

Affordable\$\$Audio

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Te-con Model 55
Tube USB Amp
p.4

GINI LS3/53
w/B+Bass
p.9

Polk Audio I-
Sonic ES2
p.15

Anti-Cable
Digital IC's
p.19

McIntosh
MA6300 Int
Amp p.24

BESL Series 5
TMW Speakers
p.29

Acoustic
ReviveRTP2 &4
p.37

Wyred4Sound
MC4 Amp
p.43

Studies on
Residential
Power Line Noise
p. 49

Vinyl Grooves:
Cold Play- Viva
La Vida p.68

Madeleine
Peyroux- Half
The Perfect
World p.69



Moving Forward

By Mark Marcantonio

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They say those who stand pat are only shortening their time of relevance. With that in mind last winter the staff at *Affordable\$\$\$Audio* began taking a hard look at the future of our endeavor. Much it was based on our increasing standing in the audio community. Manufacturers were increasing their efforts to have us review higher-end gear. Obviously, this began to stretch our mantra beyond what some saw as "affordable". Several views on how to proceed were brought to the table, most prominent being changing the name to reflect our expanded range. After taking the best ideas from our staff, I consulted with a few people on the manufacturing end whose opinions and business acumen I respect beyond mere words.

In the end, I chose to keep the name "*Affordable\$\$\$Audio*", as we had built a solid reputation and loyal following. However, I still needed to solve the issue of increase in higher level components being reviewed by the staff. After some deliberation the senior staff and I came to the conclusion that eventually a bi-monthly e-zine within *Affordable\$\$\$Audio* would be launched at the beginning of the fall audio season. After a lengthy struggle to find the right name, I'm proud to introduce with this issue *Harmony*. Over the balance of this year I'll be working on finding the layout style and font to distinguish it from the *Affordable\$\$\$Audio* section.

Calling Web Page Designers

My second goal for this summer was to design a whole new website for *Affordable\$\$\$Audio*. Unfortunately, I just wasn't able to find a template that I liked and that worked with my rather limited web design skills. Therefore, I've decided to hold a contest, with the grand prize being a piece of audio componentry to be announced in our AudioCircle and Sound-Thinking forums by September 15. The rules are simple: The design must have a Home, Issues, Archives, Guides, and Links pages. Easy access is a MUST. As much as I am a fan of all audio publications, some of the websites are akin to navigating a rainforest on a moonless night. In addition, manufacturer's banners will change to a square shape. A feature that must be included on the archives page is some sort of current page frames that would allow for Google ads to appear next to the framed PDF review. Finally, it must be easy to update with my limited skills using the free NVU web authoring software or Apple's iWork/iLife software. Deadline is October 20th.

Science in Audio

Every so often I find a posting in one of the forums that is so intriguing and valuable that I take the time to reply to the author. In August I was perusing the Polk Audio forum mostly to see if I could spot any killer bargains. My eye ended up being drawn to a post about home power line noise. Knowing full well the arguments on both sides of the issue, I kept a very open mind about the post. I was only in about two paragraphs when I realized that this was a serious scientific study that needed to be seen by the wider audio community. I emailed the author Raife Smith and asked permission to reprint the study. I was quite pleased to hear back in a few hours Raife's positive reply.

I can't emphasize the immense value that I feel this study provides to the audio community. It is my sincere hope that it will lend itself to high-level discussion about the role of electrical noise emanating from household current. Look for



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a discussion thread in the *Affordable\$\$Audio* circle at AudioCircle. I'm looking forward to a continuation of the thoughtful discussion of Raife's work that began on the Polk forum.

Avoiding Political Commercials

My background as a history teacher and a news hound keeps me abreast of the political scene daily. But like every sane person, political ads irritate the hell out of me. It's to the point where just muting them isn't enough. I would love it if some software designer could put up a rotating set of images from nature on the screen while the half truths and blatant lies ran the 30 seconds.

But until that time comes (hopefully), I will be burning up my DVR and spending more time listening to the latest arrivals for reviews. Once again music will come to my rescue, and hopefully yours as well.

Laptop Update

I received several emails wishing me luck in my efforts to resurrect my iBook laptop. Unfortunately, after going thru two logic boards ordered on line that neither fit correctly with the ribbon cable lengths due to a slight design change, I'm back to saving for a new laptop. My friend, Jeff Dorgay of TONEAudio thinks I'm insane for publishing on a laptop. Matter-of-fact, he's offered to sell me a recently retired tower and monitor, but room at my place is at a premium. Plus, in spite of the small screen size issue, I much prefer to sit in my living room putting the issue together while listening from my favorite position. Right now it's killing me to put this issue together from the dining room table even though the room is adjacent to the living room. Therefore, the saga continues.....stay tuned for the next chapter.

That's enough ramblings for this month, look for some additional news next month. Enjoy the September issue, including *Harmony*.




Tec-on Model "55" Integrated Amp/USB DAC

By Craig Johnson

craigjohnson@affordableaudio.org

Specifications

RCA single-ended inputs
 USB DAC (accepts 16-bit 44.1/48kHz)
 EL84 x 2 output tubes [fitted with 6P14 "Beijing" in current production]
 5755 Raytheon NOS driver tube
 Self-biasing
 Zero global negative feedback
 Choke input filter
 Total Harmonic Distortion (THD) @ 1kHz, 8 Ohm less than 1% at 4.5 Watts
 Frequency Response: 17Hz - 27kHz (-3 dB); 30Hz - 17 kHz (-1 dB)
 Input Impedance: 47 KOhms
 Power Source: 115/230VAC switchable
 Power Consumption: 80 Watts
 Dimension: 7 1/2" (W) x 10" (D) x 7" (H)
 Weight: 13 lbs

Price: \$749, currently on special for \$398 with free shipping in USA

www.teconaudio.com or www.urbanchicaudio.com



Confessions

Let me start by stating that I am not a tube guy. It's not that I have anything against the little glass bottles of fire, or that I think sand amps have any inherent sonic benefit. In fact, some of the best systems I've heard have been tube based, not to mention that I love the warm glow when listening in the dark. I've also dabbled with hybrid power amps in the past, specifically the long-gone Counterpoint designs in which their MOSFET solid-state output probably colored the music more so than the tube input stage. I even toyed with a couple of DIY tube preamps, albeit with mixed results most likely stemming from my all-thumbs abilities with a soldering iron. But for one reason or another, I myself have never ventured headlong down the valve audio path.

Bottom line – I'm no tube guru that will wax rhapsodic about topologies, transformers and rolling the latest NOS finds from Ebay. On the contrary, my penchant for Magnepan speakers has directed me towards monster-power solid-state amps given that I do not have the wherewithal to invest in the kind of tube power needed to drive these hungry, low-efficiency transducers. More recently, I've embraced the new generation of Pulse-Width Modulated (PWM) amps which are more commonly, though perhaps incorrectly, identified as "digital" amps. I love their typically neutral sound (though some may think of it as overly analytical) that is detailed and effortless combined with remarkable bass extension and control. I bring all this up as a point of reference to properly frame the following review.

High-End Audio or Urban-Chic Accessory?

Tecon positions the Model "55" as both a high-end single-ended tube audio amp as well as a stylish accessory for the most upscale of modern big-city lofts. There are two entirely separate websites seemingly tailored to either the "form" (www.urbanchicaudio.com) or "function" (www.teconaudio.com) definitions that the Model "55" straddles. Starting with its form, I immediately liked the look and heft of the amp as I pulled it from the shipping box. Though small, it is a stout little amp with a nicely machined transformer cover and contrasting black with brushed aluminum structure. I'd describe it as "refined industrial" featuring integrated handles cut into the top and bottom panels and cylinders at the four corners finished off with cone feet.

Given that is only 7½" wide, real estate is obviously limited around back where you will find high-quality RCA inputs, speaker binding posts and an IEC power inlet. I'm a bare speaker wire devotee, so I was happy that my 10-gauge DH Labs Q-10 wires easily fit through the post holes, though I had to bend the wires a bit to maintain clearance for the RCA inputs. The power switch is hidden behind the front ride side footer cylinder. The real fun begins when you power it up, indicated by a blue LED located under each tube. Gimmicky, perhaps, but the combined cool blue and hot yellow tube glow gives it striking appearance that made me want to keep it out on display.

You may assume that the Tecon Model “55,” referred to as the mini “five-five” (not fifty-five), is named for its approximate 5 watts per channel of power. But the moniker actually comes from the NOS Raytheon 5755 driver tube. To quote the Tecon website:



Zero global and little local negative feedback (NFB) ensures the most detailed reproduction of sound. Without global NFB to cover up distortion or other imperfections, all components had to be carefully chosen to achieve the technical specifications. The Model "55" features an innovative and unique 3 tubes design, with a Raytheon NOS 5755 double triode to drive a pair of EL84 type pentodes for an unequaled imaging and spaced reproduction. The current production model uses 6P14 output tubes, sometimes referred to as "EL84 on steroids"! They deliver a rich, punchy but clear sound that will amaze you.

The Model “55” is more than just an integrated tube amp. Like many of today’s integrated amps, especially the numerous mini-sized products coming out of China, it also incorporates a USB DAC for direct connection to a computer-based audio source. The chip is a Burr-Brown PCM 2702 which can process 16-bit 44.1/48 kHz digital signals and is “plug and play” compatible with both Windows and Apple OSX based systems. I’ll be the first to admit that much of the Mac appeal is their styling, especially the newer aluminum designs, and the Model “55” made for a very slick visual pairing on the desk ... très chic!

Speaker (Mis)Matching

I knew right out of the gate that the Model “55” would not be up to driving my 83db (2.3v/1m) Magnepan MG1.6QRs, and this proved to be the case after a very brief listen. Yeah, I know ... DUH! But I had to try it anyway, just as I did with the poor little Sonic Impact T-Amp yielding similar results. It sounded OK at very low levels, but kick it up a bit and everything compressed and just stayed congested between the speakers and rather flat sounding. I also tried the somewhat more efficient 89db (1w/1m) Acculine HT3 speakers for a brief period and the pairing did not exhibit the cool midrange characteristic I noticed with my reference amp, a Cullen-modified PS Audio GCC-100, sounding wonderfully fleshed out on the vocals. However, at just 4.5 watts this amp lacked the power to really do them justice and as I inched the volume upward once again the top end became compressed and took on a dulled “hands-cupped-over-the-ears” sound.

Then I switched to the more appropriate Hawthorne Silver Iris open-baffle speakers. I’ve got a pair of these coaxial drivers on home-made baffles, which at \$145 each including the crossover network represent a remarkable value for the performance they provide. Perhaps I’m just a sucker for the no-box sound, but the Silver Iris has come closest to pushing my Maggies out the door, though the higher-performance Sterling Silver Iris may be a more appropriate competitor sonically and price wise. They are also rated at around 96db (1w/1m) efficient, so I figured these would be an ideal match for the little Model “55.” Unfortunately, such was not to be the case and I was about to get a lesson in synergy’s dominance over specifications. The slightly restrained and trapped sound, particularly in the upper frequencies, that has kept the Hawthornes from displacing the Maggies was exacerbated by the Tecon Model “55.” The music seemed held back by a soft, rolled-off top end and thickened midrange, as if it was struggling to escape from the system.

Bear in mind that I am stating these observations in the context of a “system” and I do not think it is an inherent fault of either component, but rather an anomaly of their combined characteristics. When paired with the GCC-100, there is an extra measure of extension on the top end that does a better job of bringing the music to life through the Silver Iris. The Model “55” is more laid back on the top end with a greater presence in the midrange, attributes which became compounded through the Silver Iris. I also found that the GCC-100 delivered better bass control, but then we are talking a huge difference in damping factor. The Model “55” goes deep but was not nearly as taut and controlled, perhaps a function of trying to manage the big 15” driver of the Silver Iris.

Like Peas and Carrots

When I wired the Model “55” to a pair of Tekton Design single-driver speakers based on the Fostex FE167E, it became apparent even to this Forrest Gump of a tube amp reviewer that here was a speaker/amp combo that just plain be-

longed together. It shocked me just how much I enjoyed this pairing, even in my larger listening room where the Maggies usually dominate. The music simply flowed from an expansive and deep soundstage. Tonally, it was noticeably and enjoyably warmer than my usual PS Audio/Magnepan setup, but also had the top-end extension and incisiveness that had been overly subdued when pairing the Model "55" with the Silver Iris.

I was a bit concerned that the midrange presence of the Model "55" and forward sound of the Tekton speakers would be a poor match, but it actually made for a very nice combination. Vocals were more emphasized and projected forward in a way that brought the singer right into the room, more so than even the Maggies usually achieve. This was particularly true on tracks like Wilco's "Jesus, etc." (*Yankee Hotel Foxtrot*) and Jack Johnson's new album *Sleep Through the Static*. It could be downright shocking at times with the performer seemingly only few feet in front me. Is it a more accurate presentation? Perhaps not, but I found it pleasurable and very engaging nonetheless.

The Model "55" has a very clean and open sound, with no background noise or hiss that I could detect. But it couldn't quite match the added definition and detail delivered by my GCC-100, being less incisive and lacking the crystal clarity of that amp's B&O ICEPower amplification modules. That extra degree of air and expansiveness of course comes at a price with the GCC-100 costing more than seven times the current price of the Model "55." For its price, the little "55" acquitted itself remarkably well when paired up with the right speakers.

As I listened to the Model "55," I found myself digging deeper into my music collection than usual which is a testament to this amp's ability to draw you into performances. It was a much broader range of selections than typical. I found it did a great job of rendering the mellow, other-worldly sound of the Flaming Lips "Ego Tripping at the Gates of Hell" and "One More Robot/Sympathy 3000-21" which can sometimes sound edgy, thin and over mixed with the wrong equipment. The Model "55" gave these tracks a wonderful, enveloping warmth that filled the room and put me in the middle of the action and had a similar effect on Tori Amos' *Under the Pink*, another recording with occasional warts that become all too apparent through more analytical systems. On less processed performances like that of John Scofield playing his Ibanez AS200 guitar or the vocals of Luka Bloom and Chris Isaac, the "55" imbued the musicians with a sense of fullness that caused them to materialize right in the room.

I think a part of this is the result of a pleasurable roundness in the bass of the Model "55." Bass was better defined through the GCC-100 with greater sense of "snap" and control, though not necessary as full and deep sounding with the small Tekton speakers. The Model "55" imparted a sense of weight which, combined with the slightly softer top-end, made many of my less than perfect recordings more listenable. In fact, I spent a great deal of time going back in time to some of my much older '80s alt rock favorites including the Cure and Love & Rockets, which are not known for their quality being at the dawn of CDs.



Swapping in a couple of different amps with Tekton speakers also proved instructive. The Wyred4Sound 200s, another class D amp I've become enamored with, is more comparable in price at \$699 but took a back seat to the Model "55." The top-end of the 200s, though more extended, seemed cool and overemphasized with an overall less refined character than the "55." For example, Jack Johnson's "Go On" had a slightly gritty sound with the 200s that drew attention to itself. The Model "55" depicted the music as flowing and more coherent, albeit with a more "in your face" presentation featuring Johnson's vocals forward in the soundstage. The overall result was a much more intimate listening experience with the "55." I also compared it to a stock Sonic Impact T-amp using the Tekton speakers. While it is good for \$30, this tiny amp can't come close to the Model "55." The sound was etched and brassy through the Tekton speakers and on complex selections, the T-amp takes the undesirable tact of making them "blat" out (which might be good on quieter passages, but not so when things get tough). The "55" instead tends to slightly smooth and soften the details in a way that doesn't subdue the sound so much as it gives it a flowing consistency.

Valves in the Digital Age

I generally don't listen to music through my computer, but I did give the USB DAC in the Model "55" a try on both my desktop system as well as in my main listening room using a laptop. The first issue I ran into was a connection prob-

lem. I do not know if USB cables can affect the quality of sound from the DAC, but they can definitely impact whether or not any sound comes out at all. Swapping the provided USB cable from one of the many in my box of extraneous computer parts got things going right away. Set up was plug and play simple with a functioning USB cable. The next challenge I ran into was a clicking noise between tracks when using iTunes. This came not from the speakers, but from inside the Model "55" itself as a relay switched between the USB input and the analog input during the momentary lack signal between tracks. iTunes must be set to crossfade between tracks in order to avoid this annoyance.

Used as a desktop system, I again ran into speaker matching problems with my homemade Dick Olsner designed Samdhi Kittens (see www.blackdahlia.com for details). With the Model "55," these low sensitivity 4-ohm speakers sounded dull compared to the T-Amp that is typically used, its own foibles aside which I find easy to ignore in a less critical computer support role. Putting the Tektons up on the desktop (though ultimately too big for my office) proved much better in this nearfield situation, perhaps due in part to the cross-overless Fostex single-driver design that has no need to integrate drivers. There are other smaller single-driver speakers out there that I would think the Model "55" could easily be paired with for an outstanding desktop system if you like to listen at the computer.



There is no SPDIF input on the Model "55", so evaluating the DAC was a bit cumbersome and not exactly apples-to-apples. My Cary 306/200 CDP/DAC, does not have a USB input, which required me to use the optical out of my laptop or source the music through my Squeezebox from the basement music server. I found the on-board DAC of the Model "55" to be not quite as strong in the bass nor as expansive and open as the Cary DAC, but still very clear and easy sounding. There was a touch of added brightness and incisiveness using the on-board USB DAC that works well with the amp section. However, running through my standard reference selections from Tuck Address, Ry Cooder and Nickel Creek I ultimately found it imparted a raspy, etched quality on vocals and guitars with a flattened or shortened soundstage. Voices and instrument simply didn't float as distinctly in space as they

do with the Cary DAC and lacked the same impact. But these differences are of course much smaller than the vast difference in price these components represent. As replacement for your computer's stock analog output With the sources that will typically feed the Model "55" through its USB input, most likely lossy compressions, it is an admirable performer.

Conclusion

When I first received and began listening to the Tecon Model "55" I had some qualms about whether I'd be able to give it a "buy" recommendation at \$749. It seemed a bit pricey for such a low-powered amp/USB DAC intended to be used with a computer or as an "urban chic" accessory. But at its new "Special Offer" price of \$398 shipped, I can honestly say it is a bargain regardless of whether you plan to use it on an office desktop or as the centerpiece of your primary stereo system. It also makes a great alternative to the ubiquitous one-box iPod players that have become all the rage. Matched to the proper speakers, the Model "55" has a beguiling sound that allowed me to get lost in the music for hours. And that's what it is really all about.

Main System

Tekton Design single-driver speakers (Fostex FE167E) on Skylan stands
 Magnepan 1.6QR speakers
 PS Audio GCC-100 integrated amp
 Cary 306/200 CDP/DAC
 Slim Devices Squeezebox 3 digital music streamer
 Music Hall MMF-5 Turntable
 Monolithic Sound PS-1 phonostage and HC-1 high-current supply

Additional Equipment

Hawthorne Silver Iris speakers on DIY baffle (21"x38")
 Wyred4Sound 200S power amp
 Reference Line Preeminence One passive volume control
 Sonic Impact T-Amp
 Adcom GFA-535II power amp
 Pioneer SX-780 receiver or SA-6500II integrated amp



AUDIOMAGIC

“The Mini-Reference will make an improvement to a system that cannot be obtained in any other manner”
John Hoffman, Affordable\$\$Audio 8-2007

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Now available in all black, and black with silver
 Made in the **USA!**

The GINI LS3/5A

By John Hoffman

johnhoffman@affordableaudio.org

Specifications:

Frequency Response: 50-20Khz

Sensitivity: 86 db

Impedence: 8 Ohm

Maximum Power: 50 watts

Drive Units: 1" soft dome tweeter; 5" cone woofer

Dimensions: 12"H x 7.5" W x 6.25"D

Price: \$560 assembled

B+ Bass Stand

Frequency Response: 35-60hz

Sensitivity: 86 db

Impedence: 8 Ohm

Maximum Power: 50 watts

Drive Units: 5" cone woofer

Dimensions: 24"H x 7.5" W x 6.25"D

Price: \$630

www.gini.com

The British Broadcasting Corporation LS3/5A speaker project is a legendary tale, and this speaker has almost a universal appeal to enthusiasts throughout the different segments of the audio community. The story behind the LS3/5A speaker system is fascinating, and this diminutive speaker basically charted the course for the development of the compact British speaker movement for many years. One telling sign of the success of this speaker system is the number of companies that have chosen to follow the BBC blueprint. Other companies offer monitors that are directly influenced by the design characteristics of this speaker, and their products are basically a modern interpretation of the original design. Companies that have offered authentic LS3/5A speakers, or developed a variant include Harbeth, KEF, Stirling, Chartwell, and Spendor.¹ These companies make up the backbone of the British speaker industry, and their acceptance of the LS3/5A design is a testament to the overall sound quality of this unassuming loudspeaker. Many audio enthusiasts still value the sonic abilities of the Rogers LS3/5A, and actively search for this speaker on the pre-owned market. A well preserved set of Rogers LS3/5A speakers are capable of commanding in excess of \$1000 a pair. As a general rule, these speakers do not come up for sale often, so finding a good pair can be a difficult task. The combination of high selling price and overall scarcity of well preserved speakers means that the everyday audio enthusiast will not have the opportunity to experience the performance of these superb monitors.



original
these speak-

The GINI design team faced several daunting obstacles to their goal of producing a high quality LS3/5A inspired monitor. The original design employed the KEF B110 bass driver, and the T-27 tweeter. Of course, both of these drivers have been out of production for several years. Secondly, the individuals behind GINI were adamant that this speaker system had to be affordable, and chose a retail price cap of \$500. Both of these factors required the engineering team at GINI Systems to diligently search for design alternatives in order to fulfill their mandate of producing an affordable monitor that emulates the defining characteristics of the prototypical British speaker. The GINI LS3/5A project took almost three years to complete, which is a significant investment of resources for this company. The BBC designed LS3/5A is one of the finest monitor speakers ever produced, and the design team at GINI worked diligently to build a speaker that embodied the spirit of the original design.

Since the drivers used in the original Rogers LS3/5A speakers are out of production, this became the first issue that needed to be solved in order to begin the development of the GINI speaker system. The self-imposed price cap of this project eliminated many of the potential drivers for this speaker. The engineers at GINI chose to forego the use of off-the-shelf drivers from the mainstream speaker manufacturing companies. Instead, the design team opted to develop a

¹ This is not an all-inclusive list. There have been many speakers inspired by the LS3/5A. The Chartwell speaker was originally offered as a kit to employees of the BBC.



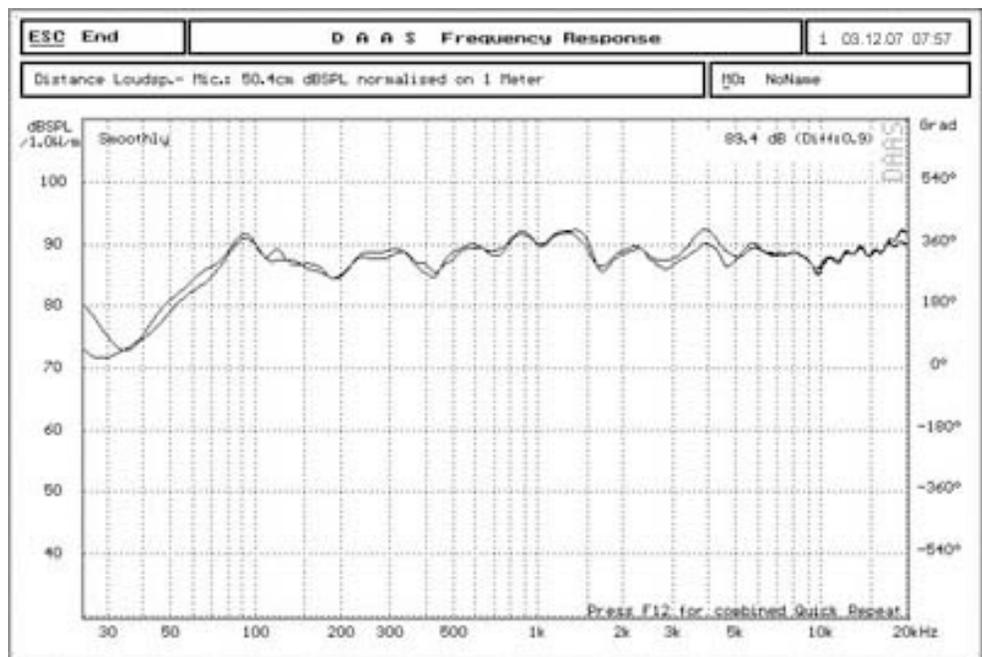
pair of custom drivers that met the needs of this project.² The GINI LS3/5A speaker employs a 5-inch woofer and a 1-inch silk dome tweeter. These drivers are not exact replicas of the KEF units, but they have been voiced with the original drivers as the target sound. During the lifespan of the Rogers LS3/5A speaker, KEF also became the supplier for the crossover network in this speaker. Just like the drive units, the crossover parts are no longer in production. The GINI design team has developed a crossover network that takes into consideration the custom driver electrical characteristics, and aims to recreate the sonic characteristics of the original BBC design.

The original BBC design called for the LS3/5A cabinets to be produced from 12mm Birch plywood, with fillets made of beech wood. The BBC technical report emphasized the use of these specific materials, and reported that changes in these materials resulted in the speaker falling out acceptable performance specifications. Given the cost of raw materials in

the current market place, it is not possible to produce a birch plywood cabinet and still meet the self-imposed selling price of \$500. There were just not enough funds in the project budget to accomplish this. The design team at GINI Systems decided to use a high density MDF with real walnut veneer for the cabinet material. GINI acknowledges that a standard MDF cabinet will not have the same mechanical or sonic properties as a birch cabinet would have. The design team spent many hours evaluating the effects of various coating materials that can be applied to the inside of the cabinet. The staff at GINI believes that the choice of internal coating and dampening materials allow the MDF cabinet to closely approximate the sonic footprint of the birch plywood cabinet.³

The BBC developed a stringent set of quality control parameters for the LS3/5A speaker project. In theory, any two individual speakers, from any authorized manufacturer could be brought together as a matched pair of LS3/5A monitors.

The production process that GINI Systems has implemented reflects the extensive manufacturing controls that were set in place for the BBC speakers. Every driver and crossover network is tested to ensure that they are within the required specifications. Once the speakers are assembled, they undergo frequency response measurements in order to verify their performance. Finally, every speaker passes through a listening test, and once this is passed the GINI speaker is now ready for shipment. This is quite an elaborate quality control process, especially when you consider the fact that the GINI LS3/5A is being sold for an extremely modest price. It appears that the principals behind GINI Systems are dedicated to producing a quality product that audio enthusiasts



² Drivers and crossover parts are manufactured by a Ho's Technology, which is a Chinese manufacturer.

³ MDF has a higher density and lower resonance frequency than birch plywood. The advantage of the higher resonance frequency of Birch is that music has less sonic energy to excite these resonance points. Generally speaking, MDF cabinets need additional bracing to control the lower cabinet resonance points, and these braces end up moving the resonance frequency point to a higher point. In short, I am skeptical that MDF can be made to sound like Birch plywood, although I appreciate the efforts of the GINI designers to optimize the cabinets.

from all walks of life can afford.

