The birth of a child is always a cause for celebration. For the new parent, it's also a time of uncertainty and anxiety: Am I doing this right? Is THAT normal??

Creating Copper has been pretty much the same for us. There is exhilaration, the excitement of starting something completely new, of charting the course as we go. And of course, there is the desire to do everything perfectly.

The first issue of Copper, now before you, requires a little by way of introduction. Copper is dedicated to furthering the art of home audio reproduction, and growing the community that supports it. Whether you call it Hi-Fi, hi-res, or High-End doesn't matter; such labels tend to separate and isolate people, which is exactly what we don't want to do. We'll do our best not to be audio snobs.

Any system, technology, or category of product that faithfully reproduces music, honoring its source and intent, qualifies as fair game to us. Vinyl, digital, portable, expensive, inexpensive, new or old: if it makes music, it's of interest to our readers.

Copper is not a traditional audio magazine. It is published by a well-established audio manufacturer, and we hope you do buy our products... but that's not the point of this magazine. Copper won't sell or promote products, services, or advertising. Instead, Copper aims to inform, entertain, inspire, motivate and build community.

We believe that a diverse, strong, well informed community of like-minded people, sharing ideas, news, and knowledge benefits all. We don't believe in trickle-down economics, but we do believe that a rising tide floats all boats.
Copper will not focus or feature equipment or reviews; there are plenty of great print and online resources that cover this. Copper will bring to its readers the most interesting voices of the audio and music industries. Interviews, thought-provoking articles, opinions—sometimes strong ones, that we may disagree with—technology, knowledge, music, humor, advice, perhaps an occasional piece of fiction.

I like to think of Copper as the New Yorker of audio and music. I say that not to sound unbearably pretentious, but to indicate the high standards to which we aspire: well-written prose that stimulates, informs, encourages and moves its readers.

Copper welcomes your voice too. If you have a comment, positive or negative, we want to hear from you. Each issue will feature the best of those comments. You're encouraged to contribute in other ways too. We intend to feature systems that our readers are proud of, from the smallest desktop to the biggest ass-kicking zillion dollar rig. If you're making good music at home, share it with others. We'll handle writing the article for you—just supply us with photos, notes and a few paragraphs about the system, and we'll take care of the rest.

Copper is free. If you enjoy its contents, and we hope you will, help us build community by subscribing and spreading the word. Servers willing and Boulder Creek don't rise, we'll publish each and every week.

It's always a nail-biter to launch any new project, and Copper is no different. From the beginning, we've been met with skepticism about our ability to launch a magazine without benefit of advertising, or hope for financial reward. We believe down to our bones in supporting the community that we are a part of, and have faith in our goal of helping more people enjoy music in their homes.

We hope you will join us.
Maybe you've experienced this: you offer your friend a bracing taste of music by Gustav Mahler (1860–1911) and your friend turns you down flat, saying "Sorry, bro. Ars longa, vita brevis. Why sit through two-and-a-half hours of 'Life Sucks and Then You Die'? I've already got the t-shirt."

Or maybe you're the friend who turned down that offer.

Here's another way to look at it: Yes, Mahler wrote a few of the longest, saddest pieces in Western music. That's why some of us love him. He may be telling more of the truth about human existence than everyone wants to hear. Unfortunately, this also limits his appeal to the uninitiated. The best way to introduce a friend to this particular giant of classical music would be via something short and (at least partly) sunny.

Such Mahler does exist. I'm thinking of his songs, which come attractively packaged in collections that alternate sunlight and shadow, joy and grief. You can bite into one or two without making a bigger commitment. Seriously, it can't ruin more than five minutes of your day.

Start by giving a listen to Mahler's songs from Des Knaben Wunderhorn, an anthology of German folk poetry from the early 19th century. Mahler was fascinated by these poems, which he refused to read nostalgically, as artifacts of lost innocence. For him they weren't relics. Rather, their human immediacy—their now-ness—struck a chord. He responded by creating folk-like but original melodies and superb orchestral settings, both of which brought out their authentic depth of feeling. The subject matter ranges from frankly playful to deadly serious:

*Once in a deep vale*
*Cuckoo and nightingale*
Decided to make a bet
To sing for the master-prize.
By skill or by luck,
The victor would carry home the palm.
Cuckoo said, "with your permission,
I have chosen the judge."
And named the donkey right away. . . .

