day before, my family decided to foster a very young rabbit that was found in someone's yard until the owner could be located. When I walked through the doors in Irvine on Thursday, my daughter called to announce that the little bunny had just given birth to 9 infant rabbits --- I was on full-time bunny duty for the next two days.)



Anyway --- as I reflect on my experiences in Irvine, what's the takeaway? It's the music that stands out. I'll write a bit about the systems too, but it was rare that I heard a good system without extraordinary music.

Dan Meinwald's E.A.R USA room is always extremely good. He debuted the extraordinary, magnetically suspended, Helius Viridia table and arm through a tubed EAR 912 preamp and 509 amps into the likewise-debuting Marten Mingus Quintet 3-way speaker. Dan usually sets up diagonally in the room, but this time he was on the typical length-wise axis --- probably to the sound's detriment a bit. The sound was about 8 out of 10. But more importantly, Dan knows my taste in music, and in a moment when it was just a couple of us, he spun Garcia and Grisman's "Friend of the Devil" (recorded in '91). It's a very good studio recording --- not a great one, but very good. It reminded me though, coming early on the first day as it did, of the pointlessness of using music you don't (at least) really like in situations like this. With this song, I was completely engaged, and lost in music. Then he played a file of the version of "While My Guitar Gently Weeps" from Love, the Fab's collaboration with Cirque du Soleil, through the USB input of the EAR Acute Classic CD player. (All in all, the sound, both digital and analog, was exceptional and well balanced enough to cause me to abandon any regret at having sold my EAR G-88 after 24 years.)

PranaFidelity also bears mentioning; at \$6950, their Vayu/fs speakers have to be one of the great bargains of the high-end. I heard a Charlie Byrd direct-to-disk, recorded, as I recall, in 76 or 77. The image was slightly foreshortened by the decision to play across the short axis of the room, but when the drummer soloed --- hoo boy, it was incredibly lifelike and full-bandwidth. The rest of the system consisted of a Basis table and arm, a My Sonic Labs cartridge, a PranaFidelity preamp and amp and Kubala-Sosna cables.

A manufacturer who presented a highly confounding speaker to my ears was Tonian Acoustics. A two-way unit, but with a single full-bandwidth driver that crosses over at 14k to a supertweeter, it seemed, at first, very upper-mid forward and bass-shy. But within about 30 seconds, once my ears had adjusted to its relatively unique balance, the sound was, though still light, vivid and "present", in the you-are-there sense. I have no idea what the music was ---

some kind of jazz --- and it didn't especially engage me, so I didn't hang out for more than two tunes, but I liked the overall sound quite a bit. It was just about the sole instance of the sound engaging me without the music, too.

Towards the end of day one I spent about 45 minutes in the **Bricasti Design** room with Brian Zolner, who I was first introduced to by John Marks (late of Stereophile). I've seen him a few times and had a long phone conversation with him, but this was the first time we'd been together uninterrupted for enough time to talk at a little bit of length. We listened to a few things in that time, but Brahms' 2nd Symphony and the Academic Festival Overture from **Channel Classics** were particular highlights. I'd say the room first, of course, and the speakers and microphones secondarily, put limits on what the recordings could do. But short of the real dynamic peaks, what was presented was very real (for speakers in a room). You could lose yourself in the sound, a recreation of the event in not-quite-miniature. He was showing the M12 dual-mono source controller, a preamp/DAC combo through a pair of M28 amps (I got



an interesting explanation of why the amp are so tall), through a pair of TIDAL speakers.

On the last day, I attended Wendell Diller's **Magnepan** presentation (of which more later or elsewhere), got Bill Leebens to go with me to Bricasti again, and ran into numerous friends – like Colleen Cardas, who was holding up the hallway while her partner spun Sgt. Pepper's Lonely Hearts Club Band on a system made up entirely of components from down under. I barged in for "Within You Without You", and objectivity went out the window. But to tell the absolute truth, it was gone already.

Leebens had taken me into the **Kyron** room. I was skeptical --- I had noticed Kyron last year but had no real experience of it --- but the sight of Elbow's...

The Take Off and Landing of Everything on double 45s cured me of any skepticism very quickly. Coming across this at a hifi show was completely unexpected; the first band I've really liked since the Pixies. Invoking the power of the press, I commandeered the pilot's seat and settled in for the first song[1].



Every signal encoded in the EP of "This Blue World" was right there. I know I'm writing this as Paul McGowan is seemingly about to express disapproval of pre-distorting a signal, or rather using DSP to overcome the limitations of a room, but you know what? This worked. It was among the very best sound I've ever heard in a hotel room. The open-baffle speakers take a moment to get used to looking at, but they take no time to get used to hearing. Yeah, the system is megabucks --- something like \$150,000 --- but I'm not buying it, I'm just writing about enjoying it. And man-oh-man, did I. I was utterly lost in music; I didn't ask to hear an orchestra, or female vocals, or any of the other stand-bys of reviewing. I heard music; completely, totally satisfying music. And that's what I was there for. The best rooms brought me right back to the point of all this in the first place:

Music first. Music always.