The GINI Systems LS3/5A monitor retains the cosmetic appearance of the original Rogers speaker. The GINI LS3/5A measures 12"H X7.5"W X6.5"D, and are finished in a dark walnut veneer. The faceplate is recessed into the front of the speaker, and the grill is held in place with Velcro strips. The grill cloth is a medium brown, which is a period appropriate color. The tweeter has the appropriate foam strips surrounding the tweeter, which are partially responsible for the outstanding imaging characteristics of the original design. Even the crossover network is placed in the same location as where the BBC plans call for it to be.

GINI Systems also sent along a pair of B+ Bass Stands for the LS3/5A speaker system. The B+ Bass Stand contains a 5" woofer, and is designed to extend the low end of the GINI Speaker system down to 35 hertz. The crossover network is designed to integrate with any LS3/5A speaker system, and does not change the impedance or efficiency of the monitor connected to it. The enclosures for the bass modules measure 24"H x 7.5"W x 6.25" to 10.5"D, and are finished in a matching walnut veneer. A set of floor spikes are positioned on a set out outriggers that attach to the bottom the B+ Bass Stands. The LS3/5A speaker is to be placed on top of the bass module, and the wide footprint of the spiking system provides a high degree of stability to this setup. A short set of speaker wire jumpers make the connection between the bass module and the monitor speakers. The bass module are an aesthetically perfect match for the monitor, and these units have the visual appearance consistent with speakers being offered in the time period of the late 1970's and early 1980's.

The first listening sessions were conducted with the GINI LS3/5A monitors operating as a stand-alone speaker. The speakers were placed upon a pair of Target HS30 speaker stands, which have sand filled center columns.⁴ After evaluating the monitors on their own abilities, the B+ Bass Stands were added to the mix, and the complete GINI speaker system was brought into play. The amplification components consist of a Jeff Rowland Consummate pre-amplifier, and a Jeff Rowland Model 5 power amplifier. A Bolder Cable Company modified Squeezebox is used

as a digital transport for an Audio Magic Kukama digital-to-analog converter. The speaker wires, interconnects, and digital cable come from the Audio Magic Illusion 4D product line. Power cords come from the less expensive Audio Magic Extreme series of cables. An Audio Magic Mini-Reference power conditioner takes care of the task of providing quality AC current to the rest of the system. The system resides in a pair of racks from AV123.

Early on in my audio journey I owned a pair of Mission 700 MKII speakers. I listened to the Missions for several years, and became well acquainted with the distinctive voicing of British loudspeakers.⁵ As a general rule, British speakers from the 1980's era excelled at reproducing vocals, and all instruments residing in the midrange spectrum. Given the British influence that the GINI monitor pays homage to, it should be no surprise that the greatest strength of this speaker is its performance in the all-important midrange spectrum. Since the GINI monitors are a reflection of speaker design from the 1970's and early 80's, I thought it would be interesting to listen to music from that time period. "Don't Give Up" [So; Geffen 24086-2] is a duet from Peter Gabriel and Kate Bush, and these artists were at the forefront of the alternative rock movement during this time period. The GINI LS3/5A presents the vocals in a smooth and relaxed manner. The lower midrange band is rich and full, with a bit of bloom that is easy to listen to for an extended period of time. The overall tonal balance of the midrange is one aspect of the GINI speaker that I can appreciate. The mid-range can be characterized as slightly forward, although it fits neatly into the



⁴ Speakers were placed 8 feet apart, with a moderate degree of toe in. The listening position is 9 feet from the speakers. The GINI speakers had 3 and ½ feet of distance to the front wall.

⁵ As a college student with limited amounts of cash, I really couldn't afford to replace the Mission 700 MKII speakers. I did have the opportunity to listen to many other British speakers, such as the offerings from KEF, B&W, PROAC, Castle, and Linn. So while I knew the Missions were not the best British speakers available, I was able to experience the differences between them and many other fine speakers from this era. Actually, I owned these speakers for several years, until I was able to replace them with a pair of Spica TC 50 monitors.

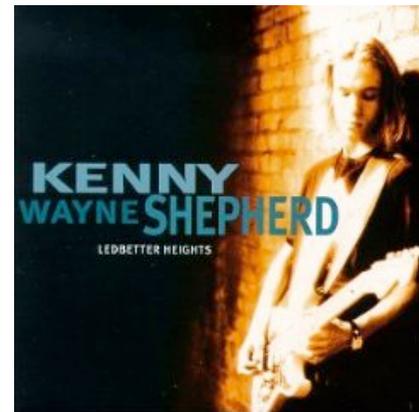
overall character of this speaker. The hallmark of 1980's era British speakers was a forward midrange, which in many cases skewed the tonal balance of the music in a noticeable manner. While I would not describe the voicing of the GINI LS3/5A as neutral, it is reasonably close to this objective, and yet has a forgiving nature that would be valuable to a wide range of audio enthusiasts.



The modern monitor class speaker is a champion at imaging, and this attribute was one of the strong points of the Rogers LS3/5A. There have been several changes in the construction techniques in the small speaker category, but the GINI speaker relies on "old school" design philosophy.⁶ Still, the LS3/5A design blueprint is a well-executed piece of engineering, and the GINI monitor is capable of generating a solid image of a performance. "Traveling Light" [*Diane Schuur and the Count Basie Orchestra*; GRP Records GRD-9590] is a live recording of Diane Schuur and the Count Basie Orchestra, and is an excellent test of the imaging abilities of a loudspeaker. The soundstage generated by the GINI LS3/5A has excellent width and height, especially when these speakers are placed on a tall set of stands.⁷ Another positive attribute of this speaker is how the depth of the soundstage is properly layered. The Diane Schuur disc has several distinct layers to the recording, and the GINI monitor is capable of properly sorting them out. Schuur is at the front and center of the soundstage, with the brass and woodwind instruments located in an arc behind her. The percussion instruments are clearly placed at the rear of the soundstage, and it is easy to discern their position relative to the rest of the orchestra. The

applause from the audience gets lost by these monitors, and tends to be scattered through the soundstage. There have been other current production small speakers that I have heard do a better job in regards to focusing the applause, but this is a fairly minor point in the overall scheme of things. Overall, I would say that the GINI LS3/5A speaker is adept at producing a believable soundstage. The imaging characteristics are not the same as a modern monitor speaker, but it does reflect the finer qualities of speaker technology from an earlier time of hi-fi.

Speakers that are fitted with smaller diameter bass drivers, and cabinets with low internal volume are going to have issues with generating lower frequencies. The BBC LS 3/5A specifications show a frequency response measurement of 80HZ to 20KHZ with a +/- of 3DB. The frequency response curve of the GINI version shows a bit more bass extension, with the cutoff point being 50 hertz. While the 5" woofer is certainly capable of generating sufficient quantities of mid-bass energy, it is inevitable that the lower registers are going to be diminished. Still, as a standalone speaker the GINI monitors are capable of respectable bass performance. *Deja Voodoo* [*Ledbetter Heights*; Grant 24621-2] by Kenny Wayne Shepard was quite enjoyable to listen to on these speakers. The bass guitar is rich and full sounding, with excellent tonal balance. The kick drum is sharp, and each drum strike has a clear decay pattern. The quality of the bass is impressive, however the quantity is a bit light. A recording from this band should pressurize a room, and have a physical impact to it. The Rowland Model 5 amplifier is a beastie, and can provide all the power necessary to evoke low-end performance from any speaker system. As I threw more power to the GINI LS3/5A, the sound got louder to a point, but the bass impact never did increase. Eventually the drivers were pushed past their point of comfort, and the sound started to compress. It is important to keep this in perspective, the Rowland amplifier is a powerhouse, but this speaker will never have the same bass performance as a quality floor standing speaker. Given the modest selling price of the GINI monitors, the bass performance is excellent, and should capture 70% or more of the low-end information found in most music.



⁶ The modern mini-monitor utilizes a narrower front baffle, which minimizes the effects of early reflections and nodal lobes. Designers go to extremes to find ways to place the mid-bass and high frequency drivers as close as physically possible. Cabinets are heavily braced, and certain parts are built from composite materials to reduce the effects of enclosure resonance.

⁷ There are many positive attributes of the B+ Bass Stands, however I would like to have them about 4" taller than they are. The increased height of the stands helps generate a larger sound than what can be achieved when they are placed on the bass modules. Alfie Lew of GINI Systems recommends adjusting the front spikes to give the speaker a small degree of rear tilt. This will increase the height of the soundstage, and give the aural illusion of a taller speaker.

There are several ways of addressing the low-end limitations of a LS3/5A loudspeaker. A powered subwoofer is one solution that immediately comes to mind. While this is a viable solution, getting a seamless blend with the monitor is going to take a bit of work, and the extra room taken up by the subwoofer might be an issue for people with smaller listening rooms. The GINI B+ Bass Stands offer an elegant solution to the bass extension issues associated with the small monitors. The B+ Bass Stands are a tall slender enclosure that is designed to have the GINI monitor placed on top of it. A 5-inch woofer is housed in a transmission line enclosure, and the system is designed to extend the bass response of the speaker system down to 35 hertz.⁸ When using the bass module in place of a conventional speaker stand, it is important to decouple the monitor from the bass unit. GINI recommends using a rubber pad, while I achieved superb results with a set of inverted brass tiptoes between the two units. With the B+ Bass Stands in place, I decided to replay the Kenny Wayne Shepard track in order to discern the differences between the different configurations. The effects of the bass modules are clearly evident, and it is obvious that the GINI monitors benefit from the addition of these units. The bass guitar on *Deja Voodoo* filled out, and sounded far more muscular. The GINI speaker system had better impact, and handled the dynamic swings of the song far better than the monitors by themselves. The monitors did not suffer any ill effects from the addition of the B+ Bass Stands, but seemed to gain a deeper soundstage due to the improved bass extension.⁹ The drum kit strikes had more snap, and a more realistic overall presentation. A set of B+ Bass Stands sell for \$630, which may seem a bit pricey for a passive bass module which contains a 5-inch woofer. When you experience the sound quality of these bass modules, and how easily they integrate with the GINI monitor, it becomes apparent that the B+ Bass Stands offer a lot of value for their selling price.

The GINI LS3/5A speaker system offers an unusual experience to the adventurous audio enthusiast. This speaker system does not sound like the majority of the current production monitors in the marketplace. A modern monitor speaker system is the equivalent of a microscope, and these types of speakers excel at divining the subtlest of nuances from a recording. While the GINI LS3/5A is nicely detailed,



it eschews the dissection of music in favor of a graceful and refined presentation of music. This speaker is easy to listen to, and any audio enthusiast who values this attribute will undoubtedly enjoy this speaker system. I cannot say that the GINI monitor is the sonic equivalent of the original BBC design, since I do not have a pair of vintage LS3/5A speakers to compare them with. However it is evident that the design team at GINI Systems has successfully implemented the design characteristics of the British speaker design philosophy. The frugal audio enthusiast can have a high quality full range speaker system for less than \$1200. While the vintage audio collector can revisit a bit of history, and experience a speaker that is voiced in a manner reminiscent of 1970's and 80's. The retro appearance of these speakers can only add to the overall vintage experience. Where does that leave the rest of us audio nuts? Well, the GINI speaker system is quite versatile and will work well in a wide variety of systems. I could envision the hardcore audiophile using these speakers in a bedroom or office system. The GINI LS3/5A speaker system has something for everyone, and I suspect that even the most critical audio enthusiasts will enjoy listening to music through these speakers.

⁸ The woofer in the B+ Bass Stand is identical to the bass driver in the LS3/5A monitor. While this may seem to be a small driver for this application, it is the primary reason why the bass module integrates well with the monitor.

⁹ This is not an uncommon phenomenon. Bass instruments are often located at the back of a soundstage. Improved bass performance will improve the definition of this part of the venue, which leads to the appearance of deeper soundstage depth.

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The beauty about audio is that every few years a technological wave comes thru bringing forth a new level of enjoyment to our hobby; most of the time it begins at the top of the equipment spectrum and works it way down to the rest of us affectionados. But every once in a while, a product comes along that takes a piece of forgotten technology and gives it new life in a form not thought of previously, or in the case of the Polk Audio I-Sonic ES2, takes a recently revived category to a whole new level.

Over the past few years I've had the opportunity to hear the re-kindled category of tabletop radios by Tivoli, Cambridge Soundworks, and Bose. All three had definitely improved on the listening experience, but at the same time, but they all still couldn't reach the sonic level that many retail establishments/offices rely on. No matter how fancy the engineering, filling a room with a wide enough frequency response to make the experience noticeable was just beyond reach. Then, in 2006 Matthew Polk took a stab at the category. Unlike the others, he had an ace up his sleeve, the years of research and patents behind his unique SDA speakers from the 1980's. Armed with this toolbox and DSP (digital sound processor chip), Polk went to work on taking the tabletop radio to a new level. In 2006, they released the I-Sonic ES to quite favorable reviews. The second model came in late 2007, the I-Sonic ES2 with its built-in iPod dock, and second generation HD radio tuner.

The Design

The I-Sonic ES2 is a half-circle shaped case of black plastic, with silver trim and speaker "grills". The front top sits slightly lower than the back, giving a lower sleeker profile. The iPod dock sits under a flip-back lid. Polk provides several cradles to fit any iPod except Shuffles. Mimicking the overall shape is the control panel just in front of the dock. Every control button needed is provided. In a wise ergonomic touch, the button groups are different sizes, making for simple selecting/programming. The blue LCD display is easy on the eyes and big enough to be seen, yet unobtrusive enough to be used in a bedroom. The front grills can be removed allowing for access to the speaker drivers.



The backside gives the first indication of some advanced acoustical technology as a second set of speakers can be found. A centered jack panel provides connections for AM and 75 Ohm FM connection, RCA input and output jacks, composite and S-Video out jacks for 5th generation and beyond iPods. Finally, a covered USB port labeled "Service". Owners can hope that thru a firmware update via a computer that in the future will allow an external hard drive to be connected.

In order to create a realistic bass response, the designers at Polk Audio managed to add in a mini version of their patented Power Port Bass design on the bottom right side. For those unfamiliar, picture a fun-

nel with the pointed end placed into the port. According to Polk, this dissipates standing waves that cause bass distortion.

However, the real star of the I-Sonic ES2 is the Digital Sound Processor chip. Polk Audio engineers have programmed the chip to give off the proper bass and treble at each volume level. This balancing of the audio signal is a necessary part of dealing with creating quality sound. Remember, the I-Sonic is not supposed to replace a two-channel rig. It's designed to provide a pleasant musical experience where one couldn't previously enjoy such an experience. The second role of the DSP, is the distortion reduction capability using a form of dynamic compression at higher volume levels. Finally, the DSP controls the time delay feature that allows for the four speakers to work in tandem.



The Sound

About 75 percent of my listening was done using my 60 gig iPod, with all the music ripped in Apple Lossless format. Immediately, I was stunned by the level of bass response. Mark Knopfler's "El Macho" from *Sailing to Philadelphia* was to the point of being too bass heavy. I pulled my 28 year old solid oak stereo cabinet another six inches out from the back wall to tighten the bottom frequencies. The vocal reproduction was outstanding; Polk engineers hit the tone level just right. It's natural, full, and wide enough in frequency that the unique vocal characteristics of Knopfler and Sarah McLaughlin for instance, exude secondary sibilance that one would not expect to hear out of such a case.

The surprises continued to mount as I listened to the ES2. "Maybe I Think Too Much" from Paul Simon's *Hearts and Bones* album does a nice job of allowing the steel drums the opportunity to actually have a space in its reproduction of a soundstage. The string squeaks of James Taylor's guitar from "Up on a Roof" could even be heard. The ability to reproduce such background sounds has always been a personal sign to me of the quality of equipment.

Classical recordings I assumed would show the overt weakness of the Polk Audio ES2. Full symphonies are just too complex for such devices. I was wrong; the ES2 does solid work in presenting the material, especially with the larger string instruments. Yes, the soundstage is a bit compressed, but one isn't listening to Harbeth's. I revert once again to the word pleasant, the sound reproduction is engaging.

I had never really experienced HD radio before, and needless to say the ES2 impressed me enough to say that I'd be quite happy listening to the radio again just as soon as my favorite station here in Portland, Oregon gets inspired to broadcast in the format. I was truly floored by the sonic improvement. It's that good; I compare it to going from a cassette Walkman to the compact disc version.

As an alarm radio, I enjoyed waking up from naps to the music of George Winston. Programming the system wasn't hard as Polk includes a very clear and nicely laid out manual. If you're into "iTagging", you'll be right at home with the ES2 as it supports this effort to eventually steer consumers to the iTunes Store. If it helps with the legal efforts to buy more music, I'm all for it.

Caveats and Limitations

The Polk Audio I-Sonic ES2, isn't going to make one sell off their two channel system. High frequencies are a bit veiled as to avoid distortion; therefore don't expect to hear the breathy frequencies of a flute or the ringing decay of cymbals. The soundstage isn't wide by any measure, but it is clear and with the time delay capabilities of the DSP, the illusion is created. I do wish there was a separate button for HD Radio instead of having to press the SEEK button in a certain fashion. Also, it would have been nice to have the specific knobs for bass and treble control like the original big brother I-Sonic, instead of having to use the various buttons. Finally, I do need to mention a plastic odor that never fully dissipated during my review time when I was using the controls.



Final Thoughts

If I was the parent of a college-age freshman I wouldn't hesitate to suggest the Polk Audio I-Sonic ES2. The capability to enjoy quality sound reproduction including bass response that young people desire, from an iPod, or directly from their computer; not to mention having the alarm clock and video out (class lectures, etc.), is terrific. The amount of space saving both in the room and traveling back and forth each year makes the ES2 a near no-brainer.

For those in an office environment without space for separate speakers, the ability of the ES2 to work in small spaces with hi fidelity results makes for a winning combination. Why bother with paying to setup ceiling speakers, just find a shelf, plug in the ES2 and walk away, the remote will control every feature, no need to worry about easy access.

I can even see the ES2 replacing boom boxes during family vacations. No, it doesn't work on batteries, but for a cabin rental, or the RV, this unit makes perfect sense. I like the ES2 so much that there is a very good chance that it won't be going back to Baltimore, instead its final destination looks to be my wife's home office. The king of table radios still has four letters to its family name, but it now spells POLK!



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anthonymicosia@affordableaudio.org

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Technical Contact:

Paul Speltz

2325 Wallingford Lane

Woodbury MN 55125

paulspeltz@hotmail.com

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For regular readers of Affordable Audio you will remember my review of Anti-Cable speaker wire, jumpers and interconnects back in the July 2008 issue. I was quite taken by all three and they are now happily a part of my main review system. I thought they were fully broken-in after over 120 hours of use but found that they continued to improve. I cannot imagine them getting much better than they are now as the sound coming from them is truly first class. As Paul Speltz of Anti-Cables mentioned in his manufacturer's response to the original review "it is not so much that they are great cables for the money. My customers tell me they are great cables despite the money." For only \$345 you are able to purchase a 10' pair of stereo speaker cables with spade terminations, two sets of interconnects and a pair of jumpers with banana termination. If you missed the original review take the time now, go back to the July issue and read up on it before you continue. In it you will find a lot more details about Anti-Cable, the company and their other products, then I will go into today. This review is a continuation of more high quality products from the same company, which I must say, is again value priced.

One of the last things I had mentioned in the original review was that Anti-Cable had a Digital Interconnect, which at the time was not yet in my possession. If I had them for the original review I would have of course discussed them in that July issue. Paul mentioned to me that he was making Digital interconnects for his customers yet he was not advertise them on his website. If you wanted them you needed to ask. Well luckily for me he offered to send me both of the digital cables that he is quietly offering to the public. Each is a 1.5-meter length cable, one single and the other triple shielded. The price of either is only \$150. The single shielded cable is like Paul's regular interconnects in that they

can be bent to go over or around things and they will stay put. The triple shielded version is more traditional looking in that they drape like a conventional cable. Even though they hang similar their looks though are different than most as you can see from the pictures. There are indeed sonic differences between them but I can tell you that both are of great value. I would say that no matter which you choose I could not imagine you not being fully satisfied with your purchase.



His original intention was to seek my opinion of the two and not to generate a review. After living with them in my main system for three weeks I asked Paul if he would allow me to tell the public about them. I felt they both offered slightly different sonics that were enjoyable to listen to and that more people should be aware of them. These are two great digital interconnects as you shall shortly see.

To start out with let's take a look at the triple shielded cable.

Paul has been making this triple shielded digital Interconnect for about a year now. I must say that I was quite taken by the appearance of this one as it hung from my hand like fine jewelry. It's weight; feel and looks certainly were a plus. While of course physical beauty alone does not make it worth the price of admission, it certainly does help. Playing song after song no matter which CD I used one thing was evidently clear to me. This Digital cable had a bass response that was certainly a pleasure to listen to. It did not overemphasize anything just allowed the bass to play through for the enjoyment of all. I felt the mid-range was just slightly laid back in comparison to the single shielded IC, yet it still produced magic with vocals, either female or male. Santana's *Supernatural* CD has lots of songs with bass galore and this IC took full advantage of reproducing it all. Whenever I want to feel the floor move I put on the track from the song "Maria Maria", from the same CD. Here the triple shielded IC easily made me sit up and take notice. Moving onto Eric Clapton's *Unplugged* album the emphasis in the recording is not on the lower regions but more in the mid-range. The added bass drive from the triple shielded cable actually helped on this CD, giving it that little extra feel of power. Clearly this was a digital interconnect that got your foot a tapping.

As for Paul's other digital cable, the single shielded version, it is a newer concept at Anti-Cable. This Digital Interconnect was physically lighter in weight, in comparison to the other, but had a beauty all its own. As I had mentioned in my July Review (which I hope you have already read by now) Paul's interconnects have a high-tech look to them that I was immediately drawn to. This cable like the previously mentioned stereo interconnects is a single straight wire with another that spirals around it. Of course it is shielded. The advantage to this being that it is able to bend yet still retain its shape until you change your mind and bend it back a different way. When I listened to the same tracks on the single shielded IC I was treated to a different type of sound. Here the strengths, as I have mentioned, seemed to be in the mid-range section of the recording rather than with the bass. It still produced quality bass but not as deep as the triple shield IC. But what it did do with vocals was allow you to explore deeper into the human voice and to hear the singer with all their ever so slight fluctuations in tone and pitch. The character of the voice was produced in greater detail, which worked better for me on certain songs.

I had not listened to Bobby McFerrin singing "Don't Worry Be Happy" from his *Simple Pleasures* CD in a long time. I decided to revisit this great performer using the two digital cables. Each of these two cables revealed a slightly different perspective of the same song but for me the single shield IC won. I liked the slightly better open highs; the mid-range qualities and the clear yet firm bass response. It is true that the triple shield seemed to do a little more in bringing a solid feel to the lower notes but, with this song at least, I felt the single version did a little better overall.



The differences between the two interconnects was not overly apparent the first time I listened. I had to sit down to do some quiet and careful evaluation before I was able to readily tell the differences from the single to the triple shielded digital interconnect. Yes, both are that good but after a while I discovered that each cable had its own sonic strengths. No matter which one I was listening to both was a joy to have in my system. I believe in synergy and felt that having, interconnects, digital IC's, speaker jumper cables and speaker cables all from the same manufacturer was a definite plus for reproducing quality sound. I therefore recommend you consider buying all of them together as they are also so well priced and easily affordable.

Soundstaging with both digital cables was of course excellent, as I have come to expect from Anti-Cable products. In the original review I had mentioned that Anti-Cable products helped expand the soundstage of my system to a comfortable level for the enjoyment of all and was definitely one strong point of their products. The pricing being the same with these two cables choosing between them was a difficult choice to make. One that I believe should be left up to you based on your system and the type of music you enjoy playing. I constantly found myself going back and forth between the two, switching cables as I listened to different CD's. Sometimes I really enjoyed that extra drive with the tri-

ple shield and other times I just loved listening to vocals with the single shield IC. Both these Digital cables replaced a cable costing over \$230 and they were the winners hands down. Like with the other Anti-Cable products, from the July review, these IC's made my system feel as if I was closer to the music. If I had closed my eyes I would have thought that someone had removed the speaker grill from my Legacy Focus 20/20 speakers. These digital IC's allowed the music to open up in my room with everything sounding clearer and more in focus. At these prices maybe you should buy both, either way you will be purchasing cables capable of producing quality music. Call or email Paul Speltz and talk it over with him. He is easy to talk to and an extremely knowledgeable designer.

Making a product with the right knowledge, equipment and no limit to the final price in mind is a much easier task. But to produce products that are first rate in terms of performance and still keep it priced where most people can readily afford it, is the challenge. At \$150 for a 1.5 meter length, where many manufacturers offer only 1 meter, is also a distinct plus for Anti-Cable. I like having that extra ½ meter, as space is always a factor in setting up a system.

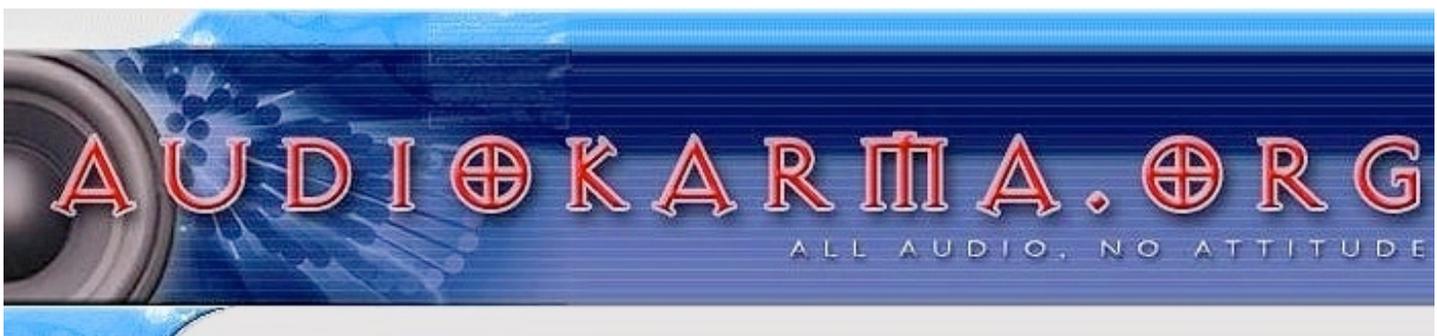
To sum it up I guess it all comes down to this. Do you like your apple pie served nice and warm or do you like it with a scoop of cool vanilla ice cream on top. Either way you are in for a treat, one that you should definitely order up, and maybe go back for seconds.

The Listening Environment:

As for my room, I have so far keep it quite simple as far as any acoustic modifications are concerned. My wife has allowed me to take over our living room being that the only guests we know are our relatives. Their visits usually center around the family room, dinning area, backyard when we barbeque or home entertainment room for movies. She is not so keen however on any acoustic looking invaders entering our house at this time. The listening room is 18' 8" long by 13' wide. The room's cathedral ceiling starts at 8' high then slopes upward to 13' at its peak in the middle. Flooring is a soft hardwood covering with an oriental rug placed dead center in between (but not under) the listener and the audio system. There are no doors that open or shut into other rooms also there are two large openings one facing the speakers and the other to its side and slightly in front of the right speaker. As for my audio equipment it is tucked nicely inside of a Cherry Synergy Twin S30 Salamander audio rack.