I, poor drummer boy!
They lead me out of the dungeon.
Had I only remained a drummer boy,
I would not lie in prison.
Oh gallows, you high house.
You are such a dreadful sight!
I will not look at you again,
Because I know that I belong there.

These excerpts are from an excellent recent recording of the Wunderhorn songs by soprano Christiane Oelze, baritone Michael Volle, and the Gürzenich-Orchester Köln conducted by Markus Stenz (Oehms Classics OC 657). In Europe, Stenz has become known as a consistently successful Mahler interpreter. It's time he and his collaborators were celebrated on this side of the Atlantic. (Incidentally, Stenz and his orchestra make live recordings available after concerts to anyone with a ticket and a thumb drive: read about it here.)

If you're a vinyl fan you might keep your eyes peeled for the classic Forrester-Rehfuss-Prohaska Wunderhorn recording produced in 1963 by Seymour Solomon, who—for those of us less keen on dumpster-diving—supervised a digital remastering in 1991 (Vanguard Classics OVC 4045).

Mezzo-soprano Bernarda Fink offers a broader, chronologically organized survey of Mahler's songs for Harmonia Mundi (HMC 902173; 2014), including selections from Songs of a Wayfarer, Kindertotenleider (Songs on the Deaths of Children), and the Rückert-Lieder (poetry of Friedrich Rückert). A further advantage to this set is that it mixes piano and orchestral accompaniments, including the chamber reductions that Arnold Schoenberg made in 1920 for his Private Musical Performances in Vienna. You get a sense of how Mahler conceived settings for these songs, not to mention why it was natural for him to integrate many of them into his symphonic works. Here is a bit of Schoenberg’s arrangement of one of the Wayfarer songs:

This morning I walked over the field,
Dew was still hanging on the grass.
The happy finch called out to me:
"Hey you! Good morning! Hey
You! Isn't it a lovely world?

And here is Mahler's own chamber-like orchestration of the first of the Kindertotenlieder:

https://www.youtube.com/watch?v=YnfhInZLmUQ&feature=youtu.be

Now the sun will rise as brightly
As if no calamity had befallen during the night.
The calamity befell me alone;
The sun shines on everyone. . . .
All in all a useful sampling, nicely delivered by Fink and her colleagues. Eventually you will want to explore Mahler's song repertoire further, but this well-thought-out introduction helps you understand how his creative concerns evolved.

Which takes us from Tall to Grande. Are there Mahler symphonies that don't last forever, don't address Major Issues Facing Humanity? (Not that there's anything wrong with that.) Yes, there are.

Start with Symphony No. 4. Providing the conductor doesn't dawdle, it clocks in at under an hour, nevertheless acquainting you with the fundamental aspects of Mahler the symphonist. Also, its finale incorporates one of the most charming songs in Des Knaben Wunderhorn, "Das himmlische Leben" ("Life in Heaven"). In one of his incandescent later performances with the Lucerne Festival Orchestra, Claudio Abbado conducted both the Rückert Lieder and this symphony. The latter begins with sleigh bells' gentle sound:

That Wunderhorn song—about an angelic feast full of earthly delights—commences at 47'30"; Magdalena Kožená sings, and English subtitles are provided. The whole concert is available on Blu-ray video (EuroArts 2057984) and as part of Abbado's Mahler Symphonies 1–7 set (also EuroArts). For those who'd rather not see the musicians, Iván Fischer's recording with soprano Miah Persson and the Budapest Festival Orchestra provides an equally rewarding experience (Channel Classics CCS SA 26109; SACD and download).

If Mozart had been born a century past his time, this is music he might have made. It's just that graceful, human, and profound. It's also relatively pocket-sized. Or as the Starbucks people might put it: Grande.

(Sorry, bro. Venti next time.)

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.
He died on Thursday, January 28th. The news hit me hard, and I was surprised at that. Not quite like Lennon, or Garcia for that matter --- I was so much younger then. But after the week's reflection, on reading endless online eulogies to him, the music, the times, I see it now.

After the Beatles --- the reason I and countless others got into music --- the Airplane was the biggest thing that happened to me when I was 13. My aunt gave me Jefferson Airplane Takes Off and Crown of Creation for my birthday. I bought a bass soon after, and immediately fell under the spell of Jack Casady, a spell that lasts until today (when I can say, cursorily at least, that Jack and I are friends).