Magic Wands

By Paul McGowan

How often do we pine for a magic wand; a powerful reality changing tool?

It happens to me often enough. “If I had a magic wand, I’d wave it and all the weeds would be pulled, the driveway swept, the garbage taken out.”

I can remember as a kid wishing for a magic solution to homework, cleaning up the dog’s poop, turning me invisible when my mom was on the hunt for child slaves. But alas, no wands ever appeared and there seemed no escape.



The lack of magical tools never did stop me from dreaming and wishing for easy solutions to complex problems—wands would trump hard work—were they real, but their true value is in sparking imagination.

If I could wave mine I would transform audio’s own Swiss Army knife, the integrated amplifier. Oh how I would craft it so differently than it is today; none would recognize it.

My first pass with the wand might reduce the integrated’s size to that of a coffee table picture book: an inch high, maybe twelve wide and deep. Not too small. It shouldn’t look like a toy. Its stance needs to be proud, nimble, ready to pounce with grace. And I wouldn’t want to see any controls—its interface voice activated, responsive to my every whim.

I wouldn’t want any connectors or obvious means of attaching the integrated to speakers or sources, either. A flick of my wand and inputs and outputs connect as if by magic, invisible and without restrictions.

And programmable too. Today I might want to stream high resolution music, but tomorrow I may wish to scrape some vinyl and enjoy the sound imparted by a diamond travelling in a groove, accompanied by ticks, pops and dust.

The library of music available to me should be infinite according to my tastes: arias sung only by the

best, orchestral crescendos at live levels filling the room, or Taylor Swift making my toe tap when my granddaughter comes to visit. Dinner on the patio with light jazz—not the crap of elevators—but meaningful music curated just for me.

Why, with everything I'd wish for I'd think I had gone to heaven, the angels singing my favorites. Suddenly the reverie is gone and in its place the nasty rasping sound of my alarm clock. I wipe the sleep from my eye. It sure was the best integrated I ever dreamt of, but now back to reality.

Magic wands are fanciful objects we can dream of but they're also incubators for great products that might someday grace our homes.

The best inventions are the ones that start life as dreams, or flicks of imaginary wands. And maybe, just maybe, enough dreaming and wishing might spark an idea clever engineers can bring into the world.

Their wands might be made from nothing more than crooked sticks, but they inspire magic in people's minds.



By PG Nimble

This system is the culmination of a 43 year adventure in sound reproduction at home.

It all started in 1973 when I spent 3 of the 6 days of my honeymoon in Hi-Fi stores auditioning gear. Almost getting divorced on my honeymoon has not prevented me from pushing those same boundaries many times over the years, but I am still married to the same long suffering woman that I married all those years ago.

Amps have changed from the Sony TA88 (11 solid state watts per channel) – which by the way I still have, and it still works.

The Pioneer PL12D turntable and Sonny SS610 speakers are long gone, but I still have all of the vinyl that I had back then, augmented by a lot more!

The current system is a 26 year old Sota Cosmos turntable with an ET2 air bearing (supplied via a medical compressor and custom surge tank, running at 12.5psi) linear tracking tonearm, running a

custom made Garrott moving coil cartridge via Transparent XL interconnects into a VTL TL 6.5 phono stage fitted with the silver MC transformers.

This analog rig is my preferred source for when I want to listen to my collection of rock.

For more recent music, which is on CD or the network, I use a T+A (from Germany) MP3000HV which combines a CD player, streamer, FM radio and media player into one box. It feeds via Transparent XL balanced interconnects into a VTL TL 7.5 III two box preamp which in turn connects via Transparent XL balanced interconnects to a pair of VTL Siegfried power amps. Transparent XL speaker cables connect to the Magneplanar MG 3.7i speakers which are augmented by a pair of REL S2 subs in the front corners of the room.

The room itself is a little unusual. It is a steel portal framed building where the walls are made from bales of barley straw, and are thus almost half a metre thick. These bales are plastered with a natural lime plaster (not painted) with natural undulations a feature.

The room is of good volume, being 10.44 metres (34.25 ft) long by 5.45m wide (17.8ft) with a cathedral ceiling that runs from 4m (13ft) up to a peak at 19ft. There are 6 tonnes of plaster covering the walls, so there is a lot of mass !!

The ceiling is finished in oiled poplar wood (because it is a softwood) with a double layer of wool batts behind that and flooring grade ply above that. This gives a good balance between hard and soft surfaces with minimal need for room damping. We have a few bass traps to deal with some dominant modes, but overall the room sounds great with excellent RT60 performance.



Peeling Paint
by
Paul McGowan
Bahamas