Review equipment:

Monarchy Audio SM-70 Pro Amps (2 run in mono single-ended configuration)
 Manley Labs Shrimp tube line stage preamplifier
 Sony DVP-S7700 CD/DVD Player (used as transport only)
 Monarchy Audio Dual 20-Bit D/A Converter
 Legacy Focus 20/20 speakers
 RTP-2ultimate Power supply box
 RTP-4ultimate Power supply box
 PS Audio Power Port Receptacle
 Blue Circle BC86 MKIII power line pillows (2)
 Anti-Cable speaker wire 10' pair
 Anti-Jumpers for Legacy speakers
 Anti-Interconnects (2 pairs)
 Anti-Digital Interconnect single-shielded 1.5 meters in length
 Anti-Digital Interconnect triple-shielded 1.5 meters in length
 Monarchy Audio AC-1 power cord one 6' length (2)
 Tek Line PC-8 Signature Power Cords (2) 6' lengths
 Mr-Cable Musician power cord 9' length
 PS Audio Lab Cable II power cord 3' length
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McIntosh Laboratory MA6300

By Sean Fowler

seanfowler@affordableaudio.org**Specifications:**

Power Output into 8 ohms: 100 watts

Power Output into 4 ohms: 160 watts

Rated Power Band: 20Hz – 20kHz

Total Harmonic Distortion: 0.005% from 20Hz to 20kHz

Damping Factor: 200 at 8 ohms; 100 at 4 ohms

Input Impedance: High Level:20K ohms; Phono: 47k ohms

Main output impedance: 50 ohms

Dimensions (HxWxD): 7-5/8" x 17-1/2" x 22"

Weight: 37lbs net; 55lbs boxed

Price: \$4000

McIntosh LaboratoryWebsite: <http://www.mcintoshlabs.com/>

Phone 1-800-538-6576



There is something to be said for reliability, longevity, and consistency. These uncommon attributes are coveted by nearly every respectable company in any given marketplace. This scarcity also means that those virtues are realized by only a select few. In the micro-market of high end audio, McIntosh Laboratory stands as one of those few, bringing forth and continuing a rich heritage that has remained unfettered by time.

Crafting high performance electronics since before my father was in diapers, McIntosh has established a reputation that even non audiophile muggle's are familiar with – a feat that virtually no one company in the industry can lay claim to. Although McIntosh is often regarded as sourcing some of the best audio components in the business – they are also known for being, well... expensive.

Enter the MA6300

Introduced in 2006, the MA6300 is a full featured integrated amplifier designed to serve as the most affordable entry point into the McIntosh line. From its iconic big blue meters to the aluminum side bars flanking each side of the unit – the MA6300 maintains the superb trademark looks and feel that McIntosh has become so well known for. Designed with versatility in mind, the MA6300 houses a laundry list of features beneath its surprisingly large chassis. These features include a MM phono stage, a headphone section, data ports for home automation use, six single ended RCA inputs, a balanced XLR input, a tape in/out, a main in/out along with a first rate remote control. Simply put, the MA6300 is engineered to give the modern day audio enthusiast a foundation to build a system upon and around.



The MA6300 is also engineered to give consistent and reliable performance through decades of use. To achieve these goals, McIntosh relies on their innovative circuits, tight quality control, and smart choices in design. One of those smart implementations of design is

placing the text along the backside of the front glass panel so that the ink never fades or ages. In the MA6300, McIntosh eliminates maintenance woes all together by replacing the old traditional light bulbs used to illuminate the power meters with long lasting LED's. Practically everything inside the MA6300, from the circuit board to its custom wound R-Core transformer, is designed and built in-house. Yet for all of these attributes, the real mojo behind the MA6300 is its

many patented technologies designed to maximize safe, efficient, and cool operation. Some of these technologies include;

R-Core Transformer: A custom wound iron core transformer designed to operate at low temperature and emit very little noise into the signal path.

ThermalTrak™ Technology: A series of resistors that adjust bias to ensure efficient and cool operation even through varying voltages.

Power Guard: This circuit prevents the amplifier from being over driven. When activated, the power guard lights located at the front of the unit illuminate – signaling for you to turn the volume down. The circuit will not allow an increase in output while Power Guard is enabled.

Sentry Monitor: A circuit that activates whenever a short is detected.

Top all of this off with an oversized shipping carton and a well thought out and beautifully illustrated user manual, and you've got a complete package that few can challenge at this price point.

First Impressions

Cutting right to the chase; the MA6300 is about as straight forward and as problem free as they come. The unit is literally plug and play – with no warm up time necessary to attain optimal playback performance. What's even more refreshing is a lack of electrical and operational noise. I've found that many integrated amplifiers in this class are prone to producing 60Hz hums and are generally quite noisy across the audible range. Not so with the MA6300. Throughout the entire review, I was impressed with how quiet this integrated is. I was also impressed by how easy the front panel is to read. Those of us that are not blessed with great eyesight will appreciate the well lit front panel display, which makes for easy navigation even in a pitch black room. From power up to power down, the MA6300's simple user interface makes day to day operation easy and stress free.

The Sound Part 1: The Yin

The MA6300 is all about delivering a full and lush presentation that is evenly applied from top to bottom. This intelligent blend of neutrality and rich color meld together to form what is, in my opinion, the MA6300's front running attribute; the ability to deliver satisfactory hi-fi goods without massacring less than perfect recordings. Instead of adhering to 'tell it like it is' tenets covered by so many audiophiles, the MA6300 is more of a music lovers piece – focused on preserving tonal consistency and musical flow.

Personally, this comes as a breath of fresh air. Like most of you, my music collection is divvied up between a number of stellar audiophile approved discs and a whole lot more mediocre discs. Unfortunately, many high end components I come across make the latter sound like crud. While the MA6300 makes no attempt to mask sub par recordings, it does make them bearable enough to enjoy. Imagine being able to rock out to Linkin Park or to The Smashing Pumpkins without the thought of hi-fi parameters. That's exactly what the MA6300 is all about.

Helping to give the sound body and scale is 100 big watts of transistor love. This power capacity ensures that the MA6300 is fully capable of driving a wide array of loudspeakers. While it's important to note that this amp is not a drive-anything beast like my H2O Signature 100, it nonetheless has enough current on tap to easily drive difficult loads from speakers like the 4 ohm, 85db efficient Totem Acoustic Mani-2 Signature and the 4-8ohm, 82db efficient Mark and Daniel Maximus-Mini, and can do so without running hot – even in long durations of high output. This horsepower is complimented by solid dynamic range that enables the MA6300 to flex some muscle when necessary.



That said; it would be a mistake to write off the MA6300 as an amp that's all brawn and no finesse. Even at low volumes, the integrated is able to deliver a very vivid and clear presentation, something that I personally enjoy due to my preference of listening late at night. On top of this, the MA6300 is an ace at throwing a very wide and deep soundstage. While it's true that most components in this range possess great imaging capabilities, the MA6300 sports the uncommon ability of recreating good soundstage height. This additional 'size' helps give the music a more authentic sense of scale, or as some would call it, the "live in your listening room" effect.

No matter what room, speakers, or piece of music I threw at the MA6300, its character remained steadfast. The treble, although not the most detailed or smoothest on the block, nonetheless remained exceptionally clean, clear, and easy to listen to. Like many transistor amplifiers, the high end tends to focus a bit more on leading edge transients, such as the initial strike of a cymbal, certain inflections of a vocalist, or even guitar plucks.

The midrange combines the virtues of clarity and subtle organic bloom. Although I interpret this open presentation as something more neutral, I certainly cannot fault anyone who would initially classify the sound as 'warm'. There is a sense of body to the MA6300's midrange that is very noticeable with vocals and woodwind instruments in particular. This is especially enjoyable with acoustic guitar tracks, where the high's focus on bite and the mid's focus on resonance meld together to form a highly pleasing and convincing presentation.

Deep and powerful, the full sounding bass on the MA6300 provides the foundation that supports the entire structure and harmonic relationship between the midrange and highs. Throwing in *Nine Heavens*, the latest album from *Niyaz* – I was surprised at the array of bass notes and textures that the MA6300 could accurately display. Low drum thwacks hit low and hard. Though the bass on the MA6300 cannot be considered the pinnacle of detail or agility – it nonetheless possess a lot of raw power all the while managing to separate notes well and allow each instrument its own distinct space.

Performance: The Yang

As mentioned at the beginning of this review, the MA6300 adheres less to 'tell it like it is' tenets that audiophiles covet. Translated; it's not the most refined sounding amplifier in its class. This isn't to say that the MA6300 measures poorly or is unrefined. It simply means that there are other products in its class that will sound more resolute, or will be better at doing 'this' or 'that'. However, if you are the kind of listener that desires a versatile piece and values tonal consistency along with top notch build quality over hi-fi spectacular – you shouldn't find the MA6300 lacking in any way. So, bearing the latter to mind, I have no complaints to file against the MA6300's sonic performance. Instead, the only complaints I have to register are more functional in nature.



First, I was disappointed to learn that the brightness of the front panel, particularly the blue power meters, cannot be adjusted. The problem is that the MA6300 illuminates so vividly that it can draw way too much attention to itself in a dark room.

Secondly, the MA6300 is not a small piece. Measuring at a whopping 22" in depth, this integrated barely fits onto contemporary sized audio racks – and may be flat out too deep for some applications.

Recommendations:

Provided you've got the counter space, the good news is that the MA6300's cool operation allows for a number of placement options. Add to this cool operation a very silent back-round, great power delivery, and sound quality, and you've got a piece that can bode well with a whole multitude of loudspeakers. So, unless you intend on matching this integrated with components of inherent richness or warmth, or extreme difficult loads (Apogee Scintilla), you shouldn't fret over component synergy.

Most integrated amplifiers in this class bridge the main input / output section with a cheap set of jumpers. It's always a good idea to replace those stock jumper's with a good pair of interconnects. Even a set of 0.5M RCA interconnects from Blue Jeans Cable should yield notable sonic improvements over the stock jumpers.

Those of you looking to run a sub will be disappointed to learn that there is no designated subwoofer output on the MA6300. Fear not, however, there is an easy way to integrate your sub. All you have to do is run a Y-Adaptor cable between the main in/out and away you go. Considering that the jumpers should be replaced anyway, doing this would be akin to killing two birds with one stone.

Lastly, if you are anything like me – and find yourself listening late at night – I would recommend using an ambient light somewhere in the room to help prevent your eyes from focusing on the well lit MA6300. The less attention you devote towards visual stimuli while listening, the better.

M-O-O-N that spells McIntosh

At the end of the day, \$4,000 is a lot of change to plunk down on an audio toy. Obviously, this piece was never designed to attract the bargain shopper, nor by contrast, was it built to attract the deep pocketed audiophile looking for the best in what high end audio has to offer. Instead, the MA6300 was introduced as a high performance, yet affordable piece worthy of wearing the McIntosh badge. Although there is no shortage of competitors in the integrated market at this price class, there are only a few that will even begin to approach the luxuries that the MA6300 offers.

Few electronic manufacturers can lay claim to having their products built entirely in house, especially at this price point. Yet when you buy a MA6300, not only do you get in-house build, you can rest well knowing that every single part inside its chassis was designed, built, and assembled specifically for the MA6300. Thinking far into the future, McIntosh inventories enough of these parts to ensure that the amplifier will remain serviceable long after many other

businesses have faded into obscurity. Wrap all of what's been said into a look that, when placed on any audio rack, instills a sense of unflappable confidence, and you've got something that's hard *not* to consider a good value.

So, whether you are looking for an affordable way to step into McIntosh, or are flat out tired of playing the equipment swap merry-go-round, the MA6300 stands as a wonderful solution. The only danger here is that this piece could very well act as a gateway drug. After you get a hit – there's a good chance that you'll want to move up the McIntosh ladder. Very highly recommended.



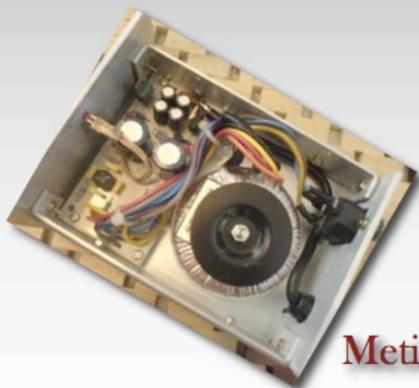
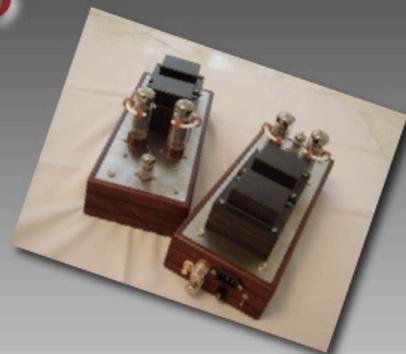
Extra Credit

Big thanks goes out to Shane Drew of Hi-Fi Hawaii for his major contributions to this product review. His website can be viewed here; <http://www.hifihawaii.com/home.php>



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BESL Series 5 TMW Full Range Speakers

By John Hoffman

johnhoffman@affordableaudio.org**Specifications:****Transducers**18cm woofer SEAS W18ex-001
25mm tweeter SEAS Millennium**Impedance** (graph)Nominal 8 ohm
Minimum (@160 / 3000 Hz) 7.6 / 4.8 ohm
Phase (@70 / 100k Hz) -46 / +25 degrees**Amplitude response** (graph)

To 20kHz +1.5 / -2.4 dB

Dispersion (see graphs)**Sensitivity**

2.83V@1-Meter full space 83.0 dB

Bass alignment

Sealed HPF2 @65Hz, 0.60 Qtc

Inter-driver Phase response

400Hz to 9kHz Less than 35° phase difference

Maximum linear output99dB 56W HPF2 @80Hz, all frequencies, no compression
96dB 28W No HPF, all frequencies, no compression**Crossover**Alignment Linkwitz-Riley 4th @ 2.07 kHz
Elements 20, 4 of which are in the series signal paths
Phase compensation 4 elements in two circuits**Dimensions; Weight (Net)**

14.0"H x 8.5"W x 13.0"D, 25 lb.

Active Subwoofer**Transducers**26cm woofer Peerless XLS-10"
30cm drone Peerless XLS-12"**Impedance** (graph)Nominal 8 ohm
Minimum (@110 Hz) 5.1 ohm
Phase (@15/42Hz, 20kHz) -58 / +58 degrees**-3dB Bandwidth**

18Hz to >500Hz, unfiltered

Dispersion (see graphs)**Sensitivity**

2.83V@1-Meter half space 84 dB

Bass alignment

Drone system ~ Chebyshev 5th @21Hz

Maximum linear output (see graphs)102 dB 165W HPF2 @23Hz 0.7Q, no compression
100 dB 90W no HPF, no compression**Crossover** (see graph)

Alignment L-R 4th @80Hz (typical, but varies with monitor speaker)

Dimensions; Weight (Net)25"H x 13"W x 18"D (including base), 55 lb.
Price: Introductory \$5980; Final \$8275 pr.www.bambergaudio.com

Bamberg Engineering Sound Lab has just released a full range speaker system that falls into the category of “affordable high-end audio.” The Bamberg Series 5 speaker system has all the desirable qualities that a reference grade speaker is supposed to have; yet it is priced within the reach of the average audio enthusiast. The Series 5 is a two-piece speaker system, with a two way monitor positioned on top of an amplified bass module. The amplifiers for the bass modules, and a passive crossover network for the monitors reside in two small cabinets that are separate from the speaker system. At first glance, one might consider this speaker system to be a variation of the traditional satellite/subwoofer speaker system that is favored by many audio enthusiasts. The Bamberg Series 5 is an integrated speaker system that has been carefully engineered to ensure a seamless blend between the two speaker modules. This is a difficult task for the typical satellite and subwoofer speaker combination. In fact, many audio enthusiasts struggle to achieve an acceptable blend between these two pieces in their speaker system.¹⁰ The goal of *Affordable\$\$Audio* is to focus on equipment that offers genuine quality sound reproduction for a reasonable price. This speaker system may be at the upper end that most people would consider affordable, however, the Series 5 separates itself from the run of the mill speakers that audio enthusiasts usually encounter in their audio journey. The Bamberg Series 5 speaker is a high performance piece of audio gear that is within the financial reach of most audio enthusiasts.

Philip Bamberg is the man responsible for the development of the Series 5 speaker system. BESL produces a full line up of speakers, and provides engineering support to other commercial manufacturers. Philip is a graduate of Colorado University, with degrees in both electrical and mechanical engineering. Upon graduation, a typical career path for an engineer followed. Philip has held positions in the electrical, oil, and the medical fields. However, Philip’s passion has

¹⁰ The satellites in many sat/sub systems are also intended for full range use. So they are designed with maximum bass extension for stand-alone use. The subwoofer is often an add-on, intended to extend the bass response. The lower registers of the output of the satellite are often compromised, and this creates the difficulty of achieving a proper transition point to the subwoofer. Another issue is the improper matching of crossover networks. If these networks are not specifically designed to work together, a proper blend cannot be achieved between the two elements.

always been for audio, and he returned to the fold by taking on a position with Klipsch Audio Technologies. The THX Ultra II home theater speaker system is one of the primary accomplishments of his tenure at Klipsch Audio.¹¹ Philip Bamberg combined his passion for music reproduction with his technical education, and developed a line of speakers that offer affordable high-end performance.

The monitor portion of the Bamberg Series 5 loudspeaker utilizes a SEAS 25mm Millennium tweeter, and an 18cm SEAS W18ex-001 Excel mid-bass driver. Philip chose to use a sealed enclosure for the monitor, and the passive crossover is a 4th order Linkwitz-Riley configuration. The monitors are heavily braced and internally dampened, which is to be expected from a speaker with world-class aspirations. The cabinets have a flawless piano black finish, which is stunningly beautiful. One interesting design feature of the Bamberg speaker system is that isolation spikes are used to give the monitor 6 degrees of backward tilt. This tilt improves the phase coherence of the speaker, and Philip Bamberg states that 2/3 of the time delay between the drivers can be eliminated with this set up position. While the Series 5 monitor bears a visual resemblance to other speakers in BESL product line, this is a specialized design that has specific attributes necessary to seamlessly integrate with the subwoofer module.

The subwoofer module of the Series 5 speaker system contains a 10-inch Peerless XLS bass driver. The bass driver is located on the front baffle, and two 10-inch passive radiators are located on the sidewalls of the enclosure. The Peerless driver is a high performance woofer, with a whole slew of attributes that make it a logical choice for this application. The cabinet for the bass module is robust, with 1.5-inch thick front and side plates. A sophisticated “spine” brace is attached to the rear panel, which increases the rigidity of the cabinet, and modifies the resonance characteristics. The bass module cabinet is built from conventional materials, and proven construction techniques. This choice of materials and design characteristics allows Philip Bamberg to keep the price of the Series 5 speaker system reasonable, and still allow the drivers to achieve their full potential. The cherry finish on the review pair has an intricate grain pattern, and a flawless satin finish. The Series 5 speaker system has a striking appearance, with a distinctive contrast between the natural beauty of the cherry wood grain and the elegant black piano finish of the monitors.



The dedicated amplifiers that power the bass modules are located in small enclosures that can be placed in an unobtrusive spot in the listening room. The passive crossover network for the mid-bass and tweeter is also contained in these modules. A hardwired speaker cable makes the connection between the passive crossover network and the monitor portion of the speaker. Since a high pass electronic crossover is utilized in this speaker system, it is necessary to have two sets of RCA cables feeding the two amplifier stages.¹² Philip sources a high quality plate amplifier for powering the bass modules.¹³ A series of upgrades are then installed into the amplifier in order to enhance the per-

¹¹ Although BESL was founded in 1993, Philip's tenure at Klipsch occurred in 2000 to 2002. BESL existed during this time frame, although it was in hiatus.

¹² The amplifier in the main system drives the monitor portion of the Series 5 speaker system. Since the high-pass portion of the electronic crossover cuts off the low bass to this leg of the stereo, the main amp does not have to be overly large or powerful. The second amplification stage is the plate amplifiers that are dedicated to running the bass modules.

¹³ The subwoofer amplifier uses MOSFET output devices, and produces 370 watts of power.

formance of these units. There are several adjustments on the bass module amplifiers that can be used to properly match the Bamberg speaker system to the listening environment. There are controls for output level, crossover point, and phase alignment. Controls of this type are standard on most subwoofers, or powered speaker systems. Philip has added a set of adjustments allow the user to shape the output of the bass module in order to compensate for the acoustics of the listening room. There is a default setting for the bass module amplifier controls that will allow the user to achieve excellent bass performance in the majority of applications. Philip feels that 90% of typical speaker applications can use these settings, and that owners of the System 5 speaker system should begin with these set points. If a particular room requires different parameters, then the owner can make the necessary adjustments needed to achieve

the desired performance. The Bamberg speaker system is designed to not only offer high quality bass performance, but it is also easy to set up so that the average audio enthusiast will be capable of obtaining optimum performance from these speakers.

The complexity of designing a passive crossover network is one aspect of speaker manufacturing that many audio enthusiasts fail to appreciate. In this day and age, computer aided design programs spit out basic crossover circuits that allow the weekend hobbyist to build a respectable speaker system. Philip Bamberg begins the crossover design with a computer simulation, but that is only the starting point of the whole process. Once the crossover points and slopes are calculated, Philip then programs these parameters into an electronic crossover, and begins the evaluation process of the initial design. Once the crossover design is finalized, then the real magic begins. Executing a passive crossover network that has similar sonic attributes, as the electronic model is a difficult task. There are many thorny issues to address in passive crossover network design, such as phase and time alignment, smoothing the impedance curve the amplifier must drive, notch filters that address any peaks in the driver frequency response, and other esoteric points that escape the understanding of the casual audio enthusiast. The crossover network in the Series 5 monitor is a complex 17-piece crossover network, however only 5 pieces are directly in the signal path. Phillip stressed his crossover design philosophy quite adamantly, and this quote succinctly states his position.

“I also wanted to point out that the passive crossovers are constructed to blow the signal through in as unimpeded way as possible. If you were to see the

layout of the crossovers, you can see the way the components are ordered and oriented in such a way as to minimize coil interaction, use of components leads to preclude use of jumpers, etc., etc. We have performed tests to verify that there is NO transformer ill-effect to the passive network.”

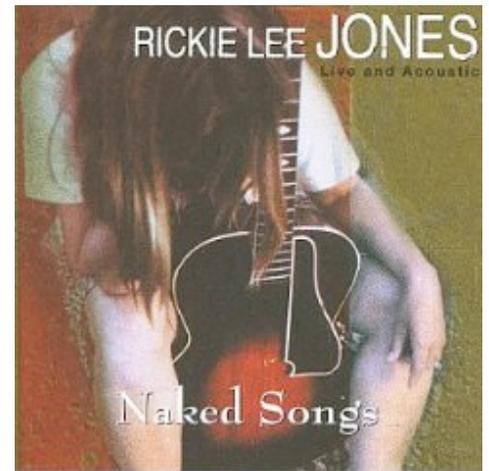
It may seem counter-intuitive to the audio enthusiast that a high part crossover network will not color the sound of a speaker system. Philip advocates the benefits of steep crossover points, but he uses the fewest parts possible to properly control the drivers. The design target of the passive crossover network is the sonic signature of the electronic network that the prototype speaker is voiced with. The passive network inside the Bamberg Series 5 speaker system is an engineering triumph, and makes a significant contribution to the world-class performance of these speakers.

The amplification components of my review system consist of a Jeff Rowland Consummate pre-amplifier, and a Model 5 power amplifier. The Model 5 amplifier produces 150 wpc into 8 ohms, and drives only the monitor portion of the Series 5 speaker system. Source duties are taken care of by a Bolder Cable Company modified Squeezebox and an Audio Magic Kukama digital to analog converter. The speaker wires, interconnects, and digital cable come from the Audio Magic Illusion 4D product line. Power cords come from the less expensive Audio Magic Extreme series of cables. An Audio Magic Mini-Reference power conditioner takes care of the task of providing quality AC current to the



rest of the system. Speakers are placed three feet off the rear wall, and placed eight feet apart. A small amount of toe in is necessary to lock in the soundstage.

Writing a description of the performance of the monitor portion of the Bamberg Series 5 speaker System is relatively simple. I can use words such as transparent, fast, and detailed. Other certain stock review phrases come to mind. I could say these speakers are free from grain, lift a veil from the music, or place instruments and singers directly into the listening room. These are all accurate descriptors of the Bamberg speaker system, but they fall short of conveying the essence of my listening experience with them. Never the less, I will relate my thoughts as best as I can, and keep in mind that the following paragraphs are at best a limited description of a fine speaker system. Much to my family's dismay, I have been a huge Rickie Lee Jones fan. RLJ has an unusual vocal style that is very difficult to reproduce clearly. The majority of the speakers that I have encountered smear the subtle phrasing of her singing, and this results in a jumbled presentation that ultimately results in people asking, "What did she just say?" *Naked Songs* is a live performance recording, done with only acoustic instruments. "Living It Up" [*Naked Songs*; Reprise 9-45950-2] features RLJ, her piano, and the audience. The Series 5 speaker system extracts every subtle nuance out of this song, and does it with the grace and good manners of a socialite. RLJ vocals are clearly presented, which is quite an accomplishment for any speaker system. The piano notes are sharp and clear, and the decay pattern is properly portrayed. Through most of the song, the audience is in a rapt silence, yet there are certain passages where they interject themselves into the performance. These periodic interjections reveal the size of the club this is recorded in. The monitors clearly present the size of the room, and it is easy to audibly "see" all the way to the edges of the venue. Philip stresses the advantages of his crossover design, and the superior traits of the SEAS drivers. From what I can hear, I would have to agree with him. The midrange and treble performance of the Bamberg Series 5 speaker system is as good as I have ever heard, these speakers can stand toe to toe with the heavyweights of the audio world.



The bass module of the Bamberg Series 5 speaker system turned in a performance that is worthy of an all-star. The bass module is fast, powerful, and rock solid. The bass extends to subterranean depths, and moves enough air to give music a physical dimension. I like reggae music, although I have a very limited exposure to the highly respected performers of this genre. One afternoon I found myself scrolling through the music menu on my Squeezebox looking for something interesting to listen to. I pulled up a disc from the Skadanks, and decided to play "Ism-Skism". [*Give Thanks*; Elektra 61586-2] The quality and quantity of the bass information on this song made me quit reading a rather interesting book that I was into, and I just absorbed the excellent music emanating from the stereo system. The synthesized bass notes were lightening fast, with no smearing or overhang. As I cranked the volume up, the deep notes began to pressurize the room. Eventually I got the volume to dance club levels, and music stayed as clear and detailed as it was at lower listening volumes. With slightly more than 1000 watts on tap, I quickly violated whatever city noise ordinances are in place, and had a great time doing it.¹⁴ The 3dB down point of the bass module is 18 hertz, and the output level is not drastically reduced at higher octaves. In other words, the Series 5 speaker system is capable of generating authentic 20-hertz bass, which is a feat that is achieved by only a few speaker systems.¹⁵



Lyle Lovett is often categorized as a country music performer, but this tag is really not an accurate description of his eclectic musical style. Lyle often tours with a big band, and incorporates blues, jazz, and gospel elements into his

¹⁴ The subwoofer module amplifiers are 370 watts apiece, and the Rowland Model 5 delivers 150 watts per channel to the monitors.