The appearance of Casady was such an outsize event in my life, and in the life of many fledgling (and veteran) bass players that one really can't say enough about him, so much so that the event obscured others. The Airplane's singers of course, of which Kantner was one, were truly powerful, celebratory, frightening and impressive --- one of the great vocal trios of the time. And Jorma on lead guitar, well, he was all over the place, you couldn't not hear him. Spencer on drums was his phenomenal self, pushing and pulling and coloring like mad.

You see where this is going: Paul Kantner (on rhythm guitar --- mostly 12-string) went sort of unnoticed in the fury that whirled dervish-like all around him. Even on stage, he was unprepossessing, seeming to be the least among equals visually.

But now I'm listening to the Mobile Fidelity gold CD of Crown, and hearing for what seems like the first time how utterly essential he is to the whole. He's the center, the body, the thing that everyone can fly off of. He actually plays the songs; all else is color. And it turns out, he was also the principal
writer. How could I have not noticed how utterly essential he was? It wouldn't be unfair to say he WAS Jefferson Airplane; as Mickey Hart of the Grateful Dead has observed, he was "the backbone" of the band.

And he's gone.

When I heard the news, it was like hearing of the death of close friend. Even though the Airplane are many, many years gone, they're still alive for me musically --- or at least were until last week. I know this makes his death ultra-dramatic --- it's not quite as severe as it sounds. But there's something essential to knowing that one's early influences and heroes are still here, still walking around and sipping coffee at Caffé Trieste in San Francisco; a city he was from, where he lived his entire life (and not incidentally, where I intended to live but for circumstance).

When Lennon was murdered, it was personal. Even though I hadn't listened to the Fabs in quite a few years, I grieved as if a family member had been killed. When Garcia died, it wasn't a surprise --- I knew he was in questionable shape. And I had seen him the year before.

But Paul Kantner's death took me by surprise because I hadn't been paying attention. And that was my error. I suppose we can't pay attention to everyone everywhere all the time, and we had just had a beloved pet die --- in my hands --- a week before. But the next day it came out that their original singer, Signe Ettlin (before Grace Slick), died on the same day as Kantner.

Last fall, a friend who writes for Bernie Sanders' website and I had the idea of trying to do some songs for his rallies. This brought us into contact with Kantner and the band, some of whom were very enthusiastic about Sanders using the song Volunteers. I discovered that Kantner had chosen to split all the royalties from the song with the whole band, way back when. He put his money where his mouth was.

With all that as preamble, I want to suggest a few songs to listen to, to hear what was so great about him. (None of these are audiophile records). I'm long past being objective about any of this, but, subjectively, what would I recommend? Try these:

"In Time" from Crown of Creation; Kantner at his most meditative and quietly psychedelic. The way the band handles the easy tension, as the song snakes to its conclusion is still, 46 years later, inspiring. In much of his writing from this period, you can feel the, um, "enhanced" perception that would develop from that altered view.

Lean close put your lips next to my face
Look further on past the surface
Orange, blue, red and green
Are the colors of what I feel
And my mind you know it starts to reel in time

"Fat Angel" from Bless its Pointed Little Head; a grey and foggy cover of the song Donovan wrote about the band.

Fly Trans-Love Airways
Gets you there on time.

"We Can Be Together" from Volunteers; this is the man at his most expansive and seemingly political --- while remaining outsiders in Nixon's America. Definitive. In fact, in reissue liner notes, he says the song isn't not overtly political, not a call-to-arms, but rather a call to attention.
"Wooden Ships", Volunteers; co-written with David Crosby and Stephen Stills. I play this version for people to make a stark contrast with the CSN version, which to my ears is too tidy and much less fraught with emotional danger. Live tracked, with their trademarked vocal approach, and sounding like it's about to fall apart (which, at least while the faders are up, it doesn't do).

Blows Against the Empire. You've got to hear all of it, at least the first time. Then you can pick your songs --- which will no doubt include "Have You Seen the Stars Tonight?". Here he brought together everyone in the Bay to make a Hugo-winning science-fiction album. Some of it is sloppy and strident, some of it sublime, and all of it constitutes an extraordinary narrative.

There have been dozens of articles about Kantner since he died and most of those cite his writing on the albums Surrealistic Pillow and After Bathing at Baxter's. Of those, I particularly like this:

As I write this, February 6th, it's just been announced that Dan Hicks (of the Hot Licks, and the early SF psych band the Charlatans) has died as well, of cancer. Another hero. It's too much. I mean, I didn't like Glenn Frey at all, but still --- they're falling fast now.

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.
Quiet Is The New Loud

Written by Scott McGowan

March 6th, 2016 marks fifteen years since millennials found our generation's Paul Simon & Art Garfunkel. Steel strings by Erlend Oye, nylon strings by Eirik Glambek Boe, and delicate harmonized vocals by both, Norwegian pop icons Kings of Convenience blessed the ears of budding hipsters the world around, pronouncing (not shouting) from the rooftops that Quiet is the New Loud.

Before I lost all my CDs and laughed about it, before I was falling asleep with an iPod, and even before I’d fully unplugged from Dave Matthews (and his Band), the stylus of my friend’s TT dropped on track-one/side-one of this touching album—their first studio—and four bars later I heard two voices. Not two people singing. Two distinct voices. Stereo sound in perfect harmony.

HiFi no longer belonged to my parents.

By track four -- "I Don't Know What I Can Save You From" – with my head right next to the driver, I was confounded and struggling with how best to give each ear equal air-time. Just then Ian Bracken's Cello arrives intimately on the scene. Calming, intricate, emotive, and just plain gorgeous to behold, Quiet achieves a sublimely subtle and engaging musical experience.

With top-notch recording and production by Astralwerks, each detailed note and every savory phrase sends the listener deep into the ether, where definitions fade and only senses remain. Eyes closed, volume up, head swaying, we were drunk on invaluable inflections and cheap beer. The jam bands of my youth seemed to fade away with the cascading passages of those tender strings.

I bought my first record player a week later.
My friend still has the cherished original pressing he bought for twenty bucks in 2001—something I never, ever talk about—but us regular people can demo the album on Spotify or Apple Music. (News in just in time for print: the album is scheduled for re-release on vinyl, April 8th!)

Just when we'd worn the LP down sufficiently, and after Quiet's mellow strides were in want of a kick in the ass, Kings offered their 2004 sophomore studio album Riot on an Empty Street. The first five notes of "Homesick"—cut #1—I exhaled a sigh of relief. Artists have their whole lives to write the first album and only a few years to write and record the next. How often have we heard the words It's not as good as their first album (don't worry if you haven't heard of it...it's super obscure...it barely exists in fact). You don't have to worry about that. Kings dive into Riot like no time has passed.

Cut #6, "Sorry or Please" is a jazzy expression. In addition to the usual suspects, this track enjoys upright bass, trumpet, banjo, and viola. They proceed to kick it up a notch with plenty of faster tempos and even songs that straight make you want to shake it. The horn section grows to include trombone. Vocals take a surprising twist by featuring Canadian artist Feist as lead for two songs. When she sings you think it's her band you must have been hearing all along. Listen to the last song, "The Build-Up" just before you go to sleep. Leslie Feist's outro will be with you in the morning.

Riot is hard to find on vinyl. But if you have $20 you can order the 2009 album Declaration of Dependence—aren't these titles fantastic?—on vinyl, and I suggest you do. The first song, "24-25" is one I often demo at trade-shows and really stands up to the HiFi Challenge.

Not unlike Scandinavian design, the Bergen-based duo exemplifies hard-fought perfection in every detail. Before you know it, those same hipsters which lauded only the original album will regale you with "Yeah, yeah---all their music sounds the same..."

You know what? It doesn't matter that much, when all your music is great.

Scott McGowan is Sales Director of PS Audio, which is his dream job. His coolest possessions are his Studer Revox A77 reel-to-reel tape deck, and his Technics 1210-MKII turntable. He doesn't like TV very much. He loves things you can touch, and he spends a strange amount of time reflecting on the physical properties of aluminum. Wikipedia is his secret best-friend. His house is littered with record sleeves and liner notes. He collects headphones passionately. Most nights he stays up too late listening, reading, writing. His favorite author is James Joyce. He lives with his wife in Denver, where he writes fiction, poetry, editorials, and the occasional music review.
I am So Over CES

THE AUDIO CYNIC

Written by Bill Leebens

I remember the first time I was called a cynic. At least I think I do; past the 40-year mark, it's hard to separate self-delusion from reality.