¹⁵ Speakers that are capable of 20-hertz output are usually the size of a small refrigerator. The relatively compact size of the bass module means that full range performance can be achieved without giving up massive amounts of real estate in the listening room.

songs. Combine these diverse musical elements with off beat lyrics, and you get an entertaining and thought-provoking album. In “What Do You Do/The Glory of Love” [Lyle Lovett and His Large band; Curb Records MCAD 12263] Lyle teams up with Francine Reed for an acidic duet that will leave you chuckling through the entire three minutes of the song. This disc is a fantastic recording, which is no surprise since it is laid down on a Mitsubishi X-850 digital recorder, and mixed on the JVC mastering system. The Bamberg Series 5 speaker system gets everything right on this song, and is as close to neutral as any speaker system I have heard. Lyle and Francine’s voice are free from any coloration, and every subtle detail contained in their performance is on display for your enjoyment. The drum kit is equally detailed, with quick percussive notes, and the cymbals have a nice metallic sheen. The horn section is dynamic, and the instruments have a discernable bite to their notes. The bass line bounces along, and sounds exactly like an electric bass should. The realism of the wide range of instruments on this song is superb, and the Series 5 speaker system is spot on with every aspect of this recording.



In contemporary society storytelling has become somewhat of a lost art. If you have had the good fortune to encounter a talented storyteller, you can appreciate how this person can add an extra dimension to a tale without altering the piece. That’s what a world class speaker should also be able to accomplish. A speaker of this caliber can replay music without imprinting a sonic signature, yet be able to make the music come alive by relaying the emotional content of a song. This is the touchy-feely side of audio, and is not rooted in specifications, engineering data, or measurement graphs. The Bamberg Series 5 speaker system has this elusive trait, and this sets it apart from many other top-of-the-line speaker systems. Tracy Chapman is an extraordinary storyteller, and she can craft a song that engages your thoughts and feelings. “Cold Feet” [New Beginning; Elektra 61850-2] is about a poor young boy who struggles to find his way in life. A life of hard work brings prosperity, but one wrong choice results in a tragic death. The song has an excessive amount of reverb, and the electric bass is turned up a bit too high. This disc is a highly polished recording, and it has the strengths and limitations of a slick commercial mix. In spite of all of this, Chapman turns in an inspired performance, and the Bamberg speakers find a way to bring this to my listening room. The Series 5 speaker system is technically accurate, and emotionally engaging.

There are very few drawbacks to the Bamberg Series 5 speaker system. I suspect that certain audio enthusiasts may have an issue with the voicing of these speakers. This speaker system does not have any artificial warmth to its tonal balance, and it unearths the finest of details. This ability to relay the subtle shadings of a recording is a double-edged sword. If you are an audio enthusiast that craves a smooth and easy to listen to sound, then this speaker system may not work for you. Listening to well recorded music on the Series 5 speaker system can be a heavenly experience, while a poor recording might make you think that you have been sent to that “other” eternal resting place. The Bamberg Series 5 speakers are refined and can be smooth, however they do not gloss over the imperfections contained in a recording. Also, the modules that contain the bass amplifiers and passive crossover networks are somewhat large and bulky. These generic black boxes have minimal aesthetic appeal; however they are small enough to be tucked away in a relatively unobtrusive niche. The obsessive-compulsive audiophile might have an issue with the captive speaker wire between the passive crossover and the monitor portion of the Series 5 speaker system. This captive cord does not allow for the switching out of various speaker wires, and a perspective owner will have to get used to the idea that speaker wire is no longer a variable that can be manipulated in the system.¹⁶ From my perspective, I thoroughly enjoyed the performance of this speaker. Philip is satisfied with the performance of this wire, and in light of what I hear; this is good enough for me. Other than these minor issues, I cannot fault these speakers in any significant performance category. There may be better speakers to be had, but I doubt they sell for less than \$6000.¹⁷

The Bamberg Series 5 speaker system is a classic example of how high-end performance can be achieved through conventional engineering and construction techniques. Philip Bamberg does not circumvent the laws of physics, use an exotic material that has been blessed by Tibetan monks, or has a proprietary treatment process designed to enhance the performance of the parts he uses. The Series 5 speaker system uses the best drivers that SEAS and Peer-

¹⁶ I would suspect that Philip Bamberg could be convinced to custom build a speaker system that allows for the use of aftermarket speaker wires.

¹⁷ The MSRP of the Series 5 speakers are \$8275 a pair. BESL has an introductory special in place, and at this time a pair of speakers can be acquired for \$5980.

less produces, however this is only one element needed to produce a reference quality speaker. Rigid and well-damped cabinets are also necessary in order to maximize the potential of the selected drivers. These cabinets use proven construction techniques and materials, which keeps the overall cost of the speaker in check. Thick front baffles and sidewalls are reinforced with stout internal braces in order to eliminate the effects of cabinet resonance. While these attributes play a significant role in the performance of the Bamberg Series 5 speaker system, the crossover network is the critical component that endows this speaker with its extraordinary performance. The electrical theory that Philip utilizes in his passive dividing network are proven techniques that are accepted and used by speaker manufacturers. Understanding the interrelationship between the crossover circuits, the drivers, and the acoustic effects of the cabinets is where Philip Bamberg displays his considerable talents as a speaker designer. The Bamberg Series 5 speaker system is a reference quality speaker that has no significant flaws or limitations. This is a full range speaker system that is well suited for jazz, classical, rock and roll, techno, or any other type of music that I am aware of. Reference quality components are long-term purchases, and the Bamberg speaker system would be a cornerstone to a high performance audio system. I would encourage audio enthusiasts from all walks of life to seek out a pair of BESL speakers and give them a serious audition.¹⁸ Indeed, these speakers are a cut above the rest.

Equipment Used:

Jeff Rowland Consummate pre-amplifier
 Jeff Rowland Model 5 amplifier
 Bolder Cable Company modified Squeezebox with Ultimate IV power supply
 Audio Magic Kukama DAC
 Audio Magic Mini-Reference power conditioner
 Audio Magic Illusion 4D interconnects, speaker wire and digital cable
 Audio Magic Extreme power cords

Manufacturer's Response

We are thrilled that John enjoyed the Bamberg Series 5 TMW speaker system, and we are glad that our hard efforts were appreciated by him.

We are relieved that we did not receive a call from John asking for further help in adjusting the bass controls. He only had to set the gain level! I think that is proof that a modular active/passive 3-way speaker system can be delivered and setup to perform properly "straight out of the box".

The power module enclosures may be ordered with custom finish to match the subwoofer. Also available by custom order are longer umbilical cables so that the power modules may be located further from the speakers, such as behind the equipment rack or potted plant. We chose not to overcome the challenge of fitting this high-performance bass amp on the back of the subwoofer, as that would have required a slightly larger cabinet, and compromised rigidity of the back panel. Besides, the fully finished back looks nice whenever the speakers are placed farther out into the room.

We, too, believe that audio cables in general—and speaker cables especially—have an effect on the final sound. And while we understand and support the desire of many audiophiles to experiment with speaker cables, it must be realized that the Series 5 external umbilical cable actually makes up the lead wire harness from the output of the passive crossover to the midbass and tweeter drivers. Such a harness is internal to most other speakers, and therefore is not interchangeable. This proprietary cable has been selected and fabricated because of its very low losses (low intrinsic L-C-R values). For that very reason this same cable is the one we use in our lab for speaker test measurements, and it is 30 feet long! We do make regular speaker cables from this cable for our customers upon request. With 37 internal conductors (most of which are individually insulated by a high-dielectric) it can be made in several different configurations and terminations. Basically, changing out the umbilical cable would change the sound of the speaker in an uncontrolled way. Furthermore we have taken away all risk of an accidental connection of the tweeter to the midrange crossover by employing the pre-wired Neutrik twist-lock connector. You only have to mind the polarity of the regular speaker cables, as always.



¹⁸ The performance of the monitors is outstanding. If the details can be worked out, I would appreciate the opportunity to review a moderately priced BESL speaker.

I am not ashamed that my passive crossovers use more components than most of my competitors. There is not a component in the network that does not have an important and legitimate reason for being there. The real challenge then is to prevent veiling of the sound. To that end, the components which are in series with the drivers are kept to a minimum, while additional “control” of amplitude and phase is handled by the shunt components.

Many audiophiles assume that a complicated network is what leads to smearing the subtle phrasings, but John’s review proves that, if done properly, such a network with superior phase coherence can actually enhance intelligibility.

My development technique is exceedingly long and detailed—refined even—to the point that all passive crossovers are first developed in programmable DSP active form. I simply have more options, more control, and reach the intended targets faster this way. Mathematical filter blocks generate both the targets and predicted crossover responses. The DSP filter is programmed and tested to track those targets. With the aligned DSP filter I can immediately begin the listening evaluation process of the initial design, even though it is in active form. Adjustments to the sound can literally be made from my laptop at the listening position. Once the active crossover design is finalized and approved, then the real magic begins. The electronic crossover’s performance next becomes the design target for the passive networks. It is a relatively straightforward task to repeat the process, but now modeling with passive components.

If I could write a book on my development techniques, I could write a second one on speaker voicing.

When asked what my speakers sound like, I tend to say that the Bamberg sound is rich and yet clear. The richness comes from getting the voicing of the midrange—and especially the lower midrange—just right. This is not so easy. But I have developed a particular measurement method that accurately characterizes the midbass woofer’s response in the 100-1000Hz range. While this is smack in the middle of the audible band, it is surprisingly more difficult to characterize than it seems. Fractions of a dB count here. (Imagine missing a moon shot by 0.1-degree of angle. A small error near earth leads the spacecraft to completely miss its target. The same is true in speaker design. Incorrectly tilting the midrange by a small amount translates to large voicing errors in the treble.)

The clarity part comes from superior driver, crossover, and cabinet parts, of course, but also from good overall design execution. I found that continuing the voicing up above 1kHz also has its challenges. The octave from 1-2kHz must be kept at reference level so that the human voice sounds natural and present, but the next two octaves are subdued ever so slightly to prevent the speaker from sounding forward in what I call “the annoyance band”. The technical difficulty is that the cross point occurs right at the transition between these two ranges. All the while, the off-axis and impedance issues must not be neglected.

As for story telling, there are both historical and technical stories to tell about Bamberg Audio. And yet we never allow them to overshadow the human emotion story. We know as well as John how difficult it is to convey one’s listening experience through the written word. But the listening experience is well worth the time and trouble.

Thank you, John, for all your efforts that culminated in such an enjoyable review.

Philip E. Bamberg
Bamberg Audio
www.BambergAudio.com



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- Eric Powley, Affordable\$\$Audio, February 2007

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Acoustic Revive RTP-2 and RTP-4 Ultimate Power Supply Box

By Anthony Nicosia

anthonynicosia@affordableaudio.org

Manufacturer:

SEKIGUCHI MACHINE SALES CO., LTD
3016-1Tsunatori-machi, Isesaki-shi, Gunma Pref. 372-0812
JAPAN

TEL. +81-270-24-0878

FAX. +81-270-21-1963

<http://www.acoustic-revive.com/english/index.html>

US Distributor:

The Lotus Group

P.O. Box 1598

Novato, CA 94945

Ph: 415-897-8884

Cell: 415-328-1752

<http://www.lotusgroupusa.com/>

RTP-2 ultimate Power supply box comes with one receptacle to accommodate two pieces of audio gear

Retail: \$1295

Optional: with attached power cord \$1895

RTP-4 ultimate Power supply box comes with two receptacles to accommodate four pieces of audio gear

Retail: \$2250

RTP-6 ultimate Power supply box comes with three receptacles to accommodate six pieces of audio gear (not reviewed here)

Retail \$2775



Acoustic Revive is a very fitting name for this company. Now I did not ask them why they named it the way they did but it sure does seem to fit their persona. The word acoustic, in the musical context according to Wikipedia's Online Dictionary, means the branch of acoustics that studies the physics of music. Revive, from the Merriam-Webster's Online Dictionary, means to return to consciousness or life: become active or flourishing again. So we have a company whose name implies a scientific study of the physics of music that hopes to bring life back into our sound systems, or something along this nature. After reading their online website I don't think this name was chosen by chance, in fact everything they do is carefully planned and very scientific, as you shall shortly see.

From the very first time I heard about Acoustic Revive and then looked at their website I knew I wanted to review their audio gear. Never before had I ever heard about a power supply box that looked this simple, so understated and yet was so complex and detailed in design. The RTP-2 ultimate is designed to take almost every conceivable problem into consideration and then solve it. At first you look at it and say, "Why \$1295 for a power strip that can only handle two components?" After you read about what when into its construction and then try it in your system you might just wonder, "Why is it only \$1295?"

To start out the RTP comes in three versions, the RTP-2, 4 and 6 ultimate. As the name implies the RTP-2 ultimate can be used for two pieces of equipment, the RTP-4 ultimate for four and finally the RTP-6 ultimate can handle six pieces. This is a very practical naming system, one that makes sense and easily identifies the purpose of each model. As you move up the model line you get bargain pricing because the RTP-6 is not three times the RTP-2 price.

Mr. Yoshi Hontani, the Managing Director, was kind enough to send me both an RTP-2 and RTP-4 ultimate for this review. Mr Hontani, Aki Monobe and Ken Ishiguro were my contacts and all were very gracious and accommodating in helping me pull my review together.

Right from the start I could tell this review would be fascinating. Go to their website and read the detailed product description of the thought process behind the RTP series and you will see what I mean. Acoustic Revive goes into a step-by-step process of how they made the RTP-2 (the RTP-4 & RTP-6 also being made the same way).

First they start with a solid block of 2017 Duralumin, with is then carved, out to make the chassis. 2017 Duralumin is

an alloy made of about 95% aluminium, 4% copper and 1% manganese. They chose Duralumin because their research team has concluded it is best suited to producing good sound. The reason for making the chassis out of a solid

block is to reduce vibration and distortion while increasing sound quality over the more commonly used process of bolting together metal sheets in order to form the box. This process of carving out a chassis and lid involves close to 5 hours for the RTP-2 and 8 hours for the RTP-4 and RTP-6.



They must be onto something with this 2017 Duralumin because I did a little research and discovered that the famous English guitar maker, Tony Zemaitis, used Duralumin in making some of his finest guitars. This man was a legend in his field, and he chose to use handcrafted solid Duralumin for the bridges and tailpieces of some of his metal front electric guitars. One such guitar, the Zemaitis Custom Shop MF500-LS had a list price of \$12000. He believed these metal fronts reduced noise and hum as well as giving it a unique tone. Well who am I to disagree with someone like Tony Zemaitis or even Acoustic Revive, maybe Duralumin should be the alloy of choice for exceptional sound by everyone who is interested in proper acoustics.

Not stopping here, Acoustic Revive gets even more unusual in their design concept. Next they fill their power supply box with Green carborundum, Lithia Tourmaline powder and natural quartz powder to help eliminate both static and noise. Think about this now. No electrical components to break down or to add to the sound, just powder to naturally enhance the music. I like that organic approach, a very “greenish” design in today’s world where energy conservation is so important.

Under the chassis you will find four large brass carved out feet. Usually manufacturers will leave the feet to the consumer to buy aftermarket products, of which there are many, to improve upon their product but not with Acoustic Revive. Never one to miss anything, a vibration control sheet is placed under each foot. Professor Masao Sumita at the Tokyo Institute of Technology developed the material used under these feet.

Ok that’s it; I’m impressed, never had I heard of such technology going into such a little power supply box. We are not done yet though, as there are still more surprises ahead of us.

We still have yet to talk about the receptacles, which are Oyaide’s R-1 special version made from Beryllium copper. These were specifically chosen for their superior conductivity and then the electrodes surface was mirror polished for still even better conduct. Acoustic Revive even changed the electrode parts, to thick silver plating and a thick rhodium plating to achieve better conduct and phase characteristics. Most other manufacturers that Super cryogenically treat their receptacles do so to the entire receptacle. Acoustic Revive states that this process destroys the resin parts and then the sound quality will weaken, so they only treat the conduct parts.

Just like the receptacles the power supplies inlet is Super cryogenically treated. It is also treated with a thick silver and thick rhodium plating. Not to forget the inlet wiring connection, it is non-solder, as they feel solder destroys the transmission. Internal wiring is a very thick oval PCOCC-A type, made by Furukawa Electrical Industry. Again the choice here was for better conduct.

Finally, we arrive at the finishing touches to this unique product. Here let me just take a quote from the Acoustic Revive website, “To keep the product quality and sound quality in long term, the 2017 Duralumin made box is treated top quality pear surfaced Snow White Aumite, and lid is treated with top quality Black Hair Line finish. The brass foot is treated with top quality mirror surface finish Chrome plating. A product using non-surface treated Aluminum alloy and Brass releases rust which is harmful to human body, so please be careful. “

That afternoon when me younger son Joseph told me that a package had just arrived from Japan, I carefully unpacked it. Inside were two boxes, one smaller one for the RTP-2 ultimate and the other for the RTP-4. I was im-

pressed at their beautiful physical appearance. Lifting them up they felt solid yet not so heavy that they could not be easily moved around with one hand. When I first put the RTP-2 into my main system I connected the Monarchy Audio DAC and the Sony DVP-7700 CD player (used as a transport) into its two outlets. I did not have the optional power cords that are available from Acoustic Revive on hand for review, so I used two inexpensive Monarchy Audio cords instead. These little power cords are 2 meters long and are overachievers at only \$89 each. One cord went from the DAC to the RTP-2 and then another from the RTP-2 to the wall outlet. My Sony CD/DVD player sadly has a non-audiophile nondetachable power cord that I plugged directly into the RTP-2. Ok, lets turn on the system and see what happens no break-in time needed here. Wait, did my wife surprise me? I know it's a little more than a week until father's day; did that little dear buy me a new CD player? Can't be I would have seen it when I put on the CD. Did one of my audiophile buddies come by and sneak some new piece of gear into my system? No, same old system that I love, the only difference is that little RTP-2. Amazing!

I couldn't wait; I had to try the RTP-2 with my Monarchy Audio SM-70 Pro amps (used in mono). For these I plugged my two Tek Line PC-8 Signature Power Cords from amps to RTP-2 and a Mr-Cable Musician power cord from the RTP-2 to the wall outlet. The PC-8 power cords list at \$399 each while the Musician cord is \$449 for 6' lengths. I then used the RTP-4 for my CD player, DAC, preamp and phono stage with the Monarchy \$89 power cord connecting it to the wall. Ok, now I have my system outfitted entirely with the RTP series power strips and I'm ready to go.



I first start out by playing a song from the movie *Across the Universe*, "Let It Be", performed by Carol Woods and Timothy T. Mitchum. I know I have mentioned this song in a previous review, but right now it is high up on my list of vocal representation. Don't worry though; new songs for review are on the horizon. My wife, Jennifer, was in the other room reading when I heard her comment, "Wow, that is so clear! Did those two little boxes do that?" Now please take note, equipment comes and goes in my room without hardly a nod from my wife so when she makes a statement like that a radical change must have taken place in order for her to comment. I am not yet doing my review, just being a kid again and listening to my tunes. About an hour goes by and I walk up to her and ask (even though I know the answer for me at least), "Was it that good?" "Yes it was, you say they cost about \$3600 for both?" "Yes but listen to the sound it's wonderful" She doesn't complain about the pricing, which is not normal for her, instead she only comments on its performance. I am stunned. She likes them and in her own way is saying they are worth the price. My wife is a tough audience and to win her over is a big accomplishment.

Ok, now I need to do some serious evaluating. I started out listening to a vinyl recording from the Muddy Waters album, *Folk Singer*, with a song titled "My Captain". Right away you could hear the subtlety in the guitars of Muddy and his young accomplice Buddy Guy. Buddy of course later went on to be quite famous in his own right. With the help of the RTP series you could hear the distinct characteristics of Muddy Waters unique vocal tones and enjoy his own down to earth style of singer. I heard his voice go from soft to very loud and then quickly back down again. The RTP's held nothing back and you could hear it all. The difference with the RTP's in my system was that the performance was layered not flat. You did not get that clear yet compressed sound that plagues equipment of a much lesser stature.

Listening to Traffic's, *The Low Spark of High Heeled Boys* vinyl album, I was taken by the song "Rainmaker". Once again the RTP-2 and RTP-4 took my system to a new level with a wonderful 3-dimensional flute solo in the beginning of the song. There was one part in particular where the voice just hung in the air of a dead silent background. Part of this, of course, was the recording and the musical arrangement while the rest was the result of Acoustic Revive's RTP series. I had heard these albums many times over and never did they sound so multi-dimensional as the RTP's have made them.

Of course you cannot listen to vinyl without a little help from our friends, The Beatles. Their *Abbey Road* album has a

song entitled, "Come Together" which says:

*"One thing i can tell you is you got to be free
Come together right now over me"*

Well that is what the RTP ultimate series will do for you. If you want to be free to hear the true musical experience all you have got to do is come put all your power cords together over the RTP of your choice.

Moving onto my CD collection I must tell you that the RTP's brought CD's much closer to the sound of vinyl. Both mediums being different of course they will never be the same but I was enjoying my CD collection on a level I never felt before. I have been researching to buy a new CD player, feeling that it is my weakest link, only to discover it really was my power supplies that needed improvement.

Starting out with selections from Leo Sayer's, "Leo Sayer Live", CD I started with one of my favorites "When I Need You". Definitely a song to be listened to with someone you care for and not just by yourself. If you are not familiar with Leo you will remember his many hit songs shortly after you play any of his CD's. I have talked to a few people who have said, "Oh is that Leo Sayer!" after I played a few pieces for them. One such song is "You Make Me Feel Like Dancing"; they all remembered that popular song. Being a CD recorded at live concerts the RTP's allowed one to hear all those background details from the audience, at the concert, that gave you that live I am there feeling.



Getting the size and sound of a piano correct in your home environment is close to impossible. Trying to create the illusion that a large grand piano is right in front of you is not an easy task. Acoustic Revive did a great job with the Philip Glass, "Solo Piano" CD in that it took my other equipment as far as it could go towards that end. That really is all you could expect it to do. Once again another find effort from the RTP's.

Now onto the last two CD selections, first being, The Romantic Violin with a selection of Felix Mendelssohn-Bartholdy Violin Concerto NO. 1 in E minor op. 64. Here we can experience violins that are neither shrill nor irritating but rather full-bodied while still being fast and clear. Which brings me to the final CD by Jerry Garcia called Shady Grove. "The Sweat Sunny South", performed by the combination of David Grisman and Jerry Garcia on five-string banjos captures the fast and lightening quick picking of these two greats, wow! The RTP's just seems to add something to these two greats playing banjo that I did not feel before without them in my system.

I know that some of what I have said about the RTP series sounds repetitious but that is only because I couldn't find fault in this product. There were songs that I played and did not like, but that was through no fault of the RTP-2 or 4 ultimates, unless you can blame it for exposing the weaknesses in the performers or recording.

In the end I can only say that before you even think of upgrading your system you must try one or two of these power strips by Acoustic Revive. My already good system went through a major transformation with their addition. This is not one of those "tweaks" that you put into your system and then you try to convince yourself you are hearing something for the better. No, this is some very serious equipment that the collective genius of many individuals collaborated on to produce. Start out with the RTP-2 ultimate if you like and add an inexpensive power cord to plug it into the wall sock. For \$1295 plus \$89 for the power cord you have \$1384 invested and you can plug in your CD player and one power source to start you off. Do keep in mind that even though you can use an \$89 power cord and still get great sound, the RTP series gets even better if you spend your money wisely on a better power cord. Right now I am using an older PS Audio Lab II power cord with excellent results and I plan on trying even more cords shortly. You would be much better to go with an integrated amp, saving money over separates, and use the savings to purchase the RTP-2. You already own separates, great, and then the choice is to go with first one RTP-2 and later add another or to take the savings now by buying the RTP-4 or even the RTP-6. Doing this not only are you saving when you buy the larger models but now you spend less on additional power cords as well. The savings just keep adding up.

There is no doubt in my mind; the RTP-2 and RTP-4 are a bargain in the world of escalating high-end audio prices

where you don't have to look too hard to find just a stereo cartridge alone selling for \$5000. The best thing you could do is to arrange with your dealer for either a home audition or to give you a week to upgrade the RTP-2 for the RTP-4 or even the RTP-6. Once in your home I think you will find, like I did, getting hooked on having them in your system is a very simple matter indeed.

The great thing about the RTP ultimates, no matter which one you get, is that once purchased you can forget about that link in your audio system. Unless you need more outlets later on this is about as good as it gets. No matter what type of music I listened to the RTP's improved upon it to the point that even non-audiophiles could readily hear the difference. Plug in your CD player, DAC, Amps phono stage or whatever you need to and experience a true upgrade in performance that will forever change your view of power supplies.

One other thing worth mentioning is the grip that the "Ultimates" have on power cords. I felt like Superman had a hold of my sturdy Tek Line power cords and removing them from the RTP-2 was no easy task. This however is a good thing in that it is doing the job it was designed for. It locks in with a super-firm grip on your components and your music systems in order to provide you with a connection to your music you will not soon forget.

The Research team at Acoustic Research has spared no expense in bringing us a product so thoughtfully planned out and designed that I can see no weaknesses in any aspect of their product. If this is an example of how through research and development they market their products then I hope to review more of them in the future. Right now I have my eye on their RD-3 Disc Demagnetizer for only \$399.

I will leave you with this quote from their website where Acoustic Revive has this to say about their RTP ultimate series, "The last evolution power supply box which is made in total luxury! The real ultimate!"

The listening environment:

My listening room is 18' 8" long by 13' wide. The room's cathedral ceiling starts at 8' high then slopes upward to 13' at its peak in the middle. Flooring is a soft hardwood covering with an oriental rug placed dead center in between (but not under) the listener and the audio system. All surfaces are left untreated and there are no doors that open or shut into other rooms.