Anyway, it was 1968 or '69. I was in 8th grade at Lincoln Junior High, Carbondale, Illinois. During a Student Council meeting, I rolled my eyes and made a disparaging comment about a particularly egregious proposal before the Council. Given the general meaninglessness of all we did, it must've been a real stinker.

Mrs. Dillard---the always-upbeat advisor who also coached cheerleaders--- got a look on her face like a storm cloud, and spat out, "BILL LEEBENS--you're SUCH a CYNIC!!"

Ever-defensive, I shot back, "I AM NOT!!"

Really, is there any better place for a cynic than in the audiophile world? Introspective, antisocial misanthropes angst endlessly online over picayune distinctions between various versions of mediocre music. I'm NOT one of those guys—but, boy, can I MOCK them....

And yet: God help me, the dysfunctional family of music-lovers and audio geeks are my people. Like my own family, they may make me want to commit violent acts, they may drive me to drink, but by GOD, nobody from the outside better give them crap. Then I get angry. And you wouldn't like me when I'm angry.

Which brings me to CES.
I first attended CES in Chicago, the summer of 1989. I was a UPS driver with a side-business in audio, so imagine what it was like for one whose contacts in that world had mostly been by long-distance or as a pen-pal, to enter a hotel full of the cranky and irreverent geniuses of the high-end audio world. To use a creepy contemporary parallel, imagine a lonely sci-fi geek from the middle of nowhere, stumbling into Comic-Con.

Not to sound too fanboy, but that's what my first CES was like. David Manley, Bud Fried, Matthew Polk (thanks for that fabulous lunch!), and many more of the glitterati, all wisecracking, all smoking; it was the '80's, after all. After years of isolation, I felt I'd come home.

In the decades since, I've eagerly anticipated CES...but not any more.

Why? That requires some explanation. Back at that summer CES in Chicago, the "Specialty Audio" exhibitors, as they were then called, were all in one hotel. Exhibitors came from other areas to take notes and steal ideas---not to mock, or to gape in horror at stratospheric price tags. CES was the place where audio brands broke out, where new products were launched. It was not just significant, it was vital.

In the years since then, all that has changed, and not for the better. Let's look at the number of High Performance Audio (in CES-speak) exhibitors. Going back a few years to when such exhibits moved from the casino-free Alexis Park to the top floors of the Venetian hotel (and casino) in 2007, the outrider THE Show was adjacent to the Alexis, and both shows could easily be covered by press.

At that point, floors 29-31 of the Venetian were nearly filled with purely audio exhibits, and additional exhibits were in ground-floor ballrooms and in large suites on 34 and 35.

The Venetian tower is configured like a Mercedes star, with three wings to each floor. Floors 29-31 each had about 90 exhibit rooms, with 15-20 on each of 34 and 35, and perhaps another dozen down below. Add in the 40-80 rooms at THE, and you get around 350-400 exhibit rooms.

It's been downhill from there. CEA---which, in my hearing referred to THE Show and other off-site exhibitors as "parasitic bloodsuckers" --- may have moved the HPA exhibits in order to discourage exhibits at THE, which ended up even farther away at the Flamingo.

Where are we now? Back in 2013, I worked in an exhibit room on the Venetian's 29th floor. Allied with a number of other exhibitors, we tried to track the volume and type of traffic through our rooms. At the end of the show, we concluded that about 2,500 people had walked through the audio exhibits. That's less than one can expect at any reasonable regional show in the US, these days. And Munich is a whole 'nother story.

That was admittedly, a SWAG--- a scientific, wild-ass guess. But even more significant than the number of visitors was the type of visitor. In past years, most visitors wore badges labeled BUYER, DISTRIBUTOR or RETAILER. What we saw in 2013, and which has only worsened since, was that an overwhelming percentage of our visitors wore EXHIBITOR badges. They appeared to mostly be guys (and yes, 99% were male) working at booths over at the main convention center for Intel, HP, or other megacompanies, and had come through our domain for amusement. While it's nice to have pros in other fields aware of our work---unlike the Good Old Days, they didn't seem to be there to steal ideas. They were simply there as a hoot.

Let's also look at the number of High Performance Audio exhibitors at the 2016 CES. Remember, less than a decade ago there were 300 exhibitors, filling up floors 29-31, with more on 34 and 35, and a dozen downstairs in ballrooms. This year, floor 31 was completely given over to tech-y, non-audio exhibitors, mostly software providers. Floors 29 and 30 had significant holes and non-audio...
OEMs; there were 136 audio rooms on those two floors. 34 and 35 had a total of 18 audio rooms. Downstairs? Aside from B&O, maybe a handful. Let's say 5.

All told, that makes 159 audio exhibit rooms---about half the number of just 8 or 9 years ago. THE Show no longer exists in Las Vegas; organizer Richard Beers focuses on the highly-successful THE Show in Newport Beach, California. So in total, we're down well over 200 rooms, compared to 2007-ish. There are still additional offsite exhibits, as there were back then, mostly at the Mirage—but that number has stayed stable, around 20.

THE Show was the cut-rate alternative to CES; companies that used to exhibit there are nearly all absent from CES. They can't afford it. For those who do exhibit at CES, the ROI is under close scrutiny. Add up the cost of a basic room at the Venetian, sleeping rooms for crew, meals for same, winning and dining dealers and distributors...$20,000 goes pretty quickly, with many companies spending far more.

That doesn't sound like much in today's business-world, but remember: most of these companies are under $5M/year, and that expenditure may define the knife-edge between red and black. Or, it'd pay for a lot of visits to dealers.

I've heard from several veteran audio companies that 2016 will be their last CES.

I'll likely be there for at least part of the 2017 show, happy to see friends, colleagues and media. I'll likely end up exhausted and sick as a dog; after all, that is part of the CES experience.

For me, CES is now like a girlfriend who once broke my heart: nice to see, with lots of wistful, nostalgic overtones...but no longer a big part of my life.

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 saw it happen. In person, with my own two eyes. In Jamaica.

Of course, a lot of people in Jamaica (and Colorado) see miracles happen, but I hadn’t smoked a thing. And I had seen it and so had the people around me.

About ten years ago, I was at a Club Med with the family. On the second to last day of our time there, we were sitting watching the kids enjoy the 25-foot-tall water slide. One after another, each sunburned youth hurtled down the steep slide, hit the water, and about a foot later, stopped cold with a huge splash.

At 5 pm, the pool was closing, time to go. The guard at the top of the tower closed the gate, and then he went last, coming down the easy way. Except...

Except when he hit the water, he didn’t stop. He skitted across the top of the water, not slowing down, making it a full fifteen feet, all the way across the pool to the other end.

This was clearly impossible. Newton was aghast. Gravity’s not just a good idea, it’s the law.

All of us (kids and parents, perhaps thirty of us, coalescing into a fascinated and determined mob) demanded he do it again.
So he did. Twice.

A miracle.

Afterward, I tracked him down and asked him to teach me how to do it. The next day was his day off, but for $20, he agreed to come early and show my kids and me the secret.

For the next hour, before we had to run to our plane home, we skitted. Each us got to ten feet. It was amazing.

And that feeling, that’s what we get from the high end when it works.

Most of us remember the first time we felt it. For me, it was the Celestion SL6 bookshelf speakers. I set them up in my little apartment in New York and was just stunned. Did they sound like the Blue Note, where I had been the week before? Of course not. Did they sound like the Bottom Line, which was literally across the street from my apartment, where I had just heard Buster Poindexter? Not even close. They didn’t even remind me either of those experiences.

What they sounded like was a miracle.

Isn’t it interesting that there are countless people who into food, trading molecular gastronomy tips and whispering about Chowhoundian restaurants? And so many of us into audio, always trading up... but very few people with the same passion about video.

Video can be measured in lumens, but more important, we can see it. Vision, our highest-resolution sense, can easily tell the difference between good and great video. It’s fog free. We know it when we see it. And generally, people agree about this picture being somehow better than that picture.

But audio, audio is a series of skittish butt slides. Audio is indistinct, foggy, hard to measure, easy to argue about.

Not only that, but we can’t possibly be done in our quest, because once we discover something really good, it fades on us. It becomes the new normal.