Review equipment:

Dignity Audio DA08SE integrated mono amps (imported by Monarchy Audio)
 Monarchy Audio SM-70 Pro Amps (run in mono)
 Placette Passive Preamp (3 input model)
 Oracle Delphi Mk I turntable with custom made interconnects
 Grace 707 tonearm with Denon 301 II MC cartridge
 Whest PhonoStage.20 + MsU.20 power supply
 Sony DVP-S7700 CD/DVD Player (used as transport only)
 Monarchy Audio Dual 20-Bit D/A Converter (modified by Monarchy Audio)
 Legacy Focus 20/20 speakers
 Monster HTS-2000 Power Conditioner
 PS Audio UPC-200 Power Center
 PS Audio Power Port Receptacle
 Blue Circle BC86 MKIII power line pillows (2)
 Anti-Cable speaker wire 10' pair
 Anti-Jumpers for Legacy speakers
 Anti-IC's (2 pairs)
 PS Audio Transcendent Interconnects (solid silver series) from the xStream Audio Series
 PS Audio Lab Cable II one-meter length
 Tek Line TL 500-S (silver interconnects)
 Tek Line PC-8 Signature Power Cords (2) 6' lengths
 Mr-Cable Musician power cord 9' length
 Black Diamond Racing Cones (#3 & #4)
 Audio Prism IsoBearing (Isolation Globes)



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Steve Hoffman Music Forums

Wyred4Sound MC4 Power Amplifier

By Patrick Dillon

patrickdillon@affordableaudio.org

Specifications:

Powered by ICEpower ASP technologies

FULL OUTPUT THD+N < 0.01%

Power doubles in 4 ohms

2 ohm stable

83 % total efficiency @ FULL OUTPUT

CCIF Intermodulation distortion = 0.002%, 19kHz/20kHz

Damping factor = 2000, 100Hz, 8 ohm

Factory Selectable mains 115/230VAC

Stand-by power consumption 4.1W per channel

12V DC Trigger in and out

Gold plated unbalanced (RCA) inputs

Neutrik Balanced (XLR) inputs

XLR ground lift pushbutton

High Pass ON/OFF pushbutton (Front right and left channels)

Dimensions: (17.25"W x 8"H x 16"D)

Warranty:3 years

www.wyred4sound.com

Made in USA

Price: \$2795



Background

Wyred 4 Sound (W4S) is a California based company that designs, engineers and manufacturers a range of amplifiers intended to achieve high-end audio quality at less than typical high-end prices. Launched from Cullen Circuits, the design and engineering firm that built and services products for many other companies (including PS Audio, Genesis and others who prefer to remain anonymous), the W4S brand now includes a series of class-D amplifiers, covering monoblock, stereo and multichannel configurations with a variety of added features. The company can tailor the amp to your specific needs and offers combinations of power and features that make W4S line of products very audiophile-friendly.

All W4S amps are built around the ICE power module originally designed by B&O, and common to many of the newer switching or Class D amps. W4S claim to have found ways of improving the basic sound though proprietary circuit modifications including dual balanced FET input stages utilizing zero feedback, and power supplies using oversized low equivalent series resistance (ESR) MUSE capacitors. According to information they supplied, all critical signal-path resistors are hand matched Dale Rn55d copper leaded, non-magnetic resistors which W4S claim provide the best sonic performance. Add in RF suppression, high strand copper for short wiring paths and effort put into practical modifiability rather than finished aesthetics, and you begin to get a sense of the niche W4S aims to fill. This is an *Affordable\$\$Audio* -kind of company. Early buzz on the various audio forums is positive, and you can purchase direct from W4S or through their one online dealer, Underwood HiFi.

I listen in an 18 x 24 x 8 room with hardwood floors, large rugs, soft furnishings and a wall of LPs, CDs and books on one side, windows on the other, so I discussed the options with the ever-responsive EJ Sarmiento, partner in W4S, who upon learning of my desire to try biamping my Von Schweikert VR5s, suggested a four channel configuration in their standard multichannel amp chassis. We settled on 2 channels (labeled 'rear') providing 500w for my woofer modules, and 2 other channels (labeled 'front') providing 125w to the mid/tweeter modules. At a list price of \$2795 it is priced at about half what my reference two-channel BAT VK500 retailed for before it was replaced with the newer (and now far more expensive) VK600.

When I say W4S is customer-oriented, I mean it, as this was one convoluted review that required lots of help to make it happen. EJ is a frequent discussant on the AVS forum set up for Wyred products (methinks an Audio Circle would be better but that's just my view) and he always gives timely, informative and polite answers to the sometimes cranky participants, even agreeing cheerfully after a couple of prods from people to change W4S policy on 30-day home trials, a practice originally seen as cost-prohibitive for a small, low margin, start-up manufacturer. My experience in obtaining the amp is a great example of how this company works. I requested the specific four-channel configuration via email on Sunday night, no less, and received a reply within an hour. The amp was built for me the next day, shipped Tuesday, and arrived in Austin TX on Thursday of the same week. Talk about a quick process! Unpacking was easy, espe-

cially if you are used to a monster amp. Double boxed and well cushioned for delivery, I opened the W4S MC4 up and had the amp installed in about 20 minutes, needing only to fuss around the back of my preamp (the PS Audio GCP 200 with external power supply) to make sure I was connecting all four cables correctly. Given the matching (if unusual) layout style of the Wyred and the PS Audio connectors, the mapping was easy enough. I had to use a couple of pairs of old MIT T2 single ended interconnects for this as I had only one pair of my usual PS Audio Resolution balanced cables to hand and it is important to use the same interconnects for all four channels to avoid gain inequities. So straight away I was probably handicapping the W4S, but I ordered a second pair from PS Audio to have the chance to check this for myself, as I shall mention later.

Setting up

The multichannel amp is rather utilitarian looking in plain steel grey with black edging overlaying part of the face. It looks somewhat better in real life than in photos, and while it will win no awards for beauty, the blue power light gives the amp a certain understated elegance. Still, you know where your money is going and it's not on audio jewelry. The



MC4 came with 4 pairs of inputs, 2 pairs single ended, two balanced. Push-buttons switch between these inputs and you need to use them to make sure the signal is correct (on one occasion I unintentionally changed a setting of one input when checking my cables and nearly drove myself demented trying to figure out what happened to my soundstage). There is also a high pass filter on the 'fronts' (the channels driving my mids/tweeters), which assists biamping by (optionally) eliminating low frequency signals to the 'front' channels. The manual and website are a little unclear on exactly how this is achieved (the filter is reportedly set at 80Hz and 12 db per octave but is

has a subtle audible effect and I used it).

I had several minor adventures setting it up, from hum, power shorting and even having new modules put in to review a different configuration, all of which, I can attest, had nothing to do with the W4S product or its reliability and everything to do with my fussing about and trying everything. For example, I enjoy a pair of Virtual Dynamics David power cords feeding my dual-IEC BAT, relishing their obvious benefits over the stock cords, even as I curse the weight and inconvenience of these metal snakes. Deciding to remove one of the variables at work in this amp comparison, I tried at first to use a David on the single outlet W4S MC4 (note: the images on the Wyred4Sound site show the MC amps has possessing 2 IEC receptacles, so I was surprised when mine arrived with only one, but EJ assured me this would not be important and that the 2 corded version, available if someone really wanted it for 4 channels, made most sense only for the fully loaded seven channel MC). But as I wrestled the David into the wall, the outlet sparked, triggering a breaker and shutting everything down. Ouch. Cue concerned emails to both VD and Wyred, both of whom responded within minutes, and I mean minutes, guiding me through a couple of checks and to the conclusion that the David's sheer size and weight had probably strained the outlet out of position, shorting the circuit, resulting in a tripped breaker and possibly a scorched outlet at worst. Now think about this – how many industries do you know where the companies will respond in minutes to a customer who has a problem like this? My query to VD had the owner, Rick even offering me his cell number to call if I needed to be talked through the check of the circuit. Now that's customer service!

To cut a long story short (and it is a long story), I eventually had everything working and ran the original W4S for at least 150 hours before making any real comparisons but even then, I had been advised the amps ideally required 300 hours of break-in (that's a lot of time if you are playing music a few hours a day only, so the 30 day trial will really require you to let the amp play when you are not around). The minor hum problem I experienced for the first few days, which EJ worked tirelessly to help me solve, was stopped first by removing the ground pin in a PS Audio cord which I ended up using on the amp, and later by using balanced interconnects between pre and power amp, at which point the ground pin could be returned or even the VD David used on the W4S without a problem. This is likely something in my system or RCA interconnect not the amp but it was ultimately a simple fix and EJ was as passionate about solving the problem as I was.

The Sound

Enough already, so what did the music sound like now (and I mean the music, not the amp, which now sounded eerily silent and cool, you'd have a hard time knowing it was on without the blue light)? There are a couple of distinguishing elements that remained constants in my time with the W4S MC4, even with a later re-configuration, which I will describe below. First, and most noticeable, was the clarity of the bass. The W4S seriously tightened and toned the bass, rendering notes quickly and articulately, without decay or overhang. After years with the rich bass reproduction of my BAT I certainly took notice. The good side of this is that bass drum figures in rock music became more distinguishable; as if you could hear four clear beats from a kick drum where before there might have been a blur of percussion. The best way I can describe this is to say that if you consider a bass note to have a duration, the Wyred seems to start and stop these notes faster so that one can easily follow more precisely what the bass player or drummer is doing. In contrast, my reference, which is no slouch in bass, seems slower and perhaps fuller, fleshing out each note to the point that it becomes harder to know which note is which, though you can certainly hear and feel the presence of bass. I came to recognize in the BAT less silence or space between the bass notes, but clean distinctions with the W4S. Over time, this impression was confirmed, but not always favorably, depending on what music was playing. Take the wonderful Metheny/Haden collaboration, *Under the Missouri Sky*. This is a recording that can sound superb or flat, depending on the quality of your system and I use it routinely to test components, especially speakers. The tone of Haden's double bass on the Wyred MC seemed at times over-tight, as if the wood body of the instrument was stuffed or deadened, the resulting bass more hard-edged and short-lived. If you play a string instrument you learn quickly the difference plucking a string near the bridge can make to the sound: it becomes shorter, with less tonal depth, less resonance from the instrument's body. This is what even electric bass played on the Wyred could sound like on many (but not all) recordings, and while it gave the bass notes some precision and clarity (e.g., when listening to Steve Ray Vaughan's *Texas Flood*, I was impressed by how easy it was to follow Tommy Shannon note for note, showing how much support his playing provided to the music's driving rhythm) this stiffer clarity was not always pleasant to my ears, lending the music a sort of sharpened edge. So you gain speed and delineation but at the price of harmonic information in the bass region, the first obvious trade-off in this design.



On the midrange is a similar trade-off. I was worried the W4S would sound sterile, as some critics have suggested must be the case with this technology. I am not so sure. Starker's cello playing on the SACD of Bach's *Unaccompanied Suites* is light, airy and lovely to hear on the Wyred, though not as full bodied as on the BAT. In return, the Wyred provides a clearer window to the musician's bowing and emphases. A completely different genre such as James McMurtry's *Where'd you hide the body?* album had the Wyred pulling out other details from the music that I had not previously noticed; and on Holly Cole's *Temptation*, her band seemed to be more nimble and quick with the Wyred than with the BAT. The Cole recording is an interesting one – I once had a dealer switch this off when his Wilson Sophia/ tube amp combo boomed the bass on this recording, mumbling that the album was badly recorded. It is not but it does stretch your system so you can learn how well set up everything is in your room. With the W4S in place, there was no boom here, only deep, tight bass, a sheer joy to behold, and a clarity to Cole's voice that offered a slightly different perspective on the recording than I am used to with the BAT, rendering her lighter, a little more throaty than chesty (if I can say this). Which perspective is correct? I am not sure you can answer this without resorting to the invocation of personal taste, but it's a choice you have to make if you go this route.

Class D amps have been often negatively reviewed for supposedly curtailing upper information, losing air and space in the important upper regions. And for sure, on some recordings this is true of the W4S MC4. One is the Tord Gustavsen Trio's *Being There*, where the drums play a vital role in punctuating the music with soft airy cymbal touches that give air and life to sparse passages. I am used to hearing these floating above and around the piano and bass in a lush and distinctive manner (especially with the Virtual Dynamics power cords in place). Sadly, on the W4S these sounds lost some of their sparkle, sounding flat in places, not shimmering in the air and decaying at length but sounding more percussive and even stunted in places, as if the cymbal was stopped short. Playing with the rear tweeter settings on the Von Schweikerts (a handy feature) could restore some of the glory but the Wyred never matched the BAT in this regard. Similarly, drums could sound overly thin and hard, without the skin and shell resonating as in life and therefore coming across as flat and hard. With piano, there seemed to be more air around the notes of individual keys with the

BAT, the richness of tone seemed to cause the sound to linger in the air, more palpably there. These are small details but they matter in giving timbral accuracy to the music, and once taken away or lessened, I suspect most listeners would miss them.

When I mentioned this perception of upper air flattening to EJ, he told me that I might prefer other modules for the fronts, which W4S had determined offered preferable sound for most people. This involved swapping out the 250ASPs in my set up for a pair of 200ASC modules to drive the uppers, which, EJ described as producing a lusher more tube like sound. Well, what's a curious reviewer to do? I decided this had to be explored so off to CA went the amp to return in two weeks with a new pair of 200ASC modules. If you order now, this is the configuration you will get as standard.

Of course, new modules require break-in so that's what I did. I put the amp in place and racked up over 350 hours before I seriously listened again. EJ even suggested my original impressions of the first configuration might shift over much longer break-in than I had given the original modules, so this time I was determined to leave nothing to chance. Over the course of the next few months the amps tacked up over 600 hours of use on them, the bass modules even more. The new modules, frankly, sounded awful when I first put the new W4S to work – cold, hard, and unpleasant for the first couple of hours but miraculously, these started to ease up quickly, and left powered on, the amp started to change before my ears. Be warned. After several hundred hours it was clear, these new modules definitely offer a softer, airier top end than the pair I had originally heard. By 300 hours I recognized this was a far better set up to my ears and tastes, keeping the tight low end I'd experienced already but not foreshortening the top end as before. If you have the originals, you might want to check with W4S about this modification, I cannot imagine most people preferring the ASPs.

You always want component changes to have obvious, dramatic benefits or at least deficits that confirm the choice one way or the other but in my experience, this is not always the case and one has to live with a change for some time, especially with high end, well designed gear, to get a true sense of their contribution. I left this amp in my system undisturbed for weeks before going back to a comparison with the BAT. One very odd impression I noted was that I could tell the difference between these amps easily when I was in an adjacent room. The Bat seemed to fill the spaces of my house more, somehow. It was not a volume issue; it seemed to provide more spreading air that signaled to the next room there was music of a certain kind playing. The Wyred never sounded that good from another room. It faded out without extending far. Physically impossible? I don't know how else to express it but I continually experienced it.



my room through the BAT.

Since I left the W4S in my system at one point for over seven weeks without using the BAT, I found an intriguing variation on the stock reviewing process that employs favorite recordings. In that window of time I bought new music, which I listened to only on the W4S, such as Pat Metheny's *Day Trip* (with Christian McBride on bass and Antonio Sanchez on drums) and John Surman's *The Spaces in Between*, and listened a lot to both until I really had the music in my head. When swapping the amps, I would now hear the BAT against the W4S on music I'd only heard on the MC4. It

Certainly the W4S is cleaner and tighter, offering almost laser-like clarity in the bass region. The BAT, however just seemed to give me that pleasant, fuller sound that made relaxing into music easier, particularly in some crucial areas such as cymbal and drum reproduction, the fullness of the piano or the decay of plucked strings. I'd switch back and forth some days between the amps and find details and resolution on recordings with the W4S that I'd not appreciated before, the breathing cycle of a flute player on Davey Spillane's *Pipedreams*, the shift of Metheny's fingers on a guitar neck, all made a little more obvious by the Wyred's detailed presentation. But the BAT would go back in and I'd find that mellow warmth in the mids and uppers to be just better sounding to my ears. Du Pre's cello on Elgar's *Concerto in E minor* is the latest case in point. It's a pleasure to listen to on the W4S but it comes alive in

proved an interesting experience. Even with the 200ASC modules, the BAT still gave the music more upper life and as a result, at least on the Metheny album, on certain tracks the band seemed to possess a swing that was not previously evident on the W4S. I know, how can we measure 'swing' or even explain it. I can't except that the music had a collective flow that had not made itself obvious to me before I played it through the BAT. But it's these small, odd details that separate the two amps, and while I could live with either, pretty happily, I find those little extra aspects of the BAT's reproduction to matter in my room.

Yet sound staging, where it's present on the recording, was clearly superior with the W4S. This may be one of the inherent advantages of biamping but with the MC4, once set up correctly, the singer sat in the middle of the space between the speakers and music came from around and behind to give the impression of depth and height that improved on what I was used to hearing from the BAT. This may not matter to you and will surely be dependent on the type of music and quality of recordings you listen to routinely. For me, sound staging is an important part of creating the illusion and enhancing the experience of music in my own home when I sit down to listen. I rarely enjoy systems where the music so obviously comes from one speaker or the other. The W4S gives you such a clear window onto a tangible soundstage that it could make many other amps sound muddy.

Conclusions

The W4S MC4 is a good amp and an excellent value. Its bass reproduction and control are impressive and the nimble, comparatively lean sounding mids provide oodles of detail on recordings that you might have missed in the past. It is an easy amp to live with, never running warm in the midst of a Texas summer, never giving me a problem through multiple cable and connection changes, and for the power on hand, it is remarkably light and easy to move. It takes a considerable number of hours to reach its best, those 300 hours are not an exaggeration, but at the price, I don't know where else one looks to find four channels of obviously better amplification.

I have reservations however about timbral accuracy and the reproduction of upper frequencies in comparison to my reference. Acoustic guitar, which I play, is very good on the Wyred though bettered by the BAT, while the mid and upper ends of piano often seem a little stilted on the W4S, the notes not as fleshed out or present as with the BAT. I feel the Wyred offers greater resolution in the lower range, allowing the listener to hear details that might not be so clear on the BAT but the BAT has the edge in terms of relaxing the presentation and not drawing attention to details as much as enveloping you in music played by instruments of more substantial body.

The 200ASC modules narrow the gap between these two amps in most respects but price, but it never gets the W4S MC4 all the way there. This is not to say Class D cannot compete with the best of A/B designs, it's probably more a case that the BAT is just plain exceptional (as it should be at more than three times the price, let us not forget). That W4S can so obviously tailor the sound across the spectrum suggests this technology is just waiting to be refined further. Certainly the MC4 is cable-sensitive (the XLR connection with PS Audio Resolution and Transcendents balanced interconnects was so much better than the RCA connection with MIT cables that once installed I never went back. However I heard less noticeable change with any power cord I used, from VD David to PS Audio Plus). Since W4S is so responsive to customer wishes and options, I am tempted to ask if upgraded connectors, a dual power-cable design, or separate chassis for the amp modules might push the W4S amp in small increments towards even better sound? Maybe. As it is, the MC4 is obviously a fine amp for many tastes, it offers buckets of clean power, great sound staging, and exceptional resolution at a comparatively affordable price. Having owned a pair of Legacy Sig III's, I'd bet the W4S would be a fine match for their warmer sound than the resolving VR5s I now own. W4S is definitely onto something with their designs, for many people these will be all they amp they need but given the people behind the company, I suspect we shall see further innovations that push the boundaries on what this technology can provide. You want lots of power, low maintenance, no heat, easy placement and complete configurability in an affordable package? Welcome to the world of W4S.

Associated Gear:

Marantz SA11-S1, SACD player
 VPI Aries, JMW 10, Benz Glider 2,
 PS Audio GCPH for phono
 Ps Audio GCP200 pre amp with external power supply
 PS Audio PPP for line conditioning
 Virtual Dynamics and PS Audio Plus SC power cords throughout,
 PS Audio Transcendent XLR and RCA cables, MAC Silver Braids for vinyl. (MIT T2 RCA, Monster RCA)

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Studies On Residential Power Line Noise

By Raife Smith II

Publisher's Note:

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Introduction

By necessity, I am a meter pontiff in my professional life. In my audio life, I prefer to use my ears as the primary measurement tool for the evaluation of good sound. Many of the desirable attributes of good sound cannot be measured by currently available testing methodology and equipment. Quantities such as power, impedance, harmonic distortion, etc. can easily be measured. Other quantities, such as those responsible for imaging properties, cannot be easily measured. Indeed, to my knowledge, those quantities have not yet been identified!

We do know that, generally, assuming good design and construction techniques have been followed, the more noise we remove from the signal path, the better the resulting sound staging, imaging and musical detail.

Although noise removal from the signal path must be given rigorous attention in order to achieve good sound, noise in the power delivery path must be given the same rigorous attention. Why? Because the power delivery path provides the electrical energy, the "raw material", that an audio component uses to recreate a musical performance.

I would like to review a couple of naysayer axioms regarding aftermarket power cords. I often use water flow analogies to describe the flow of electrical current through conductors. With your indulgence, I will use a water flow analogy to discuss these axioms.

Axiom #1

"I don't see how sticking a so-called "better" power cord on the end of your gear will improve the power delivery. After all, the power has traveled many miles from the generating station through common copper, then through the common copper wiring in your home. It is ludicrous to think that a few feet of boutique wire, whether it's copper, silver, or whatever, will make an audible difference."

Water Flow Analogy For Axiom #1

"I don't see how sticking a so-called "better" water filter on the end of your faucet will improve water quality in the home. After all, the water has traveled many miles from the natural water source (river, lake, aquifer, or whatever) through lots and lots of dirt, then it has been purified by a multi-million dollar municipal water treatment plant staffed by highly trained and well paid employees. The water then travels through a sanitary public water system and then through the common copper piping in your home. The antimicrobial properties of common copper are well documented by scientific research. It is ludicrous to think that a small, often expensive, "boutique" aftermarket water "purifier", will provide an improvement in water quality and taste over and above that provided by the multi-million dollar municipal water treatment plant and the miles of anti-microbial copper piping. Those who believe so are victims of the "placebo effect"."

Axiom #2

"Aftermarket power cords are snake oil and totally unnecessary. Any modern, well designed audio component has a power supply that is fully capable of supplying the power requirements of the device. *High priced, so-called "better" power cables are a scam. People who are hearing these so-called "improvements" are victims of placebo effect and are, in fact, having aural hallucinations.*"

Water Flow Analogy For Axiom #2

Aftermarket water filters are snake oil and are totally unnecessary. High priced, so-called "better" water filters are a scam. In the highly unlikely event that any microbes or other contaminants miraculously get past the multi-million dollar municipal water treatment plant **and** the miles and miles of anti-microbial copper, the human body's immune system would effectively deal with them.

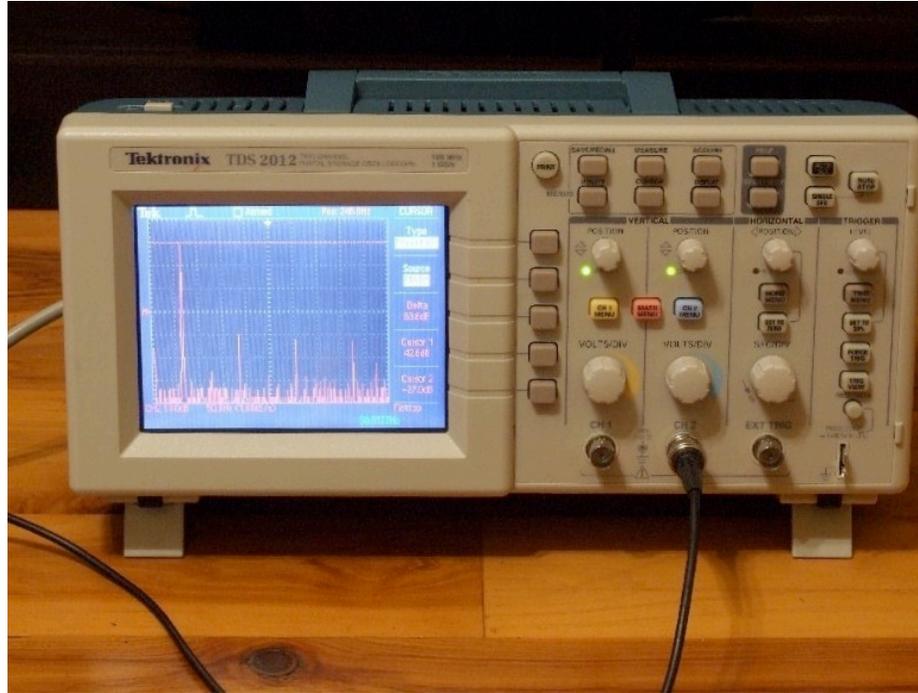
There may be some amplifiers may not benefit from or even require a better quality power cord. Their power supplies may indeed filter out all the power line trash. I really don't know if such amplifiers exist. If they do, I imagine they would be quite expensive. All the amplifiers I currently own and have owned in the past have benefited sonically from better shielded, heavier gauge power cords with better connectors.

The "raw material" that our precious audio components use to make music is the electrical current delivered from the wall socket. Unfortunately, that "raw material" often comes out of the wall in less than ideal form. It may be contaminated with noise from the environment and/or from other devices on the power circuit. The waveform may be distorted. The voltage may be out of specification. Contaminated power is useful for most "normal" applications like running your AC or toaster. If you are trying to faithfully recreate a musical performance, you might want to consider some in-home power treatment options. You can be sure that the highly paid, highly trained folks at the power company did not have the audiophile and videophile in mind when they designed their miraculous electrical power grid.

I wanted to obtain some data on the stability and quality of power delivered to my two channel audio system. Over a one week period (Friday to Friday) at various times of each day, I measured the wall voltage at the dedicated audio outlets in my living room. I also measured the wall voltage at various other outlets throughout my home. During nights and early mornings (12am - 6am), the new dedicated outlets measured about 1 volt higher than the old dedicated audio outlets and other household outlets. During the day and early evening, the dedicated audio and other household outlets measured very close to one another, with a typical difference of +/- 0.3 volts between them. A Radio Shack digital multimeter was used to measure wall voltages. During the measurement week, voltage levels ranged from a low of 118 volts (two afternoons at 5pm) to a high of 122.7 volts (two mornings at 4am). There were only two days where a voltage less than 120 volts was seen.

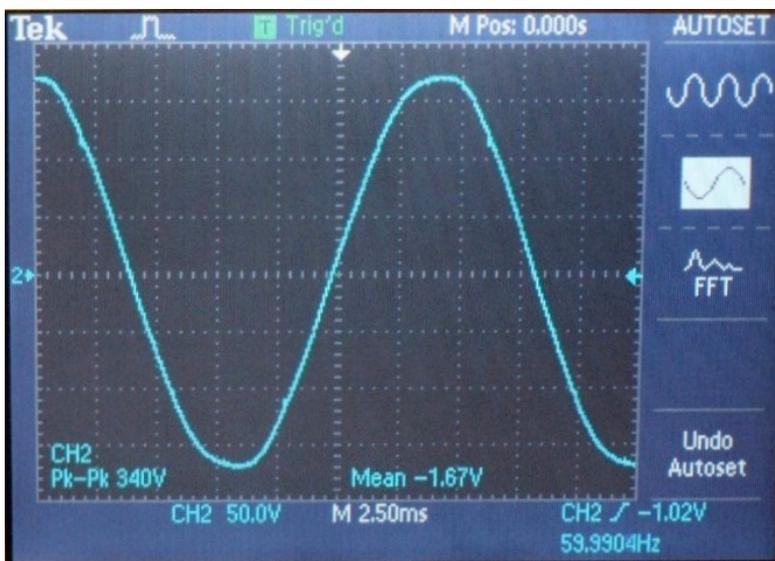
On the last day of the measurement week, between 4:30pm and 5:30pm, a Tektronix model TDS 2012 oscilloscope was used to generate sine wave plots and spectral plots of the line noise on the dedicated audio outlets.

[Figure 1. An oscilloscope is a handy thing to have around the house...if you want to find the noise gremlins hiding in your wall.] ----->



Sine Wave Plot

Sine wave plots are good for letting you see how distorted (or not) the power is coming out of your wall. Spectral plots (Fast Fourier Transform plots) are good for letting you see what is causing the distortions.



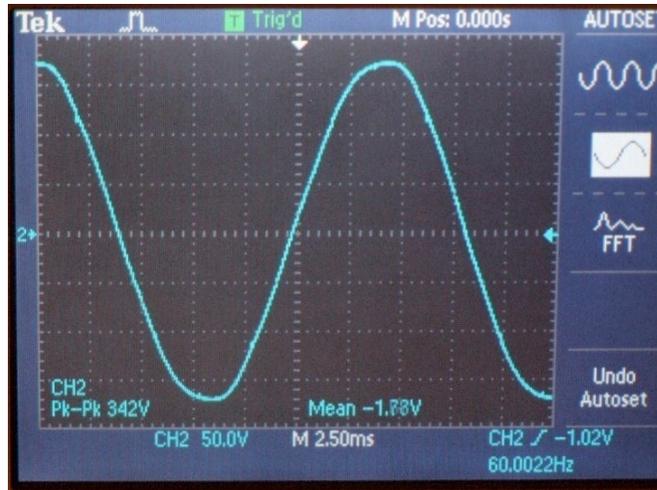
[Figure 2. Power coming out of one of the original audio system dedicated outlets.] <-----

Each vertical division of the oscilloscope screen represents 50 volts. Each horizontal division represents 2.5 milliseconds. The sine wave coming out of one of the original dedicated outlets for the two channel system does not look too bad (figure 2). Evidence of mild waveform distortion is seen in the "bumps" along the waveform and in the flattening near the upper and lower peaks. The oscilloscope measured a peak to peak (from the lowest point to the highest point of one sine wave) voltage of 340 volts. This corresponds to a "wall" voltage of 120.2 volts (340 volts divided by 2, then divided by the square root of 2 equals 120.2 volts). As we will see later, gremlins are quite adept at hiding behind walls and behind rather benign looking

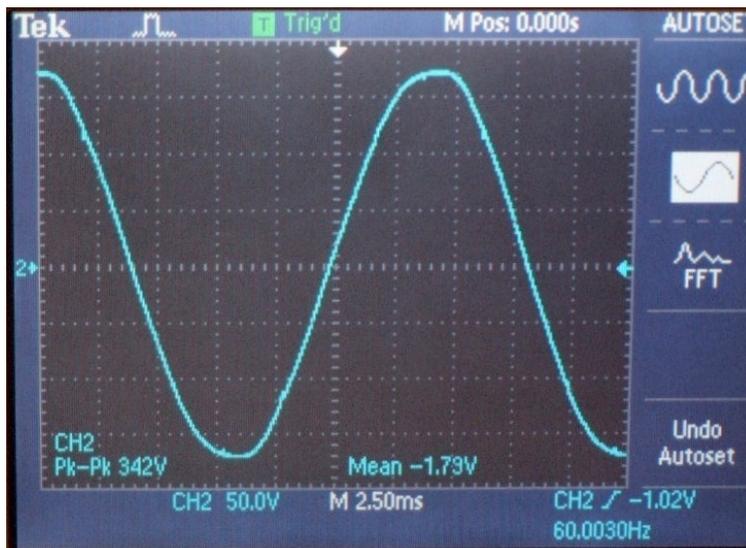
sine waves.

The sine waves for one of the original dedicated outlets (figure 2), the Signal Cable MagicStrip (10 AWG) with wireless networking equipment plugged in (figure 3), the Signal Cable MagicStrip with wireless networking equipment unplugged (figure 4), and one of the new dedicated outlets terminated with a PS Audio Power Port receptacle (figure 5) are very similar, showing a fairly smooth sine waveform with a few distortion "bumps" along the waveform and some flattening near the upper and lower peaks. The primary differences were a slight variations in output voltage: 120.2 volts (340 volts peak to peak) from one of the original dedicated outlets, 120.9 volts (342 volts peak to peak) from the output of the Signal Cable MagicStrip connected to one of the original dedicated outlets, and 121.6 volts (344 volts peak to peak) from a Power Port outlet on one of the new dedicated circuits.

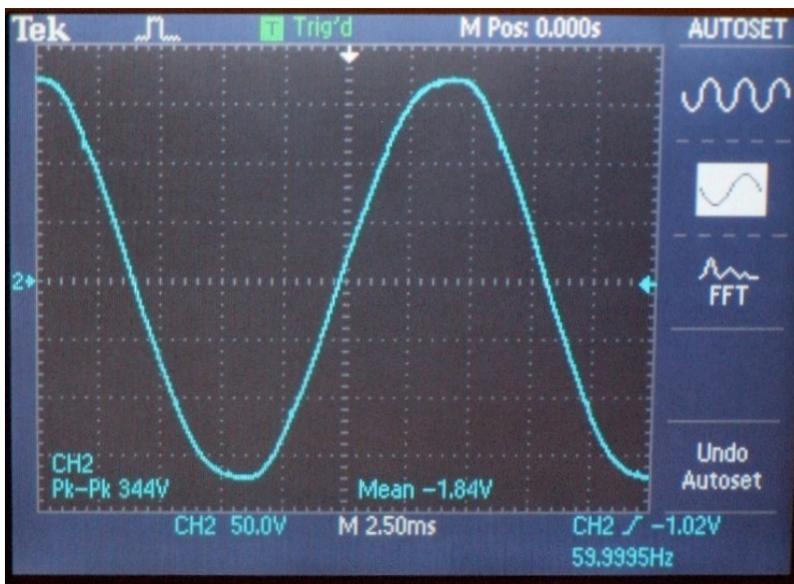
[Figure 3. Sine wave plot of the power from one of the original dedicated outlets (20A circuit) with wireless networking equipment plugged in.]



[Figure 4. Sine wave plot of the power from one of the original dedicated outlets with wireless networking equipment unplugged. Measurement was taken from a Signal Cable MagicStrip (10 AWG).]

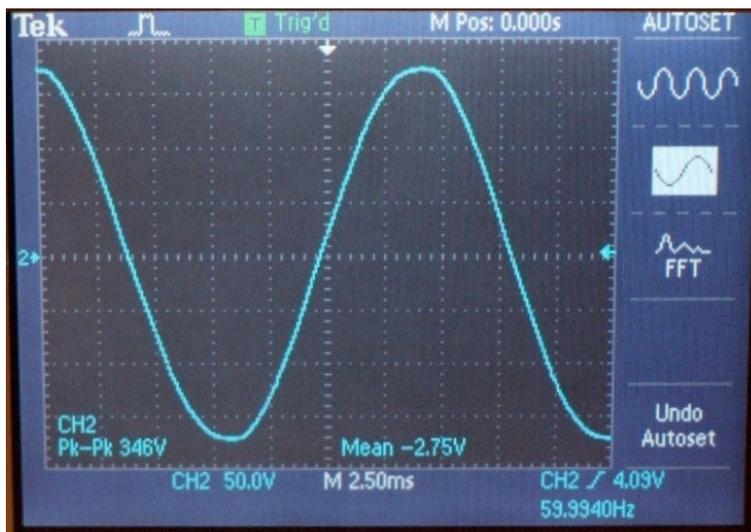


[Figure 5. Power output from new dedicated 20A circuit terminated with a PS Audio Power Port receptacle.]



The plot in figure 6 was taken from the output of a PS Audio xStream Statement SC power cord (8 AWG). The distortion bumps are gone and the flattening near the peaks has diminished. The peaks show a more symmetrical shape on either side of the peak midpoints. This verifies PS Audio's claim that the Statement SC has a "cleaning" effect on the power signal. The voltage measured a bit higher at the end of the Statement SC cable than at the wall receptacle it was plugged into 122.3 volts (346 volts peak to peak). This was probably due to fluctuations in wall voltage and perhaps some interaction due to the much lower resistance of the larger gauge (8 AWG) cable.

[Figure 6. Power output from PS Audio Statement SC power cable connected to new dedicated 20A circuit terminated with a PS Audio Power Port receptacle.]

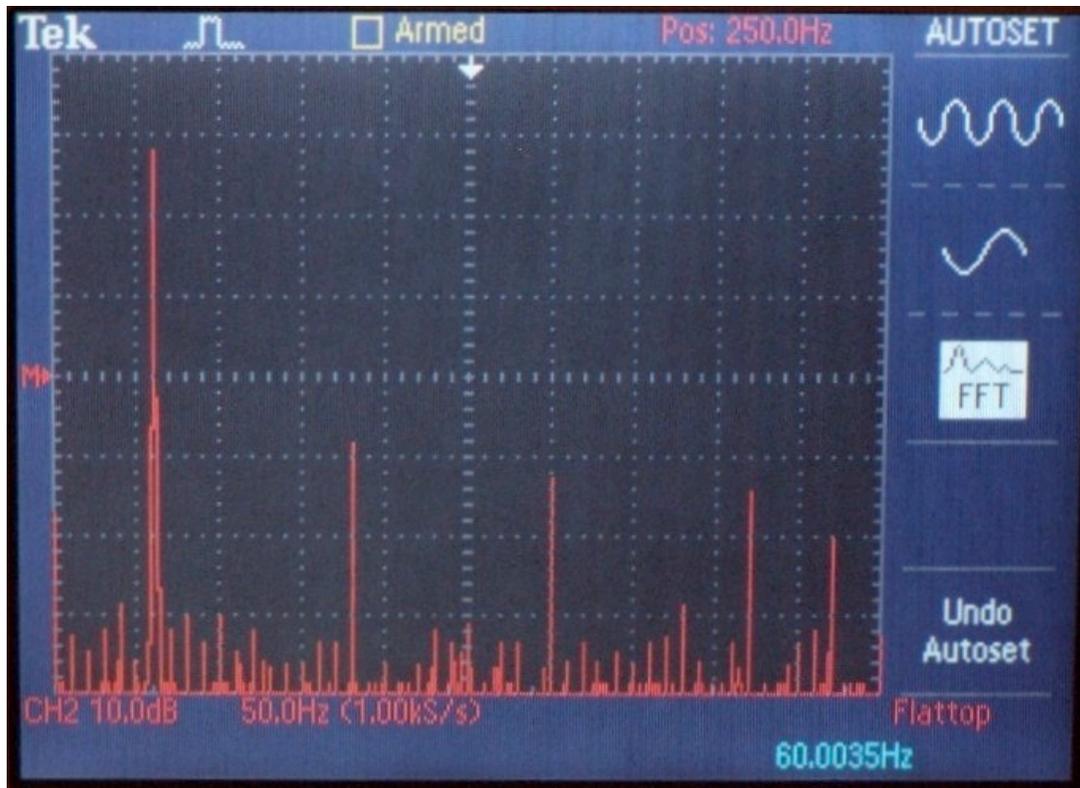


Spectral Plots

Time domain plots (signal amplitude vs. time) are good for showing the net effect of noise components (those gremlins). However, residential noise gremlins are usually not of sufficient size to cause gross distortions in the power signal coming from the wall. They usually are small in size and prefer to attack in large numbers over a large area. This makes it harder to pinpoint and eradicate them...or so they think. If we wish to find out exactly where and how big the gremlins are, we need to look at a frequency domain plot (signal power vs. frequency). Frequency domain (spectral) plots show the power contained in each frequency component of a signal.

Figure 7 shows the spectral plot for the power coming from one of the original dedicated audio outlets. Each vertical division of the spectral plot represents 10 dB. Each horizontal division represents 50 Hertz. The sampling frequency used for computing the Fast Fourier Transform was 1000 samples per second. The first spike on the left edge is the DC content in the power line. The next, and largest, spike, is the 60 Hertz, 120.2 volt AC power signal. The next three large spikes are the significant odd order harmonics at 180, 300, and 420 Hertz. Note all the trash (noise frequencies...gremlins) grouped around the 60 Hertz spike. The spike at 60 Hertz is the only part of the signal useful in audio and video reproduction. All the other spikes, large and small, are **NOISE** and constitute the "noise floor". When noise is removed or attenuated, the height of the noise floor is reduced and more of the signal becomes apparent. That is why lowering noise results in an apparently louder speaker volume, although the actual sound level remains the same.

[Figure 7. Spectral plot of power coming from one of the original dedicated audio outlets.]



When I initially noticed the last large spike at the right, I thought it was the 8th harmonic. But then, I thought that the 8th harmonic should have been obscured in the thick layer of low magnitude line noise at the bottom of the plot. Putting the oscilloscope cursor on that spike showed it to be at 470 Hz rather than the expected 8th harmonic frequency of 480 Hz. I knew that the significant 3rd, 5th, and 7th harmonics result due to the way power is generated by the utility company. I did not know where the 470 Hz noise was coming from. After further research, I found out that the 470 Hz frequency is one of the control tones generated by the power company in order to communicate with residential power meters. Other tones are used to control or communicate with other devices on the power grid (street lights, etc.). **Surprise....some noise gremlins actually work for the power company and have a useful purpose in life!**

The voltage level of each of the fundamental and harmonics is calculated this way: The vertical axis does not start at 0 dB. It starts at a reference magnitude of -27 db (0.044 volts) The fundamental 60 Hz spike has a magnitude of 68.6 dB, therefore $-27 \text{ dB} + 68.6 \text{ dB} = 41.6 \text{ dB}$, which is the absolute (real) magnitude of the fundamental 60 Hz frequency. A reference voltage of 1 volt rms (V_o) is assumed. The rms voltage (voltage coming out of the wall) is calculated by $V_{rms} = V_o \times 10^{(dB/20)}$.

For the 60 Hz frequency:

$$V_{rms} = 1 \times 10^{(41.6/20)} = 120.2 \text{ volts.}$$

The voltages of the DC component and the 3rd, 5th, and 7th harmonics were 0.65 volt, 2.14 volt, 0.98 volt, and 0.91

volts respectively. The 470 Hz control tone was at 0.45 volts. Although the typical voltages and energy levels of individual AC line noise components are very small compared to the main 60 Hz frequency, they collectively can cause significant signal distortion which obscures detail in audio and video signals.

Figure 8 is the spectral plot of the power coming from a Signal Cable four outlet MagicStrip plugged into the outlet whose power spectral chart is shown in figure 7. A cable modem, router, and access point are plugged into the strip's other three outlets. Comparing figures 7 and 8, a reduction in noise frequencies, with the exception of the odd order harmonics, is seen. In particular, notice the reduction in the power of noise frequencies near 60 Hertz.

[Figure 8. Power output from an open receptacle of the Signal Cable MagicStrip with wireless networking equipment plugged in.]

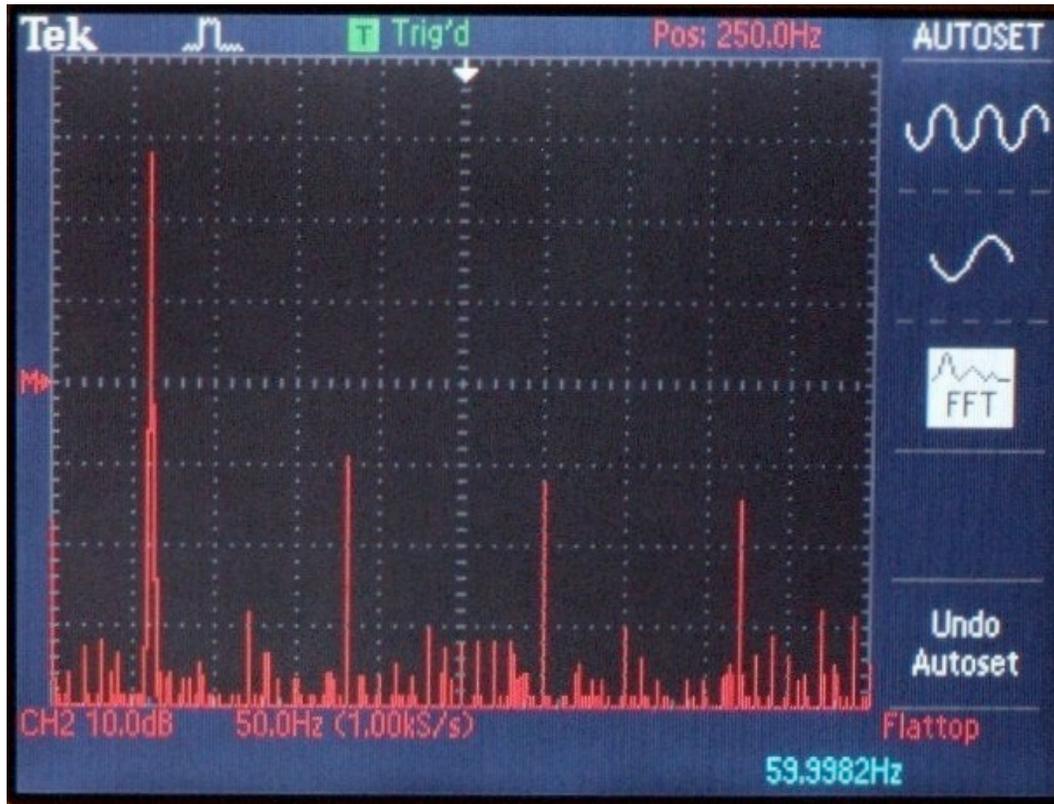


Figure 9 is the spectral plot of the power coming from the Signal Cable four outlet MagicStrip with the modem, router, and access point unplugged. In addition to lower noise overall (again with the exception of the odd order harmonics), there is a reduction of 2 to 4 dB in the power of the even order harmonics. The 470 Hz control tone was attenuated by 7 dB.

I noticed some time ago, back when my audio and wireless networking equipment were all sharing the same circuit, that I could hear an improvement in sound quality when the networking equipment was unplugged. This was manifested as a slight increase in detail from the middle midrange and up. Put another way, a slight veiling was removed when the networking equipment was unplugged. They, and their associated gremlins, now have their own dedicated outlet.

[Figure 9. Power output from an open receptacle of the Signal Cable MagicStrip with wireless networking equipment unplugged.]



Figure 10 is a spectral plot of the power coming from one of the new dedicated 20A circuits terminated with a PS Audio Power Port receptacle. The plot shows further reductions in noise power over that provided by the Signal Cable MagicStrip. The 2nd, 3rd 4th, 6th, and 7th harmonics were reduced in power by 2 to 3 dB. That pesky 470 Hz control tone popped back up by 7 dB.

[Figure 10. Spectral plot of one of the new dedicated 20A circuits terminated with a PS Audio Power Port receptacle.]

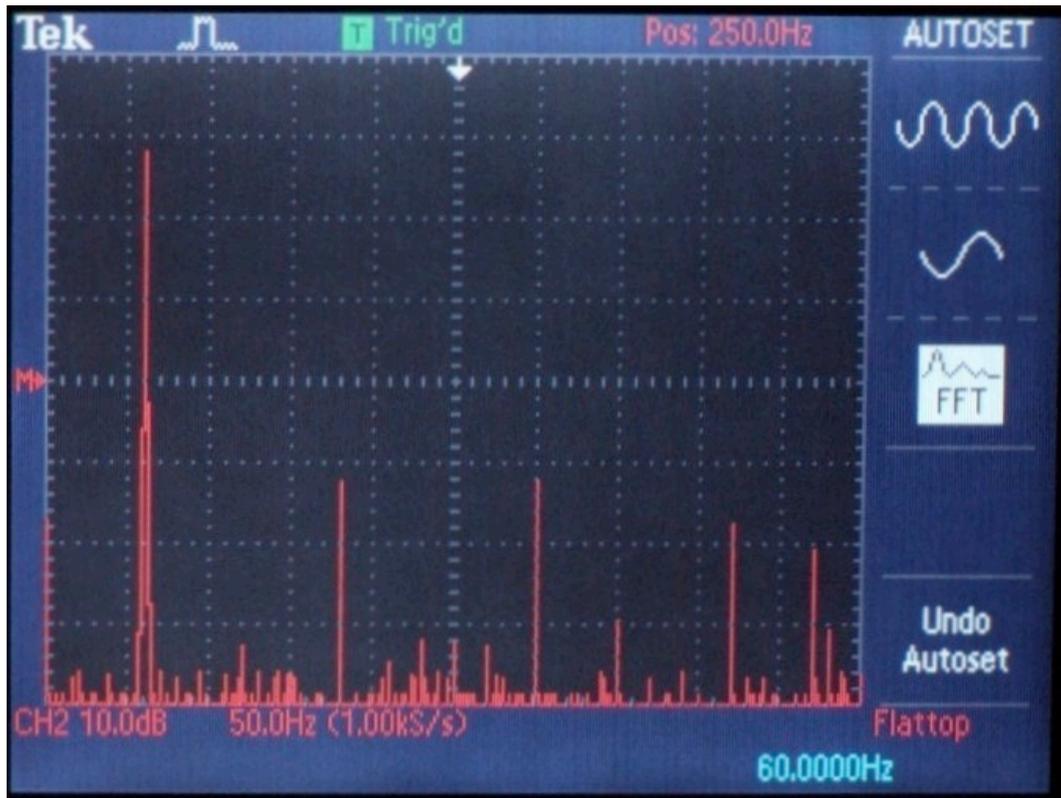
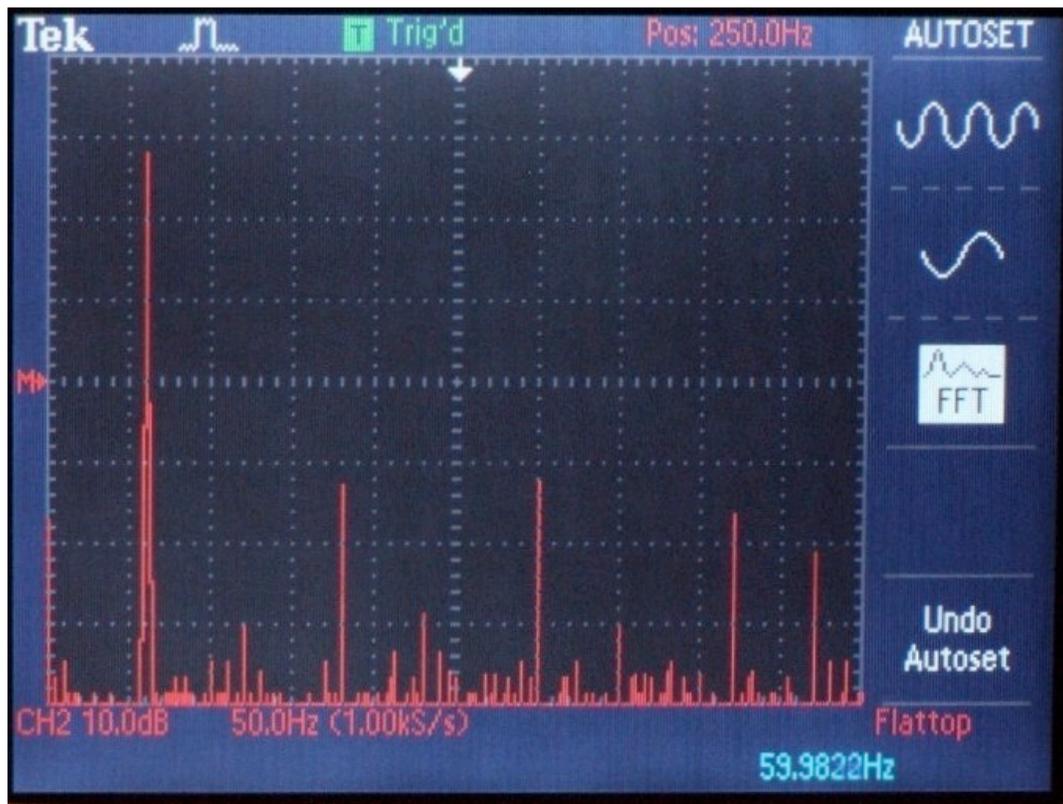


Figure 11 shows the spectral plot of the power coming from a PS Audio xStream Statement SC power cord plugged into the PS Audio Power Port receptacle whose spectral plot is given in figure 10. The magnitudes of the fundamental frequency and the 3rd, 5th, 6th, 7th harmonics and the 470 Hz control tone remains unchanged. The 2nd and 4th harmonic magnitudes rose 2 and 3 dB's respectively. Most noticeable is the further reduction in the power of noise frequencies around the fundamental 60 Hertz frequency and its harmonics.

Compare figure 11 to figure 7. While the gremlins have not been totally eradicated, they have been significantly beat down. Several years ago, I verified with my ears the good effects that a quality power cord can have on audio and video signal quality. Now, I have verified with quantitative measurements what my ears have been telling me all along. I now have a deeper understanding of what is going on in power lines and power cables.

[Figure 11. Spectral plot of the power coming from a PS Audio xStream Statement SC power cord plugged into the PS Audio Power Port receptacle. No wonder you make [Such Good Sound.](#)]

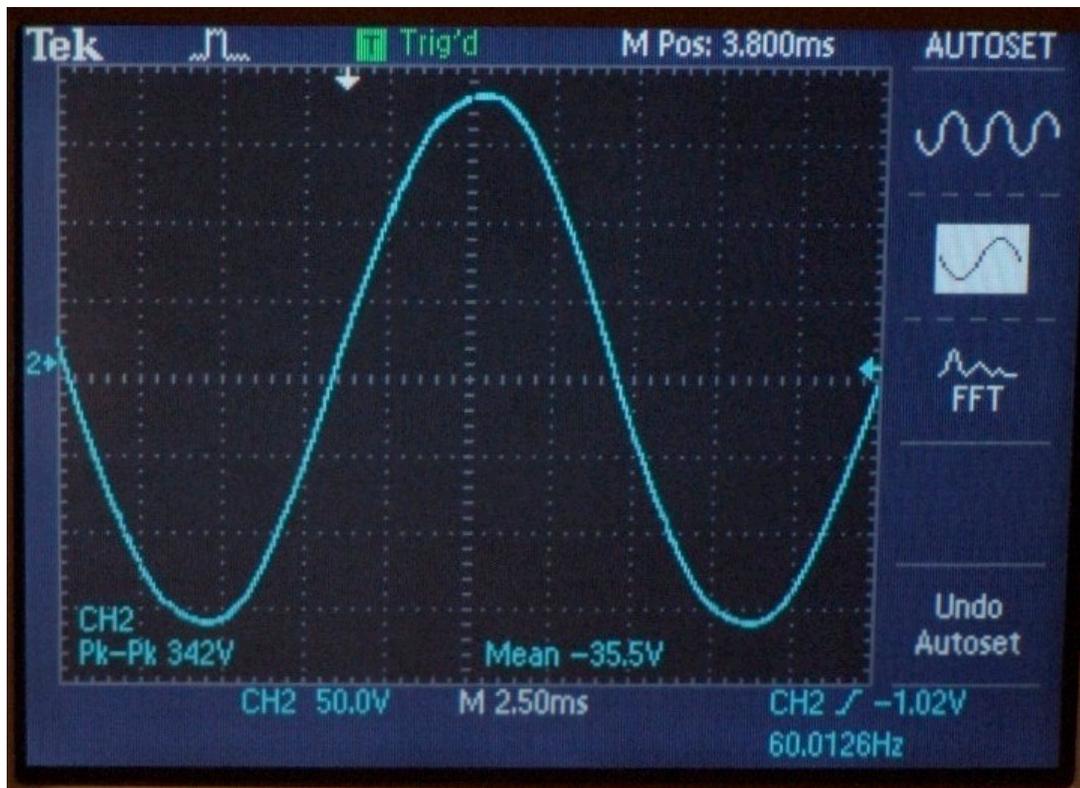


The 60 Hz track of the "Autosound 2000 Low Frequency Test CD" was used to feed a 60 Hz signal to my Parasound Halo JC 1 monoblock amplifiers. A Tektronix TDS 2012 oscilloscope was connected to the left amplifier outputs and sine wave and FFT (Fast Fourier Transform) plots were obtained. Recall that each vertical dot on the FFT plots represents 2 dB of signal magnitude. Each horizontal dot represents 10 Hertz of frequency.