In calculus (damn Newton again), we don’t care so much about measuring the absolute as in measuring the delta, in measuring how much something changed. It’s those leaps that give our entire hobby its reason for being.

When we go to a jazz club, we rarely say, “wow, it sounds live in here.” No, the sound in a jazz club is invisible, it’s the standard, the one we expect. The performance might be amazing, but what we hear is what we hear. No veils, no windows, no noticing the absence of veils or windows.

With high end audio, though, we have the chance, every once in a while, thanks to technologies, to placebos and to the magic of our neurons, to witness a miracle, a tiny glimpse of magic that might not stay, but we hope it does. That miracle is not caused (ever, ever, ever) by something we can measure. It is caused by the unexpected juxtaposition of what we expect and what we get.

That means that there are two (not one) matched bookends to our craft. On one hand, we’re trying to change what we get, using the best engineering we can find. And we’re also trying to change what we expect.

Don’t take the fog away. When the fog is gone, so is our hobby.
The fog is the point.

And the occasional glimpses of light through the fog are what we’re working for.

The best way to figure out what to do next in any project is to ask, “what’s it for?” For me, high-end audio’s mission is simple: to make you feel wonder.

And once that feeling fades, to do it again.

*Originally published in Copper #1.*
The Digital Revolution

QUIBBLES AND BITS

Written by Richard Murison

Digital Audio has revolutionized music playback. It was originally conceived as a means of addressing the massive inconvenience factor of analog playback, in the form of vinyl disks, cassette tapes and the like, and was even hailed as a fundamental leap in sound quality. The launch of the CD in 1982 was a major success, and within a decade had changed the face of the business forever. 30 years on, however, the very industry that spawned it – the music distribution business, not the music creation business – faces an existential crisis brought about by its own prodigal son. For the audiophile audience here, though, we mostly care about the issue that the threatened industry apparently couldn’t care less about, that of sound quality, and we delight in the delicious irony of it all. Because digital audio is finally delivering what we want most of all. Great sound quality combined with real convenience.

Like analog audio, it is still a broad-brush-strokes medium. There is nothing about either that prevents anyone from creating and distributing content with low quality using a format designed to deliver a high-quality product. Low-quality reproduction equipment will still deliver low quality sound, even from the very finest recordings, and the highest-quality reproduction equipment still demands a commensurate budget. But on balance, most people will broadly agree that the average quality of music playback in today's digital age is significantly in advance of what it was in vinyl's heyday, particularly when you compare like-for-like in terms of cost.

I am going to write a series of columns on Digital Audio. Mostly, these will be of an unapologetically technical nature. The thing is, whereas there was a lot of art and craft involved in the reproduction of LPs, digital audio is seen to be a much simpler, more black and white thing. You’ve either got it right or you haven't. It is easy to reduce the whole topic to a set of simple numbers – bit depth, sample rates, and the like – and comfort yourself in the certain knowledge that if the numbers meet some easily-remembered criteria then there is little else you need to know. Of course, the truth is
never as simple or as cut-and-dried as any of us would like it to be, and any in-depth discussion of
why that is so must inevitably lead to the rabbit hole of technobabble.

So, if you are going to continue to read my columns, you need to prepare for a couple of things.
First, mathematics. Now, I'm not to require you to learn any tedious theorems named for people with
unpronounceable names. But I am going to refer to their existence from time to time, and explain
what they prove and why they are important. Digital Audio is all numbers, after all, and once you
reduce something to a bunch of numbers – even a colossal bunch of numbers such as a digital audio
file –you can look to mathematics to tell you what is contained within those numbers, and what is
not. For the most part, this can be done with both precision and certainty, although we'll need to call
upon one or more of those unpronounceable names to accomplish that.

The second thing you're going to hear a lot about is DSD, which may both surprise and disappoint
you. After all, isn't DSD that odd-ball audio format promoted enthusiastically by super-serious
audiophiles? It requires enormous file sizes and special hardware and software to play it back. It is
seriously fringe stuff. So why do you need to be concerned with it? Well, the fact is that the
principles which underpin DSD are hard at work in almost every digital audio device you own, from
the cheapest DAC chipsets built into your mobile phone, to the most expensive stand-alone audio
DACs. Even the ADCs which convert the recording studio's microphone feeds to digital audio
numbers do so based on the principles that underly DSD. So, at some point, if you want to
understand Digital Audio, you're going to have to understand DSD.

For all the fact that digital audio has moved the audio playing field from the art and craft of vinyl to
the mathematics and computers of digital, it still hasn't managed to completely disconnect itself
from some of the strange things that made us scratch our heads back in the day. Lest we forget,
there was a lot of loud protest at the notion that one might wish to test an amplifier by connecting it
to loudspeakers and listening to it, rather than hooking it up to a honking great resistor and an
oscilloscope. And hoots of derision were howled at the idea that the bit of a turntable that makes the
record go round actually has a greater impact on the sound than either the tonearm or the cartridge.
That such "radical" ideas were quickly assimilated into the mainstream was made possible at least
partially because they could be acceptably assigned to the 'black art' aspect of the audio art.

So when the digital world starts to encounter its modern equivalents we prefer to think that there
are no longer any of these 'black arts' still in play, and this - together with the internet - causes
major rifts. Why should a USB cable affect the sound of a digital audio system? Or even the Ethernet
cable that connects the computer to a NAS, for example. Why should a bunch of numbers stored as a
FLAC file sound different from the same numbers stored as a WAV file? Indeed, the strange things
that happen in the world of digital audio can sometimes be the strangest of all.

All these things and more shall be added unto thee, at least they will if you stick with my column for
a few weeks. Digital audio is an endlessly fascinating – albeit challenging – topic. Happy reading!

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.
What's wine got to do with us? As is often the case in the notoriously-fluid English language, the word "vintage" has morphed from a noun---meaning the year in which grapes are harvested and wine is produced from them---to an adjective with a broader meaning. "Vintage" in mainstream usage refers to items of high quality or excellent design, from an earlier period.

Confusion comes from trying to define the term from the perspective of different folks: "vintage" clothing to a 20-year-old may mean skinny ties, hip-huggers, and fringed leather boots. A 70-year-old might view such things as "the stuff in the back of my closet".

Audiophiles and audiophools are by nature contentious, and few things will cause flame-wars ---the sedentary-audiophile equivalent of bar fights--- to erupt, like the topic of vintage audio. To look at craigslist, you'd think that a $199 GPX rack system from 1993 was "vintage audio". To a 19-year-old, used to soundbars and Bluetooth speakers, that rack system may seem, umm, awesome and bitchin'. To a (cough) 60-year-old who has spent much of his wasted life carting around massive, dusty amplifiers and speakers that take up more living-room real estate than his couch—well, that rack system would just be...crap.

Who's right? Maybe both. Our expectations are formed by our experiences, and to the 19-year-old, raised in the era of lightweight injection-molded products, that forty pound rack might seem both hefty and bulletproof. To the elder gent, having played Indiana Jones in old movie houses and carted off Western Electric gear by the half-ton....it's crap.

Everyone has certain hot-buttons, things that trigger memories and wistful associations of another time, and those nostalgic longings are tied to the era of upbringing. Our 19-year-old may get verklempt at the sight of Magic: The Gathering cards and a Mazda RX-8; for our 60 year-old, it may
be Pong and a '68 Road Runner with a 440 Six Pack.

Realistically, it's more likely that "Hey 19" will go for the Road Runner, beep-beep horn and all, than "60 is the New 40" will find the RX-8 irresistible. The 'Runner is big and brash and noisy, totally unlikely Mom and Dad's Altima. Old dude may not even fit in the Mazda, and find its charms elusive.

Applying that same logic to the audio world, Millennials/GenZs/whatEver may well find the heft and industrial chic of '50's-'70's audio gear alien and irresistible. AARP-ers are unlikely to find most gear from the '90's captivating. That's our theory, and we're sticking to it.

In weeks and months to come, we'll look at products from the past and the companies that made them. We'll focus on the period from the end of World War II to, oh, the late '70's. Our subjects will largely be American, but side-trips to Europe and Asia can be expected.

There WILL be history, biography, engineering, and economics involved. There will NOT be a test. We hope to show that the past is prologue, and by knowing more about the products of the past, we can better appreciate those of the present day.

Or...we may end up thinking the new stuff is all crap. We'll see.

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.
Cactus Flower

PARTING SHOT

Taken by Paul McGowan