Oscilloscope readings were first taken at the left amplifier's output with the stock 14 gauge power cord attached. Next, oscilloscope readings were taken at the amplifier's output with the stock power cord replaced with a PS Audio xStream Statement SC power cord.

First, let us look at spectral plots of the power signals coming from the wall, the stock power cable, and the Statement SC power cable. The sine wave plots of the power coming from the wall and from the stock power cord (figures 12 and 14) look nearly identical with identical voltage levels. However, when we look at the frequency domain (FFT) plots, the gremlins are revealed. Comparing figures 13 and 15, we see a substantial increase in noise around the fundamental 60 Hz frequency and the 3rd, 5th, and 7th harmonics.

[Figure 12. Sine wave plot of the power coming from the left new dedicated 20A outlet.]

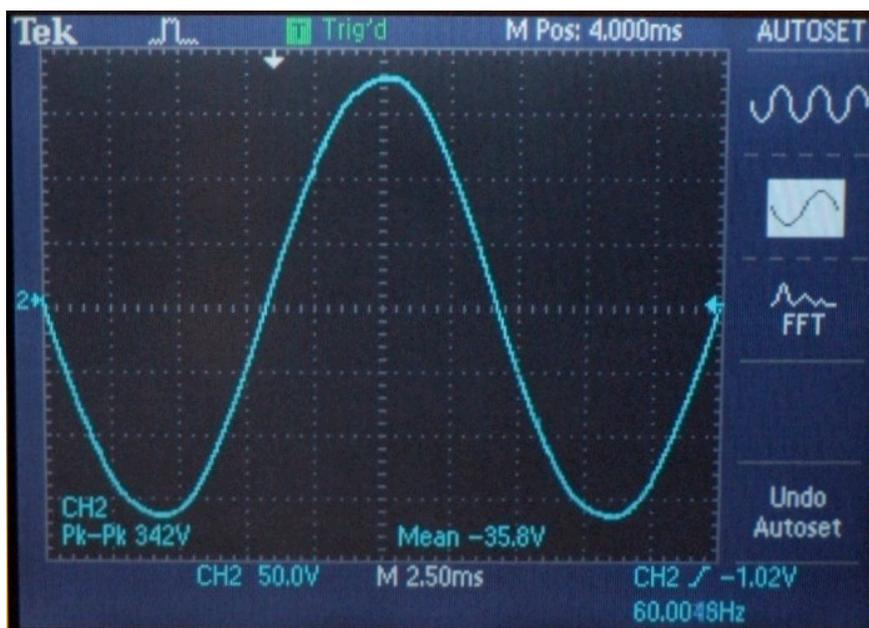


[Figure 13. FFT plot of the power coming from the left new dedicated 20A outlet.]

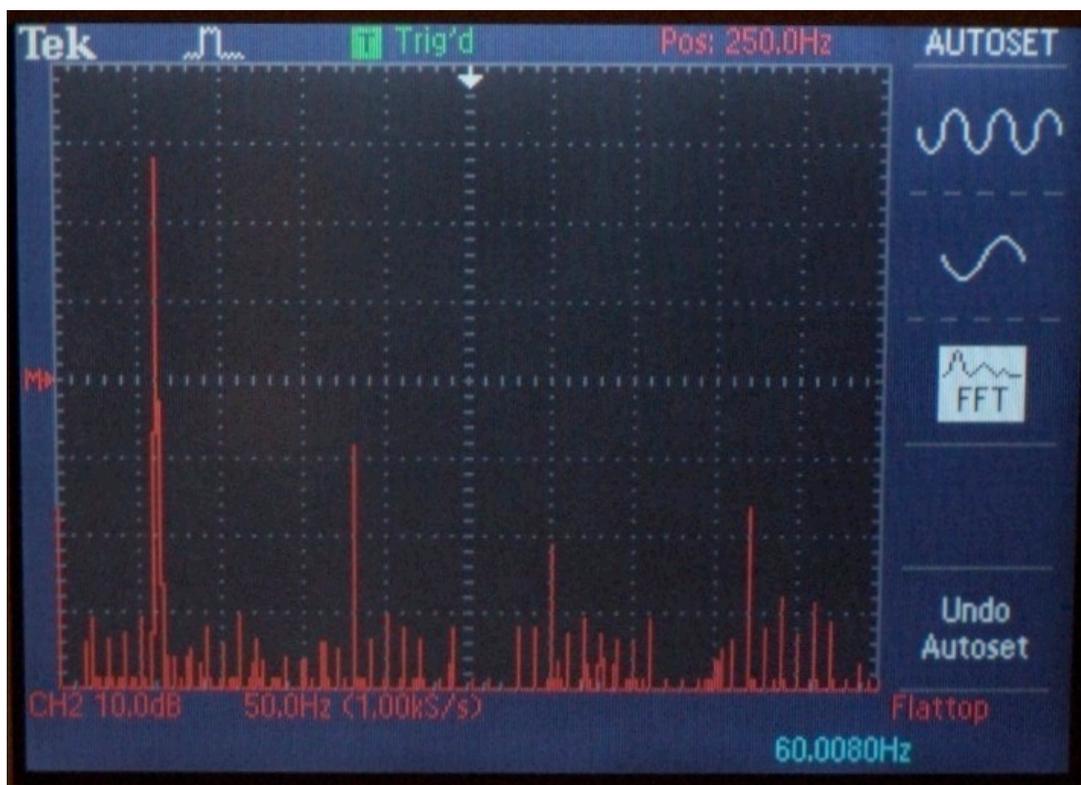


The two new dedicated power circuits were wired with Romex Simpull E18679 12 AWG wire. They are terminated with a PS Audio Power Port duplex receptacle.

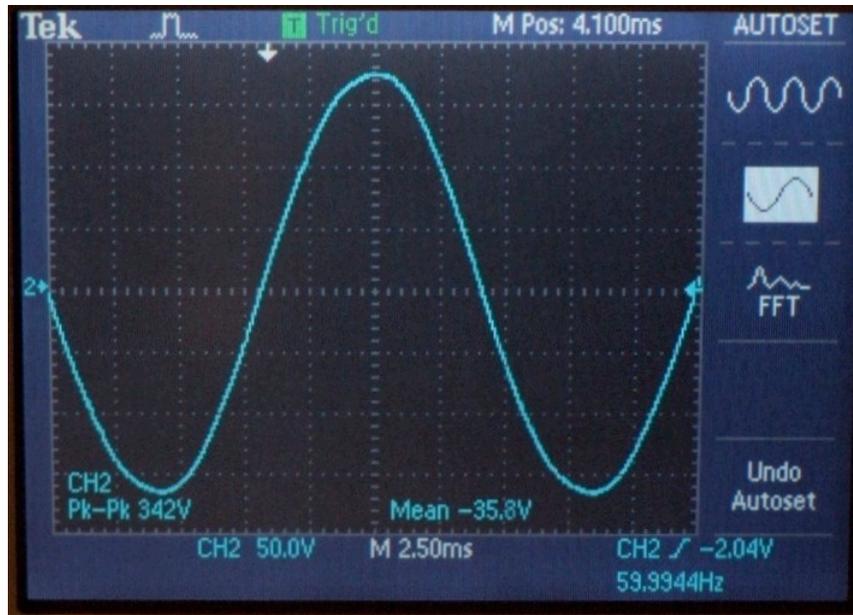
[Figure 14. Sine wave plot of the power coming from the stock JC 1 amplifier power cord.]



[Figure 15. FFT plot of the power coming from the stock JC 1 amplifier power cord.]



[Figure 16. Sine wave plot of the power coming from the PS Audio xStream Statement SC amplifier power cord.]



The sine wave plots of the power coming from the wall socket, stock amplifier power cord, and Statement SC amplifier power cord all look virtually identical. When we look at the FFT plots, we see some differences. Compare the FFT plot of the power coming from the Statement SC power cord (figure 17) to the FFT plot of the power coming from the stock power cord (figure 15). Remember, everything except for that big 60 Hz spike on the left is **NOISE**.

Now, compare the FFT plot of the power coming from the Statement SC power cord (figure 17) to the FFT plot of the power coming from the wall (figure 13). The power coming from the Statement SC cord has less noise density at 60 Hz than the power coming from the wall.

[Figure 17. FFT plot of the power coming from the PS Audio xStream Statement SC amplifier power cord.]



Between the signals shown in figures 15 and 17, which would you prefer to send to your power amplifier? Some would say it does not matter. According to the conventional cable naysayer "wisdom", the higher noise content of the stock amplifier power cord does not matter because the amplifier's power supply filters with take care of it the way that Master Windu "took care" of Jango Fett.

We'll see.

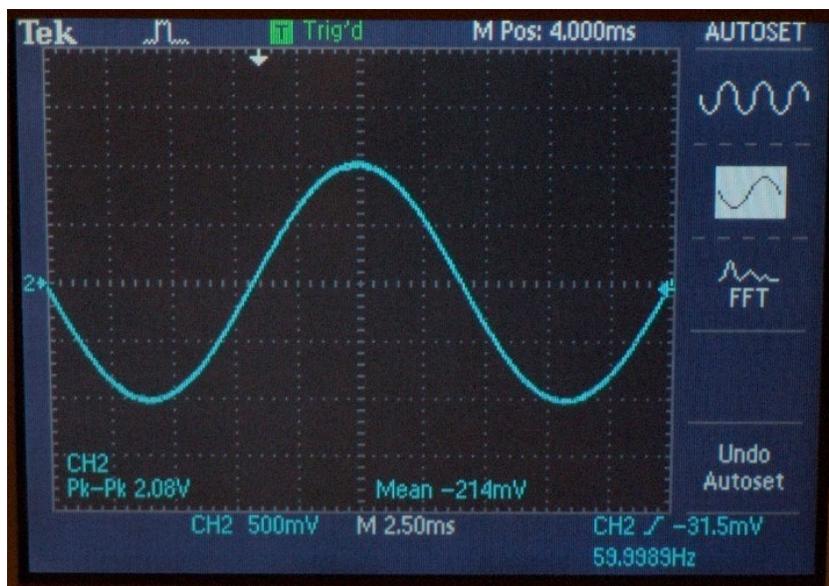
Measurements Of Noise At The Power Amplifier Outputs

As stated previously, a test CD was used to input a 60 Hz signal to the power amplifiers. The signal path was as follows:

Cary Audio CD 306 SACD Pro SACD player --> Audioquest Sky XLR 1.5m Interconnects --> Pass Laboratories X0.2 Preamp --> Audioquest Sky XLR 1.0m Interconnects --> Parasound Halo JC 1 Power Amplifiers --> [Tektronix TDS 2012 Oscilloscope \(Left Channel\)](#)/[Polk Audio SDA SRS \(Stereo Dimensional Array Signature Reference System\) 1.2TL loudspeaker \(Right Channel\)](#). The left speaker cables were disconnected from the amplifier.

The sine wave plots of the 60 Hz signal taken at the left amplifier's outputs are virtually identical for the stock power cord and the Statement SC power cord (figures 18 and 20). I imagine that some audio enthusiasts would take these plots and go somersaulting down the yellow brick road while screaming "see, we told you cables didn't make a difference". However, before we go traipsing down those bricks, we should take a moment to look at the frequency domain plots. There may be some gremlins that did not show up in the time domain plots.

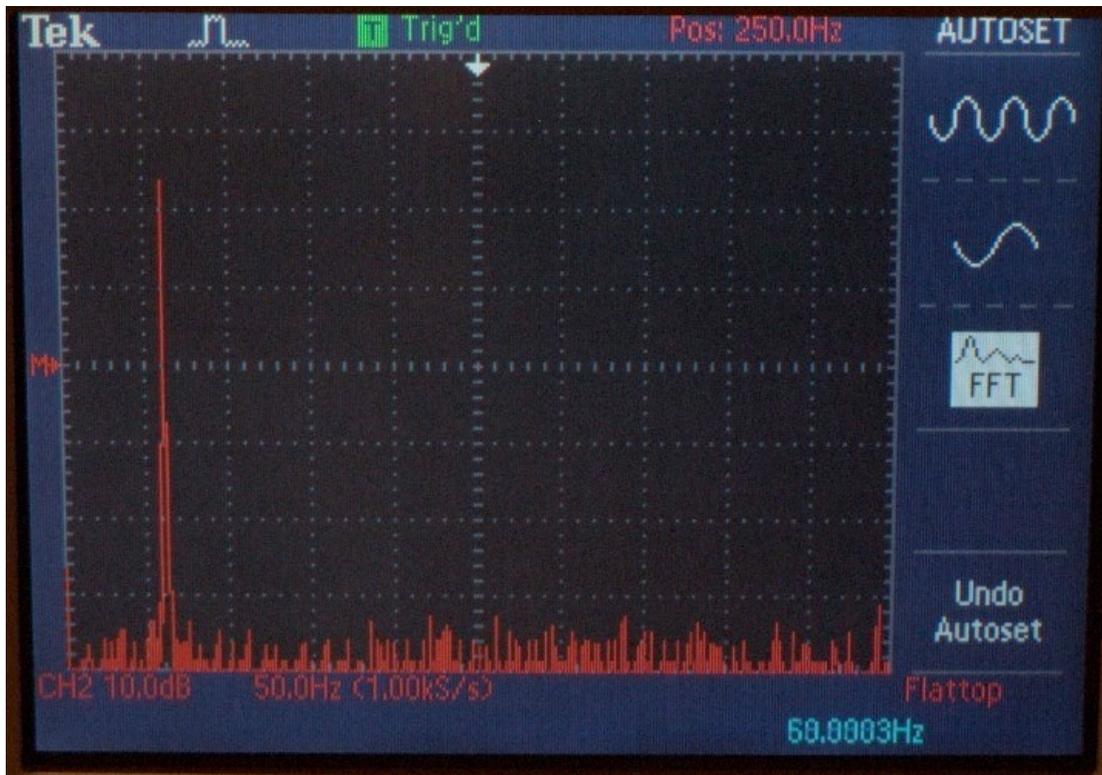
[Figure 18. Sine wave plot of output from JC 1 amplifier with stock power cord.]



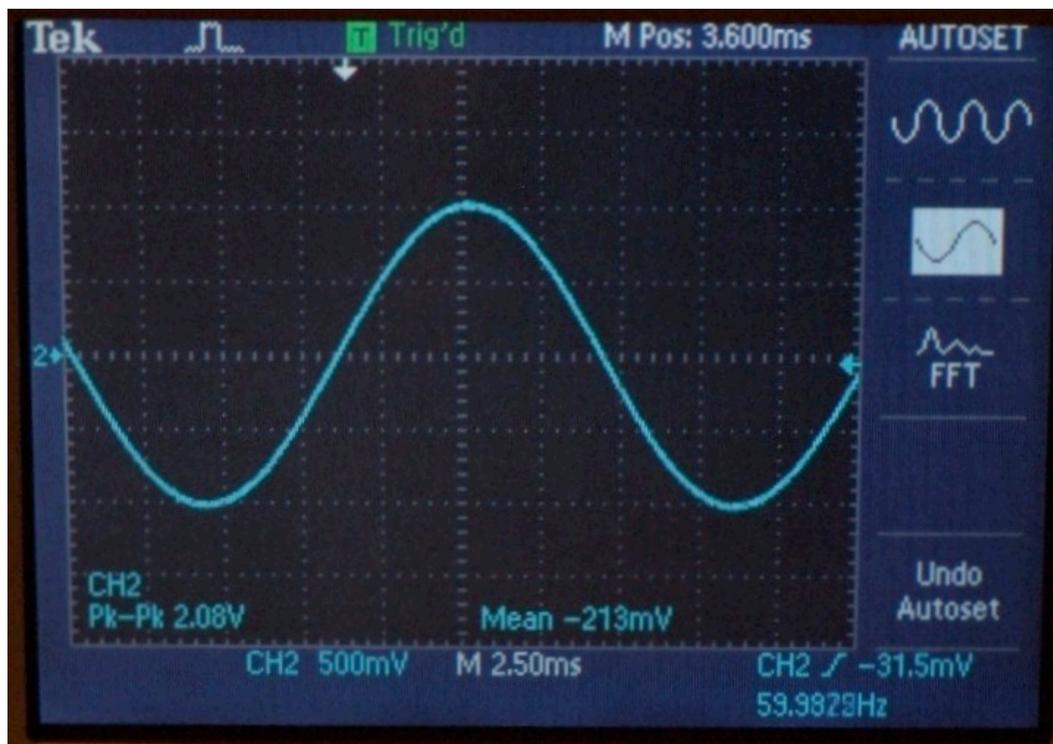
The spectral plots for the amplifier outputs with the stock and Statement power cords are shown in figures 19 and 21. Both plots look very good and provide evidence that the JC 1 power amplifier does an excellent job of cleaning the power signal. The main difference between the FFT plots is that there was a bit less noise density around 60 Hz with the Statement SC cord. There was also a little less noise density throughout the frequency range with the Statement SC.

Perhaps the stock power cord would suffice if the amplifier's outputs could send their signals to the loudspeakers without an intervening medium. Unfortunately, the signal has yet another gauntlet to run: ***the trip through the speaker cables.***

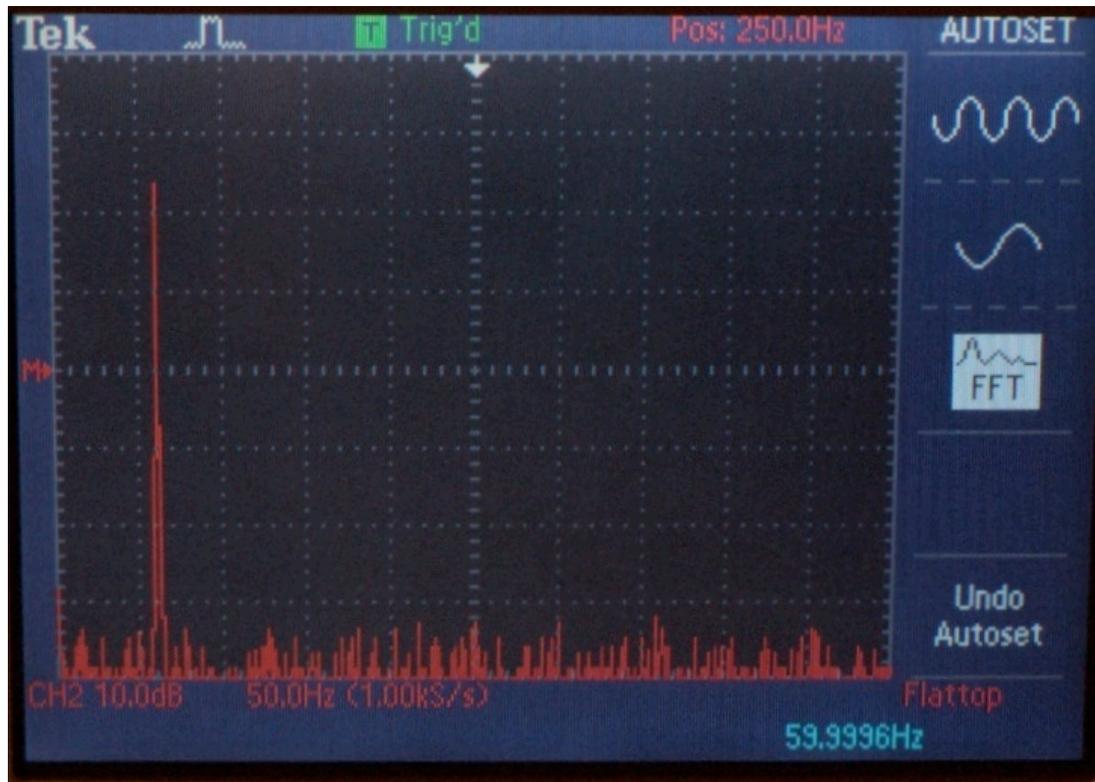
[Figure 19. FFT plot of output from JC 1 amplifier with stock power cord.]



[Figure 20. Sine wave plot of output from JC 1 amplifier with Statement SC power cord.]



[Figure 21. FFT plot of output from JC 1 amplifier with Statement SC power cord.]



Measurements Of Noise At The Loudspeaker Inputs

The left speaker cable was reconnected to the amplifier and the 60 Hz tone was feed to both speakers. The oscilloscope was connected to the inputs of the left speaker. Sine wave and FFT plots were obtained, first with the stock power cord attached and then with the Statement SC power cord attached. Do we even need to discuss figures 22 and 24? Can we just go directly to figures 23 and 25? Thanks.

Comparing figures 23 and 25, an increase in the noise density throughout the frequency range is evident. There is also an average 4 dB increase in noise magnitude. That means over twice as much noise power was being dumped into my extensively modified and esteemed SDA SRS 1.2TL speakers with the stock power cord than with the Statement SC power cord. Such an increase in noise power obscures a lot of musical and imaging detail. Bear in mind that the Audioquest Everest speaker cables are a very low noise design. In the future, I will look at the noise figures for some of my other speaker cables. However, I am not quite brave enough for that at this time.

Figure 22. Sine wave plot at input of left speaker with stock power cord.

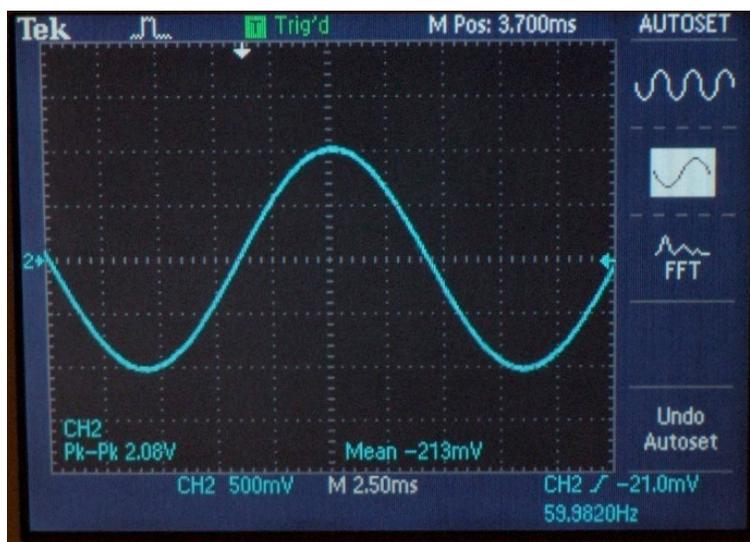


Figure 23. FFT plot at input of left speaker with stock power cord.

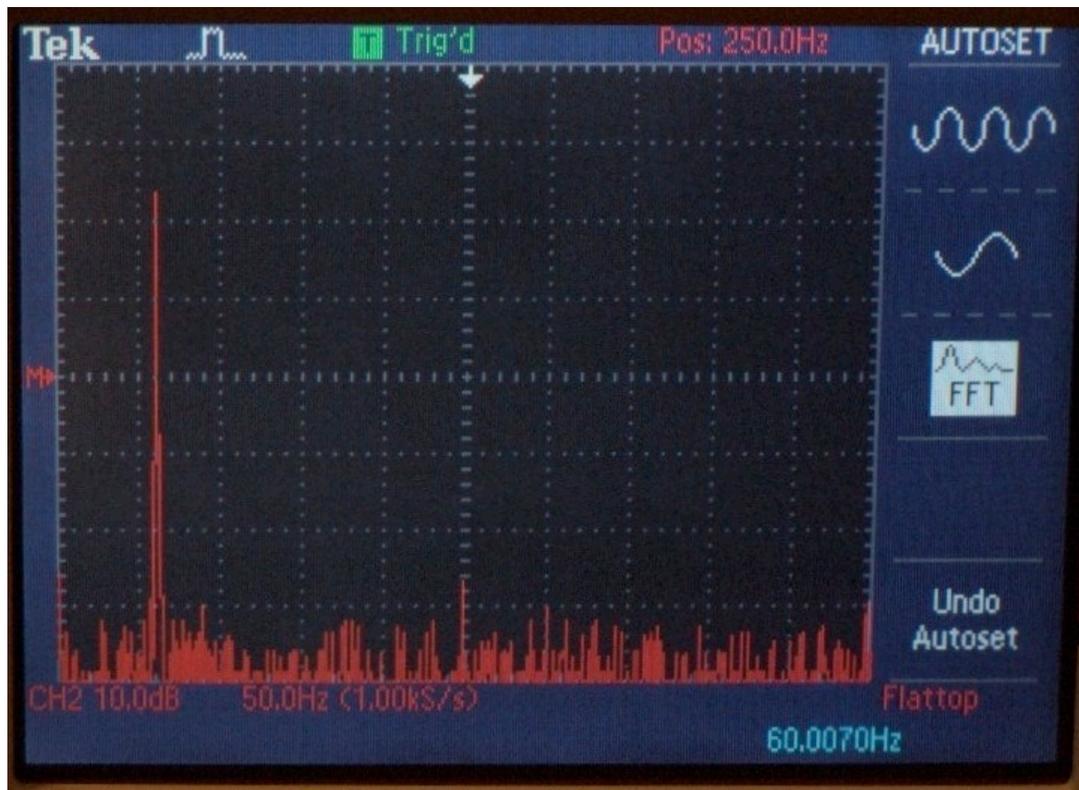


Figure 24. Sine wave plot at input of left speaker with Statement SC power cord.

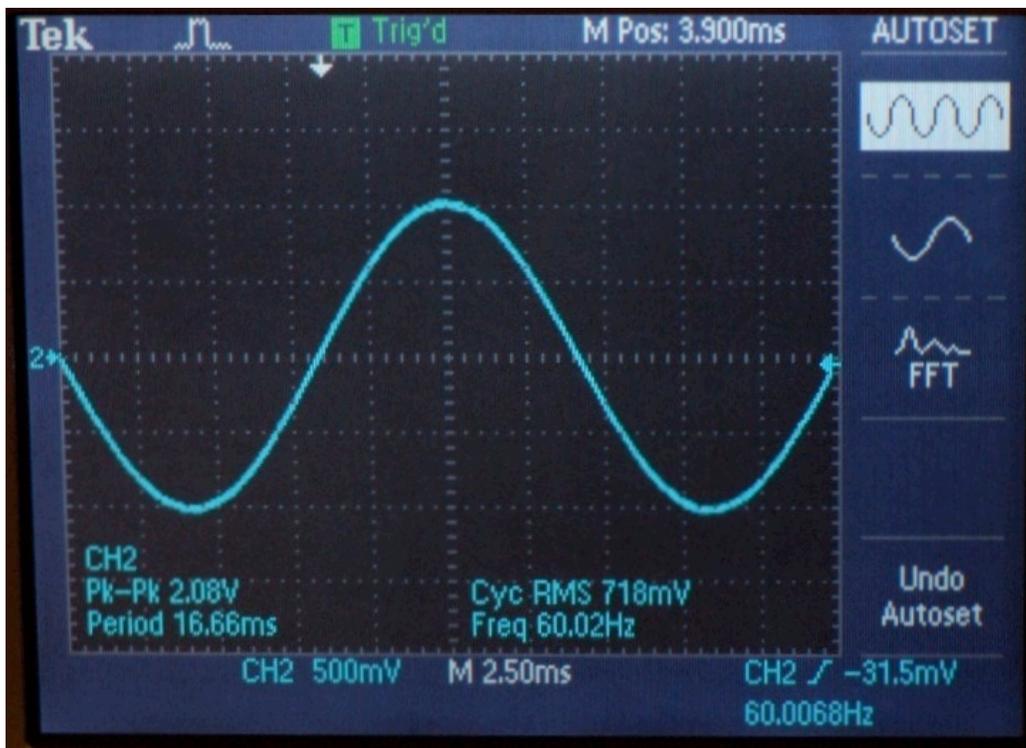
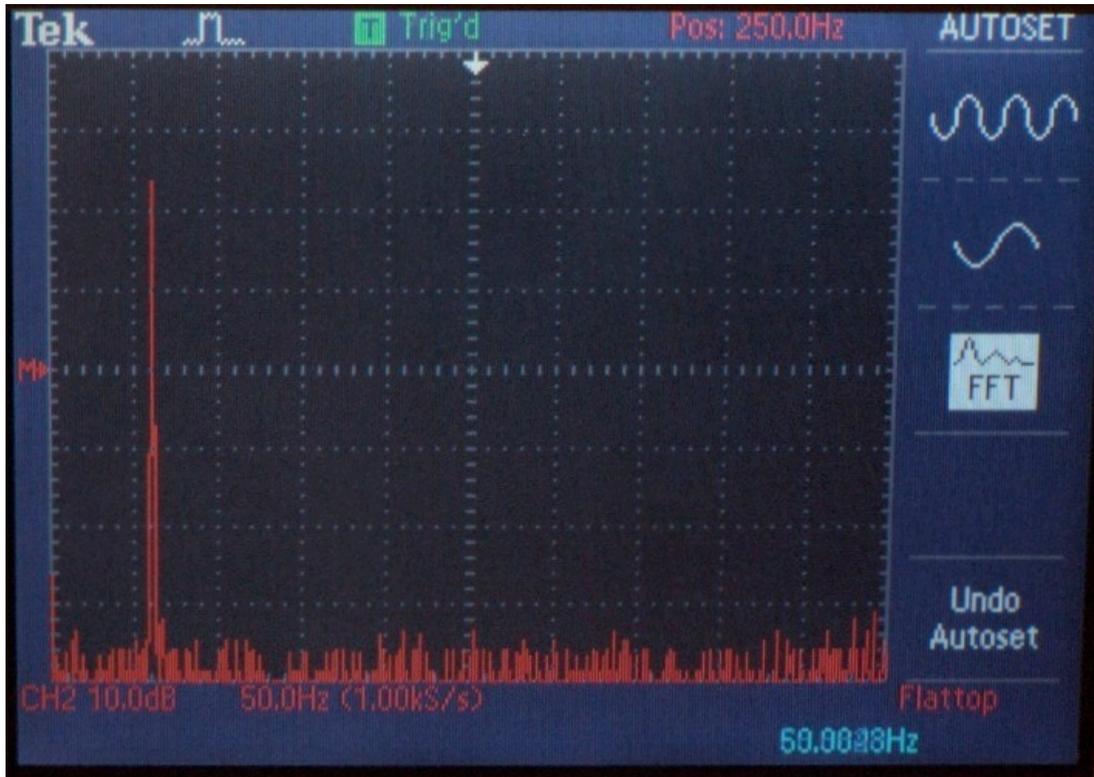


Figure 25. FFT plot at input of left speaker with Statement SC power cord.



Another thing to consider is that all speaker cables have noise in the conductors. The noise in the signal can interact with the noise in the cable and rob the signal of musical detail, imaging, and tactile impact. It is evident that minimizing the noise entering an amplifier's power supply minimizes the noise that is output at the amplifier's output. Subsequently, less noise is available to interact with the speaker cable's noise **and** less cumulative noise is available to be dumped into the speaker terminals...and our ears.

Discussion Of Results

The small differences in noise power between the amplifier outputs with the stock and Statement SC cables would not appear to be of immediate concern when comparing figures 19 and 21. However, it is evident that after the higher noise signal passes through the speaker cable, it looks disproportionately worse than the lower noise signal.

When the FFT plot of the amplifier's output signal with the stock power cable (figure 19) is compared to the FFT of the amplifier's output signal appearing at the speaker's input (figure 23), a substantial increase in noise around 60 Hz and throughout the entire measured frequency spectrum is observed.

When the FFT plot of the amplifier's output signal with the Statement SC power cable (figure 21) is compared to the FFT of the amplifier's output signal appearing at the speaker's input (figure 25), a general **flattening** of the entire measured noise spectrum is observed. Figure 25 also displays a moderate increase in noise density throughout the measured frequency range.

Even a small amount of noise prevention can reap big rewards further down the audio chain. Conversely, the introduction of even a small amount of noise can have **disproportionately** damaging effects further down the audio chain.

It was interesting to "fall back" and listen with the stock power cords. It was not unpleasant, but I was very surprised at the amount of musical details on familiar recordings that went missing. I was constantly listening for details that were either hard to hear or simply weren't there anymore. The sound stage shrank quite a bit also.

Conclusion

If a power cable introduces objectionable noise while reproducing a simple 60 Hz waveform, how much worse will noise proliferate, like a snowball effect, when the amplifier is reproducing a complex music signal?

Addendum-Digital Line Noise, Or Lack Thereof

Digital devices are supposed to be notorious for dumping noise back on to power lines. I was curious to see what my Cary Audio CD 306 Pro SACD player was doing in that regard. Oddly enough, the noise on the power line **decreased** when the SACD player was turned on. I expected the noise density and magnitude to increase when the SACD player started playing but it did not. I repeated this five times and the results were the same. Therefore, either there was no change in the noise density and magnitude when the SACD player was turned on and engaged or the change was too small or of a nature that could not be detected by my oscilloscope. The SACD player and right power amp are the only components on the right dedicated audio circuit. The preamp, phono preamp, turntable battery charger, and left power amp are on the left dedicated audio circuit.

I sent figures 26 and 27 to Cary Audio's engineering department and asked for their explanation. This is the response I received:

"Seems to me you have a ground loop and when the CD 306 SACD PRO is added to your system this is reducing this noise you are describing."

My response to their response:

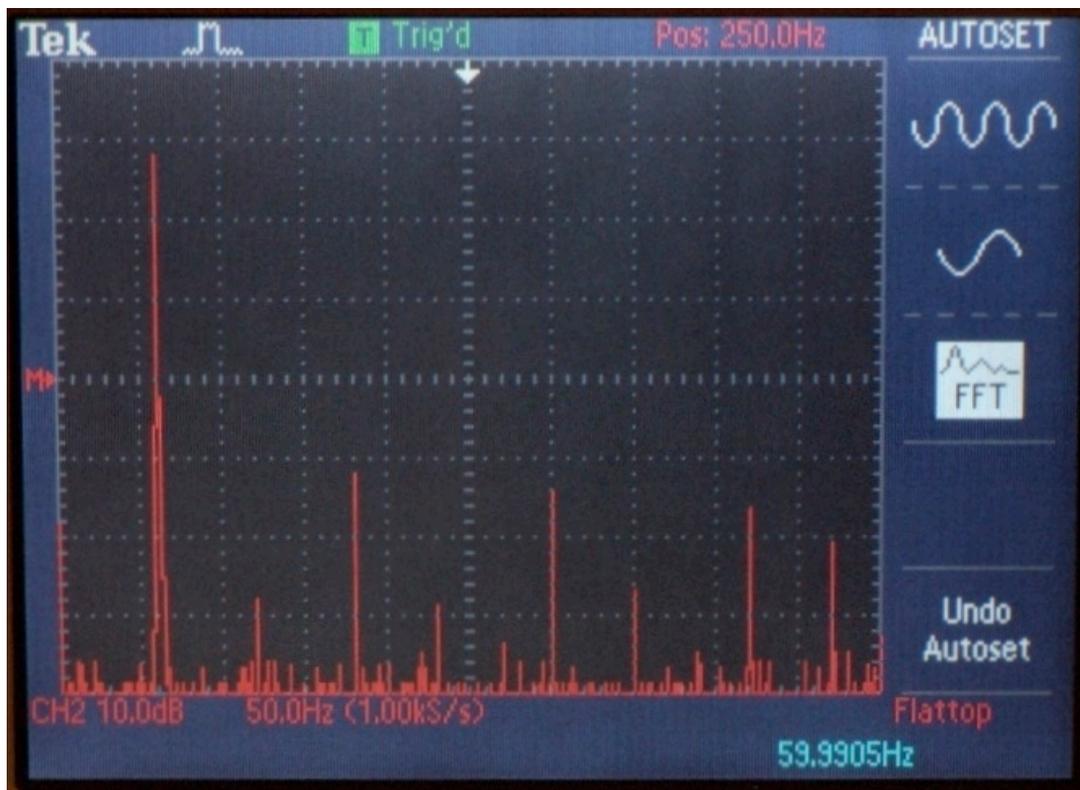
"Ok, but why would simply turning on the CD 306 Pro reduce the background noise on the AC line? It seems like the noise should increase when another component is added."

Cary's second response:

"Not necessarily. That is the funny thing about ground loops they do not respond the way you think they should. The short explanation to this is when you introduce another component to your system it may or may not change the potential difference between ground of the circuit in relation to the potential difference to the other components. This may help in explaining what is occurring in your system."

Actually, I would have preferred the long explanation, but I did not press further.

[Figure 26. FFT of Statement SC power output with SACD player unplugged.]



[Figure 27. FFT of Statement SC power output with SACD player plugged in and playing.]



Author's Biographical Sketch

Raife Smith II is a professor of electrical engineering at Southern University in Baton Rouge, Louisiana and the principal of Sierrah Design LLC, a communications system consulting and design firm.

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Coldplay, *Viva la Vida***Capitol Records 509992-16965-10****Vinyl 33 rpm Album****By Peter D'Amario**peterdamario@affordableaudio.org

For the record, I did not set out to write a review of Coldplay's latest album. Guys in their late forties who are fans of classic sixties and seventies rock, jazz and classical music cannot possibly be the target audience of Capitol Records. And yet, here I am, sucked into the vortex.

One of my children bought the CD, and was playing it on the main rig; the first track (an instrumental: *Life In Technicolor*) grabbed my attention. I listened through the CD and decided that there was enough to the album to justify investing in the vinyl, which I did. It was the right thing to do.

Coldplay is not a flash in the pan. The band has been active and very popular for the past decade. Nonetheless, this album represents at least a half-step away from its previous work. The dark side of the album (*Cemeteries of London*, *Lost!*, *Death and All His Friends* and even the title track) is thematically reminiscent of My Chemical Romance's *The Black Parade*, though the nature of the music is distinctly different. The Coldplay album is—despite the outwardly gloomy appearance—a life-affirming work...the songs that touch on death (*Cemeteries of London*, *42*, *Viva la Vida*, *Death and All His Friends*) contain an underlying theme of redemption, while the other songs on the album that don't necessarily focus on the concept of death or the dead (*Life in Technicolor* (op. cit.), *Lovers in Japan/Reign of Love*, *Violet Hill*, *Strawberry Swing*) are genuine pop tunes, whether driving ahead or simply presenting themselves. Throughout the album there is a sense of craftsmanship, of songs that are written with some thought. The music itself is more than solid. There is a reason for which Coldplay is popular and well-reviewed. I reserve particular praise for the title cut. The lyrics are thoughtful and sentimental, the tune is catchy and the instrumentation is excellent.



Viva la Vida is produced, *inter alia*, by Brian Eno (who is also credited with “sonic landscapes”), and his involvement is not subtle, to the benefit of the album. “Mastering” is by Bob Ludwig, though it is unclear whether this applies to the LP or the CD; my gut (and my ears) tell me that this is a digital master that has been produced on vinyl.

The packaging of the vinyl is very nice indeed; you will feel you've gotten your money's worth. The album cover is a gatefold, with a matte finish, featuring a reproduction of [Eugène Delacroix's](#) painting of [Liberty Leading the People](#). I'm not entirely sure why...it gives a kind of “Les Mis” feel to the artwork, and it doesn't particularly mate with the music...but never mind. The gatefold contains a glossy booklet which I expected would include lyrics, but instead simply presents credits and artwork related to the various songs. In a particularly nice touch, which I wish more labels would emulate, a CD of the album is enclosed as well. Typically I prefer the vinyl sound, and use the CD in the car, but in this case I don't hear much difference between the two. I also experienced occasional right channel distortion on my vinyl copy of the album, as well as more ticks and pops than I would have preferred. The vinyl itself is enclosed in a heavy-stock printed inner sleeve. I would have preferred a simpler plastic-lined innersleeve.

This is an encouraging album...the artists are entirely “modern”, the production is of very high quality, and the packaging of the album—at least in its vinyl manifestation—is excellent. For those of you who are convinced that 1980 brought with it the end of good music as we know it, this one is well worth a listen. Borrow your kid's CD or iPod...you have nothing to lose but your preconceptions.

Madeleine Peyroux, *Half the Perfect World***Mobile Fidelity Sound Lab, MFSL 2-288****Vinyl 33 rpm Double Album, Serial No. 01073****By Peter D'Amario**

Patience is often a virtue, and never has that been more true than with this LP. *Half the Perfect World* was issued in CD format way back in 2006; when I heard that the LP would be released by Mobile Fidelity (in conjunction with Rounder Records), I eschewed the CD and placed my order for the two-LP set. I had bought MoFi's earlier release of Peyroux's second album, *Careless Love*, based only on the singer's reputation and the fact that MoFi was releasing the vinyl. I had admired the company as it sought to raise the quality of vinyl in the late '70s and early '80s, and was pleased when the company re-formed. I feel that the quality of their product is higher in their second iteration than their first, but more on that later.

So I placed my order for this LP, the artist's third, in January 2007. Then commenced a period of waiting...and waiting...and waiting... Shortly after I had concluded that the release was in fact imaginary, and was nothing more than a cruel hoax played on innocent vinylphiles, a box arrived on my doorstep...in July 2008, a full 18 months after placing the order. *Mirabile dictu!* It was my copy of *Half the Perfect World*.

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For the past couple of months I've been listening to the album...it's been in heavy rotation, you could say. *Half the Perfect World* has more of a pop focus than does *Careless Love*...eight of the twelve cuts are covers, including (among others) *The Summer Wind*, *Everybody's Talkin'* and *River*. These mesh nicely with a number of Larry Klein/Peyroux/Jesse Harris compositions; it is hard for me to hear *The Summer Wind* without channeling Frank Sinatra, or *Everybody's Talkin'* without thinking of Harry Nilsson, but Peyroux, with her growly, smoky voice does justice to these songs. I was prepared to dislike *River* (a duet with k.d. Lang, who is not one of my favorite singers by a long shot), but the cut is more than solid. The newer songs fare well, too, particularly the first cut of on the album, *I'm All Right*. Peyroux (I assumed that she was French-Canadian until recently discovering that she's originally from Georgia) is an excellent interpreter of this music. Her voice is not about range, but it is very much about fitting the song...in her ability to interpret a song, and to wrap her voice around the lyrics, she is one in a series of *chanteuses*, and a very good one at that. The arrangements are relatively spare, and allow her voice to shine through.

Half the Perfect World is (very well) half-speed mastered at MoFi by Rob LoVerde. The sound is absolutely superb, from the first bars of the first track through the end of side four. This is an album that reminds me just how good LPs can sound. The records themselves, thick slabs of vinyl, emerged from their laminated rice paper sleeves with no untoward marks, and played through without scratches, pops or ticks. The quiet surface of a CD, with the sound quality of vinyl: It's a great combination.

In keeping with what I have come to expect from MoFi's second iteration, the packaging is superb. The gatefold album's graphics are high quality; inside the fold full details of the artists involved in each track are printed, as are the lyrics from the four Klein/Peyroux/Harris tracks. As noted above, the LPs are packaged in classic MoFi rice paper sleeves, which are in turn enclosed in card-stock folders and then slipped into the jacket cover. This LP is not cheap,

but you do feel that you are receiving value for money. (It would have been an even nicer touch if they had thrown in a CD of the album as well.)

If you are in any way a fan of female vocalists in the pop/jazz vein, this will be an album for you. Peyroux doesn't quite have the voice of, say, Alison Krauss, but she certainly knows her way around interpreting a song. After a hard day at work, spinning this LP with a drink in your hand sure beats a sharp stick in the eye.

System Used for Review

Speakers: Anthony Gallo Reference 3.1
Turntables: Linn Sondek LP-12 with Ittok LVIII Tonearm, Hercules Power Supply and Grado Reference Sonata cartridge
 Transcriptors Hydraulic Reference with Fluid Tonearm and Shure V-15 VxMR cartridge
Phono Preamp: Bellari VP129
Digital Sources: Toshiba SD-3950 DVD player with Vinnie Rossi mods
 Apple iPod Classic, 160 gb
Digital Line Stage: Musical Fidelity X-10^{V3} tube buffer
Amplification: Marantz 2600 Receiver
Cables: Mapleshade Speaker Wire, Blue Jeans Cable and AR interconnects

LPs reviewed were sealed, and prior to playing were cleaned with LAST Power Cleaner.

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Is a school teacher in the Portland, Oregon metro area. Audio has been a fascination/budget drain since his early teenage years.

John Hoffman, Assoc. Editor. Resides in the sunny Tri Cities of Washington state. Enjoys spending his time with his lovely wife, Michelle, three kids, two dogs, and one cat. Anybody need an extra cat?

Todd Arthur, is a Project Manager by day and Audiophile by night, who resides in the Seattle Washington area with his wife Roberta and their two sons. He enjoys playing guitar, bicycling and listening to music of all types; especially Jazz and Blues guitar.

Stew Nelles, Currently reside in southern Alberta (Canada) about 150 miles south east of Calgary. I'm in my early 40's , 2 grown kids, been with the same girl for 25 years. One thing I have impressed upon my kids is that music is important in life and we often mark our lives by the music we hear along the way.

Patrick Dillon lives in Austin TX with his wife and son. He works in academia, plays guitars, and considers music a central part of a well-lived existence.

Clarke Robinson is a 37 year old Web Designer from the San Francisco Bay Area. He wastes countless hours of his life listening to jazz on headphones, at times long after his wife and two daughters have gone to bed.

Review Calendar Index:

Issue 1, January 2006

Adcom GFA 535 Amplifier

Linn Keilidhs Speakers

Outlaw RR2150 Receiver

Polk Audio LSi9 Speakers

Totem Dreamcatcher Speakers

Issue 2, February 2006

Advent Baby II Speakers
 Audiolab 8000A Integrated Amplifier
 ElectriPrint 300DRD Amplifier
 Energy Connoisseur C-9 Speakers
 Infinity Kappa 200 Speakers
 Nakamichi SR4A Receiver
 Paradigm Titan V Speakers

Issue 3, March 2006

GR Research AV-1 Speakers
 HSU STF-2 Subwoofer
 Marantz CD-5000
 Sansui TU-7900

Issue 4, April 2006

Alegria Audio Rosa Speakers
 QSC PLX-2402 Amplifier
 Totem Acoustic MITES Speakers

Issue 5, May 2006

AV123 Onix x-ls Speakers & x-subwoofer
 Bozak B-302A Speakers
 iPod iPhoto 60 Gig (music server)
 Zebra ZC-SP12SD Speaker cables

Issue 6, June 2006

Aperion Intimus 533 PT Speakers
 Sony TA-F444ES
 Audio Magic Interconnect Cables
 Adcom GTP 450 Preamplifier/Tuner

Issue 7, July 2006

Audioengine5 Powered iPod/mp3 Speakers
 Athena AS-B1 Speakers
 Insignia 6-1/2" Bass-Reflex Bookshelf Speakers
 Ramsey SHA1 DIY Headphone Amp

Issue 9, September 2006

Behringer DEQ 2496
 NeoSpeak NeoTetra Speakers
 True RTA Sound Analyzing Software

Issue 10, October 2006

Tyler Acoustics Taylo Ref. Monitors
 Transcendent Grounded Grid Preamp
 Headroom Total Bithead
 Totem Beaks
 Aperion Audio S8-APR Subwoofer

Issue 11, November 2006

Tube Research Labs Modified CD Player
 Onix SP3 MkII Integrated Tube Amplifier
 BADA HD-22 CD Player
 Alegria Audio Arias Speakers
 Era Design 4 Mini-Monitors

Issue 12, December 2006

Atelier Audio First Horn
 Jolida SJ502A Integrated Tube Amp
 Polk Audio LSi7 Monitors
 41Hz Amp 6 Basic

Issue 13, January 2007

RudiStor NX-01 & Ultrasono Proline 2500 Sistema
 VMPS Tower II SE
 Technics RS-1506
 Aperion Audio Intimus 632 LR
 Monarchy M24 Tube DAC

Issue 14, February 2007

Audio Nirvana Super DIY Speaker
 Music Hall a25.2 Integrated Amplifier
 Music Hall cd25.2 CD Player
 Era Design 5 Mini-Monitors
 Lite Audio DAC 62
 Hsu HB-1 Mini-Monitors
 Real Traps Acoustic Panels
 Sapphire XL vs. Rothschild A2 Monitors
 Hemp Acoustic FR8.0 DIYHQ Driver

Issue 15, March 2007

Monarchy AC Regenerator
 Era Sub 8 Powered Subwoofer
 Promitheus Transformer Volume Control
 Bellari VP129 Vacuum Tube Phono Stage
 Onix CD-5 Compact Disc Player
 PS Audio Noise Harvester
 Audio Art Interconnects IC-1 & IC-3

Issue 16, April 2007

Ascend Acoustics CMT-340 SE
 ASL MG 15 SI DT Tube Amp
 Interview David Fabrikant
 NAD 3020 Integrated Amp
 Oppo DV970-HD
 Signal Cable MagicCable
 Sonic Impact 5066 T-Amp
 Totem Acoustic Rainmaker monitors
 Underwood XCD-5 (modded Onix CD-5)

Issue 17, May 2007

Audio Magic Mini-Reference Power Conditioner
 LiTe DAC Ah
 Pioneer SX-780
 RAW Acoustic HT2 Monitors
 Tyler Acoustic Linbrook Super Mini Monitors

Issue 18, June 2007

ACI Force Subwoofer
 AV123 x-cs Center Channel
 Benchmark DAC1 USB
 Ferguson Hill Mini System Speakers
 Fostex FE206/208 Sigma Cabinet
 Jolida JD1501A Integrated Hybrid Amp

Planet_10 HiFi Fonken Speaker
Vista Audio i84 Integrated Amplifier

Issue 19, July 2007

AudioArt Interconnect Matching System
Basic Guide to PC Audio
Bonnaroo Music Festival
Harman/Kardon PM665VXi Integrated Amp
MapleTree Audio 2SE Preamplifier
Zebra Cable Speaker Wire ZC-SP14DBI

Issue 20, August 2007

Monarchy NM 24 DAC/Linestage
Pro-Ject 1.2 Turntable
Role Audio Sampan FTL
Totem Acoustic Storm Sub-Woofer

Issue 21, September 2007

Ascend Acoustics Sierra 1
AudioArt Power 1 Cords
KEF iQ7 Speakers
Slim Devices Squeezebox
Vandersteen 2CI

Issue 22, October 2007

Eminent Technology LFT-16 Planar Monitors
Mark & Daniel Topaz Monitors
PS Audio Quintet Surge Suppressor
Setton RS-440 Vintage Receiver
Trends TA 10.1 Amplifier

Issue 23, November 2007

AFFORDABLE \$\$ AUDIO
Arena X-3 SET Integrated Tube Amplifier
Emotiva RPA-1 Amplifier
Etymotic ETY Ear Plugs
NAD C555 Turntable
Odyssey Audio Epiphany II Monitors
Shanling PCD-3000A CD Player
Shugaung S-8 Tube Amplifier

Issue 24, December 2007

Aperion Audio 422 Harmony 5.1 system
Budget Power Cord Comparison
Onix Rocket RS 450 mini-towers
Usher S520 Monitors

Issue 25, January 2008

Audiosmile Modified Behringer SRC2496
Grant Fidelity CD 327A, PIII, & P307
H20 Signature 100
Monarchy SE 250
Selah MF7
Swan HiVi 2.1SE
Underwood Modified PS Audio Trio C-100
Virtual Dynamics Cables
Zingo Cables

Issue 26, February 2008

Aperion Audio Intimus 533-T mini-towers
 Blue Circle DAR integrated amp
 Dignity Audio DA08SE SET tube amp
 Mark & Daniel Maximus Mini speakers
 tec-on Audio SE34i integrated tube amp
 Totem Acoustic Forest Tower Speakers

Issue 27, March 2008

Audio Magic Illusion 4D
 Carver C-9 Sonic Hologram
 Emotiva XPA-5
 Promitheus DAC
 Recording Techniques: Dynamic Compression

Issue 28, April 2008

Acculine A3 Speakers
 Audio Nirvana Super 12 Driver
 Grant Fidelity A534B Integrated Tube Amp
 Harman Kardon 3470 Receiver
 nOrh ACA2b Preamplifier
 Skiing Ninja Crossovers
 Threshold 800A Amplifier

Issue 29, May 2008

Audio Nirvana Super Eight Loudspeaker System
 Bolder Squeezebox Modifications
 Dali Mentor 5 Towers
 Harman Kardon Citation II Amplifier
 KCI Cables/Interconnects
 Monica III DIY DAC
 Musiland MD10 DAC
 PS Audio GCP-200
 Vandersteen 1C Speakers

Issue 30, June 2008

Audioengine AW-1 Wireless USB Adaptor
 AudioMagic Pulse Gen ZX
 McIntosh MC275
 Oehlbach XXL Phono Preamplifier
 Polk Audio RTiA3
 Spondor SP2/3E
 VMPS 626JR

Issue 31: July 2008

Anti-Cable Wire & Interconnects
 Aura Note CD/Amp Completer
 AV123 ELT 525 Monitors
 Eficion Ficion F200 Monitors
 Ideal Innovations 80+ Tube Amp
 Monarchy M150 Power Supply

Issue 32: August 2008

Emotiva XPA-2 Amplifier
 Juicy Music Tercel Phono Preamp
 JVC XL-Z1050TN CD Player
 Totem Acoustic 5.1 HTSystem

Issue 33: September 2008

Acoustic Revive RTP2 & 4 Power Boxes
Anti-Cable Digital Interconnects
BESL Series 5 TMW Speakers
GINI LS3/5A Speakers w/B+ Bass Stands
McIntosh MA6300 Integrated Amp
Tecon Model 55 Integrated Tube USB Amp
Wyred4Sound MC4 Amplifier